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Time is Money: Cash-Flow Risk and Export Market Behavior

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Croissance de l'entreprise et risque de trésorerie : étude sur données d'exportations

Résumé

Les contraintes de liquidités représentent-elles pour les entreprises un obstacle à l'entrée dans de nouveaux marchés ? Cette hypothèse est testée sur un échantillon de PME exportatrices françaises en utilisant une réforme inscrite dans la Loi de Modernisation de l'Economie (LME) de 2009 limitant les délais de paiement interentreprises à 60 jours. L'analyse empirique utilise la granularité des données de commerce international pour introduire des effets fixes marché à un niveau fin afin de contrôler pour des chocs simultanés à la réforme. L'effet de la réforme sur la variation des délais de paiement est isolé en utilisant comme instrument une mesure d'exposition à la limite des 60 jours. Les résultats suggèrent un effet causal des conditions de financement des besoins de fonds de roulement sur l'expansion à l'international: une baisse des délais de paiement de 10 jours supplémentaires conduit à une augmentation de la trésorerie de 1,4 point de pourcentage et une hausse de la probabilité d'entrer dans un nouveau marché de 0,4 point de pourcentage. Par contraste, aucun effet sur l'évolution du volume des exportations ou sur la probabilité de sortie d'un marché ne peut être mis en évidence.

Mots-clés : contraintes de liquidité, délais de paiement, variable instrumentale, exportation

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Time is Money: Cash-Flow Risk and Export Market Behavior

Abstract

Do liquidity constraints hinder firms' entry in new markets? Exploiting an exogenous variation in payment delays triggered by a 2009 French reform, we use a unique combination of administrative data sets to test whether changes in working capital financing affect the propensity to enter new export markets. The effect of the reform on payment delays is isolated using a threshold rule introduced by the law. The estimations strongly support the idea that access to working capital financing plays a key role in the expansion in international markets: a decrease in payment delays by ten days is found to raise cash holdings by 1.4 percentage points and to increase the probability to reach a new foreign market by 0.4 percentage points. By contrast, the evolution of the volume of exports or the probability of exiting an export market do not seem to be affected by the variation of payment delays.

Keywords: liquidity constraints, trade credit, IV estimation, exports

Classification JEL : F14, G31

The financing of global trade largely relies on firm-to-firm lending: it is estimated that two thirds of international trade are supported by interfirm trade credit, the remainder being financed by bank-intermediated trade credit (Bank for International Settlements, 2014). It is therefore striking to observe that while many studies have investigated the role of bank financing in export behavior (Amiti and Weinstein, 2011; Paravisini et al., 2014; Schmidt-Eisenlohr and Niepmann, 2016), very little is known on how the inter-firm provision of trade credit shapes international trade patterns.

The formation and the continuation of a customer-supplier relationship commonly requires the supplier to provide short-term financing to the buyer in the form of delayed payments[1]. In presence of competition between suppliers and market power of buyers, the provision of trade credit even appears to be a necessary condition to trade (Breza and Liberman, 2016). In face of financing frictions, the share of working capital that the firm can dedicate to new customers will therefore be determined in part by the amount of liquidity already allocated to existing customers (Clementi and Hopenhayn, 2006). In particular, financially constrained firms might renounce to reach new customers in remote international markets since this entails higher working capital needs[2]. As a consequence, firms with better working capital financing should be able to outperform their competitors by being able to expand further internationally (Frésard, 2010; Boutin et al., 2013).

Using an exogenous and large variation in payment delays triggered by a 2009 French reform, I show that in line with this hypothesis, firms that got paid earlier by their existing customers experienced higher growth in cash holdings and achieved greater consumer capital expansion in international markets. Specifically, a decrease in *net* payment delays (a term that I will define later) by ten days is found to increase cash holdings by 1.4 percentage points and to raise the probability to reach a new foreign market by 0.4 percentage points (a 17% rise compared to the unconditional probability). By contrast, the restriction in trade credit provision appears to have no robust effect neither on the exit probability nor on the evolution of the volume of sales.

The 2009 reform ("Loi de modernisation de l'économie", or LME) limits contractual payment delays to sixty days in any transaction involving French firms. In particular, it affects international operations as long as the transaction is contracted under the French law. Under this legislation, excessive contractual payment delays or non compliance to the payment terms are made subject to civil and penal procedures with fees amounting to 2 millions euros; audits carried out by public authorities ensures that the law is properly enforced. As a

[1] A large literature has explored the empirical and theoretical determinants of trade credit provision: see for instance Petersen and Rajan (1997); Biais and Gollier (1997); Ng, Smith and Smith (1999); Burkart and Ellingsen (2004); Fisman and Raturi (2004); Giannetti, Burkart and Ellingsen (2011); Klapper, Laeven and Rajan (2012); Fabbri and Klapper (2016)

[2] On the basis of survey evidence, Schmidt-Eisenlohr (2013) finds that in 78% of export transactions, the importer pays after reception of the product. This means that shipping time comes in addition to the payment delays that prevail in the foreign market. Amiti and Weinstein (2011) estimate that the median transportation time can be estimated to two months.

consequence, customer and supplier payment delays decreased respectively by 6 and 7 days in the manufacturing and wholesale sectors between the announcement of the reform and the year of its application.

A precise examination of the effects of this law is particularly challenging since *(a)* there is no natural control group to which the econometrician might refer and *(b)* the reform took effect at the beginning in 2009, i.e. precisely during the peak of the global financial crisis. I tackle these identification issues by building an econometric framework based on several steps. First, I exploit rich fiscal and survey data sets on French firms provided by the French statistical institute (Insee) to estimate customer payment delays at the sector-level as the mean of the ratio of accounts receivable over sales. I then recover a firm-level measure using information on the breakdown of sales of firms between their different business lines. I proceed similarly to measure suppliers payment delays, which allows me to estimate net payment delays as the difference between the time needed for a firm to be paid by its customers and the time spent to pay its suppliers.

Second, I use the sixty-day rule defined by the law to estimate the firm's *exposure to the reform prior to its enactment* as the changes in net payment delays that would be needed for the rule to be perfectly enforced. Broadly speaking, this variable measures the distance in days to the situation in which the sixty-day rule is perfectly enforced in all the sectors in which the firm operates. This distance is then included as an instrument for the actual variation in net payment delays. This instrument strategy has two main advantages: first, it allows me to overcome the absence of control group by exploiting the *ex ante* variation in treatment intensity. Moreover, it enables me to capture only the part of the variation in net payment delays that can be explained by the enactment of the reform, thereby leaving aside the potential effects of confounding aggregate shocks (*e.g.*, the financial crisis).

Our instrument proves to be a good predictor of the change in payment delays (R-square of 38%). As expected, a placebo regression shows that the strong correlation between our measure of exposure to the reform and the variation in payment delays disappears after the implementation of the reform. Two-stage least squares estimations indicate that a decrease of 10 days in net payment delays caused a 1.4 percentage points increase in cash holdings, broadly in line with the estimates of Barrot (2016) of the effects of the 2006 French payment delays reform in the trucking sector. One might fear that in spite of the instrumentation strategy, the negative association between the evolution of payment delays and cash holdings might be driven by the coincidence of the financial crisis. These concerns are however alleviated by the finding that the change in payment delays seems to be uncorrelated with the evolution of employment and even positively correlated (though imprecisely) with changes in investment.

Building on Paravisini et al. (2014), I rely on disaggregated export data to develop the analysis at the market level (an export market being defined as the product of an industry and a country). With the use of market fixed effects, the estimates of the effect of the varia-

tion in net payment delays on the propensity to enter new export markets are based on the comparison between firms that are differently affected by the reform *in a given market*. This procedure first allows to control for the presence of market-level shocks that could affect the results. Second, and more importantly, it removes any specialization pattern of firms in certain markets that could create a correlation between the exposure to the reform and export outcomes.

I then take advantage of a unique data set recording the identity of the foreign customers of French exporters in the European Union in order to investigate the effects of the reform on customer capital. The data gives the breakdown of the quantity and the value of exports by product and foreign importer for all French exporters to all countries within the EU[3]. The results indicate that a ten days decrease in net payment delays increases the probability to acquire customers in markets in which the firm is already present by 1.0 percentage points (unconditional probability: 7.0%).

I focus here on the firm-level product market behavior in foreign markets: since export transactions are highly dependent on working capital, international customer-supplier relationships are more likely to be affected by a change in the provision of interfirm lending. Antràs and Foley (2015) show that the negotiation of financing terms is key in building and maintaining trade relationships, and that institutional features of the customer greatly influence this negotiation.[4] Consistently with their findings, I find that the effects of the change in payment delays are strikingly different whether the export market belongs or not to the European Union.

On a broader level, Manova (2013) and Chaney (2016) argue that the optimal portfolio of foreign markets are determined not only by profit considerations as in Mélitz (2003) but also by whether firms are able to sustain the liquidity needs required by international transactions, a prediction that the empirical results strongly support[5]: consistently with the financing channel, the export behavior of firms that benefit from the internal capital markets of large groups or that face low cash-flow idiosyncratic risk (Bates, Kahle and Stulz, 2009) appears not to be affected by the change of payment delays.

This article also falls within the wide array of articles initiated by Chevalier (1995) and Kovenock and Phillips (1997) that study the interactions between structural characteristics

[3]The identity of foreign customers is recorded by French customs for the collection of value-added tax and checked by the administration, so that they can be considered as being very reliable.

[4]Regarding the role of insurance on trade credit claims, Schmidt-Eisenlohr and Niepmann (2016) estimate that a one standard deviation negative shock to a country' trade insurance supply lowers export by U.S. firms to that country by 1.5% (see also Aubouin and Engemann (2014)).

[5]Feenstra, Li and Yu (2014) endogeneizes firms' financial constraints in an agency setting and concludes that all other things equal, exporters are more likely to be financially constrained than domestic producers, which they confirm using financial data on Chinese firms. See also Caggese and Cuñat (2013), Schmidt-Eisenlohr (2013) or Bonfiglioli, Crinò and Gancia (2016) for theoretical contributions and Paravisini et al. (2014), Amiti and Weinstein (2011), Berman and Héricourt (2011), Minetti and Zhu (2011) for empirical ones. I comment extensively on the differences between the results of Paravisini et al. (2014) and mine in the discussion section of the paper.

of product markets and capital structure policies, and here more specifically on the role of cash holdings in entry patterns. Boutin et al. (2013) find evidence that entry is negatively correlated with cash holdings hoarded by incumbent affiliated groups and positively associated with the level of entrant groups' cash. Frésard (2010) then shows that large cash reserves act as a comparative advantage in product markets as they lead to systematic future market share gains at the expense of industry incumbents. My results suggest that firms operating in countries or in sectors where payment delays are low benefit from a comparative advantage relative to their international rivals.

The paper closest to this article is Barrot (2016): studying an early implementation of the 2009 reform on the trucking sector, Barrot finds that following the reform, corporate defaults fell and the decrease in payment delays triggered the entry of small firms in the trucking industry. This work can be seen as completing Barrot's in the sense that I document the effects of payment delays at the intensive margin (expansion in international markets) while his focus is on the extensive one (exit and entry). I also extend his methodology in two directions: first, since the setting of the LME reform does not lend itself well to a differences in differences estimation, I deviate from Barrot by relying on the heterogeneity of the exposure to the reform to instrument the variation in payment delays. Second, I am able to take into account both the effects of the change in customer and in supplier payment delays by computing payment delays in net terms, thereby acknowledging the fact that the reform affected both sides of trade credit.

Barrot and Nanda (2016) further investigate the role of payment delays in firm decisions by exploiting a 2011 US reform that restricted payment delays of government contractors to small businesses and find a significant effect of payment delays on employment. In contrast, I find no effect of payment delays on employment, a difference possibly due to the deteriorated economic situation at the time of the implementation of the LME.

Using information on trade credit in buyer-supplier relationships, Murfin and Njoroge (2015) show that long payment delays are associated with reduction in capital expenditures for the firms who bear the working capital costs. Using product-supplier data from a large Chilean retailer, Breza and Liberman (2016) show that an exogenous restriction on payment delays reduces the probability of continuing trade with small external suppliers. In line with these papers, I show that the effects of payment delays on the acquisition of customers is concentrated on firms with low market power (as proxied by the average market share in its different business lines).

The remainder of the paper is organized as follows. The details of the LME reform are described in section 1. The data sets are presented in section 2. I discuss the different measures of payment delays in section 3. In section 4, I present in detail the identification strategy. The effects of the reform on payment delays and on export outcomes are displayed in section 5 and 6 ; in section 7 I investigate how the results are affected by firm- and market-level heterogeneity. Results are discussed in section 9. Section 10 concludes.

1 Description of the payment delays reform

The French 2009 reform provides an ideal setting to study the role of trade credit on the formation of customer capital as the enforcement of the law triggered a economically large, economy-wide exogenous shock on payment delays. As an illustration, figure 1 shows the evolution of payment delays between 1999 and 2013 in the manufacturing and wholesale sector (the data sets and the construction of the measures are described below). Between 2007 and 2009, customer and supplier payment delays decreased respectively by 6 and 7 days on average.

