SUPPLIER FINANCING AND ACCRUALS QUALITY

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ABSTRACT:

In this paper we investigate the relation between accruals quality and supplier credit in a sample of small and medium sized firms. After controlling for other determinants of trade credit, we show that firms with higher accruals quality have access to more trade credit from suppliers than firms with poorer accruals quality. This association between accruals quality and trade credit suggests that information quality is priced by suppliers, since it helps reduce information asymmetries between the firm and suppliers.

KEYWORS: Accounting quality, accruals quality, suppliers financing, trade credit, information asymmetry.

JEL CLASSIFICATION: G3, G32

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1. INTRODUCTION

In this paper we investigate the relation between accruals quality and supplier credit in a sample of small and medium sized (SMEs) firms, and find that, after controlling for other determinants of trade credit, firms with higher accruals quality have access to more trade credit from suppliers than firms with poorer accruals quality. This association between accruals quality and trade credit suggests that information quality is priced by suppliers, since it helps reduce information asymmetries between the firm and suppliers.

Previous studies have shown that the possibility of obtaining trade credit is related to variables such as customer's creditworthiness, the capacity to generate internal funds, the availability of financial resources and their cost, or the existence of sales growth opportunities (Elliehausen and Wolken, 1993; Petersen and Rajan, 1997; Deloof and Jegers, 1999; Danielson and Scott, 2004; Niskanen and Niskanen, 2006; Huyghebaert, 2006; Cuñat, 2007, among others). Nevertheless, our focus in this paper is on accounting quality as a measure of information risk which reduces the information asymmetry between the firm and suppliers. This reduces moral hazard problems, allowing firms with higher information quality to obtain more trade credit from their suppliers, since more reliable accounting information facilitates estimates of future cash flows.

Previous empirical research has investigated the role of accounting quality as a measure of information asymmetry in different contexts. Empirical studies have shown that higher accounting quality reduces information asymmetry and this leads to a lower cost of capital and of debt (Bhattacharya, Daouk and Welker, 2003; Francis, Lafond,

Olsson and Schipper, 2004; Francis, Lafond, Olsson and Schipper, 2005), higher investment efficiency (Biddle and Hilary, 2006; Verdi, 2006), a lower adverse selection component of trading costs around earnings announcements (Bhattacharya, Desai and Venkataraman, 2007), and longer maturity of loans and fewer requirements of collateral (Bharath, Sunder and Sunder, 2008). These results are consistent with recent theoretical research which has shown that the quality of accounting information is a risk factor priced by investors (Easley and O'Hara, 2004; Lambert, Leuz and Verrechia, 2006).

In particular, Bharath et al. (2008) argue that as accounting quality reflects the risk of limited information about borrowers and influences the estimates of future cash flows, lenders should demand more stringent contract terms for those firms with poor accounting quality: a higher cost of debt, a shorter maturity of loans and a higher capacity to provide collateral. In this sense, we expect that in the case of firms with poor accounting quality suppliers will be more reluctant to offer trade credit in order to compensate the higher information risk.

In line with previous studies on accounting quality (Francis et al., 2005; Verdi, 2006; Bhattacharya et al., 2007; Bharath et al., 2008), we associate accounting quality with the accuracy with which financial reporting conveys information about expected cash flows to inform stakeholders. Thus, as in other papers, we focus on accruals quality and abnormal accruals-based metrics as proxies of accounting quality because accruals do contain information about expected cash flows for stakeholders. Studies such as Dechow (1994) and Subramanyan (1996) have provided evidence that accruals increase the ability to predict future cash flows, and since poor accruals quality and large unsigned abnormal accruals reflect large differences between earnings and cash flows, this will make it more difficult for creditors to estimate the future cash flows and to discern the true economic performance of the firm reliably. Thus, poor accruals

quality/large abnormal accruals can be considered proxies for information risk or uncertainty. Hence, we hypothesize that as accounting quality reduces information asymmetry between the firm and suppliers of trade credit, firms with higher accounting quality will have more facilities to obtain trade credit from suppliers.

To test our hypothesis we use a sample of SMEs. This is for several reasons: SMEs are most likely to suffer severe problems of asymmetric information owing to their size and background and the lack of formal credit rating measures for firms. Thus, trade credit is especially important for SMEs because of their greater difficulty in accessing capital markets (Petersen and Rajan, 1997; Berger and Udell, 1998). In consequence, the role that accounting quality may play in reducing information asymmetry between the firm and suppliers should be higher under these circumstances of sharp problems of asymmetric information, and so will facilitate higher accounting quality firms having access to more trade credit.

