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Exploring the Relationship between New Bank Debt and Earnings Management: Evidence from Italian SMEs

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Abstract: This paper investigates the relationship between bank debt and earnings management in private SMEs in a bank-oriented economy. In this study, we leverage a sample of 4866 Italian private SMEs from 2005 to 2012 and propose a new metric to isolate the annual increase in bank debt. The results of our OLS regression suggest that, even though bank monitoring is an effective mechanism to constrain firms' earnings management, firms engage in higher income-increasing earnings management, as proxied by discretionary accruals, in the fiscal year prior to a new bank loan application. The results are robust to different econometric specifications and are not affected by endogeneity.

Keywords: earnings management; bank debt; bank monitoring; financial reporting

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1. Introduction

Financial statements provide information on firms' activities and performance. As such, they represent a primary source of information for lenders assessing the risk of potential borrowers therefore affecting credit approval decisions. The relevance of accounting information in the risk assessment and credit approval process has been widely documented in the academic literature (see, for example, Ahn and Choi 2009 and García-Teruel et al. 2014). However, the number of studies investigating the link between the quality and the reliability of financial information and external financing is still limited, particularly in relation to private small and medium enterprises (SMEs). This is somewhat surprising, given that in most countries worldwide SMEs account for the overwhelming majority of businesses, employment, and up to 60% of value added (Asker et al. 2015; OECD 2019). SMEs' contribution to the overall economy is particularly pronounced in countries such as Italy, where SMEs account for 66.9% of overall value added and employ 78.1% of the workforce (European Commission 2019). This study aims to fill this gap by investigating the relationship between the increase in bank debt and the ex-ante amount and direction of SMEs' earnings management.

The academic literature around earnings management is well-established. A core aim of earnings-management research is to identify which firms have the propensity to engage in earnings manipulation, and to what degree firms are able to influence capital markets' perception of their financial performance (Datta et al. 2013).

In bank-oriented economies such as Italy, where banks represent 50 to 60 percent of the total SME financing (OECD 2020), SMEs' incentives to misreport their earnings when applying for a new loan may be particularly strong given the lack of viable alternative sources of finance (Scellato and Ughetto 2010). These incentives include obtaining better financing conditions (e.g., a lower interests rate, maximized funding) (Fraser et al. 2001), avoiding debt covenant violations or renegotiating an outstanding debt (Dechow and Dichev 2002). At the same time, banks have higher monitoring capacity than any other lender, because of economies of scale and access to private information, which is likely

to discourage managers from engaging in misleading practices (Ahn and Choi 2009; Kim et al. 2021). However, managers' incentives to engage in earnings management may vary according to different situational contexts. Earnings management is, in fact, a reversal phenomenon (Baber et al. 2011). As such, income-increasing earnings management initiated in the current period will have to reverse and become income-decreasing earnings management in the following fiscal period and vice versa. It can be argued that mangers tend to engage in misreporting behaviors only when they need to (e.g., to hide financial distress or to obtain more credit) (Belot and Serve 2018).

To our knowledge, empirical studies examining the relation between bank-debt earnings management tend to focus on the concurrent levels of bank debt and earnings management (Ahn and Choi 2009; García-Teruel et al. 2014). However, in the context of bank financing, incentives to misreport are likely to be at their peak in the fiscal year prior to a loan application. Indeed, anecdotal evidence suggests that the most recent financial statement represents the starting point and the most influential source of information in the risk assessment of SMEs, which are typically characterized by lower information availability and transparency than public or larger firms.

In light of the above, we predict that Italian SMEs engage in higher income-increasing earnings management in the fiscal year prior to a new bank-loan application despite banks' monitoring capabilities, and that such an increase is positively correlated with the amount of new bank debt obtained in the following fiscal year. We tested our hypotheses on a sample of 4866 Italian SMEs, using discretionary accruals as a proxy for earnings management (Dechow et al. 1995; Stubben 2010) and a novel measure of bank debt. More precisely, Italian accounting principles are the only reporting standards in Europe[1] that require firms to disclose the amount of bank debt due within and beyond the following fiscal year, and this allows us to isolate the annual increase (rather than the existing stock) in bank debt. Furthermore, in contrast to previous studies, we explore the potential lead effect of bank debt on earnings management, therefore providing unique insights into the temporal dynamics of this phenomenon.

Our results confirm the effectiveness of bank monitoring in constraining earnings management and show that firms engage in higher income-increasing earnings management when they apply for new loans. Our findings therefore suggest that bank monitoring is effective in constraining borrowers' earnings management ex post rather than ex ante. A series of robustness tests confirm the validity of our results. Our study contributes to the earnings management literature in, at least, three ways. First, we provide further empirical evidence on the effectiveness of bank monitoring in a bank-oriented economy. Accounting research tends to focus on public firms and market-based economies (e.g., United States, United Kingdom, etc.) (Bar-Yosef et al. 2019). This is particularly evident in respect to existing research on earnings management and bank debt with very few exceptions (e.g., García-Teruel et al. 2014). Second, we expand the literature on bank debt by providing evidence supporting the idea that Italian SMEs tend to engage in misleading practices the year prior to an increase in bank debt. Previous studies adopt the concurrent stock in bank debt when investigating the relationship between earnings management and bank debt. In so doing, they do not consider the dynamic nature of earnings management incentives. By adopting a new measure of the increase in bank debt, and by investigating the inter-temporal relationship between earnings management and new bank debt, we overcome such a limitation and provide more robust evidence of earnings manipulation prior to loan applications. Finally, we contribute to the literature on earnings management by providing further evidence of the importance of management incentives in determining the extent and the direction of misreporting in Italian private SMEs. Previous studies have demonstrated that managers tend to adopt earnings management to influence short or long-term price performance or as a consequence of other market-related incentives (Healy and Wahlen 1999). However, managers' incentives for earnings management in private firms, which are not subject to market pressure, are still under-investigated. In light of the prominent role of private firms in the economy, this represents a significant limitation of

current academic research, but it also reflects data and information availability. Our study investigates management incentives in private Italian SMEs therefore providing a valuable contribution to this field of the academic literature.