The fact that the law was implemented during the crisis might lead to suspect that the fall of payment delays is an incident consequence of the concomitant macroeconomic shock. Two considerations allow lifting this doubt: if anything, the exacerbation of financial constraints should lead firms to further delays their payments, not shorten them. Moreover, if the payment delays were somehow caused by the financial crisis, we would have expected payment delays to come back to their initial level with macroeconomic conditions returning to normal; by contrast, the level of payment delays stays stable after the enforcement of the reform.

[Insert figure 1 here]

Remarkably, payment delays directly started to decline before the implementation of the law in January 2009. A first element of understanding can be found in the fact that the law was first presented to the French parliament in April and subsequently voted in 2008, leaving time for French firms to anticipate the reform. Still, it is counterintuitive that firms chose to bear the working capital costs to comply in advance with the law.

A probable explanation of this anticipation is that the 2009 law was in fact merely introducing ways to enforce preexisting regulations: implementing the directive 2000/35/EC from the European Commission, a 2004 law had already introduced a cap of contractual payment delays of 60 days after reception of the invoice (or 45 days following the end of the month) in the trade code. Firms whose customers were imposing longer contractual payment delays or who did not respect their contractual engagements were allowed to demand interest payments as compensation. A civil procedure could also be initiated by the French government against bad payers; in practice, though, only one case has been brought to court under this legislation. The rapid reaction to the announcement of the reform might therefore be explained by an increase in the perceived probability of sanctions against bad payers.

Acknowledging that the 2004 law was scarcely applied in practice, the French government tried another approach by fostering negotiations between professional organisations representing customers and suppliers of a given sector. This resulted in 2006 in a reform limiting contractual payment delays to thirty days in the trucking sector, and in 2007 in an

agreement to limit contactual payment delays to ninety days in the automobile sector. However, the difficulties faced by the government to enforce the (non-binding) agreements in the automobile sector prompted public authorities to move from interprofessional negotiations toward a law encompassing all sectors. The 2009 law therefore extended the preceding legislations by generalizing as of January 1st 2009 the limit of contractual payment delays to sixty days in any transaction involving French firms, regardless of the sectors they are operating in.

The enforcement of the law was based on three pillars. First, excess contractual payment delays are to be reported to public authorities by firms' accounting auditors: penal procedures can be initiated in case of a violation of the contractual limits and may result in a 75,000 euros fine. Second, firms that do not respect their contractual obligations are subject to civil sanctions amounting up to 2 millions euros: in 2015, for instance, a major telecom group had to settle a fine of 750 000 euros following several complaints from suppliers[6]. Importantly, asking suppliers to delay their invoices is considered as an abusive practice and is subject to the same sanctions. Third, the French competition authority conducts audits to check that the law is properly applied: in 2010 alone, more than 1700 firms have been audited, with a follow-up rate (in terms of sanctions and/or further audits) of 30%. Moreover, as of 2015, the government decided to "name and shame" bad payers by publishing the list of firms subject to sanctions.

The limit of payment delays to 60 days hinges on the idea that beyond a certain threshold, payment delays can be considered as an abuse of power from certain firms toward their suppliers: in particular, French authorities were concerned about market leaders imposing late payments to small and medium enterprises (SMEs). However, the legislators were aware that the positive effects of this restriction might be offset if the payment terms imposed by the reform were too restrictive: short contractual payment delays might in some cases jeopardize firms' cash-flow management or hurt existing supplier-customer relationships.

The different professional branches have therefore been consulted on the question whether 60-days could be considered as an acceptable boundary between normal and abusive payment delays. When the 60 days limit was considered as being too restrictive in some sectors, the law allowed firms to deviate from the rule. In the toy industry where most of the sales are realized in the holiday season, firms had for instance up to 170 days to repay their customers. Conversely, payment delays were restricted to be shorter in sectors involving perishable products. The complete list of derogations is displayed in appendix A. I discuss how I deal with the issue of derogations in the empirical setting.

Importantly, the reform affected international customer-supplier relationships as well as long as the involved parties decide that the transaction contract abides to the French law. If they choose a foreign or the international trade code instead, the French rule does not apply and the parties are free to determine their payment terms. The choice between the

[6] See TelecomPaper.com (2015).

different rules of law will then depend on the comparison between the propensity to be free to determine longer payment terms versus the potential costs of operating under a foreign trade code.

2 Description of the data sets

2.1 International trade data

2.1.1 Market data set

International trade data sets comes from the French customs (DGDDI). The *product-level* data set gives for each firm identified by its SIREN number the (free on board) value of exports and imports by product for all countries; products are identified by a 6-digit number easily comparable to the French activity nomenclature. A firm operating in the French metropolitan territory must report detailed information to French customs if it exports more than 1,000 euros outside the European Union. To facilitate intra-EU trade, however, firms are not required to provide information at the product-level if their total exports to the European Union for a given year are inferior to 150,000 euros and therefore do not appear in the data.

Exports are clustered at the firm-country-industry level by summing all export flows from a firm f to the country c in the same 2-digits product classification i ("industry"). A pair (c,i) is called a market m. To have a sharp distinction between the intensive and extensive margins, a firm is considered to be *active* in a market if $Exports_{fm09}$ is at least equal to 5,000 euros. The export behavior at the *intensive margin* is defined as the change in the logarithm of exports if firm f is active in market m without interruption between 2007 and 2009 ($\Delta Market\ exports_{fm09}$).

The export behavior at the *extensive margin* is treated differently depending if the firm enters or exits a given market. If firm f is active in market m in 2007 or 2008, I set the variable $Market\ exit_{fm09}$ equal to one if f does not export at all in m in 2009 and zero otherwise. In the absence of any restrictions, the set of potential export markets in which a firm can enter is composed of approximately 25 industries * 200 countries = 5,000 markets, which generates very low entry probabilities. To facilitate the estimation of probability models, I focus here on the "most reasonable" markets in which firms might enter. To that end, I first compute the top 25 export destinations for French firms in 2007[7]; the set of potential export markets in 2009 of firm f is then defined as the product of the industries in which f is exporting in 2007 (or selling in the domestic market if f does not export in 2007) and the countries included in the top 25. Keeping only the markets in which firm f does not export in 2007, I

[7]These countries are (in alphabetical order): Algeria, Austria, Belgium, China, Czech Republic, Finland, Germany, Greece, Italy, Japan, Mexico, Morocco, Netherlands, Portugal, Romania, Russia, Singapore, Spain, Sweden, Turkey, United Kingdom, United States.

set *Market entry*$_{fm09}$ if f is active in 2009 in m and 0 otherwise.

2.1.2 Customer-product level data set

The customer-level data set is a specific extraction from the customs forms registered by the DGDDI. The data set has been made available from 2007 to 2012. As part of the European Single Market, all exports within the European Union are subject to value added tax by the importing country; exports outside the European Union are exempted from value-added tax. A unique 13-digit number is therefore attributed by national tax offices to every firm within the EU to facilitate the collection of the tax. The accuracy of the importer identifier is then cross-checked by the French customs. The importer number allows in particular to identify import-export transactions, shipments for assembly by a foreign firm or for transportation via a foreign hub, which I all remove from the data set. I find that on average, 85% of French exports in value are realized every year by importing firms that were also present the year before, a sign of good quality of the customer identifier.

The acquisition of a customer is detected by a new exporter-importer link. In the great majority of cases (79.9%), however, I find that the creation of a new link is associated with the destruction of another relationship in the same market, indicating that firms tend to switch between customers. In markets m in which firm f is active in 2007, I define therefore the dummy *Customer base increase*$_{fm09}$ as equal to one if firm f acquires at least one customer between 2007 and 2009 without dropping any customer during the same period.

2.2 Firm data

Balance sheet data between 2006 and 2011 comes from BRN-RSI tax returns collected by the French fiscal administration[8]. This data set gives accounting information for the whole universe of French firms in the private economy (excluding the financial and agricultural sectors). In addition to balance sheet information, a common identifier among all French firm data (Siren number) and a 5-digits sector classification are provided. Since the focus is on the effects of payment delays on the exporting behaviour, only firms belonging to the manufacturing and wholesale sectors (the two main exporting industries) are retained.

To identify precisely the different business lines of firms, I rely on an extensive yearly survey conducted by the Ministry of Industry (Enquête Annuelle des Entreprises, "EAE"). The survey is exhaustive for French firms with more than 20 employees or whose sales exceed 5 millions euros (smaller firms are surveyed according to a stratified sample design) and contains the amounts of sales realized by each surveyed firms in each 5-digits sector. The firm-level sector code available in the tax returns corresponds to the business line in which the firm realizes the majority of its activity.

[8] See Bertrand, Schoar and Thesmar (2007), Garicano, Lelarge and Van Reenen (2016) or Boutin et al. (2013) for other uses of this data set.

Information on group ownership is eventually added using the LIFI ("Liaisons financières") survey; exhaustive on the set of firms that employ more than 500 employees, that generate more than 60 millions euros in revenues or that hold more than 1.2 million euros of traded shares, the LIFI survey is completed by data coming from Bureau Van Dijk (Diane-Amadeus data set) so as to cover the whole universe of French corporate groups. This data set allows us to identify the set of firms that belong to the same corporate group and to determine whether a given group can be classified as a small or medium enterprise (SME), an intermediate or a large enterprise according to the French legislation[9].

Since my focus is on the effects of payment delays on international transactions, I only retain exporting firms that exported at least 50 000 euros in 2007 (16,671 firms). Moreover, in order to avoid a potential contamination of the results by the presence of active internal capital markets in business groups (see Boutin et al. (2013) for the role of internal capital markets in entry in product markets), I focus on SMEs in the following (9,912 firms) and come back to intermediate or large firms as a robustness check.

3 Measuring payment delays

Traditional firm-level data sets such as tax returns databases do not feature direct information on payment delays[10]. However, a measure of the actual customer payment delays can be derived from standard balance sheet data by defining for a firm f

$$Customer\ payment\ delays_f = \frac{Account\ receivables_f}{Sales_f} * 365$$

The ratio gives the amount of sales that is owed to firm f by its customers; it is multiplied by 365 so as to be readily interpretable in terms of days. $Customer\ payment\ delays_f$ can be thought as the average payment delays between firm f and its customers for a given fiscal year.

Since the reform affected supplier as well as customer payment delays, it is necessary to find an estimation of the variation in payment delays that takes both sides of trade credit

[9] According to the French classification, a group (which can be composed of several firms) is considered as a SME if (1) it employs less than 250 employees and (2) it generates less than 60 millions euros in revenues or possesses less than 43 millions euros in total assets.

[10] See Antràs and Foley (2015) for a recent example of a data set including such information.

into account. Supplier payment delays are symmetrically computed as[11]

$$Supplier\ payment\ delays_f = \frac{Account\ payables_f}{Sales_f} * 365$$

"Net" payment delays are eventually defined as the difference of the two:

$$Net\ payment\ delays_f = Customer\ payment\ delays_f - Supplier\ payment\ delays_f$$

Higher net payment delays indicates that on average, firm f is paid later by its customers than it pays its suppliers.

[Insert table 1 here]

There are however several reasons to believe that these measures of payment delays might not be appropriate for the analysis. First, these estimations are subject to measurement error as they compare the amount of sales generated in the whole fiscal year to the amount of trade credit recorded at the time of the tax report. If firm f's sales fall at the time of the tax report, customer trade credit will decrease more than total sales, thereby leading to underestimate $Customer\ payment\ delays_f$. Second, these measures may be determined simultaneously with exporting decisions. Firms contemplating exporting in a new sector might for instance sell their customer debts to a factoring firm to finance their cash-flow needs: in this case, customer payment delays would be endogenously negatively correlated to export entry.

This measurement problem can be overcome by noting that if contractual payment delays widely vary across industries, they are quite homogeneous within a given sector (Ng, Smith and Smith (1999) and Costello (2013)). This finding is consistent with the fact that most of the trade credit determinants emphasized in existing trade credit theories[12] are homogeneous at the sector-level.

These observations suggest that taking sectoral means of payment delays instead of firm-level observations might (1) alleviate the measurement error problem due to accounting issues (2) yield estimates that are presumably uncorrelated with firm decisions as they are determined at the level of the sector[13]. The sectoral averages are denoted by $\overline{Customer\ PD}_s$

[11] A more standard computation of supplier payment delays would use the amount of purchases instead of sales in the denominator. My definition has however two advantages: first, it adjusts for the sourcing strategy of the firm. With my definition, a firm that has a higher ratio of purchases over sales will have lower higher supplier payment delays all other things equal. Second, it makes the measures of customer and supplier payment more comparable since they are in the same unit: since I am ultimately interested in the difference of the two, this measure proves more useful.

[12] Among them one can mention the degree of product market competition (Brennan, Maksimovic and Zechner, 1988), the degree of uncertainty on the quality of the product (Long, Malitz and Ravid (1993) and Lee and Stowe (1993)) and the information advantage of suppliers over banks to observe product quality or to enforce high effort (Smith (1987), Biais and Gollier (1997), Burkart and Ellingsen (2004) or Cunat (2007)).