Our results show that firms with poor accruals quality receive lower trade credit from suppliers than firms with good accruals quality. This suggests that information quality matters for firms in order to avoid the negative effects of moral hazard and asymmetric information on their access to trade credit from suppliers. In addition, the results confirm that larger firms have more facilities to get trade credit from suppliers. We find also that firms with better access to alternative internal and external financing and with lower cost use less credit form suppliers. Firms with higher growth opportunities and more investment in current assets, moreover, use more trade credit for financing sales growth. These findings contribute to the debate on the role of accounting quality in reducing information asymmetries that impede efficient corporate financing policies, and provide valuable insights for managers, sellers, and researchers. As regards managers, our results suggest that enhancing accounting quality firms may improve

management of financing received from suppliers. In the case of sellers, our results suggest that they may incorporate the quality of accounting information as a valuable factor into their decisions on the trade credit granted to customers. For researchers, by providing empirical evidence that accounting quality has economic implications for firms our findings extend prior research on the relevance of accruals quality, and suggest that future studies on trade credit should control for accounting quality.

The paper proceeds as follows: in the second section we present the literature on the determinants of trade credit from suppliers and discuss the hypotheses to be tested. In the third section we describe the data set and sample used. The fourth section describes the model specification. Our results are discussed in the fifth section, and concluding comments are in the final section.

2. PREVIOUS LITERATURE

Accounting quality and trade credit

Previous research has found that quality of financial reporting may reduce the information risk faced by investors, and consequently, affect financial variables such as cost of debt and capital, investment efficiency, and debt contract terms. Thus, Francis et al. (2005) show that the cost of capital and the cost of debt decrease when a firm's quality of information increases; Biddle and Hilary (2006) find that higher accounting quality improves investment efficiency (at firm level and country level) since it is associated with lower investment-cash flow sensitivity. On the other hand, Verdi (2006) shows that financial reporting quality reduces investment inefficiencies (underinvestment and overinvestment, respectively) in firms facing financial constraints and with large cash balances and free cash flows. More recently, Bharath et al. (2008) find that firms with poorer quality of accounting information face significantly higher

interest costs, take shorter term loans, and are required to post collateral. These results are consistent with Easley and O'Hara (2004) or Lambert et al. (2006), which give theoretical support for information risk as a priced factor. Consequently, accounting information quality may affect financial decisions of the firms because better accounting information may reduce asymmetric information.

More specifically, in recent years the trade credit literature has established the important role of asymmetric information between buyers and sellers in determining trade credit (Smith, 1987). From the buyer's perspective, customers do not know the characteristics and quality of products, and trade credit allows them to verify that merchandise received complies with the agreed terms -quantity, quality, etc - (Lee and Stowe, 1993; Long, Malitz and Ravid, 1993; Deloof and Jegers, 1996; Pike, Cheng, Cravens and Lamminmaki., 2005).

From the seller's perspective, suppliers do not know the real creditworthiness of buyers, and face moral hazard problems due to the possibility that their clients do not pay at the established date and, as consequence, they generate bad debts. Therefore the possibility of obtaining trade credit is related to the customer's creditworthiness. Firms with higher credit quality should receive more credit from their suppliers providing that they face a lower moral hazard problem. Petersen and Rajan (1997) have shown that firms with higher credit quality, measured by variables such as size and age, should receive more trade credit from their suppliers. However, more recently Niskanen and Niskanen (2006) found that trade credit is more important when firms are smaller and younger. Hence, size and age as proxies for asymmetric information may be biased due to the fact that there are many factors associated with firm size, apart from the asymmetric information (Scherr and Hulburt, 2001).

Given the above, our research examines the effect of accounting quality on the level of trade credit obtained from suppliers. Since previous studies have shown that accounting quality may reduce information asymmetry, so influencing the cost and term of debt, and since information asymmetry is considered a main factor affecting trade credit, we hypothesize that by reducing information asymmetry and information risk, accounting quality should allow firms to access to more trade credit from suppliers. In contrast, those firms with poor accounting quality and more information asymmetry will have more difficulties getting credit from suppliers because these will prefer to limit the trade credit to such firms so as to compensate for their higher information risk. We particularly expect this association to happen in our SMEs sample because of the problems of asymmetric information in these firms.

Other determinants of trade credit

We have also controlled for other factors traditionally considered by previous researchers to be determinants of suppliers financing. First, SIZE is calculated as the logarithm of the assets and AGE is defined as the logarithm of (1+age) where age is the number of years since the foundation of the firm.

A firm's liquidity may also affect the demand for trade credit. Firms with a greater capacity to generate internal funds have more resources available, and consequently they will decrease their demand for financing from their suppliers (Petersen and Rajan, 1997, Deloof and Jegers, 1999; Niskamen and Niskamen, 2006). The capacity of firms to generate internal resources is measured by the cash flow, CFLOW, calculated as the ratio of net profits plus depreciation to total assets. We expect a negative relationship between accounts payable and CFLOW.

