THE ROLE OF ACCRUALS QUALITY IN THE ACCESS TO BANK DEBT

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Abstract

This work analyses the effect of accruals quality in the access of firms to bank debt in a panel data of SME Spanish firms. The results show a positive association between accruals quality and bank debt, even when controlling for other determinants of bank debt and for possible endogeneity between bank debt and accruals quality, which suggests that higher precision of earnings reduces information asymmetries with banks and favors the access of firms to bank loans.

K**eywords:** Accruals quality, Bank debt, Information asymmetry

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1. INTRODUCTION

This paper studies whether earnings of higher quality, i.e., more precise earnings with respect to cash flows, help firms to reduce information asymmetries with banks, and thus allow them access to bank debt. The role of asymmetric information in bank debt contracting is an aspect of special interest in accounting and finance literature. In the presence of this market imperfection, financial institutions face adverse selection and moral hazard problems that make the assessment of the investment projects of their borrowers and the monitoring of their opportunistic behaviors difficult. As a consequence, firms with higher information asymmetry obtain less financing from financial institutions.

This concern becomes especially important in the case of small and medium sized firms. Given both their higher levels of asymmetric information (Berger and Udell, 1998) and their more debt-related agency conflicts (Smith and Warner, 1979) with respect to big firms, SMEs have more difficulties in accessing capital markets and obtaining financing (Titman and Wessels, 1988). In order to mitigate problems associated with their higher risk and asymmetric information, lenders demand higher returns and establish stronger contracting conditions for these firms.

Previous research has focused on the impact of asymmetric information as a determinant of bank debt from various points of view. The main findings of these studies are that bank debt is preferable to public debt when asymmetric information is present, due to the monitoring role that banks may play on the borrower (Johnson, 1997; Anderson and Makhija, 1999; Hooks, 2003; Denis and Mihov, 2003; among others);

banking relationships are also valuable in obtaining bank financing, because of the information generated about the borrowers' financial prospects (Petersen and Rajan, 1994; Berger and Udell, 1995; among others); finally, firm reputation may also reduce asymmetries (Diamond, 1991). On the other hand, precision of earnings has been shown to be a factor that, by reducing the information risk faced by lenders, improves debt contracting terms, such as the cost of debt financing (Francis, Lafond, Olsson and Schipper, 2005), the debt maturity structure of firms, and the likelihood of providing collateral (Bharath, Sunder and Sunder, 2008).

Based on this previous research on the debt contracting consequences of earnings quality, this study focuses on the effects of accounting information quality on access to bank debt. We argue that more precise earnings mitigate adverse selection costs by reducing information asymmetries (information risk) between the firm and the bank. As a consequence, we expect those firms with higher earnings quality to have easier access to bank loans.

In order to test our hypothesis we consider several accruals quality proxies (Dechow and Dichev, 2002; McNichols, 2002; Ball and Shivakumar, 2006) and test their effect on bank debt in a sample of Spanish SMEs. Spanish SMEs provide an excellent setting for the purpose of our study for several reasons. First, Spain has a banking oriented financial system where financial resources are channelled fundamentally by financial institutions (Schmidt and Tyrell, 1997), and where, in contrast to other European countries, the development of capital markets has been led by banks (Gallego, García and Saurina, 2002). Thus, bank loans constitute almost the only source of external funds for Spanish SMEs, which, besides, present higher asymmetric information than their counterparts in the wealthier northern European countries (Mulhern, 1995). Additionally, transaction-based lending in Spain is mainly

focused on financial statements because others transaction-based lending technologies that exist in the UK and the US market, such as credit scoring and asset-based lending, are not available in Spain (Carbó-Valverde, Rodríguez-Fernández and Udell, 2009).

Our results show a positive association between our proxies of accruals quality and bank debt, which suggests that the precision of earnings reduces information asymmetries between the firm and the bank in our institutional context. These findings provide valuable insights for managers since they suggest that by improving the quality of earnings firms can enhance their availability of debt financing. The paper is organized as follows: in the second section we present previous literature on the determinants of bank debt. The third section describes sample and data. The fourth section covers the research design. Results are discussed in the fifth section, and concluding comments end the paper.

2. THEORETICAL BACKGROUND

Asymmetric information and bank debt

The presence of asymmetric information between borrower and lender is traditionally used by the financial literature to explain why capital does not always flow to firms with profitable investment opportunities (Stiglitz and Weiss, 1981). In this situation, creditors face adverse selection and moral hazard problems when granting credit. According to previous literature, banks are more effective in monitoring borrowers than other lenders, e.g., public debtholders, due to their closer relationship with the firms (Fama, 1985; Houston and James, 1996; Blackwell and Kidwell, 1988; Diamond, 1984 and 1991) and their ability to design and redesign contracts according to the characteristics of the borrower (Bharath et al., 2008). This better monitoring of

borrowers aligns the interests of management and shareholders and limits moral hazard problems related to underinvestment (Myers, 1977), unprofitable investments (Hoshi, Kashyap, Scharfstein, 1991), and asset substitution (Jensen and Meckling, 1976). Moreover, bank debt may also reduce information asymmetries with respect to public debt because bank financing signals positive information about a firm's credit quality and thus enhances the reputation of the firm (Diamond, 1991; Yosha, 1995). Actually, empirical studies focused on Anglo-Saxon markets have shown how information asymmetry influences the access of the firm to bank debt, and that firms with higher asymmetric information use more bank debt than public debt (Johnson, 1997; Anderson and Makhija, 1999, Hooks, 2003; Denis and Mihov, 2003, among others).

However, in contrast to the well developed capital markets in the US or UK, the financial system of continental European countries, and particularly Spain, is banking oriented (Schmidt and Tyrell, 1997) where most resources are channelled via banks. In fact, Spanish listed firms which are able to issue public debt rely mainly on bank debt, and public debt represents only 6.3% of all their debts (Cuñat, 1999). Accordingly, Spanish small and medium sized firms deal exclusively with financial intermediaries. In this context, the reduction of information asymmetry facilitates access to bank debt, as shown by recent studies focused on Continental countries dominated by private debt providers (De Andrés, López, Rodríguez and Vallelado, 2005). Thus, we expect that in bank-based financial systems firms may improve their access to bank debt by reducing informational asymmetries.