[13] I test how export outcomes are impacted by changes in the provision of trade credit using the firm-level measure of payment delays instead of sectoral averages in section 8.

and $\overline{Supplier\ PD}_s$ in a given sector s.[14]

Table 1 displays the sectors with the highest and lowest values of $\overline{Customer\ payment\ delays}_s$ and $\overline{Supplier\ payment\ delays}_s$. Several patterns emerge from the table. First, highest customers and suppliers payment delays appear mostly in heavy industry, while lowest ones occur mostly to be seen in the food processing industry. This is consistent with the theoretical prediction of Long, Malitz and Ravid (1993) that the durability of the product should be positively correlated to payment delays. However, there is no direct mapping between the sectoral rank of $\overline{Customer\ payment\ delays}_s$ and ~~of~~ $\overline{Supplier\ payment\ delays}_s$: in 2007, the correlation between the two is only of 46%.

[Insert figure 2 here]

It is informative to see using these measures how the effects of the reform differ between sector. Figure 2 shows the evolution of payment delays in two sectors belonging to the manufacturing industry and wholesale trade sector. In the mechanical engineering industry, supplier payment delays were already low in 2007 and stayed therefore broadly unchanged between 2007 and 2009. By comparison, customer payment delays decreased sharply, leading to a fall of net payment delays from 51 days to 40. In the wholesale trade of textiles, conversely, supplier payment delays decreased more than customer payment delays, making firms pay relatively slower by their customers (NPD from -10 to -3 days). This variability in the evolution of net payment delays across sectors is crucial for the identification of the effect of the reform.

Once $\overline{Customer}_s$ and $\overline{Supplier}_s$ are estimated, I recover a firm-level measure of payment delays using the information of the repartition of sales by business lines given in the EAE dataset; denoting by $\omega_{fs07} = Sales_{fs07}/Sales_{f07}$ the ratio of firm f's sales in sector s to total sales in 2007, customer payment delays are computed as

$$\overline{Customer\ payment\ delays}_{ft} = \sum_s \omega_{fs07} \overline{Customer}_{st}$$

and similarly for supplier payment delays.

The definition of the measures of payment delays warrants several comments. First, compared to customer payment delays, the measure of supplier payment delays makes the additional assumption that supplier payment delays are homogeneous in the downstream sector. This condition holds provided that the proportion of inputs does not vary too much between firms of the same sector. Ideally, supplier payment delays could be computed using an input-output matrix as a weighted average of the customer payment delays of upstream sectors; however, the input-output matrices available for the French economy are defined at

[14] Using the BRN-RSI data set on the whole universe of French firms, I remove for the computation of the means the observations that are superior (resp. inferior) to the median plus (resp. minus) three times the gap between the 5th and the 95th percentile in each sector so as to limit the effects of outliers. Moreover, I discard sectors (defined at the NAF 5-digits level) with less than 10 firms.

a rather aggregate level (2-digits French nomenclature), which greatly limits the variability of the measure of supplier payment delays.

Since the measure of payment delays is computed as a linear combination of sectoral indexes, the cross-firm change in the main variable hinges on the heterogeneity of product market portfolios across firms: in this setup, firms are exposed to different payment conditions only through their activity in different business lines. This condition will not hold if firms have enough market power to influence payment terms: this concern is however mitigated by the fact that the analysis focuses mostly on SMEs whose market power is presumably limited.

A last potential problem with this method is that the variation in market portfolio might capture other factors unrelated to the evolution of payment delays. This issue is partially dealt with ~~with~~ the introduction of control variables (section 4.3). Moreover, I directly relate export outcomes to *Net payment delays*$_f$ (which does not appeal to information on firm f's business lines) in section 8.

Net payment delays are eventually computed as

$$\overline{\textit{Net payment delays}}_{ft} = \overline{\textit{Customer payment delays}}_{ft} - \overline{\textit{Supplier payment delays}}_{ft}$$

The main variable of interest is eventually defined as the change in net payment delays between 2007 and 2009 ($\Delta\overline{\textit{Net payment delays}}_{f07\text{-}09}$).

4 Empirical specification

Overall, several specificities of the reform described in section 1 makes it challenging to use for causal inference:

(a): Absence of a natural control group No natural control group emerges as this reform affects all sectors. The trucking sector for which a cap on payment delays has already been implemented is a natural candidate on paper, but trucking firms barely participate to international trade.

(b): 2008-09 financial crisis The 2009 reform took place at the heart of the 2008 financial crisis. French export transactions were greatly affected by the ensuing global financial crisis: Bricongne et al. (2012) find that exports dropped by 16.2% between September 2008 and April 2009, the contribution of the intensive margin being four times higher in magnitude than the extensive margin one. Should this effect not be properly accounted for, any inference in this period would be subject to the risk of being contaminated by the confounding presence of the 2008 financial crisis.

(c): Presence of derogations The 2009 law allowed some sectors to deviate from the sixty-day rule because of particular difficulties (seasonal activity, particular payment usages...)

to implement it as of 2009. If those difficulties are correlated to firms' export market behavior, the measured variation in payment delays might be endogenous.

This section describes the strategy designed to address these three main points.

4.1 *Payment delays variation and export market behavior*

For Z_{fm09} one of our main variables of interest, the baseline regression is specified as

$$Z_{fm09} = \alpha_m + \beta \Delta \overline{Net\ payment\ delays}_{f,07\text{-}09} + \gamma X_{f09} + \epsilon_{fm09} \quad (1)$$

where α_m is the industry-country fixed effects and X_{f09} the set of firm-level control variables.

In order to disentangle the effects of the 2009 reform from the presence of the financial crisis (point (a)), I first rely on the disaggregated nature of export data by bringing the analysis to the market level and introducing industry-country fixed effects (Paravisini et al., 2014). By comparing export outcomes within an industry-country pair (a market), I am able to remove any market-level shock that hit demand (*e.g.*, household over-indebtness) or supply (*e.g.*, variation in input prices) between 2007 and 2009 in a given market. Instead of comparing total export variations, the estimations will therefore be based on the comparison of export outcomes in a industry-country pair between firms that were differently affected by the reform.

Market fixed effects additionally allow to take into account a possible correlation between the exposure to the reform and the presence in certain markets. Suppose for instance that because of their position in the input-output network, firms that were exporting plastics and rubber products to the US experienced a strong fall in net payment delays following the reform. A "naive" estimation might erroneously conclude to a significant positive effect of the variation in payment delays on the drop in exports to that market even in the absence of actual causation. Removing average trends at the market level ensures that the estimations are not prone to such potential bias.

Since the left-hand variable is observed at the firm-country-industry-level and right-hand sides variables only at the firm-level, error terms ϵ_{fm09} will be correlated for a given firm f. Bertrand, Duflo and Mullainathan (2004) and Petersen (2009) show with Monte-Carlo simulations that this will lead to underestimate standard errors and thus to under-reject the null hypothesis of non significance. I follow the econometric literature on that subject and cluster standard errors by firm to allow for arbitrary patterns of cross-correlation.

4.2 *Description of the IV strategy*

There are several reasons to believe that a direct estimation of equation 1 would be biased due to endogeneity issues. As previously noted in point (c), derogations to the 2009 might first cause the variation in payment delays to be driven by export-related factors and

thus create a form of simultaneity in equation 1. More importantly, if there are omitted variables (such as aggregate factors due to the financial crisis) that drive the change in payment delays even in the presence of control variables, the estimated coefficient $\hat{\beta}$ will not reflect the sole effect of the reform. Since there are no natural control group (point (a)), a difference-in-difference approach is excluded.

A natural way to isolate the effect of the reform is then to rely on the sixty-day-rule: since the reform gave a clear ceiling to payment delays, it is possible to determine to which extent sectors were likely to be affected by the reform. Using the information on the different business lines of firms, I can recover an ex-ante measure of the treatment intensity at the firm-level that I use as an instrument for the actual variation in payment delays.

More precisely, for a given sector s, I define excessive customers payment delays at the sectoral level as the mean for all firms f in sector s of

$$Excess\ customer\ payment\ delays_f = \max(0, Customer\ payment\ delays_f - 60)$$

and I proceed similarly for supplier payment delays. According to this formula, if all the firms present in sector s have customer payment delays inferior to sixty days, then the customer payment delays at the sector-level should be unaffected by the reform ($Excess\ customer\ PD_s = 0$). The firm-level variable $Excess\ \overline{net\ PD}_{f06}$ is then computed as

$$Excess\ \overline{net\ payment\ delays}_{f06} = \sum_s \omega_{fs08} \left(Excess\ customer\ PD_{s06} - Excess\ supplier\ PD_{s06} \right)$$

$Excess\ \overline{net\ PD}_{f06}$ can be interpreted as a measure of the net change in payment delays needed in 2006 to reach the setting where the reform is perfectly enforced: if $Customer_f$ and $Supplier_f$ were always inferior to sixty days in sector s, then $Excess\ \overline{net\ PD}_{f07}$ would equal zero. Similarly, if suppliers excessive payment delays were about as high as customer excessive payment delays, the needed change in payment delays would be zero in net terms. In general, a high value of $Excess\ \overline{net\ PD}_{f07}$ means that customer payment delays are on average higher than sixty days and that suppliers payment delays are relatively low.

This variable is used as in instrument for $\Delta\overline{Net\ payment\ delays}_{f09}$. A negative impact on the change in payment delays is expected: the evolution of the provision of trade credit subsequent to the reform should correct for previous excessive payment delays.

The identification assumption behind the IV strategy is that factors other than payment delays that affect export outcomes of firms present *in a given market* are not correlated to the exposure to the reform. This assumption might be violated if firms with more market power were more likely to be affected by the reform than others. Since one of the main goal of the reform was to put an end to abusive practices resulting (in particular) from dominant positions in supplier-customer relationships, this might create some bias in the estimations since export decisions are presumably correlated with market power. This potential concern

is however alleviated by (i) the fact that I focus on small firms whose market power is limited and (ii) the presence of variables controlling for the size and the market share of firms in their different business lines.

This instrumentation strategy has several advantages in this context: first, in the absence of a control group (point (a)), it allows to turn a *qualitative* assignment (treatment versus control group) into a *quantitative* one (treatment intensity). Second, the instrument is designed so as not to take into account derogations (point (c)). The first-stage estimation thus only captures the change in net payment delays that can be explained by the sixty-day rule and should leave aside the effects of derogations; in the end, derogations should only bring down the coefficient $\hat{\xi}$ but should leave $\hat{\beta}$ unaffected. In other terms, the IV estimator captures the *local average treatment effect* (LATE) by relying on the effects of the reform only on the firms that were affected by and that applied the sixty-days rule (*compliers*).

4.3 Control variables

The instrumentation strategy will however not yield unbiased estimates if the impact of the reform is heterogeneous among firms exporting in the same market. I first rely on accounting data to control for firm-level characteristics (a description of the construction of these variables is given in Table 2, panel A); I use in particular the firm-level change in the operational margin ($\Delta EBIT/Turnover_{f,07\text{-}09}$) to control for changes in profitability and the variation in the cash-to-assets ratio ($\Delta Cash\ holdings_{f07\text{-}09}$) to control for the evolution of the level of liquidity of the firm. The lag of leverage is also added in the set of explanatory variables to account for differences in debt capacity.

Since Bricongne et al. (2012) find that French exporters' reaction to the crisis varied a lot with firm's size[15], I include the lag of the logarithm of total assets $Size_{f07}$ in the estimations; similarly, a dummy $Group_{f07}$ is added to control for heterogeneity in financing conditions due to the affiliation to a business group.

Another potential concern with this approach is that the methodology designed to compute $\Delta\overline{Net\ payment\ delays}_{f07\text{-}09}$ might inappropriately capture sectoral variations of factors correlated to payment delays. In order to control for such correlations, I use the same methodology to build $\overline{Sales\ growth\ rate}_{f09}$: this variable allows to take explicitly into account the effects of the crisis as experienced by firm f through the average variation in sectoral sales weighted by the sales of the firm in its different business lines. Using trade credit data, Klapper, Laeven and Rajan (2012) show that large, creditworthy firms receive more favorable payment terms, suggesting that firm with more market power might have been more affected by the reform. To control for this source of heterogeneity, I use the av-

[15] Bricongne et al. (2012) find that while all firms have been evenly affected by the crisis, large firms did mainly adjust through the intensive margin and by reducing the portfolio of products offered in each destination served while smaller exporters have been instead forced to reduce the range of destinations served or to stop exporting altogether.

erage market share in the different business lines of the firm as a proxy for market power ($Market\ power_{f09}$).

[Insert table 2 here]

The change in payment delays might also simply correlate to firm f's exposure to financial constraints through its presence on sectors with varying dependence on external finance (Rajan and Zingales, 1998): I take this eventuality into account by introducing the sales-weighted average of sectoral financial dependence, $\overline{RZ\ index}_{f,07}$, where financial dependence is defined as the average share of capital expenditures that is not financed by operating cash-flows[16]. This measure has been in particular used in previous work on the links between finance and international trade such as Manova (2013).