Accounts payable also depend on the availability of financial resources from banks and their cost. Previous literature finds that firms increase their demand for trade

credit to overcome financial constraints (Schwartz, 1974, Elliehausen and Wolken, 1993; Petersen and Rajan, 1997; Danielson and Scott, 2004; Cuñat, 2007). In this respect**,** we expect that the variable STFIND, measured as the ratio of short-term financial debt to assets, will be negatively related with the dependent variable, since access to short-term bank debt could reduce the need for trade credit. Following Deloof and Jegers (1999), we also include the variable LTDEBT, defined as the ratio of long-term debt to assets, to test whether there is a substitution effect between long-term debt and debt provided by suppliers. We also consider the cost of external finance (FCOST), measured as the ratio of financial expenses over total debt minus accounts payable. We would expect firms incurring higher costs for their financial debt to demand more financing from their suppliers.

The existence of growth opportunities in a firm is an important factor that positively affects the demand for finance in general and for trade credit in particular. In fact, as Cuñat (2007) points out, high growth firms get a higher proportion of trade credit from their suppliers. This variable is measured by the ratio $sales_0/sales_{-1}$ (GROWTH). Moreover, in order to differentiate between positive and negative values of sales growth, we built the variables PGROWTH and NGROWTH. The first is calculated from the yearly positive variations in sales, and the second from the yearly negative variations in sales. We anticipate that firms with higher sales growth will have greater growth opportunities, so they will have an increased demand for funds and consequently for trade credit.

Firms have to match the maturity of assets and liabilities in order to ensure that cash flow generated by assets are sufficient to pay periodic debt payments (Morris, 1977). Then, we introduce the variable CURRAS, defined as the ratio of current assets to total assets. We would expect firms that have made a bigger investment in current

assets to use more short-term finance in general, and more suppliers financing in particular.

Finally, we introduce the variable PURCH, measured as the ratio of purchases to assets. The purpose is to control for the quantity of credit offered by sellers to their customers.

3. SAMPLE AND DATA

We have used panel data from non-financial Spanish SMEs for our analysis. The principal source of information is the SABI (Spanish Balance Sheets Analysis System) database, which contains accounting and financial information of Spanish firms and which has been developed by Bureau Van Dijk.

We selected industry firms that during the period 1998-2005 keep the SME conditions, according to the requirements established by the European Commission´s recommendation 2003/361/EC of 6 May, 2003: they had fewer than 250 employees; turned over less than 50 million euros; and possessed less than 43 million euros worth of total assets. Subsequently, we refined the information, eliminating lost values, firms for which the information is not available for the five consecutive years and cases with errors in the accounting data. Finally, we obtained a panel comprising 1301 Spanish SMEs.

4. MODEL SPECIFICATION

Following the theoretical framework, we tested the effect of accrual quality on accounts payable by estimating the following panel data model:

$$PAY_{it}=\delta_0 AQ_{it}+\delta_1 SIZE_{it}+\delta_2 AGE_{it}+\delta_3 CFLOW_{it}+\delta_4 STFIND_{it}+\delta_5 LTDEBT_{it}+\delta_6 FCOST_{it}+\delta_7 PGROWTH_{it}+\delta_8 NGROWTH_{it}+\delta_9 CURRAS_{it}+\delta_{10} PURCH_{it}+\eta_i+\lambda_t+\varepsilon_{it} \quad (1)$$

where the dependent variable (PAY_{it}) represents the funding received by firm i at time t from its suppliers and is calculated as the ratio of accounts payable to total assets. With AQ_{it} we analyze the effect of accruals quality on PAY, and below we explain the different measures used. Additionally, $SIZE_{it}$ measures the firm´s size; AGE_{it} indicates the age of the company; $CFLOW_{it}$ the capacity to generate internal resources; $STFIND_{it}$ the short-term financing received from financial institutions; $LTDEBT_{it}$ the long-term debt; $FCOST_{it}$ the cost of outside financing; $PGROWTH_{it}$ and $NGROWTH_{it}$ the positive and negative sales growth, respectively; $CURRAS_{it}$ the investment in current assets; and $PURCH_{it}$ the purchases made. The variable η_i is designed to measure unobservable characteristics of the firms that have a significant impact on the firm's accounts payable. These vary across firms but are assumed as constant for each firm. Examples include attributes of managers such as ability and motivation. The parameters λ_t are time dummy variables that change over time but are equal for all firms in each of the time periods considered. In this way, we attempt to capture the economic variables that firms cannot control and which may affect their trade credit decisions.

As regards accruals quality metrics, we use proxies which have been used extensively in prior research (Francis et al., 2005, Verdi, 2006; Bhattacharya et al., 2007; Bharath et al., 2008). As in those studies, we deal with the conceptual definition of accounting quality on the basis of accrual-based metrics (accruals quality and abnormal accruals models), which focuses on the accuracy with which financial reporting conveys information about cash flows in order to inform stakeholders, particularly investors and creditors.