The remainder of this article is organized as follows. The next section presents the existing literature; in Section 3, we develop the research hypotheses; in Section 4, we describe the sampling process and the data source; in Section 5, we describe the research design. In Section 6, we discuss the empirical results; in Section 7, we present a series of robustness tests; and, finally, in Section 8, we conclude the paper with some important concluding remarks.

2. Related Literature

2.1. Earnings Management and Debt Financing

The extant literature identifies three main categories of incentives to earnings management (Healy and Wahlen 1999), namely, (i) capital markets-related incentives, when firms aim to influence the short-term stock price performance before major announcements (Chou et al. 2006; Cohen and Zarowin 2010; DeAngelo 1988; Dechow et al. 1996; Perry and Williams 1994; Teoh et al. 1998) or to meet financial analysts' expectations (Burgstahler and Eames 2006; Doyle et al. 2013); (ii) regulatory incentives, when firms attempt to circumvent industry-specific regulations (Beatty et al. 1995; Chen et al. 2011; Collins et al. 1995) or antitrust requirements (Cahan 1992; Makar et al. 1998); and (iii) contract-related incentives, when managers use accounting judgment to increase earnings-based bonuses (Healy 1985; Holthausen et al. 1995). More recent studies have added economic political uncertainty as a fourth category of incentives for earnings management, as it may impact investors' attention (El Ghoul et al. 2021; Hölzer et al. 2022; Kim and Yasuda 2021). Debt contract is a prominent example of contracts that can create incentives to misreporting. However, empirical research provides ambiguous results with respect to such a relationship.

According to the covenant-based hypothesis, firms are incentivized to implement opportunistic reporting criteria such as income-increasing earnings management to meet debt covenants to avoid technical default. Empirical evidence suggests that firms accelerate earnings one year before the covenant violation (DeFond and Jiambalvo 1994; Dichev and Skinner 2002; Jaggi and Lee 2002).

On the other hand, the financial distress hypothesis predicts that earnings management is positively related to a firm's leverage, as high leverage may cause liquidity problems. Ghosh et al. (2010) show that very high levels of debt are associated with more discretionary accruals. Interestingly though, empirical evidence also suggests that there is a negative relationship between discretionary accruals and debt level for low creditworthy firms (Ghosh et al. 2010). The authors argue that this differential effect is due to lender monitoring. Both Gupta et al. (2008) and Fung and Goodwin (2013) argue that there is a positive relationship between short-term debt and earnings management, since borrowers attempt to 'circumvent lender enforcement' (Gupta et al. 2008, p. 619). However, firms might also manage earnings to improve their bargaining position in the event of debt renegotiation (Dichev and Skinner 2002).

2.2. Earnings Management, Information Asymmetry and Bank Debt

Despite the large number of studies exploring the relationship between debt financing and earnings management, empirical evidence on the effect of bank debt is still limited. Compared to individual lenders and other specialized agencies, including auditors, banks have advantages in monitoring borrowers because of their low costs of delegation, economies of scale, and access to private information (Ahn and Choi 2009; Hope et al. 2017). Notwithstanding these advantages in monitoring, banks rely heavily on accounting information to assess the repayment capacity of perspective borrowers (Berger and Udell 1998). This is particularly the case with private SMEs, where information is typically scarce. In this context, financial statements represent a primary source of information for banks to mitigate the problems associated with borrower risk (Cassar et al. 2015; García-Teruel et al.

2014; Hope et al. 2017). However, financial statements may contain 'opaque' information and do not always provide an accurate picture of a firm (Moro and Fink 2013). In such a situation, the ability of banks to correctly evaluate the quality of customers may be compromised (Fredriksson and Moro 2014).

Cole et al. (2004) show that different banks deal with information asymmetry in different ways. While large banks tend to rely more on 'hard' information gathered from annual and interim reports, assets evaluation, and credit scoring techniques (i.e., transaction lending), small banks tend to integrate the information on financial statements with 'soft' information gathered from firms' private information and other stakeholders (i.e., relationship lending). Relationship lending is particularly beneficial for SMEs (Beltrame et al. 2022). Indeed, it makes it easier for them to access credit despite the fact that official information about them is limited compared to larger firms (Moro and Fink 2013). As a result, SMEs mostly rely on bank debt as a source of external financing and tend to deal with small local banks (Behr et al. 2013).

Empirical studies in the banking literature suggest that creditors monitoring is an effective way to mitigate borrowers' earnings management (Bigus and Hillebrand 2017; Hope et al. 2017). Hope et al. (2017) analyze a sample of US private firms and find firms with more senior debt have higher accruals quality (i.e., lower earnings management) and argue that this effect is linked to debt investor demand for monitoring. Similarly, De Meyere et al. (2018) analyze a sample of privately held Belgian firms and find a positive relationship between earnings quality long-term debt, and that such a relationship is more pronounced for SMEs. Focusing specifically on the role of banks as creditors, Ahn and Choi (2009) analyze a sample of US public companies and show that borrowing firms' earnings management generally decreases as the strength of banks' risk oversight increases due to bank monitoring. García-Teruel et al. (2014) instead examine a sample of Spanish SMEs and find that accounting quality is positively related to bank debt. Ding et al. (2016) and Mafrolla and D'Amico (2017) reach similar conclusions investigating a sample of Chinese and European (Italian, Spanish and Portuguese) private firms. To summarize, bank monitoring is an effective way to constrain firms' opportunistic behaviors, regardless of the size of the firm, or the size of the bank.