4.4 Descriptive statistics

To obtain the final data set, I eventually remove outliers by dropping for all variables the observations that are superior (resp. inferior) to the median plus (resp. minus) five times the gap between the 95th and 5th percentile and only keep firms with non missing observations for all variables. The final data set therefore retains 9,286 firms. The sample used for the analysis of the decisions to enter, exit and the volume of exports to realize in a market are composed of respectively 350,000, 120,000 and 59,000 firm-market observations; the acquisition of customers and the evolution of the volume of sales are estimated using data sets of 67,000 and 34,000 firm-market observations. A majority of firms belong to the manufacturing sector (71 %) and they are on average relatively mature (the median age is 24 years). Panel B of table 2 shows moreover that average total assets is around 8.9 millions euros, and that 61 % of the firms in the data set belong to a business group, which is in line with the importance of business groups in the French economy (Boutin et al., 2013).

[Insert table 3 here]

The average firm in our data set exports about 3.1 millions euros (2.3 within the EU), is present in 13.5 markets (7.4 within the EU) and has 2.9 customers on average per market within the European Union. Table 3 shows that the average transaction volume for a new customer-supplier relationship is about 50,000 euros, and that it increases to 150,000 euros after five years of uninterrupted trade. The probability that a procurement relationship lasts

[16] Rajan and Zingales (1998) recommend to use the average values taken for the US economy, as they advocate that the US financial system is the most developed one and that the values of the RZ index computed for the US economy would therefore capture variation in financial dependence due only to industrial factors (degree of uncertainty, of redeployability of the assets...) and not to variation in development of the financial system. I use here the values taken for the French economy since (1) the identification does not depend on cross-country variations (2) the French financial system is arguably developed enough for the RZ index to mostly capture variation in demand-originated variation in financial dependence.

3 years is 24%, with a probability of staying in a market three years only slightly higher (30%). The number of customers increases with the number of years spent in a market, with about 6.9 customers on average after five~~r~~ years compared to 2.6 in the year of entry.

5 First stage

5.1 Payment delays variation

Figure 3 shows how the variation in customer, supplier and net payment delays between 2007 and 2009 are related to the measure of excessive payment delays in 2006. A strong negative correlation is observed for all three variables, suggesting that the measure of treatment intensity is a good predictor of the variation in payment delays. Figure 3d shows that the correlation between the instrument and the evolution of payment delays breaks down after 2009, which suggests that this association is indeed a consequence of the reform.

[Insert figure 3 here]

Going to multivariate analysis, table 4 displays the results of the estimation of

$$Y_f = \gamma_s + \xi \, Excess \, \overline{net \; payment \; delays}_{f07} + \rho X_{f09} + \nu_{f09}$$

where Y_f is a measure of payment delays and γ_s is a sector (2-digits nomenclature) fixed effect; standard errors are clustered by sector. The effect of $Excess \, \overline{Net \; payment \; delays}_{f07}$ on the evolution of net payment delays is negative and significant; on average, estimations indicate that an increase of 10 days of $Excess \, \overline{NPD}_{f07}$ was followed by a decrease of 3 days in the change in net payment delays. The significant relationship is robust to the addition of control variables (column 2). In particular, the non-significant relationship between the change in payment delays and the average sectoral growth rates of the different business lines ($\overline{Sales \; growth \; rate}_{f,07\text{-}09}$) alleviates the concern of a correlation between the change in payment delays and the incidence of the crisis. In columns 3 and 4, I show in line with figure 3 that customer and supplier payment delays evolved in line with the 60-days threshold: the elasticities to excess payment delays are of -0.29 and -0.17 respectively.

[Insert table 4 here]

The correlation between the variation in payment delays and the instrument might arise mechanically if payment delays exhibit autocorrelation. I test this eventuality by regressing $\Delta \overline{Net \; payment \; delays}_{f,09\text{-}10}$ on $Excess \, \overline{Net \; payment \; delays}_{f08}$ (column 5) and find no effect of a correction of excessive net payment delays after the implementation of the reform.

5.2 *Firm-level outcomes*

In table 5, I investigate how firm-level outcomes have been affected by the reform. This exercise gives indications on how firms have coped with the change in payment delays. I first check that the measure of payment delays based on sectoral means had an impact on the firm's working capital. To that end, I directly compute the change in net payment delays between 2007 and 2009 at the firm-level; the results of column 1 show that this variable is positively and strongly correlated to $\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09}$.

[Insert table 5 here]

Column 2 shows that higher payment delays have resulted in lower cash holdings (- 1.4 percentage points for an increase of the evolution of payment delays of 10 days). This result is difficult to reconcile with the idea of receivables being liquid assets easily convertible to cash: in fact, the management of trade credit appears to have a first order effect on the ability of firms to gather internal funds.

In the last two columns, I investigate how investment and employment reacted to a variation in payment delays. Unlike Murfin and Njoroge (2015) and Barrot and Nanda (2016), I do not find any effect of payment delays on these two margins. If anything, investment even seems to be positively (but imprecisely) associated with the change of payment delays. This discrepancy might be due to the deteriorated financial conditions during the implementation of the reform: in times of crisis, firms may have preferred to benefit from better working capital financing by accumulating internal funding rather than investing in factors of production. The absence of a strong link between the change in payment delays and the evolution of employment and investment alleviates however the concern that our results might be driven by a spurious correlation between the variable of interest and the exposure to the financial crisis.

6 Main results

6.1 *Market margin: entry*

Table 6 displays the results of the regressions on the propensity to enter a new market. Consistently with the effects on the acquisition of a customer base, the results show that the change in payment delays had a positive and highly significant effect on $Market\ entry_{fm09}$. On average, an increase in $\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09}$ by 10 days leads to a 0.4 percentage points decrease of the probability of entry. When compared to the unconditional probability (2.3%), such a decrease in $\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09}$ would cause a 17% rise of the propensity to enter a new market.

[Insert table 6 here]

Consistently with the results from the first-stage estimations, the Kleibergen-Paap statistic presented in columns 2 to 4 goes in favour of a rejection of the hypothesis of a weak instrumentation. Column 1 shows that simple OLS do not capture a positive effect of payment delays: this suggests the presence of confounding aggregate factors leading direct estimations to yield biased estimates. By capturing the part of the variation in net payment delays that can be explained by the exposure to the reform, I am able to isolate the causal effect of the variation in net payment delays on firms' exporting decisions. Furthermore, it appears that size, market power and leverage are positively associated with the entry rate. By contrast, age is negatively correlated to entry, which can be interpreted as reflecting the fact that firms more mature might have already realized their international expansion.

6.2 Customer margin: acquisition of a customer base

Panel A of table 8 displays the result of the estimation of the effects of a change in payment delays in net terms on the probability to acquire a customer in a market. The IV estimations point to a significant impact of an improvement in working capital financing on the propensity to extend the consumer base: a fall in the change in payment delays of 10 days is found to increase the propensity by 0.96 to 1.05 percentage points according to the specification. This result is consistent with the idea that the acquisition of new customers is constrained by the amount of working capital allocated to existing customers.

[Insert table 8 here]

Being affiliated to a group or experiencing an increase in cash holdings seems also to be associated to an increase in the customer base. This finding is reminiscent of Frésard (2010), who finds using an exogeneous change in the competition intensity that high reserves of cash ("deep pockets") is associated to systematic future market share gains.

6.3 Market margin: exit and intensive margin

I find no effect of the change in payment delays neither on exits from export markets nor on the volume of exports served in a market (a positive correlation appears for the intensive margin in the first IV estimation but disappears as soon as I introduce control variables). Exit is negatively associated with size, age, and affiliation with a group; group-affiliated firms, firms that experienced higher sectoral growth on average in their different business lines and that had higher growth in profitability and cash holdings grew more in the different export markets they were already serving.

[Insert table 7 here]

The fact that the volume of exports were not affected by the variation in payment delays is in apparent contradiction with the fact that the probability of acquiring consumers decreased with $\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09}$. It is however explained by the fact that exports with new customers are much lower than with existing consumers (see table 3) and that the extension of the customer base is a phenomenon relatively infrequent (7.0% probability), leading firm growth in the different markets relatively unaffected by the reform.

6.4 Alternative specifications

To assess the robustness of my results, I reestimate the previous equations using several alternative specifications. I first take the presence of derogations to the sixty-days rules into account in the construction of the instrument (see appendix A for a list of the derogations). The results are displayed in the *Derogations* column and show that the coefficients are nearly unchanged compared to the baseline estimations (though the effect on the probability on entry is less precisely estimated).

[Insert table 9 here]

Taking the effects of the customer and supplier payment delays separately, I find that the effects of payment delays on the entry in new market and on the acquisition of customers are only present when looking at the evolution of customer payment delays. While it is difficult to completely disentangle the supply and demand of trade credit in the evaluation of the reform, this finding is consistent with the idea that firms acquired new customers by getting paid quicker by their existing consumers.

In the 2008-2009 reform, I take only the evolution of payment delays and exports between 2008 and 2009 in the computation of the instrumented variable. This exercise allows to show that even if the reform was partially anticipated by firms (through a decrease of payment delays starting in 2008, see figure 2), the change in payment delays realized at the time of the implementation of the reform had an impact on firms' export behavior.

7 Heterogeneity of the effects of the reform

In this section, I analyse the role of various sources of firm-level heterogeneity in the sensitivity to variation in payment delays. This exercise serves two main purposes: first, it allows to check that the magnitudes of the effects vary in line with the predictions of the theory, which incidentally highlights the source of identification of the different estimations. Second, systematic unobserved variations between groups differently affected by the reform might lead us to erroneously conclude to a causal effects of $\Delta\overline{Net\ payment\ delays}_{f09}$ on export outcomes (Bakke and Whited, 2012). By performing the regressions on groups of firms that are supposedly more homogeneous, this exercise directly addresses this concern.

[Insert table 10 here]

I first check whether the effects of payment delays on the acquisition of customers and on the entry in new markets still hold for non-SMEs. The effects of payment delays should presumably be less important for firms belonging to large groups since the presence of internal capital markets could in principle allow them to circumvent working capital constraints. Accordingly, I find that the effects are absent for firms belonging to big groups.

Surprisingly, I find that effects are actually larger for firms belonging to intermediate groups than for firm belonging to SMEs, suggesting that internal capital markets in intermediate groups are imperfect. A possible explanation might be that if, as heterogenous firms models suggest, the size of the firm increases with productivity, then all others things equal intermediate firms should be more affected by the presence of working capital financial constraints than SMEs since they value more additional funding.

I then rerun the estimations on the subsets of manufacturing and wholesale firms: the suspicion of a confounding role of unobserved heterogeneity between these groups is high since (1) they were unequally affected by the reform (see section 4.4) (2) they gather firms with presumably very different unobserved characteristics which might have affected their export decisions. Precisely, in order to get balanced and homogeneous subgroups, I divide firms between those that belong to the wholesale trade sector, to the heavy industry (metallurgy, machines, information and telecommunications) and to the complement of the two other groups (agroalimentary, chemistry, textiles). Table 10 shows that the results hold for the last subgroup but not for the two others. Predictably, the coefficients are less precisely estimated, since the restriction to subgroups removes part of the inter-sectoral heterogeneity of the exposure to the reform upon which the identification strategy hinges.

[Insert table 11 here]

I turn in table 11 to other sources of heterogeneity of the effects of the reform, namely financial constraints, idiosyncratic risk and market power. First, I expect the effects to be larger for firms experiencing higher financing constraints. I proxy financial constraints by the measure of dependence to external finance ($\overline{RZ\ Index_{f,07}}$). In columns 1 and 2 of table 11, I split the sample between firms independent from external finance (first half of $\overline{RZ\ Index_{f,07}}$) and firms dependent to external finance (second half): I find the effects to be larger for firms independent of external finance, which is in line with columns 4 to 6 of table 10, firms in the heavy industry sector being the most dependent to external finance in our sample. This result casts however some doubt on the validity of our proxy for financial constraints.

In columns 3-4, I measure idiosyncratic risk following Bates, Kahle and Stulz (2009) and split the sub-samples between firms exposed to low (below the median) and high (above the median) idiosyncratic risk. Firms experiencing higher risk are expected to value more internal financing, the trade-off between additional customers and additional funding being

therefore more stringent. On the contrary, the acquisition of customers by firms with low idiosyncratic risk should be less dependent to working capital financing since they rely less on internal liquidity. The results strongly support this interpretation, the effects of the change in payment delays being significant only for firms experiencing high idiosyncratic risk.