First, we use the model developed by Dechow and Dichev (2002) and use accruals quality as a proxy for accounting quality. In this model, accruals quality is measured by the extent to which current working capital accruals map into operating cash flows of the prior, current and future periods. Thus, Dechow and Dichev (2002) regressed current working capital accruals (WCA_t) on cash flow from operations of the previous fiscal year (CFO_{t-1}), of the current year (CFO_t), and the subsequent fiscal year (CFO_{t+1}), all deflated by average total assets.

$$\frac{WCA_{it}}{AvgAssets_{it}} = \beta_0 + \beta_1 \frac{CFO_{i,t-1}}{AvgAssets_{it}} + \beta_2 \frac{CFO_{i,t}}{AvgAssets_{it}} + \beta_3 \frac{CFO_{i,t+1}}{AvgAssets_{it}} + \varepsilon_{it} \qquad (2)$$

where:

WCA_{it} is working capital accruals of firm i in year t, calculated as the change in current assets (ΔCA), minus the change in cash and cash equivalents ($\Delta Cash$), minus the change in current liabilities (ΔCL) plus the change in short term bank debt ($\Delta Debt$).

CFO_{it}, CFO_{t-1}, and CFO_{t+1} signify cash flow from operations of firm i in years t, t-1 and t+1, respectively, calculated as the difference between net income before extraordinary items (*NIBE*) and total accruals (*TA*). Total accruals are calculated for each firm in year t, following Dechow, Sloan and Sweeney (1995), as working capital accruals (WCA_{it}) minus depreciation and amortization expenses for the period (Dep_{it}).

All variables are deflated by average total assets in order to avoid problems of heteroskedasticity. Average total assets are calculated for firm i in year t as the mean of the firm's total assets in years t-1 and t. The model is estimated in its cross-sectional version for each industry-year combination, at two-digit level of the Spanish Classification of National Activities (CNAE). The residual vector reflects the variation in working capital accruals unexplained by cash flows of the previous, current and

subsequent periods. Therefore, the absolute value of the residual for each firm-year observation is an inverse measure of accruals quality. (IAQ_DD_{it} = $\mid \hat{\varepsilon}_{it} \mid$ (the higher the residual, the lower the accruals quality). In order to facilitate the interpretation of this variable we use the negative value of IAQ_DD_{it} which we define as AQ_DD_{it}.

Our second proxy for accruals quality is calculated following the Ball and Shivakumar (2006) model, which includes three additional variables in the Dechow and Dichev (2002) model:

$$\frac{WCA_{it}}{AvgAssets_{it}} = \beta_0 + \beta_1 \frac{CFO_{i,t-1}}{AvgAssets_{it}} + \beta_2 \frac{CFO_{i,t}}{AvgAssets_{it}} + \beta_3 \frac{CFO_{i,t+1}}{AvgAssets_{it}} + \beta_4 \frac{\Delta CFO_{it}}{AvgAssets_{it}} + \beta_5 D + \beta_6 D \frac{\Delta CFO_{it}}{AvgAssets_{it}} + \varepsilon_{it} \quad (3)$$

Where ΔCFO is the change in the cash flow from operations used as a proxy for gain or loss, D is a dummy variable which takes the value 1 if ΔCFO is negative and 0 otherwise, and $D\frac{\Delta CFO_{it}}{AvgAssets_{it}}$ is the interaction between these two variables. This model tries to incorporate into the conventional linear accruals models the asymmetry that can be recognised between gains and losses. As in the previous models, the Ball and Shivakumar model is estimated in its cross-sectional version for each industry-year combination, and the absolute value of the residual for each firm-year observation is an inverse measure of accruals quality (IAQ_BS_{it} = $\mid \hat{\varepsilon}_{it} \mid$). We also use the negative value of IAQ_BS_{it} defined as $AQ\_BS_{it.}$

Our third and fourth additional metrics of accruals quality are calculated based on the modified Jones (1991) model in both the total accruals and the working capital accruals approaches. We extend the modified Jones (1991) abnormal accruals measures

including the change in accounts receivable in the estimation of normal accruals. Francis et al. (2005) argue that not including the change in accounts receivable (*ΔAR*) in the estimation of normal accruals produces abnormal accruals which are not centered on zero when the mean *ΔAR* is not zero. We estimate the following cross-sectional regressions for each year and industry:

a) In the total accruals model, we regress total accruals (*TA*) on the change in revenues *(ΔREV*) less the change in accounts receivable *(ΔAR*), and on the level of gross property, plant and equipment (*PPE*), scaled by lagged total assets (A_{t-1}) in order to avoid problems of heteroskedasticity.

$$\frac{TAit}{Ai,t\text{-}1} = \beta 0 + \beta 1 \frac{\Delta REVit - \Delta ARit}{Ai,t-1} + \beta 2 \frac{PPEit}{Ai,t-1} + \varepsilon_{it} \qquad (4)$$