3. Hypotheses Development

As illustrated in the previous section, banks have concrete advantages in monitoring borrowers to discourage them from engaging in opportunistic earnings-management behaviors. Ahn and Choi (2009) directly address this point by analyzing a sample of US public companies. According to the literature, these companies tend to deal with large banks whose risk-assessment techniques are based upon 'hard' (official) information. Even though small banks mostly rely on relationship lending, both borrowers and lenders have incentives to build long-term relationships (Moro and Fink 2013). Indeed, small banks accumulate private information over time that can be used as a basis for making further decisions, while lenders may have more access to credit if they prove to be trustworthy. Such a relation has been investigated by García-Teruel et al. (2014) using a sample of Spanish SMEs. Their results show a positive impact of accounting quality on access to bank credit (i.e., the amount of bank debt).

In light of the above, we expect to find a negative relationship between the level of earnings management and the level of bank monitoring (i.e., the amount of existing bank debt).

H1. *The amount of existing bank debt has a negative effect on borrowers' earnings management.*

There are two major limitations within the existing empirical studies investigating the relationship between bank debt and earnings management. First, they consider only the overall amount of earnings management while ignoring whether it aims to increase or decrease the income. Second, they only adopt concurrent measures of bank debt and

earnings management. In other words, prior models examine only the relation between the existing level of bank debt and the corresponding level of earnings management within the same fiscal year.

The accounting literature suggests that earnings management is a reversal phenomenon (Baber et al. 2011). This means that income-increasing (decreasing) earnings management initiated in the current period become income-decreasing (increasing) earnings management in the following period. This means that managers cannot keep under- or over-representing firms' earnings constantly, but they need to plan when and how to do it on the basis of different situational contexts and in relation to the strategic objectives of the firm. On the other hand, according to the banking literature, financial statements represent an important source of information in assessing borrowers' risk and the most recent report is likely to have a key role in determining the outcome of the risk assessment process. This is particularly relevant in assessing the risk of private SMEs, for which available information is limited. For SMEs, financial statements are published once a year; therefore, when they apply for a new bank loan, the most up-to-date financial information is typically the financial statement of the previous fiscal year.

In such a context, we expect that managers' incentives for earnings manipulation are at their highest when preparing the financial statement of the year before the loan application, and that they are positively related with the loan amount. Furthermore, we also expect that managers engage in income-increasing rather than income-decreasing earnings management in order to make firms appear more creditworthy than they actually are. Our second research hypothesis is as follows:

H2. *The amount of new bank debt has a positive effect on income-increasing earnings management.*

4. Sample and Data

To test our hypotheses, we use a sample of private Italian SMEs. The main data source is the AIDA database provided by Bureau Van Dijk. This database consists 180 different fields containing detailed financial information about all Italian limited-liability companies. Particularly relevant in the context of this study is the fact that the database also contains the amount of bank debt due within the following fiscal year and beyond, as well as other information on profitability, leverage and corporate governance. To build our dataset, we started with a list of all non-financial firms[2] in the database from 2005 to 2012[3], with detailed financial statement[4]. This search results in 13,272 companies. Out of this selection we further excluded companies that report only the consolidated financial statement, have no bank debt, contain errors or incomplete information[5], or that cannot not be classified as SMEs[6]. Finally, we did not include industries with fewer than 10 observations per fiscal year as per Capalbo et al. (2014). The final sample consists of 4866 individual firms, corresponding to 16,259 firm-years. Table 1 reports the number of observations for each year. A total of 14% of the firms included in our sample have observations for the entire sample period.

Table 1. Number of observations per year.

Year	No. of Obs.	Percentage
2006	1955	12.02
2007	2451	15.07
2008	2434	14.97
2009	1495	9.19

Table 1. *Cont.*

Year	No. of Obs.	Percentage
2010	2677	16.46
2011	2982	18.34
2012	2265	13.93
Firm-years	16259	100
Individual firms	4866	

5. Research Design

The research methodology implemented in this study is based on Capalbo et al. (2014) and García-Teruel et al. (2014). Our OLS regression model is presented below. All the variables included in our main regression model are presented in Table 2.

$$DA_{i,t} = \alpha + \beta_1 \Delta Bank_{i,t+1} + \beta_2 TotBank_{i,t} + \beta_3 Distress_{i,t} + \beta_4 Lev_{i,t} + \beta_5 Size_{i,t} + \\ + \beta_6 Roa_{i,t} + \beta_7 CF_{i,t} + \beta_8 Noi_{i,t} + \beta_9 ZScore_{i,t} + \beta YearDummies + \beta IndDummies + \epsilon_{i,t} \quad (1)$$

Table 2. List of Variables.