In the last two columns, I perform the same regressions for sub-samples of firms with high and low market power. On the one hand, since firms with low market power were more likely to be hurt by disadvantageous payment terms (Klapper, Laeven and Rajan (2012)), they should have benefitted more from a regulation restricting long payment delays. On the other hand, Breza and Liberman (2016) find that customer-supplier relationships are less often ended by the customer in front of a restriction of trade credit provision when the supplier has high market power. The authors explain this higher resilience by a greater exclusivity of the relationship (the outside option of the customer is low). Accordingly, the estimations give mixed results: if the effects of the variation in payment delays on the acquisition of new customers are concentrated on firms with low market power, the $Market\ entry_{fm09}$ coefficient is higher for firms with high market power.

The sample is eventually divided in different geographic zones to investigate the role of unobserved heterogeneity between export markets. I come back to that end to the analysis on the different market margins, the customer margin being observable only within the EU. Interestingly, the effects of the variation in payment delays on the probability of entry becomes not significant when the sample is restricted to markets within the EU. This finding is compatible with the idea that acquiring customers is less sensitive to the financing of working capital since the markets are geographically closer (requiring therefore shorter transportation time) and exhibits presumably lower customer risk. The effects of payment delays on entry persist outside the European Union (Europe outside the EU, Africa, America) except for Asia.

[Insert table 12 here]

Interestingly, I find that the effect on the exit rate also heavily depends on whether markets belong to the European Union. The increase in payment delays seems to have caused firms to exit markets outside the EU but to be associated with a decrease of the exit rate in EU markets. An interpretation could be that when faced with higher payment delays, firms have chosen to reallocate their international activity toward the European Union.

8 Alternative measure of payment delays

Since my measure of payment delays is based on sectoral averages, the identification of the impact of the evolution of payment delays rests on the presence of firms in multiple product markets. The corporate finance literature has however documented the fact that diversified firms may differ from focused firms (Campa and Kedia, 2002): the effects

of the evolution of payment delays could in this case be identified for a potentially non-representative subset of firms. Moreover, within diversified firms, the choice between different product market portfolio might be the result of unobservable factors related to export outcomes.

[Insert table 13 here]

In this section, I address these concerns by turning to measures of payment delays that do not rely on the information on the firms' business lines. As described in section 3, the computation of the variable *Net payment delays*$_f$ is obtained using only balance sheet items by taking the difference between the accounts receivables and payables scaled by the total turnover of firm f. The distribution of the customer, supplier and net payment delays as well as the corresponding 2006 distances to the 60-days threshold are given in table 13.

[Insert table 14 here]

I reproduce the first stage estimations performed in section 5 to investigate how payment delays evolved with the exposition to the reform and to assess their impacts on various firm-level outcomes. The coefficients in column 1 of table 14 imply that similarly to the results presented above, firms that were ten more days away from the 60-days rule experienced a subsequent decrease of net payment delays of 1.7 days. The magnitude is similar for customer payment delays (1.2) ; however, according to this measure, excessive supplier payment delays seem to be unrelated to the distance to the 60-days threshold[17]. By contrast, they seem to be negative correlated to the distance in table 4. One possible interpretation of this discrepancy could be that as intended, using sectoral averages effectively limits the role of the measurement error in the estimations. The analysis of customer payment delays further shows that firms with less market power experienced stronger decrease in payment delays.

Consistently with the results of table 5, we find that a decrease in net payment delays is associated with an increase in cash holdings. With this measure, however, the evolution of payment delays appears to be strongly negatively correlated to the evolution of employment: this result is more in line with the analysis of Barrot and Nanda (2016) who find important aggregate effects of payment conditions on job creation.

[Insert table 15 and table 16 here]

Table 15 presents the results of the estimations of equation 1 for the propensity to enter and to exit export markets, the change in exports served in a market and the evolution of the customer base. In contrast with the results presented in section 6, the regressions

[17] This finding is robust to using purchases instead of sales in the denominator of the ratio.

performed using the "direct" measure of payment delays do not reveal any association between export outcomes and the evolution of payment delays. It is however possible that the specification with detailed export market fixed effects captures most of the cross change in payment delays. Indeed, table 16 confirms that payment delays seem to affect firm-level export outcomes[18]: according to the results, a 10 days decrease in net payment delays cause a decline of total exports by 1.2% and a raise of total number of new export markets reached by 1.3 units. In line with the main results, the number of exits do not however seem to be impacted by the evolution of payment delays. Overall, even if this alternative measure of payment delays leads to some differences with the baseline estimations, the idea that trade credit plays an important role in shaping firms' export behavior seems to be broadly confirmed by this additional exercise.

9 Discussion of the results

The estimations support overall the thesis that working capital plays a key role in the international expansion of firms: when firms get paid quicker, they have more working capital to allocate to new customers and to reach remote international markets. An alternative interpretation might be that firms must finance internally a sunk cost to enter markets or to acquire customers (Chaney (2016)), possibly through spending in advertising to reach new consumers (*e.g.,* Arkolakis (2010), Drozd and Nosal (2012), Gourio and Rudanko (2014)). This hypothesis gives rise to several testable predictions that could be taken to data in order to have a clearer view on the mechanisms behind the expansion in new markets.

Though internally coherent, the results are in stark contrast with Paravisini et al. (2014) who find that the credit supply only affects the intensive margin of exports through the variable cost of exporting. Yet, this apparent contradiction can easily be overcome by noting that the two studies look at the export effects of financing shocks of a very different nature: while Paravisini et al. (2014) look at the impacts of a temporary fall in debt supply, I investigate the role of a permanent shift in liquidity risk[19]. In face of a short-lived credit crisis, it may be optimal to temporarily adjust through shifting towards more expensive sources of financing such as factoring; though raising the variable cost of exporting, this solution allows to keep exporting in the same markets (albeit at a lower rate through the impact on prices) which avoids a costly exit for the firm.

Eventually, it is important to recall that these effects might be influenced by the coincident presence of the financial crisis. Theory in this respect does not provide clear guidance on whether the financial crisis tends to go for or against the effects of the reform. On the

[18] The firm-level analysis suffers however from the caveats mentioned in section 4.1.

[19] The reform might have had an effect on firms' decisions both through (1) permanent changes in liquidity risk and (2) a temporary impact on cash holdings as firms adjust to their new payment contracts. Since I control for $\Delta Cash\ holdings_{f09}$, the regressions should mostly capture the effects of (1) and leave aside (2).

one hand, since financial constraints were presumably very high during this period, the real effects of payment delays should have been magnified. On the other hand, precautionary motives might have made firms hoarding cash instead of readjusting their portfolio of export markets. Further research on other regulations on payment delays such as the Federal Quickpay Initiative in 2011 in the US or the Directive 2011/7/EU that generalized the French reform to the whole European Union might show whether the results still hold with more standard financing conditions.

10 Conclusion

The results point to a significant effect of the variation in payment delays on the propensity to acquire consumers and to reach international markets. This finding is of particular interest to the study of export barriers in developing countries: while trade credit is a very important source of financing for firms operating in developing countries (Fisman, 2001), excessive payment delays remain a pervasive source of concern while performing day-to-day operations in those markets (ACCA, 2015). In this way, policies aiming at reducing payment delays (such as simplifying customs procedure, see Hummels (2007)) or fostering the development of factoring firms might allow small firms in developing countries to develop customer capital and to access new export markets.

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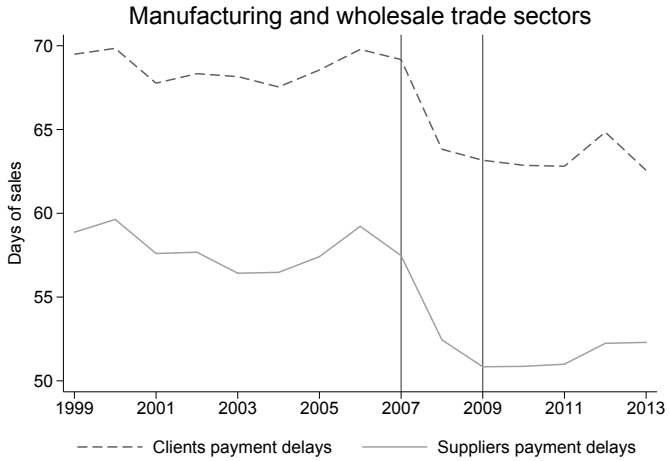
Appendix A Derogations

This appendix gives the maximum contractual payment delays after the date of the invoice authorized by the LME reform. When the limit varies in 2009 (*e.g.* 120 days between January 01 and May 31 2009 and 80 days between June 01 and December 31 2009), I report the average number of days (100 days). When the supplier and the customer face different thresholds, the minimum payment limit prevails for the transaction.

- *Purchases of living cattle:* 20 days
- *Purchases of perishable products, purchases of alcoholic beverages:* 30 days
- *Manufacture and sale of metal food packaging; record industry; recreational fishing; manual, creative and recreational activities:* 75 days
- *Construction industry; bathroom and heating equipment; sailing stores; industrial tooling; industrial hardware; steel products for the construction industry; automotive tools wholesaling:* 85 days
- *DIY stores; stationery and office supplies; tire industry; drugs with optional medical prescriptions; pet trade; garden stores; coatings, paints, glues, adhesives and inks; sports stores ; leather industry; clothing sector:* 90 days
- *Jewellery, gold- and silversmiths' trade; round wooden elements; food supplements; optical-eyewear industry; cooperage :* 105 days
- *Firearms and ammunition for hunting:* 115 days
- *Quads, two- or three-wheeled vehicles, recreational vehicles::* 125 days
- *Agricultural supplies:* 150 days
- *Toy stores:* 170 days
- *Book edition, agricultural machines:* 195 days

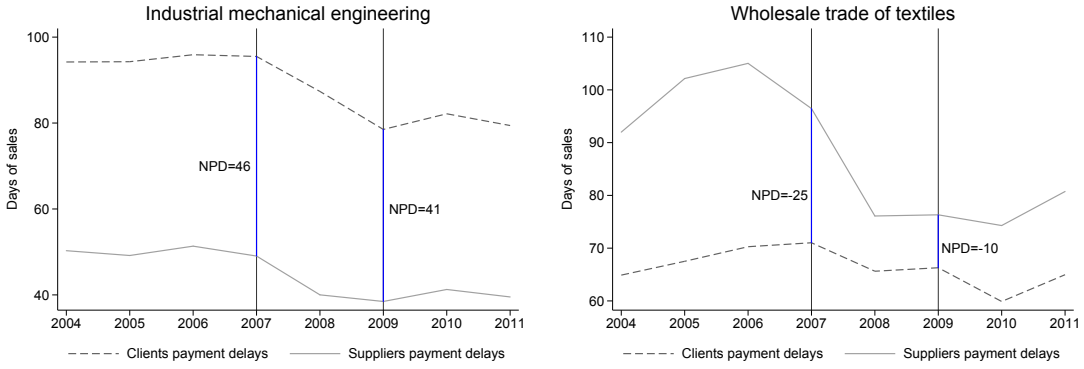
Appendix B Tables and figures

Figure 1: Effect of the reform on payment delays



Source: BRN-RSI tax returns in 2007. *Field:* manufacturing and wholesale sector.
Lecture: This table displays the evolution of customer and supplier payment delays between 1999 and 2013 in the manufacturing and wholesale trade sectors. Customer payment delays are computed as the average ratio of customer receivables over sales. Supplier payment delays are computed as the average ratio of supplier debt over sales.

Figure 2: Illustration of the sectoral heterogeneity of the effects of the reform



((a)) **((b))**

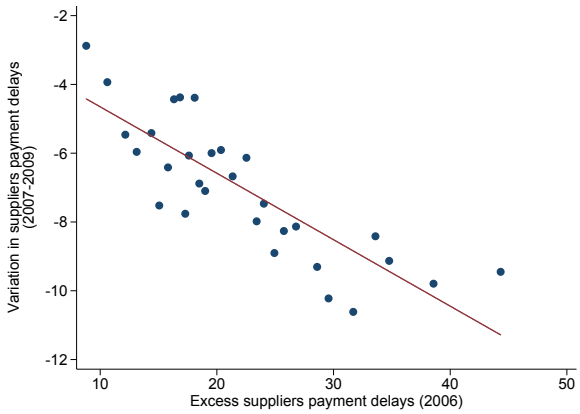
Source: BRN-RSI tax returns in 2007. *Field:* manufacturing and wholesale sector.
Lecture: This table displays the evolution of customer and supplier payment delays between 2004 and 2011 in the "industrial mechanical engineering" and "wholesale trade of textiles" sectors. Customer payment delays are computed as the average ratio of customer receivables over sales. Supplier payment delays are computed as the average ratio of supplier debt over sales. Net payment delays (NPD) are defined as customer payment delays minus supplier payment delays. Lower net payment delays means that customer payment delays decreased more than supplier payment delays.