We compute Total Accruals (TA_{it}) for each firm i in year t, as working capital accruals (WCA_{it}) minus depreciation and amortization expenses for the period (Dep_{it}).

b) In the working capital accruals model, we regress working capital accruals (*WCA*) on the change in revenues *(ΔREV*) less the change in accounts receivable *(ΔAR*), scaled by lagged total assets (A_{t-1}) in order to avoid problems of heteroskedasticity.

$$\frac{WCAit}{Ai,t\text{-}1} = \beta 0 + \beta 1 \frac{\Delta REV_{it} - \Delta AR_{it}}{Ai,t-1} + \varepsilon it \qquad (5)$$

The third and fourth inverse metrics of accruals quality (IAQ_JMOD_{it} and $IAQ\_JMODWCA_{it}$) are, respectively, the absolute value of the residual for each firm-year observation calculated from models 4 and 5 ($|\hat{\varepsilon}_{it}|$), with larger values of $|\hat{\varepsilon}_{it}|$

indicating poorer accruals quality. To make easier the interpretation of these variables we use the negative value of IAQ_JMOD_{it} and $IAQ\_JMODWCA_{it}$ which we define as AQ_JMOD_{it} and $AQ\_JMODWCA_{it}$.

Table I summarizes the descriptive statistics of our sample covering 1301 firms from 1998 through 2005. The sample consists mainly of small firms with average assets around €10 million and on average age of 24,82 years. The level of accounts payable represents a significant value of their assets, specifically 21.73%. The other financial resources including short term and long term financial debt are, on average, 28,15% and 18,03% respectively, and the mean cost of outside financing is 6,5%. In addition, they generate a cash flow of 8.78% over assets. Investment in current assets represents a 64.6% of assets.

INSERT TABLE I

Pearson correlations between independent variables are presented in table II. We do not detected high correlations, which suggest that there are no multicollinearity problems.

INSERT TABLE II

5. RESULTS

In table III we present the results of the estimation of equation (1). We present four columns using the alternatives proxies for accruals quality defined above. Estimating models from panel data requires the researchers first to determine whether

there is a correlation between the unobservable heterogeneity η_i of each firm and the explanatory variables of the model. If there is a correlation (fixed effects), it would be possible to obtain the consistent estimation using the within-group estimator. Otherwise (random effects) a more efficient estimator can be achieved by estimating the equation by Generalized Least Squares (GLS). The normal strategy to determine whether the effects are fixed or random is to use the Hausman (1978) test under the null hypothesis $E(\eta_i/x_{it}) = 0$. If the null hypothesis is rejected, the effects are considered to be fixed, and the model is then estimated by OLS. If the null hypothesis is accepted, there will be random effects, and the model is then estimated by GLS. In this way the analysis can achieve a more efficient estimator of β. All the estimations in table III have been carried out using the fixed effects estimator.

INSERT TABLE III

The different proxies for accruals quality show positive and significant signs, specifically at 1% for Dechow and Dichev (2002) and Ball and Shivakumar (2006) models, and at 5% for the models based on Jones (1991). These findings confirm that firms with higher accruals quality can get higher funds from suppliers than those firms with lower accruals quality and they are consistent with our hypothesis that accounting quality reduces information asymmetry and moral hazard problems between the firm and suppliers. In contrast with this, in those firms with poor accounting quality, suppliers will be more reluctant to offer trade credit in order to compensate the higher information risk. Having into account that Antov and Atanasova (2007) show that trade credit is perceived by financial intermediaries as a favourable signal about the credit worthiness of the borrower, our findings highlight the importance of accounting quality.

Moreover, this result is consistent with previous research which has shown that accounting quality matters in improving economic and financial aspects of firms, such as investment efficiency (Biddle and Hilary, 2006; Verdi, 2006), cost of debt and equity (Bhattacharya et al., 2003; Francis et al., 2004; Francis et al., 2005), and debt contract terms (Bharath et al., 2008).

In relation to explanatory variables traditionally studied in the field of accounts payable, their sign and significance are similar in the four columns. Specifically, the relationship between PAY and SIZE is significant and positive, which is consistent with the findings of Petersen and Rajan (1997). This reveals that larger firms, which have usually better creditworthiness, receive more financing from their supplier. However, the relation between the dependent variable and AGE it is not significant.

Additionally, we find that the dependent variable is negatively related with CFLOW variable, as in Pertersen and Rajan (1997) or Niskanen and Niskanen (2006), and also with variables STBDEBT and LTDEBT, as in Deloof and Jergers (1999). The level of accounts payable is higher when firms have less capacity to generate internal founds, and when they have easy access to external financing such as short term bank debt or long term debt. This suggests that firms use supplier financing when they have more difficulties to get other funds. Moreover, firms use more financing from suppliers when the cost of getting other external funds is higher, as the positive and significant coefficient for the variable FCOST shows.