Accruals quality and access to bank debt

Lending technologies used by financial institutions have important effects on SME credit availability. Financial statement lending is a transaction technology based on the

strength of the borrower's financial statement. Banks use this accounting information in order to estimate the expected future cash flows of the borrowers, and then assess their repayment capacity (Berger and Udell, 2006). Financial statements are, therefore, an important source of information in mitigating the problems associated with borrower risk and asymmetric information: the higher the quality of this information, i.e., the more accurate the precision of earnings to capture future cash flows, the lower the information risk of the firm, because the lender can better estimate the future cash flows of the firm with which the loans will be repaid.

Previous research has verified that accruals increase the ability to predict future cash flows (Dechow, 1994) and that the reduction of information risk due to higher accruals quality influences contract terms, such as interest cost, collateral and debt maturity (Francis et al., 2005; Bharath et al., 2008). Based on the results of these papers and on the negative association between information asymmetry and bank debt in private debt contexts, we establish the hypothesis that this reduction of information risk may influence not only the contract terms of the loans but also the access of the firm to these loans.

Other determinant factors of bank debt

The literature on bank debt shows that factors such as size and age are proxies of asymmetric information and firm's reputation that influence the levels of bank debt because of the information they generate about the financial expectations of the borrowers (Diamond, 1991; Petersen and Rajan, 1994; Berger and Udell, 1995). Larger and older firms present lower levels of asymmetric information and have better reputations (Berger and Udell, 1995), so it is expected they use more public debt than companies with higher levels of asymmetric information (Denis and Mihov, 2003).

However, as De Andrés et al. (2005) point out, in civil law countries most firms, even large ones, rely almost exclusively on bank-borrowed funds, so the access to these funds in these contexts is negatively associated to information asymmetry. This association should be stronger when focusing on small and medium sized enterprises since they cannot get funds through bond issue in public markets. Moreover, in the case of Spanish firms, bank loans are their only source of external finance in practice (García-Marco and Ocaña, 1999). In this situation access to bank debt depends on the adverse selection and moral hazard problems due to the asymmetric information faced by lenders. Therefore, a positive association of size and age with bank debt is expected.

Additionally, firms with higher growth opportunities are more likely to exhaust internal funds and consequently this would lead to use more debt. This suggests a positive relationship between growth opportunities and debt, as Michaelas et al. (1999) find for U.K. SMEs. Nevertheless, firms with growth opportunities may face an underinvestment problem because some of the returns of the investment go to creditors, so reducing debt firms may avoid the agency costs of debt between shareholders and debtholders. Heyman, Deloof and Ooghe (2008) also point out that firms with growth opportunities present higher expected costs of financial distress, so they will use equity to finance their projects instead of debt. These arguments suggest a negative relationship of growth opportunities and leverage, which is consistent with previous empirical evidence for SMEs in Spain and other code law countries, i.e., Belgium, with similar financial system, (Heyman et al., 2008; López-Gracia and Sogorb-Mira, 2008). Moreover, De Andrés et al. (2005) find a negative relationship between growth opportunities and bank debt for Spanish listed firms.

The financial literature has also established the advantages of private debt over public debt in monitoring firms as well as its higher efficiency of liquidation and

renegotiation in financial distress (Boyd and Prescott, 1986, Berlin and Loyes, 1988; Chemmanur and Fulghieri, 1994; Diamond, 1984). This is the main debt choice in common-law countries, and the empirical evidence in this context is consistent with a positive association between the likelihood of bankruptcy and the choice of private debt. However, in the case of Spanish SMEs, established in a bank-based system and unable to issue public debt, the main choice is between internal funds and private debt. In this context, access to bank debt depends on solvency, and the relevance of collaterals in reducing moral hazard problems under asymmetric information (Boot, Thakor and Udell, 1991; Boot and Thakor, 1994), so we would expect bank debt to present a positive association with firm solvency and its collaterals. On the other hand, since banks are the main providers of external funds for our sample, it is expected that more leveraged firms have a greater presence of bank debt. Based on the same argument (the choice between internal funds and private debt), more profitable SME firms and ones that generate higher cash flows are more able to finance their projects with internal funds. Accordingly, we would expect a negative relationship of bank debt with profitability and the internal financing.

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 industrial firms that during the period 1998-2005 maintained the SME conditions according to the requirements established by European Commission recommendation 2003/361/EC of 6 May, 2003:

they had fewer than 250 employees; turned over less than 50 million euros annually; and possessed less than 43 million euros worth of total assets. They should also present disaggregation of bank debt in their accounting statements. Subsequently, we refined the information, eliminating lost values, firms for which the information was not available for the five consecutive years[1] and cases with errors in the accounting data. Finally, we obtained a panel comprising 1,281 Spanish SMEs (8,255 observations).

4. RESEARCH DESIGN

4.1. Model Specification

We analyze the relationship between bank debt and accruals quality by estimating the following regression:

$$BANKDEBT_{it}=Intercept+\delta_1 AQ_{it}+\delta_2 GROWP_{it}+\delta_3 LEV_{it}+\delta_4 SIZE_{it}+\delta_5 FA_{it}+\delta_6 ROA_{it}$$
$$+\delta_7 Altman\text{-}Z_{it}+ \delta_8 LAGE_{it} + \delta_9 CFOIND_{it} + \lambda_t+ \eta_i,+ \varepsilon_{it} \quad (1)$$

BANKDEBT represents the proportion of firm's bank debt; AQ the accruals quality proxy; GROWP the growth opportunities; LEV the leverage; SIZE the size; FA is fixed assets over total assets as a proxy for collateral, ROA the return on assets; Altman Z-score, an indicator of firm's financial strength, LAGE the age of the firm, and CFOIND the cash flow from operations relative to the industry average. 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, and η_i, represents unobservable characteristics of the firms that have a significant impact on the firm's bank debt. These vary across firms but are assumed to be constant for each firm.