Table 1: Top and bottom 5 sectors for customer and supplier payment delays (2007)

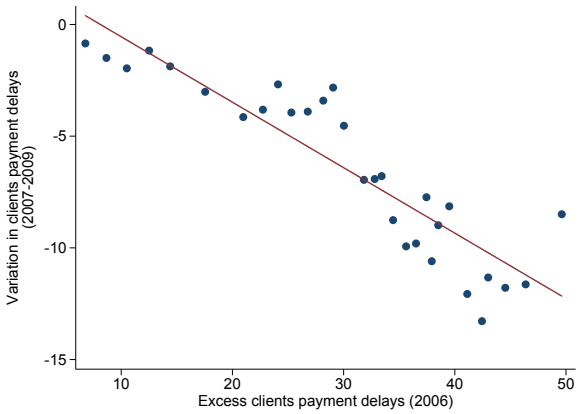
$\overline{Customer_s}$		$\overline{Supplier_s}$	
Manufacture of non-metallic mineral products	145.1	Manufacture of ceramic sanitary	99.7
Manufacture of industrial gases	120.1	Manufacture of batteries	98.1
Manufacture of locomotives	119.7	Manufacture of fibre cement	82.8
Manufacture of steam generators	118.1	Manufacture of other mineral products	80.6
Manufacture of cement	112.6	Wholesale of beverages	80.2
Processing and preserving of potatoes	8.2	Bakery confectionery	30.5
Confectionery shop	6.7	Bakery products	30.4
Delicatessen	6.4	Processing of potatoes	28.7
Bakery	6.1	Cooked meats production and trade	28.1
Industrial bakery	5.0	Manufacture of medical equipment	32.3

Source: BRN-RSI tax returns in 2007. *Field:* manufacturing and wholesale sector.
Lecture: This table displays the NAF 5-digits sectors in the manufacturing or wholesale sector with the highest and lowest values of average customer payment delays ($\overline{Customer_s}$) and supplier payment delays ($\overline{Supplier_s}$). The values are given in days. A value of 100 for $\overline{Customer_s}$ means that in sector s, the average gap between customer payments is of 100 days.

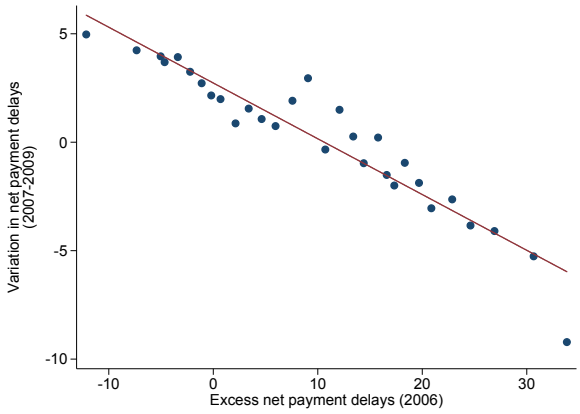
Figure 3: Graphical representation of the first stage



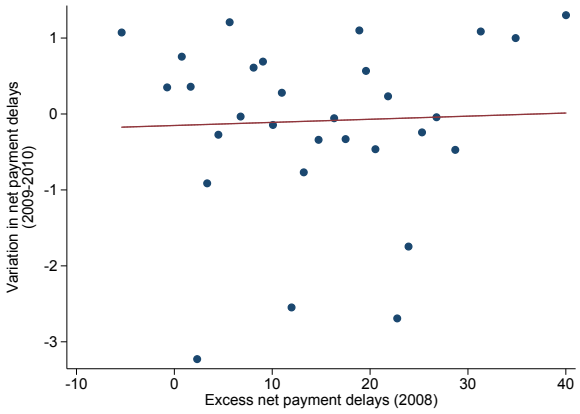
((a)) Supplier payment delays (2007-2009)



((b)) Customer payment delays (2007-2009)



((c)) Net payment delays (2007-2009)



((d)) Net payment delays (2009-2010)

Source: BRN-RSI tax returns in 2007. *Field:* manufacturing and wholesale sector.
Lecture: The y-axis of the graphs give the evolution of customer payment delays (panel (b)), of supplier payment delays (panel (c)) and of the difference of the two (net payment delays) between 2007 and 2009 (panel (a) for firms in the manufacturing and wholesale sectors. Panel (b) gives the evolution of net payment delays between 2008 and 2009 (placebo). The x-axis displays the measure of the distance to the 60-days limit for payment delays imposed by the reform: a higher value indicates that payment delays had to be more reduced for the firm to comply with the law (the exact definition of the variables is given in table 2). The graphs are generated by grouping the x-axis variables into equal-sized bins and then computing the mean of the x-axis and y-axis within each bin.

Table 2: Description of the data set.

Panel A: Data Definitions	
Dependent variables	
Customer base increase$_{fm09}$	The customer base of firm f is said to increase in market m between 2007 and 2009 if firm f acquire at least one customer in market m without losing any existing customers. *Source: Customs.*
Δ*Customer exports*$_{fm09}$	Variation between 2007 and 2009 of the amount of exports (in logarithm) to customers in market m with whom firm f has an active sales relationship in 2007, 2008 and 2009. *Source: Customs.*
Market entry$_{fm09}$	*Export entry*$_{fm09}$ = 1 if firm f does not export in market m in 2007 and exports in 2009, and zero otherwise. *Source: Customs.*
Market exit$_{fm09}$	*Export exit*$_{fm09}$ = 1 if firm f exports in market m in 2007 or 2008 and does not export in 2009, and zero otherwise. *Source: Customs.*
Δ*Market exports*$_{fm09}$	Variation of the amount of exports (in logarithm) of firm f in market m between 2007 and 2009 if firm f exports in market m in 2007, 2008 and 2009. *Source: Customs.*
Independent variables	
Δ*Cash holdings*$_{f,07\text{-}09}$	Variation of cash holdings (scaled by the amount of total assets in 2007). *Source: BRN-RSI.*
$\Delta\overline{\textit{Customer payment delays}}_{f,07\text{-}09}$	Variation of the sales-weighted average of sectoral customer payment delays (see section 3). *Source: EAE, BRN-RSI.*
Δ*EBIT/Turnover*$_{f,07\text{-}09}$	Variation in the EBIT over sales ratio. *Source: BRN-RSI.*
Δ*Employment*$_{f,07\text{-}09}$	Variation of employment (scaled by the amount of total assets in 2007 expressed in millions euros). *Source: BRN-RSI.*
$\Delta\overline{\textit{Net payment delays}}_{f,07\text{-}09}$	Variation of the sales-weighted average of sectoral net payment delays (see section 3). *Source: EAE, BRN-RSI.*
$\Delta\overline{\textit{Supplier payment delays}}_{f,07\text{-}09}$	Variation of the sales-weighted average of sectoral supplier payment delays (see section 3). *Source: EAE, BRN-RSI.*
Group$_{f,09}$	Dummy indicating the affiliation to a business group. *Source: LIFI.*
Δ*Investment*$_{f,07\text{-}09}$	Variation of investment (scaled by the amount of total assets in 2007). *Source: BRN-RSI.*
log(Age)$_{f,09}$	Age of the firm (in logarithm). *Source: BRN-RSI.*
log(Total Assets)$_{f,07}$	Lag of the logarithm of total assets. *Source: BRN-RSI.*
Long-term debt/TA$_{f,07}$	Long-term debt to total assets ratio. *Source: BRN-RSI.*
Market power$_{f,07}$	Sales-weighted average of firm f's market share in its different business lines *Source: EAE.*
RZ index$_{f,07}$	Sales-weighted average of the sectoral mean of the share of capital expenditures that is not financed by operating cash-flows (computed in 2007). *Source: EAE, BRN-RSI.*
$\overline{\textit{Sales growth rate}}_{f,07\text{-}09}$	Sales-weighted average of sectoral sales growth rates between 2007 and 2009. *Source: EAE, BRN-RSI.*
Instruments	
Excess $\overline{\textit{customer payment delays}}_{f,06}$	Sales-weighted average of excess sectoral customer payment delays (see section 4.2). *Source: EAE, BRN-RSI.*
Excess $\overline{\textit{net payment delays}}_{f,06}$	Sales-weighted average of excess sectoral net payment delays (see section 4.2). *Source: EAE, BRN-RSI.*
Excess $\overline{\textit{supplier payment delays}}_{f,06}$	Sales-weighted average of excess sectoral supplier payment delays (see section 4.2). *Source: EAE, BRN-RSI.*

Panel B: Summary Statistics

Name	# Obs.	Mean	Std. Dev.	Percentiles 5th	25th	50th	75th	95th
Dependent variables								
Customer base increase$_{fm09}$	66724	0.07	0.26	0.00	0.00	0.00	0.00	1.00
Δ*Customer exports*$_{fm09}$	34384	-0.02	0.85	-1.08	-0.02	0.00	0.38	1.01
Market entry$_{fm09}$	350459	0.02	0.15	0.00	0.00	0.00	0.00	0.00
Market exit$_{fm09}$	119940	0.22	0.41	0.00	0.00	0.00	0.00	1.00
Δ*Market exports*$_{fm09}$	58888	-0.36	1.09	-2.29	-0.86	-0.26	0.23	1.26
Independent variables								
Δ*Cash holdings*$_{f,07\text{-}09}$	9286	0.02	0.10	-0.11	-0.02	0.00	0.05	0.18
$\Delta\overline{\textit{Customer PD}}_{f,07\text{-}09}$	9286	-6.45	5.83	-16.45	-10.25	-5.71	-2.06	1.77
Δ*EBIT/Turnover*$_{f,07\text{-}09}$	9286	-0.03	0.11	-0.21	-0.06	-0.01	0.02	0.09
Δ*Employment*$_{f,07\text{-}09}$	9286	-0.38	1.73	-2.99	-0.80	-0.16	0.23	1.53
$\Delta\overline{\textit{Net PD}}_{f,07\text{-}09}$	9286	0.22	5.16	-8.25	-2.99	0.66	3.84	8.17
$\Delta\overline{\textit{Supplier PD}}_{f,07\text{-}09}$	9286	-6.67	4.50	-13.07	-9.19	-6.64	-4.15	-0.07
Group$_{f,09}$	9286	0.62	0.49	0.00	0.00	1.00	1.00	1.00
Δ*Investment*$_{f,07\text{-}09}$	9286	-0.00	0.05	-0.07	-0.01	-0.00	0.01	0.06
log(Age)$_{f,09}$	9286	3.17	0.65	1.95	2.77	3.18	3.64	3.99
log(Total Assets)$_{f,07}$	9286	8.93	0.88	7.58	8.30	8.88	9.51	10.46
LT debt/TA$_{f,07}$	9286	0.04	0.06	0.00	0.00	0.01	0.06	0.16
RZ index$_{f,07}$	9285	-7.64	2.99	-12.75	-9.28	-7.53	-5.78	-3.25
$\overline{\textit{Sales growth rate}}_{f,07\text{-}09}$	9286	-0.16	0.17	-0.41	-0.23	-0.15	-0.05	0.06
Instruments								
Excess $\overline{\textit{customer PD}}_{f,06}$	9286	30.08	12.04	8.05	22.40	32.36	38.54	46.37
Excess $\overline{\textit{net PD}}_{f,06}$	9286	9.75	12.39	-8.45	-0.30	9.63	18.57	31.45
Excess $\overline{\textit{supplier PD}}_{f,06}$	9286	20.33	9.15	8.65	13.35	18.46	25.56	38.04

Source: BRN-RSI, EAE, Customs data. *Field:* SMEs of the manufacturing and wholesale sector.

Table 3: Description of the export dynamics at the customer- and market-level.

Level	**#Years after entry:**	**1**	**2**	**3**	**4**	**5**
Customer	Export value (mean)	50409	79556	112659	142777	151454
	Survival rate (%)	-	39.87	24.05	16.10	12.06
Market	Export value (mean)	143684	237899	338312	517903	602528
	Survival rate (%)	-	44.12	30.49	22.37	18.56
	# customers (mean, UE)	2.69	4.06	5.05	6.01	6.94

Source: BRN-RSI, EAE, Customs data. *Field:* SMEs of the manufacturing and wholesale sector.
Lecture: The table displays the average export value and survival rate at the customer- and market-level for the five years consecutive to the entry in the market or the formation of a new customer-supplier relationship. The last line indicate the evolution of the number of customers per market in the five years consecutive to the time of entry.

Table 4: Results of the first stage estimation.