The results also show a positive effect of PGROWH on PAY. This relationship could be explained in two ways. First, because firms with higher growth need more funds in general and subsequently more trade credit. Second, and in line with the findings for the variable SIZE, because suppliers could consider that firms with higher growth are more likely to pay their purchases in the future (have more

creditworthiness). However we do not find any significant relationship with the variable NGROWH.

The variable CURRAS is significant as well, and, as expected, the relation estimated is positive. This supports the idea that firms match the maturity of assets and liabilities. Firms with more investment in current assets will use more short term debt in general, and more financing from suppliers in particular. Finally, the control variable PURCH is also significant.

Robustness of the results

In table IV we present the results of estimating the models using the generalized method of moments (GMM), which allows us to control not only for unobservable heterogeneity but also for endogeneity by using instruments. Specifically, we follow the estimation strategy proposed by Arellano and Bond (1991), which consists of using the right-hand side variables lagged as instruments. GMM estimation is not only consistent, but also more efficient than other consistent estimators, such as the one proposed by Anderson and Hsiao (1982).

INSERT TABLE VI

The different proxies for accruals quality remain significant and positive, which confirms that firms can get higher funds from suppliers when they have better information quality. In general, the significance and sign for the rest of variables of our model do not change, which reveals that our findings are robust when we control for endogeneity

CONCLUSIONS

The aim of this research is to examine the effect of firm accounting quality on suppliers financing. Our paper contributes to the literature on the effects of asymmetric information on trade credit received form sellers. For a sample of Spanish firms for the period 1998 to 2005, we use a panel data model and employ GMM method of estimation, which allows us to control for unobservable heterogeneity and for potential endogeneity problems.

The results suggest that firms with higher accruals quality have access to more trade credit from suppliers than firms with poorer accruals quality. This association between accruals quality and trade credit suggests that information quality is priced by suppliers, since it helps reduce information asymmetries between the firm and suppliers. This finding reveals the importance of accounting quality provided that the use of trade credit is perceived by financial intermediaries as a favourable signal about the credit worthiness of the borrowers, facilitating the access to loans.

Our results also indicate that larger firms, usually with more creditworthiness, receive more credit from suppliers. Moreover, the availability of alternative financial resources leads to reduced financing from suppliers. Thus, firms that have a higher level of short term financial debt or long term debt, and at lower cost, use less financing from suppliers. Moreover, firms reduce level of accounts payable when the have more capacity to generate internal funds. We also find that firms use more trade credit when they have more growth opportunities. This confirms that firms use trade credit as a particular way to finance their growth in sales. What is more, firms with more investment in current use more financing from suppliers in order to match the maturity of their assets and liabilities.

These findings have important implications for assessments of reporting quality,

since our results show that the quality of accounting information plays and important role for receiving trade credit. Thus, managers should be concerned about reporting quality and its influence on their access to suppliers financing. Sellers may incorporate the quality of accounting information as a valuable factor into their decisions about the trade credit granted to customers. Finally, our findings extend prior research on the relevance of accruals quality, and suggest that future studies on trade credit should control for accounting quality.

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Table I: Descriptive statistics

PAY_{it} represents the funding received by firm i at time t from its suppliers and is calculated as the ratio of accounts payable to total assets. AQ_DD measure accrual quality according to the Dechow and Dichev model, AQ_BS according to the Ball and Shivakumar model, AQ_JMOD according to the Jones modified model in total accruals, AQ_JMODWC according to the Jones modified model in working capital accruals. $SIZE_{it}$ measure the firm´s size; AGE_{it} the age of the company; $CFLOW_{it}$ the capacity to generate internal resources; $STFIND_{it}$ the short-term financing received from financial institutions; $LTDEBT_{it}$ the long-term debt; $FCOST_{it}$ the cost of outside financing; $PGROWTH_{it}$ and $NGROWTH_{it}$ the positive and negative sales growth, respectively; $CURRAS_{it}$ the investment in current assets; and $PURCH_{it}$ the purchases made

	Mean	**Std. Dev.**	**Perc 10**	**Perc 90**
PAY	0,2173	0,1143	0,0860	0,3716
AQ_DD	-0,0318	0,0292	-0,068	-0,0046
AQ_BS	-0,0315	0,0288	-0,0671	-0,0045
AQ_JMOD	-0,0721	0,0717	-0,1573	-0,01
AQ_JMODWC	-0,0725	0,0745	-0,1589	-0,0099
SIZE	9,1135	0,5814	8,3666	9,8907
AGE	3,1290	0,5322	2,4849	3,7377
CFLOW	0,0878	0,0591	0,0307	0,1620
STBDEBT	0,2815	0,1684	0,0528	0,5041
LTDEBT	0,1803	0,1455	0,1580	0,3887
FCOST	0,065	0,6934	0,0233	0,1110
PGROWP	0,7860	0,5761	0	1,2529
NGROWP	0,289	0,4271	0	0,9657
CURRAS	0,6466	0,165	0,4266	0,8564
PURCH	0,7569	0,4758	0,2804	1,2899