[1] This is necessary for calculating some accruals quality proxies based on the standard deviation of residuals from t-4 to t.

4.2. Variables Description

Dependent variables

We measure the financing received from banks using the variable BANKDEBT, which is calculated as total bank debt over total assets.

Accruals quality metrics

As regards accruals quality metrics, we use proxies which have been used extensively in research (Francis et al., 2005; Bharath et al., 2008; Lu, Chen and Liao, 2010; Chen, Liao, Tsai, 2011; Lobo, Song and Stanford, 2012). Like these studies, we focus on the accuracy with which accruals convey information about cash flows in order to inform stakeholders, particularly investors and creditors.

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

$$\frac{\mathrm{WCA}_{it}}{\mathrm{AvgAssets}_{it}} = \beta_0 + \beta_1 \frac{\mathrm{CFO}_{i,t-1}}{\mathrm{AvgAssets}_{it}} + \beta_2 \frac{\mathrm{CFO}_{i,t}}{\mathrm{AvgAssets}_{it}} + \beta_3 \frac{\mathrm{CFO}_{i,t+1}}{\mathrm{AvgAssets}_{it}} + \varepsilon_{it} \qquad (2)$$

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 as working capital accruals (WCA_{it}) minus depreciation and amortization expenses for the period (Dep_{it}).

All variables are deflated by average total assets. 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 at two-digit level in its cross-sectional version for each industry-year combination of the Spanish Classification of Economic 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, following Francis et al. (2005), is the Dechow and Dichev's (2002) model, modified by McNichols (2002), which also includes the changes in revenues and property, plant and equipment (*PPE*) as explanatory variables.

$$\frac{\mathrm{WCA}_{it}}{\mathrm{AvgAssets}_{it}} = \beta_0 + \beta_1 \frac{\mathrm{CFO}_{i,t-1}}{\mathrm{AvgAssets}_{it}} + \beta_2 \frac{\mathrm{CFO}_{i,t}}{\mathrm{AvgAssets}_{it}} + \beta_3 \frac{\mathrm{CFO}_{i,t+1}}{\mathrm{AvgAssets}_{it}} + \beta_4 \frac{\Delta\mathrm{REV}_{it}}{\mathrm{AvgAssets}_{it}} + \beta_5 \frac{\mathrm{PPE}_{it}}{\mathrm{AvgAssets}_{it}} + \varepsilon_{it} \quad (3)$$

where *ΔREV* is the change in revenues and *PPE* is the property, plant and equipment. The model is estimated in its cross-sectional version for each industry-year

combination. The residual vector reflects the variation in working capital accruals unexplained by cash flows of the previous, current and subsequent period, changes in revenues and *PPE*. The absolute value of the residual for each firm-year observation is an inverse measure of accruals quality ($IAQ\_McN_{it} = \mid \hat{\varepsilon}_{it} \mid$). We use the negative value of IAQ_McN_{it}, defined as $AQ\_McN_{it.}$

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

$$\frac{WCA_{it}}{AvgAssets_{it}} = \beta_0 + \beta_1 \frac{CFO_{i,t-1}}{AvgAssets_{it}} + \beta_2 \frac{CFO_{i,t}}{AvgAssets_{it}} + \beta_3 \frac{CFO_{i,t+1}}{AvgAssets_{it}} + \beta_4 \frac{\Delta CFO_{it}}{AvgAssets_{it}} + \beta_5 D + \beta_6 D \frac{\Delta CFO_{it}}{AvgAssets_{it}} + \varepsilon_{it} \quad (4)$$

where ΔCFO is the change in the cash flow from operations, D is a dummy variable which takes the value 1 if ΔCFO is negative and 0 otherwise, and $D\Delta CFO_{it}$ is the interaction between these two variables. This model tries to incorporate the asymmetry that can be recognised between gains and losses into the conventional linear accruals models. 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 $AQ\_BS_{it..}$

The fourth, fifth and sixth proxies we use are based on the standard deviation of the residuals from the industry-year estimations of previous models estimated in equation 2 ($IAQ\_sdDD_{it} = \sigma(\hat{\varepsilon}_i)_t$), equation 3 ($IAQ\_sdMcN_{it} = \sigma(\hat{\varepsilon}_i)_t$) and equation 4 ($IAQ\_sdBS_{it} = \sigma(\hat{\varepsilon}_i)_t$) respectively. Instead of the absolute value of the residuals for

each firm, we compute an inverse measure of accruals quality for firm i in year t as the standard deviation of firm i's residuals from the industry-year regressions, $\hat{\varepsilon}_{it}$, calculated over periods t-4 to t. Larger standard deviations of residuals indicate poorer accruals quality. We also use the negative values of IAQ_sdDD_{it}, IAQ_sdMcN_{it}, and IAQ_sdBS_{it}, defined as AQ_sdDD_{it}, AQ_sdMcN_{it}, and AQ_sdBS_{it}.

Control variables

As control variables, we use growth opportunities (GROWP), calculated as sales in year t over sales in years t-1, leverage (LEV), defined as total debt over total assets, size (SIZE), measured as the logarithm of assets, collateral (FA), defined as fixed assets over total assets, return on assets (ROA), measured as earnings before interests and taxes over total assets, distance to bankruptcy (Altman-Z), calculated using the Altman Z-score, firm's age (LAGE), defined as the logarithm of the number of years since its inception, and finally we consider operating cash flow relative to the industry average (CFOIND) in order to control for the ability of the firm to generate internal financing.