	OLS				
	$\Delta\overline{Net\ PD}_{f,07\text{-}09}$		$\Delta\overline{Customer\ PD}_{f,07\text{-}09}$	$\Delta\overline{Supplier\ PD}_{f,07\text{-}09}$	$\Delta\overline{Net\ PD}_{f,09\text{-}10}$
$Excess\ \overline{net\ payment\ delays}_{f,t\text{-}3}$	-0.305^{***}	-0.296^{***}			0.008
	(0.030)	(0.030)			(0.030)
$log(Total\ Assets)_{f,t-2}$		0.166^{*}	0.326^{***}	0.109	-0.045
		(0.095)	(0.115)	(0.082)	(0.075)
$Age_{f,t}$		0.040	-0.093	-0.133	0.054
		(0.080)	(0.103)	(0.093)	(0.068)
$Group_{f,t}$		0.086	-0.144	-0.208^{**}	-0.039
		(0.083)	(0.114)	(0.101)	(0.089)
$\overline{Sales\ growth\ rate}_{f,t}$		1.725	3.710^{**}	1.753	-2.783^{*}
		(1.725)	(1.650)	(1.449)	(1.541)
$Long\text{-}term\ debt/Total\ assets_{f,t\text{-}2}$		-0.732	-0.516	0.526	0.278
		(0.703)	(0.948)	(0.860)	(0.703)
$Market\ power_{f,t}$		-4.038	-9.426	-3.204	9.452^{***}
		(12.085)	(10.635)	(8.772)	(3.497)
$\Delta EBIT/Turnover_{f,t}$		0.766^{*}	0.420	-0.361	-0.065
		(0.408)	(0.459)	(0.414)	(0.417)
$\Delta Cash\ holdings_{f,t}$		0.400	-0.363	-0.743	-0.001
		(0.473)	(0.544)	(0.456)	(0.358)
$Excess\ \overline{customer\ payment\ delays}_{f,t\text{-}3}$			-0.294^{***}		
			(0.028)		
$Excess\ \overline{supplier\ payment\ delays}_{f,t\text{-}3}$				-0.166^{***}	
				(0.027)	
Sector FE	Yes	Yes	Yes	Yes	Yes
Observations	9286	9286	9286	9286	9787
R^2	0.457	0.461	0.495	0.312	0.097

The main variables are presented in table 2. The regressions include sector (NAF 2-digits) fixed-effects. The standard errors are clustered at the sector level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. In the last column, the first stage equation is estimated for the 2009-2010 period.

Table 5: Payment delays and firm-level outcomes.

	OLS	IV 2SLS		
	$\Delta Net\ PD_{f,07\text{-}09}$	$\Delta Cash_{f,07\text{-}09}$	$\Delta Inv_{f,07\text{-}09}$	$\Delta Empl_{f,07\text{-}09}$
$\Delta\overline{Net\ payment\ delays}_{f,t} \times 100$	0.254***	−0.143***	0.037*	−1.049
	(0.091)	(0.048)	(0.020)	(0.925)
$log(Total\ Assets)_{f,t-2}$	0.005	−0.004***	−0.002***	0.185***
	(0.005)	(0.007)	(0.001)	(0.043)
$Age_{f,t}$	−0.011	0.000	0.001	−0.095**
	(0.007)	(0.002)	(0.001)	(0.038)
$Group_{f,t}$	−0.012	−0.010***	−0.000	−0.000
	(0.008)	(0.002)	(0.001)	(0.037)
$\overline{Sales\ growth\ rates}_{f,t}$	−0.022	0.005	0.004	0.319**
	(0.032)	(0.007)	(0.003)	(0.139)
$Long\text{-}term\ debt/Total\ assets_{f,t\text{-}2}$	−0.017	−0.005	−0.088***	0.870***
	(0.060)	(0.016)	(0.015)	(0.315)
$Market\ power_{f,t}$	0.254	−0.017	0.051**	−0.129
	(0.198)	(0.033)	(0.025)	(0.662)
$\Delta EBIT/Turnover_{f,t}$	0.287***	0.134***	0.004	0.914***
	(0.062)	(0.013)	(0.005)	(0.262)
Sector FE	Yes	Yes	Yes	Yes
Observations	9267	9286	9286	9286

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include sector (NAF 2-digits) fixed-effects. The standard errors are clustered at the sector level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. $\Delta Net\ PD_{f,07\text{-}09}$ is computed as the change in the ratio of customer receivables minus supplier debt over sales between 2007 and 2009.

Table 6: Effects of the change in payment delays on $Market\ entry_{fm09}$

	OLS	IV 2SLS (1)	IV 2SLS(2)	IV 2SLS (3)	First stage
			$Export\ entry_{fm09}$		$\Delta\overline{Net\ payment\ delays}_{f09}$
$\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09} \times 100$	−0.006	−0.046***	−0.045***	−0.046***	
	(0.009)	(0.013)	(0.014)	(0.015)	
$log(Total\ Assets)_{f,07}$	0.005***		0.005***	0.005***	0.002***
	(0.000)		(0.000)	(0.000)	(0.001)
$log(Age)_{f,09}$	−0.003***		−0.003***	−0.003***	−0.001
	(0.001)		(0.001)	(0.001)	(0.001)
$Group_{f,09}$	0.002*		0.001	0.002*	0.001
	(0.001)		(0.001)	(0.001)	(0.001)
$\overline{Sales\ growth\ rate}_{f,07\text{-}09}$	−0.005*		−0.003	−0.002	0.012**
	(0.003)		(0.003)	(0.003)	(0.005)
$Long\text{-}term\ debt/Total\ assets_{f,07}$	0.018**			0.017**	−0.019***
	(0.008)			(0.008)	(0.007)
$Market\ power_{f,07}$	0.065**			0.072***	0.092
	(0.027)			(0.027)	(0.089)
$\Delta EBIT/Turnover_{f,07\text{-}09}$	0.000			0.001	0.008*
	(0.003)			(0.003)	(0.004)
$\Delta Cash\ holdings_{f,07\text{-}09}$	0.006			0.006	0.000
	(0.004)			(0.004)	(0.005)
$Excess\ \overline{net\ PD}_{f,06} \times 100$					−0.273***
					(0.005)
Observations	350459	350459	350459	350459	350459
Firms	9136	9136	9136	9136	9136
Market FE	Yes	Yes	Yes	Yes	Yes
R^2	0.013	-	-	-	0.431
Weak identification (KP stat)	-	1346.2	1153.2	1157.6	-

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification).

Table 7: Effects of the change in payment delays on $Market\ exit_{fm09}$ and $\Delta Market\ exports_{fm09}$

	Panel A: Market exit				
	OLS	IV 2SLS (1)	IV 2SLS(2)	IV 2SLS (3)	First stage
	$Market\ exit_{fm09}$				$\Delta\overline{Net\ payment\ delays}_{f09}$
$\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09} \times 100$	−0.066	−0.055	−0.093	−0.096	
	(0.061)	(0.096)	(0.101)	(0.103)	
$log(Total\ Assets)_{f,07}$	−0.011***		−0.011**	−0.011***	0.233*
	(0.004)		(0.004)	(0.004)	(0.122)
$Age_{f,09}$	−0.080***		−0.081***	−0.080***	0.257
	(0.016)		(0.016)	(0.016)	(0.403)
$Group_{f,09}$	−0.025***		−0.024***	−0.025***	−0.083
	(0.006)		(0.006)	(0.006)	(0.162)
$\overline{Sales\ growth\ rate}_{f,07\text{-}09}$	−0.008		−0.007	−0.006	3.215***
	(0.015)		(0.017)	(0.018)	(0.557)
$Long\text{-}term\ debt/Total\ assets_{f,07}$	0.021			0.021	0.339
	(0.045)			(0.045)	(1.141)
$Market\ power_{f,07}$	0.041			0.046	9.295
	(0.147)			(0.152)	(10.175)
$\Delta EBIT/Turnover_{f,07\text{-}09}$	−0.016			−0.016	0.028
	(0.031)			(0.031)	(0.607)
$\Delta Cash\ holdings_{f,07\text{-}09}$	−0.046			−0.046	1.273**
	(0.030)			(0.030)	(0.639)
$Excess\ \overline{net\ PD}_{f,06} \times 100$					−0.259***
					(0.007)
Observations	119940	119940	119940	119940	119940
Firms	9096	9096	9096	9096	9096
Market FE	Yes	Yes	Yes	Yes	Yes
R^2	0.078	-	-	-	0.379
Weak identification (KP stat)	-	757.9	641.3	671.6	-
	Panel B: Evolution of the volume of transactions within a market				
	OLS	IV 2SLS (1)	IV 2SLS(2)	IV 2SLS (3)	First stage
	$\Delta Market\ exports_{fm09}$				$\Delta\overline{Net\ payment\ delays}_{f09}$
$\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09} \times 100$	−0.045	0.781**	0.425	0.364	
	(0.149)	(0.306)	(0.333)	(0.320)	
$log(Total\ Assets)_{f,07}$	−0.007		−0.010	−0.007	0.002**
	(0.009)		(0.010)	(0.009)	(0.001)
$Age_{f,09}$	0.023		0.043	0.024	0.003
	(0.046)		(0.050)	(0.046)	(0.005)
$Group_{f,09}$	0.069***		0.070***	0.069***	−0.000
	(0.017)		(0.017)	(0.017)	(0.002)
$\overline{Sales\ growth\ rate}_{f,07\text{-}09}$	0.290***		0.297***	0.261***	0.036***
	(0.049)		(0.054)	(0.053)	(0.006)
$Long\text{-}term\ debt/Total\ assets_{f,07}$	0.199*			0.197*	0.001
	(0.114)			(0.114)	(0.012)
$Market\ power_{f,07}$	−0.338			−0.383	0.051
	(0.401)			(0.406)	(0.101)
$\Delta EBIT/Turnover_{f,07\text{-}09}$	0.729***			0.728***	−0.004
	(0.083)			(0.083)	(0.007)
$\Delta Cash\ holdings_{f,07\text{-}09}$	0.337***			0.330***	0.017**
	(0.080)			(0.080)	(0.007)
$Excess\ \overline{net\ PD}_{f,06} \times 100$					−0.260***
					(0.008)
Observations	58888	58888	58888	58888	58888
Firms	7472	7472	7472	7472	7472
Market FE	Yes	Yes	Yes	Yes	Yes
R^2	0.066	-	-	-	0.380
Weak identification (KP stat)	-	564.5	480.1	486.5	-

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification).

Table 8: Effects of the change in payment delays on *Customer base increase*$_{fm09}$

	OLS	IV 2SLS (1)	IV 2SLS(2)	IV 2SLS (3)	First stage
	Customer base increase$_{fm09}$				$\Delta\overline{Net\ payment\ delays}_{f09}$
$\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09} \times 100$	−0.008	−0.096**	−0.105**	−0.102**	
	(0.026)	(0.048)	(0.051)	(0.051)	
$log(Total\ Assets)_{f,07}$	0.001		0.000	0.001	0.002**
	(0.002)		(0.001)	(0.002)	(0.001)
$Age_{f,09}$	0.005		0.005	0.005	0.003
	(0.007)		(0.007)	(0.007)	(0.004)
$Group_{f,09}$	0.007***		0.006**	0.007**	−0.000
	(0.003)		(0.003)	(0.003)	(0.001)
$\overline{Sales\ growth\ rate}_{f,07\text{-}09}$	0.001		0.009	0.008	0.035***
	(0.008)		(0.009)	(0.009)	(0.005)
$Long\text{-}term\ debt/Total\ assets_{f,07}$	0.003			0.003	0.002
	(0.019)			(0.019)	(0.010)
$Market\ power_{f,07}$	−0.164**			−0.138*	0.192
	(0.072)			(0.072)	(0.124)
$\Delta EBIT/Turnover_{f,07\text{-}09}$	0.001			0.002	−0.002
	(0.009)			(0.009)	(0.006)
$\Delta Cash\ holdings_{f,07\text{-}09}$	0.064***			0.065***	0.012*
	(0.015)			(0.015)	(0.006)
$Excess\ \overline{net\ PD}_{f,06} \times 100$					−0.260***
					(0.007)
Observations	66724	66724	66724	66724	66724
Firms	8397	8397	8397	8397	8397
Market FE	Yes	Yes	Yes	Yes	Yes
R^2	0.016	-	-	-	0.372
Weak identification (KP stat)	-	774.0	632.0	629.1	-

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification).

Table 9: Alternative specifications

Measure of payment delays	(1) Baseline	(2) Derogations	(3) Customer	(4) Supplier	(5) 2008-2009
Panel A: Market entry					
Regression coefficient (× 100)	-0.046***	-0.025*	-0.034**	0.025	-0.119***
	(0.015)	(0.014)	(0.015)	(0.024)	(0.039)
Observations	350459	350459	350459	350459	350459
KP statistic	1157.6	1157.2	1041.2	621.0	359.2
Panel B: Market exit					
Regression coefficient (× 100)	-0.093	-0.104	-0.105	-0.013	-0.276
	(0.102)	(0.100)	(0.099)	(0.114)	(0.303)
Observations	119940	119940	119940	119940	119940
KP statistic	639.4	569.6	359.1	317.8	164.7
Panel C: Evolution of the volume of transaction within a market					
Regression coefficient (× 100)	0.348	0.420	0.400	0.039	0.956
	(0.319)	(0.312)	(0.312)	(0.344)	(0.879)
Observations	58888	58888	58888	58888	58888
KP statistic	480.6	465.4	244.2	290.8	140.2
Panel D: Evolution of the customer base					
Regression coefficient (× 100)	-0.102**	-0.109**	-0.086*	0.027	-0.261*
	(0.051)	(0.051)	(0.049)	(0.063)	(0.134)
Observations	66724	66724	66724	66724	66724
KP statistic	629.1	646.7	398.8	381.5	185.1

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects and are all made according to the IV 2SLS (3) model. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification). In the *Derogations* column, the measure of excess payment delays take into account the presence of derogations to the 60-rule rule (see Appendix A for the detail). In the *Customer* and *Supplier* columns, the $\Delta\overline{Net\ payment\ delays}_{f,07\text{-}09}$ are respectively replaced by $\Delta\overline{Customer\ payment\ delays}_{f,07\text{-}09}$ and $\Delta\overline{Supplier\ payment\ delays}_{f,07\text{-}09}$. In the *2008-2009* column, I consider only the change in payment delays between 2008 and 2009.