Variable	Definition	Expected Sign
|DA|	Absolute value of discretionary accruals estimated as per Stubben (2010)	n/a
DA	Signed value of discretionary accruals estimated as per Stubben (2010)	n/a
ΔBank	Total amount of new bank debt at the end of fiscal year calculated as per Equation (3)	+
TotBank	Total amount of bank debt at the end of the fiscal year	−
Distress	A dummy variable which is equal to one if a firm has a negative working capital and 0 otherwise	+/−
Lev	Debt-to-equity ratio	+
Size	Natural logarithm of total assets	+/−
Roa	Ratio between net income and total assets	+
CF	Cash flow from operations scaled by total assets	−
Noi	The ratio between net income less operating income, and sales	+/−
ZScore	Altman's Z-Score	−
YearDummies	Year fixed effects	+/−
IndDummies	Industry fixed effects based on two-digit Ateco codes	+/−

The dependent variables in our model are the absolute ($|DA|$) and the signed value of discretionary accruals (DA), which are our proxies for earnings management. While the former provides information about the overall level of misreporting, the latter allows us to assess the direction of the manipulation—i.e., income-increasing or income-decreasing earnings management. In order to estimate firms' discretionary accruals, we adopt the Conditional Revenue Model, as proposed by Stubben (2010). Even though such a model was initially tested on US public companies, it has been adopted in other studies investigating privately held firms (e.g., Chen et al. 2011, Ding et al. 2016), and also in the Italian context (e.g., Capalbo et al. 2014). When compared with other models for estimating abnormal accruals (e.g., Jones Model, modified Jones Model, Dechow and Dichev Model), the Conditional Revenue Model presents three main benefits. First, Stubben (2010) shows that this model provides less biased accruals estimations than other accrual models. Second, it does not require either cash-flow statement information or cash-flow estimation, which are typically performed using the balance-sheet approach[7]; as such, it can be used to analyze earnings management practices in non-listed or smaller firms, which are not required to report the cash flow statement. Third, it is based on the annual change in account receiv-

ables; therefore, it does not require quarterly data like the Revenue Model (Stubben 2010). Following Stubben (2010), we estimate the Conditional Revenue Model as follows:

$$\begin{aligned} \Delta AR_{i,t} = \alpha + \beta_1 \Delta R_{i,t} + \beta_2 \Delta R_{i,t} \times Size_{i,t} + \beta_3 \Delta R_{i,t} \times AGE_{i,t} + \\ + \beta_4 \Delta R_{i,t} \times AGE\_SQ_{i,t} + \beta_5 \Delta R_{i,t} \times GRR\_P_{i,t} + \beta_6 \Delta R_{i,t} \times GRR\_N_{i,t} + \\ + \beta_7 \Delta R_{i,t} \times GRM_{i,t} + \beta_8 \Delta R_{i,t} \times GRM\_SQ_{i,t} + \epsilon_{i,t} \end{aligned} \quad (2)$$

Here, Δ is the annual change; *AR* is the accounts receivable; *R* is the total revenue; *Size* the natural log of total assets; *AGE* refers to the natural log of the number of years since the firm's setting up; *GRR_P* is the industry median-adjusted change in revenues (*R*) multiplied by a dummy variable, which is equal to 1 if the industry median-adjusted change in revenues is higher than 0 for firm *i* in year *t*, otherwise it is equal to 0; *GRR_N* is the industry median-adjusted change in revenues (*R*) multiplied by a dummy variable, which is equal to 1 if the industry median-adjusted change in revenues for firm *i* in year *t* is lower than 0, otherwise it is equal to 0; *GRM* is the industry median-adjusted gross margin for firm *i* in year *t*; and *AGE_SQ* and *GRM_SQ* are the square of the variables *AGE* and *GRM*, respectively. All revenue and accrual variables are deflated by total assets as per Stubben (2010). We ran the regression per industry and year; residuals from Equation (2) provide an estimate of the abnormal accounts receivables (i.e. discretionary accruals).

The annual increase in bank debt in the following fiscal year ($\Delta Bank$) is the main variable of interest for the purpose of our study, and is estimated as follows:

$$\Delta Bank_{i,t+1} = \frac{[Bank_{i,t+1} - (Bank_{i,t} - BankW1Y_{i,t})]}{TotAssets_{i,t}} \quad (3)$$

where *Bank* is the total amount of bank debt at the end of fiscal year; and *BankW1Y* is the amount of bank debt that has to be repaid within the following fiscal year ($t + 1$). In other words, this variable measures the change in bank debt from the end of one fiscal year (t) to the following ($t + 1$) net of the amount of bank debt that was due to be repaid during $t + 1$[8].

Our regression model also includes a number of control variables that might affect the relation between bank debt and firms' earnings management. *TotBank* is the total amount of bank debt at the end of the fiscal year and is a proxy for the extent of bank monitoring (Ahn and Choi 2009). *Distress* is a dummy variable which is equal to one if a firm has a negative working capital and 0 otherwise (McKeown et al. 1991). This controls for the effect of distressed firms because they may have particularly incentives to manipulate earnings to survive. Leverage (*Lev*) and *ZScore* control for firms' financial health, since troubled firms may have higher incentives to engage in misreporting. Specifically, *Lev* is the debt-to-equity ratio while *ZScore* is the Altman (1968) Z-Score which provides a measure of the probability for a firm to go into bankruptcy within two years[9]. The extent of earnings management and bank debt may depend on firms' size; therefore, we include the natural logarithm of total assets (*Size*) as a control variable. The return on assets[10] (*Roa*) and the cash flow from operation[11] (*CF*) control for firms' performance, while the non-operating income to sales ratio[12] (*Noi*) controls for the incidence of non-operating activities. The regression model also includes year and industry fixed effects and was estimated using the robust cluster technique, as suggested by Petersen (2009).