5. RESULTS

5.1. Descriptive statistics and preliminary analysis

Table I summarizes the descriptive statistics for the variables used in our empirical research. In our sample, the average presence of bank debt over total assets (BANKDEBT) is 28.9%. The mean value of leverage is 60.3%, whereas the mean value of fixed assets over total assets is 35.5% and the average Altman Z-score is 2.67. On average, the firms in the sample are profitable (mean ROA 6.8%), have a value of total assets of €10.7 million and are 26 years old. The mean values of the accruals quality

proxies are consistent with previous literature. The descriptive statistics highlight the importance of bank debt for Spanish SMEs, since it represents 28.9% of total assets, while for US, SMEs commercial bank debt reaches 18.75% (Berger and Udell, 1998).

TABLE I

Table II presents the Pearson correlation matrix between variables. As expected, accruals quality proxies show positive and significant correlations between them and with bank debt (in 4 out of 6 cases for the association with bank debt). Since higher values of accruals quality proxies represent higher accruals quality, these results present preliminary evidence of a positive association between accruals quality and bank debt. For independent variables, we only detect high correlation between leverage and Altman Z-score. Collinearity is a possible concern for these variables, which we will analyze in the robustness section, showing that it does not affect our results.

TABLE II

Table III presents the mean values of bank debt by quartiles of accruals quality, and the t test of difference between quartiles 1 and 4. Quartile 1 shows the mean value of bank debt for firms with lowest accruals quality, whereas quartile 4 shows the mean value of bank debt for firms with highest accruals quality. In the last column of Table III we include the t test to determine whether the mean values of quartile 1 are significantly different from those of quartile 4. The findings show significant differences between quartile 1 and 4 for all accruals quality metrics, with higher presence of bank debt in those firms with higher accruals quality.

TABLE III

5.2. Regression results

In Table IV we present the results of the estimation of our model. We present results for the six proxies of accruals quality defined above (columns 1 to column 6) using the fixed effects estimator. The coefficients on accruals quality variables are positive and significant at 1% (in 5 out of 6 regressions), showing that those firms with higher accruals quality have more bank debt presence. This result confirms our hypothesis that higher accruals quality reduces information asymmetries between firms and banks and allows firms to obtain more bank debt. For the control variables, we obtain that higher leverage, size, fixed assets, and Altman Z-score are significantly associated to higher bank debt, whereas more profitable firms, with more growth opportunities and with higher cash flow from operations relative to the industry average use less bank debt. These findings suggest that more indebted firms, firms with fewer information asymmetries (bigger firms), with more collateral and solvency have more access to bank debt.

Also, we have accounted for firm's ability to choose internal financing for investment or growth. The results show that firms with higher access to internal financing present lower levels of bank debt since both variables operating cash flow relative to industry average and ROA are negatively related to bank debt. Thus the SME firms of our sample rely on internal resources for carrying out investment projects when they are profitable and generate internal cash flow, whereas when they are not profitable or do not generate cash flows, they finance their projects with bank debt because this is the main source of external funds in the Spanish market. The result is consistent with the pecking order theory of Myers and Majluf (1984).

TABLE IV

Dechow and Dichev (2002) distinguish between innate factors that determine the value of accruals quality, such as the firm's business model and its operating environment, and discretionary factors associated to reporting decisions of managers. This identification of determinants of accruals quality is then used by Francis, LaFond, Olsson and Schipper (2004) to analyze the different effect of innate accruals quality and discretionary accruals quality on the cost of capital. Accordingly, we also control in Model 1 for those innate determinants of accruals identified by Dechow and Dichev (2002) as control variables (operating cycle, firm size, standard deviation of sales, standard deviation of cash from operations, and percentage of years in which earnings are negative). The results (not reported) are consistent with those presented in Table IV.

5.3 Robustness results.

In this section we consider the potential endogeneity between bank debt and accruals quality since there are theoretical arguments to expect that leverage, and in particular bank debt, which is the main source of debt in the Spanish market, may also influence accruals quality.

On the one hand, in high-leveraged firms, managers have incentives to manipulate earnings to avoid debt covenant violations (Watts and Zimmerman, 1986), so a negative effect of debt on accruals quality is expected. Although the debt covenant hypothesis is the traditional argument for the effect of debt on the manipulation of earnings, Feltham, Robb and Zhang (2007) develop a model that predicts that when the firm's performance is average to good, and given that debt holders demand high quality information, managers will use their accounting discretion to provide more precise information in order to obtain better contracting terms, such as interest costs. Accordingly, we address this possible endogeneity of bank debt using a two-stage least-squares model (2SLS).

We model bank debt and accruals quality as simultaneously determined. Accruals quality is estimated endogenously in the first stage regression and bank debt is the dependent variable in the second-stage regression. In the first stage, we estimate accruals quality according to the model[2]:

$$AQ_{it}=Intercept+\delta_1 BANKDEBT_{it}+\delta_2 SIZE_{it}+\delta_3 OPERCYCLE_{it}+\delta_4 \sigma(SALES)_{it}+$$
$$\delta_5 \sigma(CFO)_{it}+\delta_6 NEGEARN_{it}+\delta_7 FCOST_{it}+\delta_8 Altman\text{-}Z_{it}+ \eta_i+\lambda_t+\varepsilon_{it} \quad (5)$$

where OPERCYCLE is the operating cycle, σ(SALES) the standard deviation of sales, σ(CFO) standard deviation of cash from operations, NEGEARN the percentage of years in which earnings are negative and FCOST, the ratio of financial expenses over total debt minus accounts payable. The rest of variables are defined as previously.

In the second stage, we use the predicted value of accruals quality from the first stage regression. In Table V, we show the 2SLS results, which are consistent with our main findings, i.e., accruals quality metrics are positively and significantly related to bank debt.

TABLE V

Additional robustness tests have been applied. As previously noted, there is high correlation between leverage and Altman-Z (0.75). To address this issue, and to avoid a possible specification error if we remove the control for one of these variables, we regress the Altman-Z on leverage and introduce the residuals from this regression instead of the Altman-Z. This renders the information of leverage orthogonal to Altman-Z, and residuals capture the portion of Altman-Z not explained by leverage. The conclusions are the same as those presented before.