Table 10: Firm-level heterogeneity and *Export entry*$_{fm09}$

	(1)	(2)	(3)	(4)	(5)	(6)
	Size of the group			Sector		
	Small	Medium	Big	Agroalimentary, textile, chemistry	Metallurgy, machines, IT	Wholesale
	Customer base increase$_{fm09}$					
$\Delta\overline{NPD}_{f,07\text{-}09} \times 100$	-0.102**	-0.175**	0.062	-0.346*	0.113	-0.024
	(0.052)	(0.075)	(0.179)	(0.208)	(0.074)	(0.108)
Observations	66724	50856	14629	22814	23942	19775
Firms	8397	3935	927	2905	2989	2502
	Market entry$_{fm09}$					
$\Delta\overline{NPD}_{f,07\text{-}09} \times 100$	-0.044***	-0.120***	-0.047	-0.138***	0.035	-0.009
	(0.015)	(0.035)	(0.090)	(0.048)	(0.025)	(0.032)
Observations	350459	219473	65010	106580	130470	113376
Firms	9136	4230	1107	3066	3350	2720

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects and are all made according to the IV 2SLS (3) model. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification). The first three columns display the results of the estimations made separately on the subsets of firms belonging to small, medium and large groups (see section 2.2). In the last three columns, firms are classified into three broad sub-sectors and the regressions are performed on each subset.

Table 11: Unobserved firm heterogeneity.

	RZ index		Idiosyncratic risk		Market power	
	-	+	-	+	-	+
			Customer base increase$_{fm09}$			
$\Delta\overline{NPD}_{f,07\text{-}09} \times 100$	-0.129*	-0.062	-0.049	-0.156**	-0.185**	-0.043
	(0.068)	(0.082)	(0.076)	(0.074)	(0.073)	(0.071)
Observations	33179	33455	33240	33385	33331	33322
KP statistic	448.8	198.7	346.6	294.3	511.7	240.1
			Market entry$_{fm09}$			
$\Delta\overline{NPD}_{f,07\text{-}09} \times 100$	-0.062***	-0.039**	0.016	-0.142***	-0.036*	-0.061***
	(0.022)	(0.019)	(0.017)	(0.027)	(0.018)	(0.023)
Observations	163912	186528	175187	175241	175227	175232
Firms	4056	5079	4975	4161	4595	4541

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects and are all made according to the IV 2SLS (3) model. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification). The construction of the *RZ index* and *Market power* variables are given in table 2. The firm-level measure of idiosyncratic risk is defined as the sales-weighted average of the sectoral standard deviation of the cash-flow to assets ratio (see Bates, Kahle and Stulz (2009)), the latter being computed by taking for each firm the standard deviation of the cash-flow to assets ratio between 2002 and 2006 and then averaging it at the level of the sector (only the firms that operated continuously during this period are included in the computation of the index). For each of this three variables, the sample is separated in two subsets, the symbol - (resp. +) indicating the first (resp. second) part of the distribution of the variable. The table displays the results of the regressions performed on the different sub-samples.

Table 12: Export market heterogeneity and *Export entry*$_{fm09}$

	(1) Baseline	(2) EU	(3) Excl. EU	(4) Europe	(5) Asia	(6) Africa	(7) America
				Market entry$_{fm09}$			
$\Delta\overline{NPD}_{f,07\text{-}09} \times 100$	-0.046***	0.002	-0.097***	-0.133***	0.008	-0.149***	-0.106***
	(0.015)	(0.022)	(0.015)	(0.037)	(0.039)	(0.028)	(0.017)
Observations	350459	177796	172663	26980	30740	31038	83905
Firms	9136	9066	9133	8683	8769	8908	9114
				Market exit$_{fm09}$			
$\Delta\overline{NPD}_{f,07\text{-}09} \times 100$	-0.093	-0.328***	0.237*	-0.048	0.420**	0.611**	0.179
	(0.102)	(0.125)	(0.132)	(0.217)	(0.204)	(0.276)	(0.233)
Observations	119940	66564	53376	10203	14878	8365	15829
KP statistic	639.4	587.9	495.7	415.3	396.6	208.2	220.1
				Δ*Market export*$_{fm09}$			
$\Delta\overline{NPD}_{f,07\text{-}09} \times 100$	0.348	0.335	0.300	1.988**	-0.448	-2.091	1.044
	(0.319)	(0.378)	(0.458)	(0.783)	(0.720)	(1.290)	(0.938)
Observations	58888	37393	21495	4535	5318	3578	6310
KP statistic	480.6	429.0	355.9	295.5	261.0	134.9	129.0

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects and are all made according to the IV 2SLS (3) model. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification). The table displays the results of the regressions performed separately on different geographic zones.

Table 13: Descriptive statistics

	Obs.	**Mean**	**S.D.**	**P5**	**P25**	**P50**	**P75**	**P95**
Δ*Net payment delays*$_{f,07\text{-}09}$	9153	-0.24	35.11	-50.24	-16.11	-0.01	15.41	50.24
Excess net payment delays$_{f,06}$	9153	5.07	34.99	-43.51	-10.73	0.00	22.25	59.65
Δ*Customer payment delays*$_{f,07\text{-}09}$	9153	-7.02	31.61	-53.51	-21.50	-5.93	5.98	38.88
Excess customer payment delays$_{f,06}$	9153	27.72	45.50	0.00	0.00	17.09	42.80	85.31
Δ*Supplier payment delays*$_{f,07\text{-}09}$	9153	-9.02	41.06	-64.17	-27.48	-9.15	6.80	48.54
Excess supplier payment delays$_{f,06}$	9153	37.63	388.49	0.00	0.00	20.98	47.02	98.37

Source: BRN-RSI, EAE, Customs data. *Field:* SMEs of the manufacturing and wholesale sector.

Table 14: Alternative measure of payment delays and firm-level outcomes

	$\Delta Net\ PD_{f,07\text{-}09}$	$\Delta Customer\ PD_{f,07\text{-}09}$	$\Delta Supplier\ PD_{f,07\text{-}09}$	$\Delta Cash_{f,07\text{-}09}$	$\Delta Investment_{f,07\text{-}09}$	$\Delta Employment_{f,07\text{-}09}$
$log(Total\ Assets)_{f,07}$	0.007	−0.855	−1.393**	−0.004***	−0.002***	0.198***
	(0.005)	(0.563)	(0.550)	(0.002)	(0.001)	(0.046)
$Age_{f,09}$	−0.006	−1.127**	−0.506	−0.002	0.001	−0.115***
	(0.006)	(0.511)	(0.715)	(0.002)	(0.001)	(0.041)
$Group_{f,09}$	−0.010	−0.652	−0.248	−0.011***	−0.000	−0.014
	(0.008)	(0.668)	(0.845)	(0.002)	(0.001)	(0.040)
$\overline{Sectoral\ growth\ rates}_{f,07\text{-}09}$	−0.015	2.206	4.907*	−0.005	0.006**	0.219
	(0.031)	(2.920)	(2.894)	(0.007)	(0.003)	(0.140)
$Long\text{-}term\ debt/Total\ assets_{f,07}$	−0.051	−5.696	−2.621	−0.006	−0.087***	0.825***
	(0.058)	(6.142)	(7.476)	(0.017)	(0.014)	(0.317)
$Market\ power_{f,07}$	1.218	183.392**	218.410**	0.065	0.050	−2.338
	(0.809)	(74.856)	(86.038)	(0.193)	(0.067)	(3.792)
$\Delta EBIT/Turnover_{f,07\text{-}09}$	0.289***	−20.069***	−30.176***	0.171***	0.005	1.316***
	(0.064)	(5.649)	(6.469)	(0.018)	(0.006)	(0.306)
$Excess\ net\ payment\ delays_{f,06}$	−0.174***					
	(0.023)					
$Excess\ customer\ delays_{f,06}$		−0.122***				
		(0.034)				
$Excess\ supplier\ delays_{f,06}$			−0.002			
			(0.002)			
$\Delta Net\ payment\ delays_{f,07\text{-}09}$				−0.107***	0.000	−1.219***
				(0.019)	(0.007)	(0.255)
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9153	9153	9153	9153	9153	9153

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects and are all made according to the IV 2SLS (3) model. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification). The table displays the results of the regressions performed separately on different geographic zones.

Table 15: Alternative measure of payment delays and market-level outcomes

	$Market\ entry_{f,m,07\text{-}09}$	$Market\ exit_{f,m,07\text{-}09}$	$\Delta Market\ exports_{f,m,07\text{-}09}$	$Customer\ base\ increase_{fm09}$
$\Delta Net\ payment\ delays_{f,07\text{-}09} \times 100$	0.027	−0.056	0.102	0.029
	(0.022)	(0.049)	(0.104)	(0.023)
$log(Total\ Assets)_{f,07}$	0.016***	−0.017***	0.007**	0.001**
	(0.002)	(0.004)	(0.003)	(0.001)
$log(Age)_{f,09}$	0.004*	−0.074***	−0.032*	−0.008*
	(0.002)	(0.015)	(0.016)	(0.004)
$Group_{f,09}$	0.005*	−0.026***	0.021***	0.004**
	(0.003)	(0.006)	(0.007)	(0.002)
$\overline{Sales\ growth\ rate}_{f,07\text{-}09}$	−0.005	−0.010	0.066***	0.009
	(0.008)	(0.015)	(0.017)	(0.006)
$Long\text{-}term\ debt/Total\ assets_{f,07}$	0.052**	0.018	0.063	0.006
	(0.025)	(0.040)	(0.044)	(0.011)
$Market\ power_{f,07}$	0.340***	−0.111	−0.061	−0.040*
	(0.104)	(0.268)	(0.187)	(0.022)
$\Delta EBIT/Turnover_{f,07\text{-}09}$	−0.008	−0.005	0.242***	0.006
	(0.013)	(0.032)	(0.040)	(0.006)
$\Delta Cash\ holdings_{f,07\text{-}09}$	0.049*	−0.093*	0.149**	0.014
	(0.025)	(0.052)	(0.071)	(0.013)
Observations	441375	168719	85137	66788
Firms	5828	9500	8629	9094
Market FE	Yes	Yes	Yes	Yes
Weak identification (KP stat)	20.2	12.6	6.3	26.0

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects and are all made according to the IV 2SLS (3) model. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification). The table displays the results of the regressions performed separately on different geographic zones.

Table 16: Alternative measure of payment delays and aggregate export outcomes

	$\Delta Exports_{f,07\text{-}09}$	$log(\#Entries)$	$log(\#Exits)$	$log(\#New\ customers)$
$\Delta Net\ payment\ delays_{f,07\text{-}09}$	-0.120^{*}	-0.287^{**}	-0.455	0.283
	(0.068)	(0.143)	(0.273)	(0.253)
$log(Total\ Assets)_{f,07}$	0.010	0.260^{***}	0.304^{***}	0.307^{***}
	(0.007)	(0.011)	(0.025)	(0.044)
$Age_{f,09}$	0.002	-0.041^{***}	0.025^{*}	0.068^{***}
	(0.007)	(0.013)	(0.013)	(0.023)
$Group_{f,09}$	0.006	0.026	0.100^{***}	-0.003
	(0.009)	(0.018)	(0.032)	(0.052)
$\overline{Sectoral\ growth\ rates}_{f,07\text{-}09}$	0.105^{**}	0.212^{***}	0.188	0.781^{***}
	(0.045)	(0.057)	(0.141)	(0.147)
$Long\text{-}term\ debt/Total\ assets_{f,07}$	0.174^{**}	0.364^{***}	-0.017	0.645
	(0.070)	(0.141)	(0.236)	(0.492)
$Market\ power_{f,07}$	-0.177	5.607^{***}	4.297	14.982^{***}
	(0.752)	(1.547)	(4.214)	(5.031)
$\Delta EBIT/Turnover_{f,07\text{-}09}$	0.476^{***}	0.458^{***}	0.109	0.054
	(0.045)	(0.092)	(0.158)	(0.138)
Sector FE	Yes	Yes	Yes	Yes
Observations	9153	9153	9153	8168

Field: manufacturing and wholesale sector, excluding firms belonging to large groups. The main variables are presented in table 2. The regressions include market (country × industry) fixed-effects and are all made according to the IV 2SLS (3) model. All standard errors are clustered at the firm level. *, **, and *** denote statistical significance at 10, 5 and 1%. Standard errors are given in parentheses. The Kleibergen-Paap statistic (KP stat) tests for the presence of a weak instrument in presence of heteroscedasticity (high values suggest to reject the null hypothesis of weak identification). The table displays the results of the regressions performed separately on different geographic zones.

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