Table II: Correlation matrix

AQ_DD measure accrual quality according to the Dechow and Dichev model, AQ_BS according to the Ball and Shivakumar model, AQ_JMOD according to the Jones modified model in total accruals, AQ_JMODWC according to the Jones modified model in working capital accruals. $SIZE_{it}$ measure the firm´s size; AGE_{it} the age of the company; $CFLOW_{it}$ the capacity to generate internal resources; $STFIND_{it}$ the short-term financing received from financial institutions; $LTDEBT_{it}$ the long-term debt; $FCOST_{it}$ the cost of outside financing; $PGROWTH_{it}$ and $NGROWTH_{it}$ the positive and negative sales growth, respectively; $CURRAS_{it}$ the investment in current assets; and $PURCH_{it}$ the purchases made. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively.

	AQ_DD	AQ_BS	AQ_JMOD	AQ_JMODWC	SIZE	AGE	CFLOW	STBDEBT	LTDEBT	FCOST	PGROWP	NGROWP	CURRAS	PURCH
AQ_DD	1													
AQ_BS	0.9776***	1												
AQ_JMOD	0.2714***	0.2637***	1											
AQ_JMODWC	0.3046***	0.2950***	0.9324***	1										
SIZE	0.0411***	0.0391***	0.0303***	0.0282***	1									
AGE	0.0341***	0.0305***	0.0624***	0.0639***	0.1084***	1								
CFLOW	-0.0334***	-0.0291***	0.0579***	0.0642***	-0.0231**	-0.0637***	1							
STBDEBT	0.0539***	0.0486***	-0.0273**	-0.0256**	0.0360***	0.0334***	-0.2600 ***	1						
LTDEBT	0.0281***	0.0251**	0.0323***	0.0332***	0.0964***	-0.0644***	-0.0247 **	-0.2609***	1					
FCOST	0.0008	0.0019	0.0050	0.0119	-0.0985***	-0.0216**	0.0189 *	-0.1192***	-0.1499***	1				
PGROWP	-0.0086	-0.0048	-0.0310***	-0.0363***	0.0500***	-0.0769***	0.1603 ***	-0.0382***	-0.0267**	-0.0253**	1			
NGROWP	-0.0215**	-0.0238**	-0.0102	-0.0132	-0.0428***	0.0627***	-0.1436 ***	0.0354***	0.0216**	0.0290***	-0.9233***	1		
CURRAS	-0.0288***	-0.0307***	-0.0826***	-0.0800***	-0.1410***	0.0569***	-0.1431 ***	0.1138***	-0.5145***	0.1491***	0.0171	-0.0069	1	
PURCH	0.0084***	0.0072***	-0.0620	-0.0624	-0.2317***	-0.0704***	-0.0717 ***	0.0052	-0.2643***	0.1607***	0.0792***	-0.0608***	0.3407***	1

Table III: Accruals quality and accounts payable (I)

The dependent variable is PAY_{it} and represents the funding received by firm i at time t from its suppliers. It is calculated as the ratio of accounts payable to total assets. AQ_DD measure accrual quality according to the Dechow and Dichev model, AQ_BS according to the Ball and Shivakumar model, AQ_JMOD according to the Jones modified model in total accruals, AQ_JMODWC according to the Jones modified model in working capital accruals. $SIZE_{it}$ measure the firm´s size; AGE_{it} the age of the company; $CFLOW_{it}$ the capacity to generate internal resources; $STFIND_{it}$ the short-term financing received from financial institutions; $LTDEBT_{it}$ the long-term debt; $FCOST_{it}$ the cost of outside financing; $PGROWTH_{it}$ and $NGROWTH_{it}$ the positive and negative sales growth, respectively; $CURRAS_{it}$ the investment in current assets; and $PURCH_{it}$ the purchases made. P-Hausman is *p-value* of *Hausman* test. If the null hypothesis is rejected, only the within-group estimation will be consistent. If it is accepted, the estimation for random effects will be the best alternative, not only because it is consistent, but because it is also more efficient than the within-group estimator. *t statistic* in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. All estimations have been carried out using the fixed effects estimator.