6. Results

6.1. Descriptive Statistics

Table 3 presents the descriptive statistics for selected firms' characteristics for the full sample (Panel A) and across different time periods (Panels B-H). The table shows that there is not too much variation in any of the variables included in our regression model. The average value of accruals is comparable with the one reported in Degeorge et al. (2013), but lower than Capalbo et al. (2014); such a difference might be due to different sampling criteria, since Capalbo et al. (2014) focus on state-owned enterprises. Our results

confirm the importance of bank financing (*TotBank*) for Italian SMEs. In fact, it accounts for, on average, 27 percent of total assets. While the level of bank debt scaled by total assets remains almost constant over time, the increase in bank debt and the leverage ratio decrease slightly from 2007 ahead. This trend may reflect the implementation of the higher standards for risk management and stricter capital requirements, introduced by the Basel II regime which led to a decrease in bank financing (Kolev et al. 2013). Firms' leverage (*Lev*) decreases over the analyzed period. On the one hand, the decrease in leverage may be due to the global financial crisis (GFC). Indeed, during recession periods, firms attempt to pay off all non-useful assets to raise liquidity and repay loans to lower the risk of bankruptcy (Kahle and Stulz 2013). The GFC may also affect firms' profitability. The return on assets' decrease over time shows even though the cash flow from operations remains almost constant. The average value of the non-operating income to sales ratio (*Noi*) is always negative, suggesting that it is not profitable for SMEs to carry out activities other than the operational. Finally, the Altman Z-Score is, on average, within the grey area (Altman 1968), and in line with other studies with a similar sample (Altman et al. 2013). However, its average value increases slightly over time.

Table 3. Descriptive Statistics.

Statistics	|DA|	ΔBank	TotBank	Lev	Size	Roa	CF	Noi	Z-Score
Full Sample									
Mean	0.043	0.292	0.274	2.803	10.098	0.034	0.045	−0.023	2.644
Std	0.040	0.182	0.158	3.168	0.501	0.037	0.041	0.131	0.738
25%	0.014	0.149	0.146	1.148	9.701	0.014	0.022	−0.038	2.144
Median	0.032	0.283	0.273	1.998	10.034	0.032	0.040	−0.025	2.551
75%	0.059	0.415	0.394	3.406	10.425	0.052	0.064	−0.013	3.053
Panel B: 2006									
Mean	0.044	0.326	0.276	3.145	10.044	0.042	0.047	−0.029	2.73
Std	0.039	0.202	0.161	3.321	0.463	0.036	0.038	0.034	0.733
25%	0.015	0.168	0.147	1.397	9.676	0.023	0.025	−0.041	2.246
Median	0.034	0.319	0.275	2.364	9.979	0.040	0.042	−0.030	2.665
75%	0.061	0.464	0.397	3.864	10.341	0.060	0.065	−0.019	3.115
Panel C: 2007									
Mean	0.044	0.319	0.287	3.360	10.051	0.046	0.050	−0.029	2.750
Std	0.040	0.203	0.165	3.130	0.478	0.037	0.041	0.035	0.737
25%	0.014	0.162	0.152	1.397	9.665	0.025	0.025	−0.042	2.252
Median	0.032	0.311	0.288	2.502	9.993	0.043	0.043	−0.030	2.676
75%	0.059	0.456	0.414	4.177	10.36	0.064	0.069	−0.018	3.166

Table 3. *Cont.*

Statistics	| DA |	ΔBank	TotBank	Lev	Size	Roa	CF	Noi	Z-Score
Panel D: 2008									
Mean	0.047	0.282	0.274	2.724	10.119	0.038	0.044	−0.028	2.671
Std	0.042	0.175	0.159	3.013	0.492	0.037	0.044	0.064	0.724
25%	0.015	0.144	0.149	1.134	9.723	0.017	0.021	−0.041	2.182
Median	0.036	0.277	0.270	1.951	10.063	0.036	0.038	−0.029	2.573
75%	0.067	0.405	0.394	3.305	10.446	0.056	0.064	−0.017	3.072
Panel E: 2009									
Mean	0.042	0.289	0.264	2.832	10.150	0.031	0.046	−0.019	2.584
Std	0.040	0.178	0.155	4.843	0.545	0.034	0.039	0.159	0.816
25%	0.013	0.153	0.137	1.070	9.721	0.013	0.022	−0.037	2.040
Median	0.030	0.280	0.260	1.893	10.075	0.029	0.039	−0.024	2.474
75%	0.058	0.408	0.382	3.308	10.499	0.047	0.065	−0.013	2.976
Panel F: 2010									
Mean	0.042	0.297	0.274	2.606	10.113	0.027	0.043	−0.018	2.575
Std	0.040	0.181	0.155	2.833	0.514	0.036	0.039	0.264	0.734
25%	0.013	0.159	0.148	1.057	9.699	0.009	0.020	−0.033	2.087
Median	0.029	0.293	0.275	1.823	10.053	0.026	0.038	−0.021	2.459
75%	0.057	0.419	0.395	3.102	10.450	0.044	0.061	−0.010	2.961
Panel G: 2011									
Mean	0.042	0.271	0.270	2.614	10.110	0.028	0.042	−0.020	2.607
Std	0.039	0.164	0.156	2.761	0.504	0.035	0.042	0.112	0.708
25%	0.014	0.135	0.145	1.060	9.722	0.011	0.02	−0.035	2.114
Median	0.031	0.269	0.271	1.856	10.039	0.027	0.037	−0.022	2.502
75%	0.058	0.388	0.390	3.153	10.439	0.046	0.060	−0.012	3.034
Panel H: 2012									
Mean	0.041	0.264	0.270	2.455	10.104	0.028	0.046	−0.020	2.595
Std	0.038	0.162	0.154	2.559	0.511	0.036	0.039	0.030	0.727
25%	0.014	0.133	0.142	0.996	9.704	0.009	0.024	−0.031	2.099
Median	0.030	0.260	0.270	1.754	10.035	0.025	0.042	−0.018	2.492
75%	0.055	0.377	0.381	3.049	10.443	0.044	0.066	−0.008	3.020