[2] Following Ghosh and Moon (2010), we also consider a possible non-linear association of bank debt with accruals quality, introducing the square term for bank debt in the first state (not reported), and the results remain unchanged in the second stage.

Finally, our results do not change if we estimate using t-statistics based on standard errors clustered at the firm and the year level (Petersen, 2009), which are robust to both heteroskedasticity and within-firm serial correlation, or if we use total bank debt over total debt as proxy for the dependent variable.

6. CONCLUSIONS

In this paper we examine the effect of accruals quality on the access of firms to bank debt for a sample of Spanish SMEs, and find that higher accruals quality, i.e., more precision of earnings in relation to cash flows, is associated with a greater presence of bank debt with respect to total assets. Since the quality of accounting information can be considered an inverse indicator of information asymmetry, this finding is consistent with the financial literature, which has shown that, in private debt markets, the use of bank debt is partially determined by information asymmetry. Moreover, this result also confirms, as stated in previous accounting research, that by reducing the information risk faced by the providers of funds, higher accruals quality has economic implications for firms. In this paper we show that improving accounting quality is relevant not only for obtaining better contracting conditions but also for accessing bank loans.

These results are valuable because in Spain, a European country with a bank-based financial system where SMEs do not have access to capital markets, these firms have two ways of obtaining financial resources: reserves, which are the main destination of profits, and bank loans, which constitute their main source of external funds. Therefore, the implication of our results is clear for the financial management of these firms: since they usually retain all their earnings, and even with this source of funds sometimes face financing problems. Our results suggest that they can rely on higher

earnings quality, i.e., more precise earnings with respect to cash flows, in order to reduce information asymmetries with banks and have easier access to bank funds.

REFERENCES

Anderson, C. W., Makhija, A. K., 1999. Deregulation, disintermediation, and agency cost of debt: evidence from Japan. Journal of Financial Economics 51, 309-339.

Ball, R., Shivakumar L., 2006. The role of accruals in asymmetrically timely gain and loss recognition. Journal of Accounting Research, 44, 2, 207-242.

Berger, A., Udell, G., 1995. Relationship lending and lines of credit in small firm finance. Journal of Business 68, 351-381.

Berger A. N., Udell, G.F., 1998. The economics of small business finance. The role of private equity and debt markets in the financial growth cycle. Journal of Banking and Finance, 22, 613-673.

Berger, A. N., Udell. G. F., 2006. A more complete conceptual framework for SME finance. Journal of Banking and Finance 30, 2945-2966.

Berlin, M., Loyes, J., 1988. Bond covenants and delegated monitoring. Journal of Finance 43, 397-412.

Bharath, S. T., Sunder, J., Sunder, S. V., 2008. Accounting quality and debt contracting. The Accounting Review 83, 1-28.

Blackwell, D., Kidwell, D., 1988. An investigation of the cost of differences between public debt sales and private placements of debt. Journal of Financial Economics 22, 253-278.

Boot, A., Thakor, A., 1994. Moral hazard and secured lending in an infinitely repeated credit market game. International Economic Review 35, 899-920.

Boot, A., Thakor, A., Udell, G., 1991. Secured lending and default risk: equilibrium analysis and policy implications and empirical results. Economic Journal 101, 458-472.

Boyd, J., Prescott, E., 1986. Financial intermediary-coalitions. Journal of Financial Theory 38, 211-232.

Carbó-Valverde, S., Rodríguez Fernández, F., Udell, G. F., 2009. Bank market power and SME financing constrains. Review of Finance 13, 309-240.

Chemmanur, T., Fulghieri, P., 1994. Reputation, renegotiation, and the choice between bank loans and publicly traded debt. Review of Financial Studies 7, 475-506.

Chen, T.K, Liao, H.H., Tsai, P.L., 2011. Internal liquidity risk in corporate bond yield spreads. Journal of Banking and Finance 35, 978-987.

Cuñat, V., 1999. Determinantes del plazo de endeudamiento de las empresas españolas. Investigaciones Económicas 23, 351-392.

De Andrés Alonso, P., López Iturriaga, F., Rodríguez Sanz, J. A. Vallelado González, E., 2005. Determinants of bank debt in a continental financial system: Evidence from Spanish companies. The Financial Review 40, 305-333

Dechow, P., 1994. Accounting Earnings and Cash flows as Measures of Firm Performance: The Role of Accounting Accruals. Journal of Accounting and Economics 18, 3-42.

Dechow, P., Dichev I., 2002. The quality of accruals and earnings: the role of accrual estimation errors. The Accounting Review 77, 35-59.

Denis, D. J., Mihov, V., 2003. The choice among bank debt, non-bank private debt, and public debt: evidence from new corporate borrowings. Journal of Financial Economics 70, 3-28.

Diamond, D., 1984. Financial intermediation and delegated monitoring. Review of Economics Studies 51, 393-414.

Diamond, D., 1991. Monitoring and reputation: The choice between bank loans and directly placed debt. Journal of Political Economy 99, 689-721.

Fama, E., 1985. What's different about banks? Journal of Monetary Economics 15, 29-39.

Feltham, G., Robb, S., Zhang, P., 2007. Precision in accounting information, financial leverage and the value of equity. Journal of Business Finance & Accounting 34 1099-1122.

Francis, J., LaFond, R., Olsson, P.M., Schipper, K., 2004. Costs of equity and earnings attributes. The Accounting Review 79, 4, 967-1010.

Francis, J., LaFond, R., Olsson, P.M., Schipper, K., 2005. The market pricing of accruals quality. Journal of Accounting and Economics 39, 295-327.

Gallego, S., García, A., Saurina, J., 2002. The Asian and European banking system: the case of Spain in the quest for development and stability. Banco de España-Servicio de Estudios, Working paper no. 217.

García-Marco, T., Ocaña, C., 1999. The effect of bank monitoring on the investment of Spanish firms, Journal of Banking and Finance 23, 1579-1603.