	1	**2**	**3**	**4**
AQ_DD	0,0741***			
	(3,79)			
AQ_BS		0,0747***		
		(3,78)		
AQ_JMOD			0,1766**	
			(2,28)	
AQ_JMODWC				0,0183**
				(2,45)
SIZE	0,0340***	0,0340***	0,0363***	0,0352***
	(10,25)	(10,25)	(10,83)	(10,57)
AGE	-0,0070	-0,0071	-0,0093	-0,0069
	(-0,78)	(-0,78)	(-1,01)	(-0,76)
CFLOW	-0,1820***	-0,1823***	-0,1832***	-0,1832***
	(-13,49)	(-13,51)	(-13,41)	(-13,55)
STBDEBT	-0,2585***	-0,2586***	-0,2587***	-0,2576***
	(-41,44)	(-41,44)	(-41,27)	(-41,33)
LTDEBT	-0,2403***	-0,2402***	-0,2414***	-0,2408***
	(-34,59)	(-34,58)	(-34,46)	(-34,61)
FCOST	0,0803***	0,0800***	0,0813***	0,0817***
	(6,88)	(6,85)	(6,97)	(6,99)
PGROWP	0,0057**	0,0057**	0,0073**	0,0058**
	(2,41)	(2,4)	(3,03)	(2,44)
NGROWP	-0,0049	-0,0049	-0,0034	-0,0048
	(-1,56)	(-1,56)	(-1,08)	(-1,52)
CURRAS	0,0853***	0,0855***	0,0856***	0,0850***
	(9,72)	(9,74)	(9,65)	(9,77)
PURCH	0,0473***	0,0474***	0,0451***	0,0469***
	(13,67)	(13,68)	(12,89)	(13,51)
p-Hausman	*0.00*	*0.00*	*0.00*	*0.00*
Observations	*8396*	*8396*	*8294*	*8396*

Table IV: Accruals quality and accounts payable (II)

The dependent variable is PAY_{it} and represents the funding received by firm i at time t from its suppliers. It is calculated as the ratio of accounts payable to total assets. AQ_DD measure accrual quality according to the Dechow and Dichev model, AQ_BS according to the Ball and Shivakumar model, AQ_JMOD according to the Jones modified model in total accruals, AQ_JMODWC according to the Jones modified model in working capital accruals. $SIZE_{it}$ measure the firm´s size; AGE_{it} the age of the company; $CFLOW_{it}$ the capacity to generate internal resources; $STFIND_{it}$ the short-term financing received from financial institutions; $LTDEBT_{it}$ the long-term debt; $FCOST_{it}$ the cost of outside financing; $PGROWTH_{it}$ and $NGROWTH_{it}$ the positive and negative sales growth, respectively; $CURRAS_{it}$ the investment in current assets; and $PURCH_{it}$ the purchases made. Hansen Test is test of over-identifying restrictions distributed asymptotically under null hypothesis of validity of instruments as Chi-squared. Degrees of freedom in brackets. m_2 is test for second-order serial autocorrelation in residuals in first differences, distributed asymptotically as N(0,1) under null hypothesis of no serial correlation. z *statistic* in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. All the estimations have been carried out using the 2-stage GMM estimator.

	1	**2**	**3**	**4**
AQ_DD	0,0420*			
	(1,66)			
AQ_BS		0,0431*		
		(1,7)		
AQ_JMOD			0,0250**	
			(3,05)	
AQ_JMODWC				0,0295***
				(3,84)
SIZE	0,0372**	0,0359*	0,0160	0,0312**
	(2,86)	(2,77)	(1,27)	(2,45)
AGE	- 0,0048	- 0,0052	- 0,0048	- 0,0069
	(-0,36)	(-0,39)	(-0,35)	(-0,51)
CFLOW	- 0,0408*	- 0,0409*	- 0,0530**	- 0,0596*
	(-1,78)	(-1,79)	(-2,39)	(-2,7)
STBDEBT	- 0,3423***	- 0,3433***	- 0,3258***	- 0,3362***
	(-20,73)	(-20,71)	(-19,55)	(-20,17)
LTDEBT	- 0,3010***	- 0,3026***	- 0,2781***	- 0,2902***
	(-17,83)	(-17,91)	(-16,72)	(-17,45)
FCOST	0,0984***	0,0976***	0,1064***	0,1028***
	(4,9)	(4,9)	(5,48)	(5,23)
PGROWP	0,0030**	0,0033*	0,0048***	0,0046***
	(2,46)	(2,66)	(3,91)	(3,74)
NGROWP	- 0,0041**	- 0,0038**	- 0,0017	- 0,0018
	(-2,15)	(-1,99)	(-0,92)	(-0,95)
CURRAS	0,1693***	0,1666***	0,1792***	0,1914***
	(6,13)	(6,04)	(6,3)	(6,77)
PURCH	0,0137*	0,0135	0,0107	0,0157**
	(1,66)	(1,63)	(1,32)	(1,69)
Hansen	*219.88 (186)*	*219.30 (186)*	*237.82 (186)*	*-1.82*
m2	*-1.82*	*-1.83*	*-1.85*	*233.50 (186)*
Observations	*7095*	*7095*	*6987*	*7095*