Table 4 reports the correlation matrix among variables. The increase in bank debt is positively correlated with the total amount of earnings management, suggesting that firms that apply for new bank loans tend to engage in higher earnings management. The same relation exists between the existing level of bank debt and the amount of earnings management. Unsurprisingly, there is a positive and significant correlation between Δ*Bank* and *TotBank*, meaning that firms with higher levels of bank debt tend to require more funding. This may be an effect of relationship lending, with firms that already have a relationship with banks having easier access to credit because banks can exploit the private information they accumulated over time. The high correlation coefficient between these two variables may raise concerns with regard to potential multicollinearity; therefore, we computed the variance inflation factors (VIFs) for all our regression models. The mean and maximum VIF are well below the thresholds of 6 and 10, respectively, suggesting that

collinearity is not an issue. Table 4 also shows that distressed firms tend to engage in less earnings management and to increase their exposure with banks. Finally, firms with higher leverage and larger size tend to engage in more earnings manipulation, while such activity is less pronounced among firms with low performance.

Table 4. Correlation matrix.

Variables	|DA|	DA	ΔBank	TotBank	Distress	Lev	Size	Roa	CF	NOI	Z-Score
|DA|	1										
DA	0.042	1									
	(0.000)										
ΔBank	0.068	−0.007	1								
	(0.000)	(0.370)									
TotBank	0.039	−0.018	0.839	1							
	(0.000)	(0.025)	(0.000)								
Distress	−0.043	−0.034	0.162	0.195	1						
	(0.000)	(0.000)	(0.000)	(0.000)							
Lev	0.039	0.039	0.228	0.252	0.186	1					
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)						
Size	0.050	−0.049	0.008	0.013	0.063	0.056	1				
	(0.000)	(0.000)	(0.317)	(0.087)	(0.000)	(0.000)					
Roa	−0.028	0.043	−0.037	−0.077	−0.165	−0.07	−0.121	1			
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)				
CF	−0.027	−0.017	−0.169	−0.223	−0.043	−0.222	−0.084	0.558	1		
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)			
Noi	−0.007	0.014	−0.040	−0.056	−0.007	−0.034	0.032	−0.079	0.175	1	
	(0.344)	(0.066)	(0.000)	(0.000)	(0.408)	(0.000)	(0.000)	(0.000)	(0.000)		
Z-Score	−0.065	0.044	−0.309	−0.384	−0.366	−0.224	−0.258	0.476	0.341	0.029	1
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	

Note: This table reports the Pearson correlation coefficients and their *p*-values in parentheses.

6.2. Regression Results

In Table 5 we present the results of the estimation of the model presented in Equation (1). The dependent variable in Panel A is the absolute value of discretionary accruals while the dependent variable in Panel B is the signed value of discretionary accruals.

In Panel A we show that the coefficient of the increase in bank debt (Δ*Bank*) is positive but non-significant, suggesting that firms do not change the extent of their manipulation behavior when they apply for new bank loans. The coefficient of the existing bank debt is negative and statistically significant, which confirms the effectiveness of bank monitoring (Ahn and Choi 2009; García-Teruel et al. 2014). In other words, firms with higher bank debt engage in lower earnings management. The coefficients of the control variables are consistent with previous studies (e.g., Ahn and Choi 2009; Habib et al. 2013; Capalbo et al. 2014; García-Teruel et al. 2014).

In Panel B, we present the results concerning the direction of earnings manipulation. The coefficient of the increase in bank debt is positive and significant. This means that companies applying for bank loans engage in more income-increasing earnings management. In other words, they push their income upwards in order to appear healthier, gain better conditions or larger financing. The coefficient of the existing bank debt, instead, is

negative and significant also, in this case, confirming the bank monitoring effectiveness in constraining incentives to manage earnings. The coefficient of *Distress* is negative and significant. This suggests that distressed firms engage in income-decreasing earnings management more than non-distressed firms (Habib et al. 2013). Finally, the results also indicate that more leveraged and larger firms engage in more income-increasing manipulation while firms in worse financial conditions engage in more income decreasing manipulation. Overall, the results reported in Table 5 provide support for H1 and H2.

Table 5. Impact of the annual increase in bank debt on earnings management.

	Panel A—Dep. Var.: |DA|				Panel B—Dep. Var.: DA			
Ind. Variables	**Coefficient**	**t-Stat**	***p*-Value**		**Coefficient**	**t-Stat**	***p*-Value**	
Intercept	0.081	11.77	0.000	***	−0.035	−3.32	0.000	***
ΔBank	0.005	1.42	0.156		0.041	8.01	0.000	***
TotBank	−0.010	−2.44	0.015	**	−0.033	−5.37	0.000	***
Distress	−0.002	−1.97	0.049	**	−0.012	−9.8	0.000	***
Lev	0.004	1.69	0.091	*	0.006	2.76	0.006	***
Size	−0.004	−5.69	0.000	***	0.005	4.87	0.000	***
Roa	0.001	6.1	0.000	***	0.000	−0.92	0.358	
CF	−0.071	−6.76	0.000	***	0.008	0.5	0.619	
Noi	0.010	4.37	0.000	***	−0.004	−0.84	0.400	
ZScore	−0.001	1.97	0.049	**	−0.007	−7.46	0.000	***
Year Fixed Effect	Yes				Yes			
Industry Fixed Effect	Yes				Yes			
F-Stat	11.41				4.37			
R^2	0.04				0.02			
N	16259				16259			

Note: ***, ** and * denote significance at 1, 5 and 10 percent level respectively.