Ghosh, A., Moon, D., 2010. Corporate debt financing and earnings quality. Journal of Business Finance & Accounting 37, 538-559.

Heyman, D., Deloof, M., Ooghe, H., 2008. The financial structure of private held Belgian firms. Small Business Economics 30, 301-313.

Hooks, L.M., 2003. The impact of firm size and bank debt use. Journal of Financial Economics 12, 173-189.

Hoshi, T., Kashyap, A., Scharfstein. D., 1991. Corporate structure, liquidity, and investment: Evidence from Japanese industrial groups. The Quarterly Journal of Economics 106, 33-60.

Houston, J., James, C., 1996. Bank information monopolies and the mix of private and public debt claims. Journal of Finance 51, 1863-1889.

Jensen, M. C., Meckling, W. H., 1976. Theory of the firm: managerial behaviour, agency cost and ownership structure. Journal of Financial Economics 3, 305-360

Johnson, S., 1997. An empirical analysis of the determinants of the corporate debt ownership structure. Journal of Financial and Quantitative Analysis 32, 47-69.

Lobo, G.J., Song, M., Stanford, M., 2012. Accruals quality and analysis coverage. Journal of Banking and Finance 36, 497-508.

López-Gracia, J., Sogorb-Mira, F., 2008. Testing trade-off and pecking order theories financing SMEs. Small Business Economics 31, 117-136.

Lu, C.W, Chen, T.K , Liao, H.H, 2010. Information uncertainty, information asymmetry and corporate bond yield spreads. Journal of Banking and Finance 34, 2265-2279.

McNichols, M., 2002. Discussion of the quality of accruals and earnings: the role of accruals estimation errors. The Accounting Review 77, 61-69.

Michaelas, N., Chittenden, F., Poutziouris, P., 1999. Financial policy and capital structure choice in UK SMEs: Empirical evidence from company panel. Small Business Economics 12, 113-130.

Mulhern, A., 1995. The SME sector in Europe: a broad perspective. Journal of Small Business Management 33, 83-87.

Myers, C., 1977. Determinants of corporate borrowing. Journal of Finance 39, 575-592.

Myers, S. C., Majluf, N. S., 1984. Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics 20, 293-315.

Petersen, M., 2009. Estimating standard errors in finance panel data sets: comparing approaches. Review of Financial Studies 20, 435-480.

Petersen, M., Rajan, R., 1994. The benefits of lending relationships: Evidence from small business data, Journal of Finance 49, 3-37.

Schmidt, R., Tyrell, M., 1997. Financial systems, corporate finance and corporate governance. European Financial Management 3, 333-361.

Smith, C. W., Warner, R. L., 1979. On financial contracting: an analysis of bond covenants. Journal of Financial Economics 7, 117-161.

Stiglitz, J., Weiss, A., 1981. Credit rationing in markets with imperfect information. American Economic Review 73, 393-410.

Titman, S., Wessels, R., 1988. The determinants of capital structure choice. Journal of Finance 43, 1-19.

Watts, R., Zimmerman, J., 1986. Positive accounting theory. Prentice Hall, Englewood Cliffs, NJ.

Yosha, O., 1995. Information disclosure costs and the choice of financing source. Journal of Financial Intermediation 4, 3-20.

Table I

Descriptive statistics

BANKDEBT is calculated as total bank debt over total assets. AQ_DD reports the negative value of the $\mid \hat{\varepsilon}_{it} \mid$ according to the Dechow and Dichev model, AQ_McN according to Dechow and Dichev model modified by McNichols (2002); and AQ_BS according to the Ball and Shivakumar model. AQ_sdDD, AQ_sdMcN, and AQ_sdBS, report the negative value of the standard deviation of firm i's residuals from the industry-year regressions, $\hat{\varepsilon}_{it}$, calculated over periods t-4 to t for Dechow and Dichev model, Dechow and Dichev model modified by McNichols (2002), and Ball and Shivakumar model, respectively. Growth opportunities (GROWP) are calculated as sales in year t over sales in year t-1; leverage (LEV) is defined as total debt over total assets; size (SIZE) is measured as the logarithm of assets; collateral (FA) is defined as fixed assets over total assets; return on assets (ROA) is earnings before interests and taxes over total assets; distance to bankruptcy (Z) is calculated using the Altman Z-score; firm's age (LAGE) is defined as the logarithm of the number of years since the inception, and relative cash flow (CFOIND) is the operating cash flow relative to industry average.

	Mean	**Std. Dev.**	**Perc. 25**	**Perc. 50**	**Perc. 75**
BANKDEBT	0.2891	0.1591	0.1634	0.2873	0.4088
AQ_DD	-0.0318	0.0292	-0.0436	-0.0241	-0.0113
AQ_McN	-0.0298	0.0269	-0.0411	-0.0230	-0.0108
AQ_BS	-0.0315	0.0288	-0.0430	-0.0240	-0.0113
AQ_sdDD	-0.0299	0.0207	-0.0387	-0.0254	-0.0160
AQ_sdMcN	-0.0276	0.0184	-0.0353	-0.0237	-0.0152
AQ_sdBS	-0.0286	0.0201	-0.0368	-0.0244	-0.0151
GROWP	1.0752	0.2398	0.9781	1.0550	1.1434
LEV	0.6030	0.1762	0.4845	0.6232	0.7363
SIZE	9.1091	0.5811	8.6869	9.0892	9.5317
FA	0.3547	0.1646	0.2303	0.3476	0.4612
ROA	0.0684	0.0671	0.0311	0.0580	0.0981
Altman-Z	2.6726	1.1138	1.9067	2.5161	3.2708
LAGE	3.1244	0.5318	2.7726	3.1355	3.4657
CFOIND	1.0000	1.7515	0.1101	1.0173	1.9495

Table II
Correlation matrix

BANKDEBT is calculated as total bank debt over total assets. AQ_DD reports the negative value of the $|\hat{\varepsilon}_{it}|$ according to the Dechow and Dichev model, AQ_McN according to Dechow and Dichev model modified by McNichols (2002); and AQ_BS according to the Ball and Shivakumar model. AQ_sdDD, AQ_sdMcN, and AQ_sdBS, report the negative value of the standard deviation of firm i's residuals from the industry-year regressions, $\hat{\varepsilon}_{it}$, calculated over periods t-4 to t for Dechow and Dichev model, Dechow and Dichev model modified by McNichols (2002), and Ball and Shivakumar models, respectively. Growth opportunities (GROWP) are calculated as sales in year t over sales in year t-1; leverage (LEV) is defined as total debt over total assets; size (SIZE) is measured as the logarithm of assets; collateral (FA) is defined as fixed assets over total assets; return on assets (ROA) is earnings before interests and taxes over total assets; distance to bankruptcy (Z) is calculated using the Altman Z-score; firm's age (LAGE) is defined as the logarithm of the number of years since the inception and relative cash flow (CFOIND) is the operating cash flow relative to industry average. ***, **, * denotes significance at the 1%, 5% and 10% level, respectively.

	BANKDEBT	AQ_DD	AQ_McN	AQ_BS	AQ_sdDD	AQ_sdMcN	AQ_sdBS	GROWP	LEV	SIZE	FA	ROA	Altman-Z	LAGE
BANKDEBT	1													
AQ_DD	0.0434***	1												
AQ_McN	0.0567***	0.8844***	1											
AQ_BS	0.039***	0.9775***	0.8695***	1										
AQ_sdDD	0.0197*	0.4385***	0.3901***	0.4318***	1									
AQ_sdMcN	0.0163	0.4051***	0.4257***	0.4005***	0.8135***	1								
AQ_sdBS	0.017	0.44***	0.3986***	0.4447***	0.8782***	0.86***	1							
GROWP	0.0040	-0.0565***	-0.0347***	-0.0515***	-0.0680***	-0.0156	-0.0364***	1						
LEV	0.7334***	-0.0043	-0.0055	-0.0053	-0.0351***	-0.0608***	-0.0382***	0.0791***	1					
SIZE	0.0673***	0.0392***	0.0395***	0.037***	0.013	0.0274**	0.0204*	0.0445***	-0.0629***	1				
FA	0.187***	0.0321***	0.0134	0.034***	0.028**	0.033***	0.0439***	-0.0301***	-0.0437***	0.1414***	1			
ROA	-0.3146***	-0.0048	-0.0078	-0.0024	0.0225**	0.0427***	0.0475***	0.1808***	-0.2757***	-0.0333***	-0.1408***	1		
Altman-Z	-0.6983***	-0.0135	-0.0101	-0.0114	0.0139	0.0281**	0.021*	0.0171	-0.7563***	-0.1347***	-0.2903***	0.5222***	1	
LAGE	-0.1114***	0.0342***	0.0466***	0.0305***	0.0298***	0.0306***	0.0291**	-0.0743***	-0.2003***	0.1064***	-0.0524***	-0.0656***	0.1319***	1
CFOIND	-0.2911***	-0.0242***	-0.0469***	-0.0411***	-0.0059	-0.0134	-0.0065	-0.0333***	-0.1954***	-0.0592***	-0.1717***	-0.3426***	0.2315***	0.0004

Table III

Bank debt by accruals quality quartiles

This table presents the mean values of the variable BANKDEBT for each quartile of accruals quality metrics. BANKDEBT is calculated as total bank debt over total assets. AQ_DD reports the negative value of the $\mid \hat{\varepsilon}_{it} \mid$ according to the Dechow and Dichev model, AQ_McN according to Dechow and Dichev model modified by McNichols (2002, and AQ_BS according to the Ball and Shivakumar model. AQ_sdDD, AQ_sdMcN, and AQ_sdBS, report the negative values of the standard deviations of firm i's residuals from the industry-year regressions, $\hat{\varepsilon}_{it}$, calculated over periods t-4 to t for Dechow and Dichev model, Dechow and Dichev model modified by McNichols (2002, and Ball and Shivakumar model, respectively. t test determine whether the mean value of quartile 1 is significantly different from that of quartile 4.

	Q1	**Q2**	**Q**	**Q4**	***t***
AQ_DD	0.2774	0.2880	0.2955	0.2956	*-3.67****
AQ_McN	0.2739	0.2903	0.2918	0.2995	*-5.11****
AQ_BS	0.2785	0.2889	0.2949	0.2942	*-3.16****
AQ_sdDD	0.2806	0.2877	0.2867	0.2972	*-3.27****
AQ_sdMcN	0.2810	0.2898	0.2868	0.2936	*-2.35***
AQ_sdBS	0.2814	0.2898	0.2837	0.2910	*-2.90****

Table IV

Bank debt and accruals quality

BANKDEBT is calculated as total bank debt over total assets. AQ_DD reports the negative value of the $|\hat{\varepsilon}_{it}|$ according to the Dechow and Dichev model, AQ_McN according to Dechow and Dichev model modified by McNichols (2002); and AQ_BS according to the Ball and Shivakumar model. AQ_sdDD, AQ_sdMcN, and AQ_sdBS, report the negative value of the standard deviation of firm i's residuals from the industry-year regressions, $\hat{\varepsilon}_{it}$, calculated over periods t-4 to t for Dechow and Dichev model, Dechow and Dichev model modified by McNichols (2002), and Ball and Shivakumar model, respectively. Growth opportunities (GROWP) are calculated as sales in year t over sales in year t-1; leverage (LEV) is defined as total debt over total assets; size (SIZE) is measured as the logarithm of assets; collateral (FA) is defined as fixed assets over total assets; return on assets (ROA) is earnings before interests and taxes over total assets; distance to bankruptcy (Z) is calculated using the Altman Z-score; firm's age (LAGE) is defined as the logarithm of the number of years since the inception and relative cash flow (CFOIND) is the operating cash flow relative to industry average. ***, **, * denotes significance at the 1%, 5% and 10% level, respectively. t statistics in brackets. The regressions have been carried out using the fixed effects estimator.