7. Robustness Test

7.1. Discretionary Accruals Estimation Model

In order to verify that our results are robust to different discretionary accruals estimation models, we performed the same analyses adopting the modified Jones Model (Dechow et al. 1995) to estimate the discretionary accruals. The modified Jones Model is specified as follows:

$$\frac{TA_{i,t}}{TotAssets_{i,t-1}} = \beta_1 \frac{1}{TotAssets_{i,t-1}} + \beta_2 \frac{(\Delta Rev_{i,t} - \Delta AR_{i,t})}{TotAssets_{i,t-1}} + \beta_3 \frac{PPE_{i,t}}{TotAssets_{i,t-1}} + \epsilon_{i,t} \quad (4)$$

where *TA* is total accruals[13], *TotAssets* is total assets at the beginning of the year, ΔRev is the change in revenue, ΔAR is the change in accounts receivable, and *PPE* is the gross property, plant, and equipment. The regression is estimated by industry and year, and the residuals are our measure of discretionary accruals. Table 6 presents the results of the regression model presented in Equation (1). Our main results are confirmed. The coefficient of $\Delta Bank$ is non-significant when the dependent variable is the absolute value of discretionary accruals (Panel A) while it is positive and significant when the dependent variable is the signed value of discretionary accruals (Panel B). Similarly, the sign and the

significance of the coefficients of *TotBank* are coherent with our main results in both Panel A and Panel B.

Table 6. Robustness Test—modified Jones Model.

	Panel A—Dep. Var: |DA|				Panel B—Dep. Var: DA			
Ind. Variables	**Coefficient**	**t-Stat**	***p*-Value**		**Coefficient**	**t-Stat**	***p*-Value**	
Intercept	0.072	3.70	0.000	***	−0.275	−11.06	0.000	***
ΔBank	0.010	1.18	0.239		0.125	7.84	0.000	***
TotBank	−0.027	−2.39	0.017	***	−0.126	−6.94	0.000	***
Distress	0.003	1.28	0.199		−0.015	−5.86	0.000	***
Lev	0.021	2.25	0.024	**	0.014	1.02	0.307	
Size	−0.002	−1.40	0.163		0.029	13.35	0.000	***
Roa	−0.001	−2.53	0.012	***	0.007	13.51	0.000	***
CF	−0.040	−0.99	0.324		−0.257	−4.61	0.000	***
Noi	0.016	0.92	0.355		0.016	0.93	0.351	
ZScore	0.009	3.62	0.000	***	−0.022	−7.47	0.000	***
Year Fixed Effect	Yes				Yes			
Industry Fixed Effect	Yes				Yes			
F-Stat	14.83				9.81			
R^2	0.06				0.05			
N	16179				16179			

Note: *** and ** denote significance at 1 and 5 percent level respectively.

7.2. Endogeneity

Based on the results of existing studies, endogeneity may be a concern. Endogeneity may arise among regressors as well as among the explanatory variables, in light of the fact that a firm's borrowing capacity may affect its earnings management, and a firm's creditworthiness may also be affected by its earnings management (Mafrolla and D'Amico 2017). Following Mafrolla and D'Amico (2017), we addressed this concern by adopting a generalized method of moments (GMM) dynamic model, which uses lagged values of the dependent and explanatory variables and is well-designed for situations with few time periods and many cross-sectional units (Cameron and Trivedi 2010). In order to prevent the model from over-fitting the endogenous variables and failing to remove their endogenous components, we included only one lag for the instruments (Roodman 2009).

Table 7 reports the results of our GMM estimation for the models presented in Equation (1). All our main results are confirmed in this case as well.

7.3. Sampling

As further tests, we ran our regression models using only those firms with observations available during the full period analysis, and on the sub-samples of observation before (2005–2007) and after (2008–2012), the enactment of the Basel II regime, in order to verify that our results were not driven by sample selection issues. The results (not tabulated) confirm our main findings, therefore suggesting that our main results are not affected by sampling bias.

Table 7. Robustness Test—generalised method of moments (GMM) model.

	Panel A—Dep. Var: |DA|				Panel B—Dep. Var.: DA			
Ind. Variables	**Coefficient**	**z-Stat**	***p*-Value**		**Coefficient**	**z-Stat**	***p*-Value**	
Intercept	−0.069	−1.13	0.547		−1.211	−11.87	0.000	***
ΔBank	0.002	0.29	0.775		0.034	2.64	0.008	***
TotBank	−0.023	−1.92	0.055	**	−0.122	−6.19	0.000	***
Distress	0.021	0.83	0.406		−0.016	−4.02	0.000	***
Lev	0.015	0.97	0.331		0.067	2.77	0.006	***
Size	−0.011	−1.92	0.055	**	0.121	12.86	0.000	***
Roa	−0.001	−2.03	0.032	**	0.001	0.43	0.670	
CF	0.044	0.92	0.307		0.114	1.54	0.146	
Noi	0.007	0.27	0.786		−0.002	−0.06	0.953	
ZScore	0.004	3.43	0.000	***	−0.036	−5.74	0.000	***
Year Fixed Effect	Yes				Yes			
Industry Fixed Effect	Yes				Yes			
Chi-Squared	16.77				53.14			
J-Stat	0.19				0.19			
N	9062				9062			

Note: *** and ** denote significance at 1 and 5 percent level respectively.