	(1)	(2)	(3)	(4)	(5)	(6)
AQ_DD	0.0806***					
	(3.30)					
AQ_McN		0.1265***				
		(4.83)				
AQ_BS			0.0771***			
			(3.13)			
AQ_sdDD				0.0377		
				(0.77)		
AQ_sdMcN					0.2199***	
					(3.84)	
AQ_sdBS						0.1273**
						(2.30)
GROWP	-0.0251***	-0.0249***	-0.0252***	-0.0259***	-0.0454***	-0.0405***
	(-8.92)	(-8.84)	(-8.94)	(-8.94)	(-12.48)	(-11.13)
LEV	0.7026***	0.7097***	0.7024***	0.7059***	0.7444***	0.7235***
	(41.63)	(41.93)	(41.62)	(40.97)	(40.50)	(38.11)
SIZE	0.0304***	0.0287***	0.0304***	0.0306***	0.0270***	0.0287***
	(7.13)	(6.73)	(7.14)	(7.03)	(5.68)	(5.91)
FA	0.2509***	0.2605***	0.2508***	0.2534***	0.2555***	0.2530***
	(22.60)	(23.54)	(22.58)	(22.38)	(21.27)	(20.62)
ROA	-0.0713***	-0.0715***	-0.0710***	-0. 0666***	-0.0665***	-0.0500**
	(-3.60)	(-3.62)	(-3.59)	(-3.31)	(-3.18)	(-2.30)
Altman-Z	0.0097***	0.0101***	0.0097***	0.0103***	0.0144***	0.0113***
	(3.65)	(3.80)	(3.64)	(3.81)	(5.10)	(3.85)
LAGE	0.0065	0.0060	0.0064	0.0092	0.0092	0.0012
	(0.58)	(0.53)	(0.57)	(0.73)	(0.64)	(0.08)
CFOIND	-0.0140***	-0.0142***	-0.0140***	-0.0142***	-0.0144***	-0.0144***
	(-33.64)	(-34.17)	(-33.64)	(-33.86)	(-33.98)	(-33.18)
Intercept	-0.4977***	-0.4885***	-0.4977***	-0.5136***	-0.4987***	-0.4689***
	(-9.34)	(-9.14)	(-9.34)	(-9.16)	(-8.02)	(-7.31)

Table V

Bank debt and accruals quality: two stage regressions

We address the possible endogeneity of bank debt using a two-stage least-squares model (2SLS). Accruals quality is estimated endogenously in the first stage regression and bank debt is the dependent variable in the second-stage regression. In the first stage, we estimate accruals quality according to equation (5). In the second stage, we use the predicted value of accruals quality *(predict_AQ)* from the first stage regression. BANKDEBT1 is calculated as total bank debt over total assets; Growth opportunities (GROWP) are calculated as sales in year t over sales in year t-1; leverage (LEV) is defined as total debt over total assets; size (SIZE) is measured as the logarithm of assets; collateral (FA) is defined as fixed assets over total assets; return on assets (ROA) is earnings before interests and taxes over total assets; distance to bankruptcy (Z) is calculated using the Altman Z-score; firm's age (LAGE) is defined as the logarithm of the number of years since the inception and relative cash flow (CFOIND) is the operating cash flow relative to industry average. ***, **, * denotes significance at the 1%, 5% and 10% level, respectively. t statistics in brackets. The regressions have been estimated using the fixed effects estimator.

	(1)	(2)	(3)	(4)	(5)	(6)
***predict*_AQ_DD**	4.000***					
	(26.17)					
***predict*_AQ_McN**		5.1845***				
		(32.03)				
***predict*_AQ_BS**			4.2454***			
			(26.74)			
***predict*_AQ_sdDD**				2.4678***		
				(10.68)		
***predict*_AQ_sdMcN**					5.7065***	
					(19.98)	
***predict*_AQ_sdBS**						4.5107***
						(18.02)
GROWP	-0.0163***	-0.0124***	-0.0161***	-0.0235***	-0.0205***	-0.0218***
	(-6.06)	(-4.69)	(-5.98)	(-8.43)	(-7.49)	(-7.91)
LEV	0.6615***	0.6561***	0.6556***	0.6952***	0.6830***	0.6728***
	(40.87)	(41.45)	(40.53)	(41.47)	(41.52)	(40.57)
SIZE	-0.0076*	-0.0166***	-0.0096**	0.0407***	0.0574***	0.0518***
	(-1.77)	(-3.92)	(-2.22)	(9.42)	(13.18)	(11.98)
FA	0.2535***	0.2564***	0.2521***	0.2537***	0.2501***	0.2456***
	(23.92)	(24.72)	(23.83)	(23.02)	(23.15)	(22.61)
ROA	-0.0977***	-0.1031***	-0.0980***	-0.0781***	-0.0957***	-0.0919***
	(-5.17)	(-5.58)	(-5.19)	(-3.98)	(-4.97)	(-4.75)
Altman-Z	-0.0024	-0.0050**	-0.0029	0.0082***	0.0047*	0.0053**
	(-0.95)	(-1.98)	(-1.14)	(3.10)	(1.82)	(2.06)
LAGE	-0.0040	-0.0022	-0.0043	0.0011	0.0004	-0.0001
	(-0.38)	(-0.22)	(-0.41)	(0.10)	(0.04)	(-0.01)
CFOIND	-0.0132***	-0.0128***	-0.0132***	-0.0140***	-0.0135***	-0.0136***
	(-33.50)	(-33.04)	(-33.45)	(-34.08)	(-33.60)	(-33.74)
Intercept	0.0534	0.1626***	0.0845	-0.4986***	-0.5510***	-0.5193***
	(0.97)	(3.02)	(1.53)	(-9.44)	(-10.63)	(-9.97)