8. Conclusions

In this paper, we examine the effect of the increase in bank debt on the earnings-management practices of Italian SMEs. The results of our empirical analysis suggest that SMEs engage in higher income-increasing earnings management when they apply for new bank loans, regardless of the current level of bank debt (i.e., bank monitoring). Our results are consistent with previous studies in the banking literature, as we confirm that creditors monitoring in general and bank monitoring in particular enhance accounting quality by constraining earnings management (see, for example, Ahn and Choi 2009; García-Teruel et al. 2014; Hope et al. 2017; De Meyere et al. 2018). However, we also extend this literature by introducing a new metric (i.e., the annual increase in bank debt) and by considering the inter-temporal relationship between earnings management and bank debt to investigate such a relationship when SMEs' incentives to engage in misreporting are at their peak. In this paper, we show that banks should pay attention to borrowers' opportunistic behaviors when they apply for new bank loans.

Our results provide important insight for regulators and for the banking industry, as we highlight the prevalence of management incentives for misreporting in private SMEs, which represent the backbone of the Italian economy (as well as of most of countries), and also the typical business customers for the majority of banks. To build on prior work, we demonstrate that borrowers' opportunistic behavior is particularly evident when they apply for new loans, and is positively related with the level of new debt required rather than with the overall level of bank debt already obtained. Based on our results, regulators, banks and other credit institutions would benefit from the opportunity to develop more effective audit and monitoring mechanisms to assess credit risk, which include the new metric presented in this study. Researchers can utilize this new measure of bank debt, and seek additional insights into managers' incentives for misreporting in private firms, an area

which is still under-investigated in comparison with large public companies (Bar-Yosef et al. 2019).

Our study is also subject to limitations, which may represent avenues for future research. Firstly, our model does not include information regarding firm–bank relationships (e.g., the number of lenders or borrowers, the amount of different loans or other debt instruments approved for each firm, etc.), or information regarding the approval process (e.g., time, additional documentation provided, purpose of the loan, etc.). Unfortunately, such information is not readily available for private firms, but even the analysis of a small number of cases might provide further interesting insights. Secondly, our analysis, as well as other studies in this field, is based on firms whose loan application was approved; no information is available regarding those firms that did not obtain the funding required. It would be useful to investigate the differences between these two groups in order to provide a more complete picture of the relationship between financial misreporting in private firms and bank debt. Thirdly, potential changes in financial reporting requirements, banks' risk assessment and monitoring methodologies, or in the overall lending market outside the time period of our analysis might change the financial reporting practices of prospective borrowers. Finally, future research could investigate whether the relationship between earnings management and bank debt is confirmed when earnings management are measured as real rather then accruals based earnings management (Pappas et al. 2019).

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Notes

1 With the exception of Spanish accounting principles in their latest version.

2 Two-digits ATECO 2007 industry codes other than 64, 65, 66.

3 Despite the fact that the dataset ends in 2012, statistics on SMEs financing suggest that no structural changes have occurred in the Italian market since then and, therefore, the results of our analysis are still relevant. It should also be noted that, at the time of data collection, the AIDA database provided data over the ten most recent fiscal years (i.e., 2004 to 2013). As our analyses involve both lag and lead variables, the first and last years of the time period covered by the database are only used to compute the variables includes in the regression model.

4 We excluded firms with a simplified financial statement—i.e., *Bilancio in forma abbreviata*—as they are only required to provide high-level figures for revenues, debt etc.

5 E.g., negative or zero total assets or equity value.

6 We adopt the definition for SMEs developed by the European Commission recommendation 2003/361/EC, according to which a firm can be classified as an SME if it has less than 250 employees, EUR 50 million in revenues and the total value of its assets is less than EUR 43 million.

7 Hribar and Collins (2002) states that, when researchers adopt the balance-sheet approach "the measurement error in total accruals and the resulting coefficient bias for various partitions could lead the researcher to conclude that significant earnings management exists, when in fact there is none" (p. 123).

8 A numeric example might be useful to better understand the estimation model. If a company had EUR 100.00 of bank debt in year t (where EUR 80.00 was to be repaid within the following fiscal year and EUR 20.00 beyond the following fiscal year) and EUR 120.00 of bank debt at the end of year $t + 1$, the change in bank debt in year $t + 1$ would result in $(120 - (100 - 80)) = 100$.

9 The Z-Score was calculated as per Altman et al. (2013).

10 The ratio between net income and total assets (Cameran et al. 2016).

[11] Cash flow from operations scaled by total assets (Mafrolla and D'Amico 2017).

[12] The ratio between net income less operating income, and sales (Capalbo et al. 2014).

[13] Total accruals are calculated as [change in current assets − change in current liabilities − change in cash + change in debt in current liabilities − depreciation and amortization expense].

References

Ahn, Sungyoon, and Wooseok Choi. 2009. The role of bank monitoring in corporate governance: Evidence from borrowers' earnings management behavior. *Journal of Banking & Finance* 33: 425–34.

Altman, Edward I. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance* 23: 589–609. [CrossRef]

Altman, Edward I., Alessandro Danovi, and Alberto Falini. 2013. Z-score models' application to italian companies subject to extraordinary administration. *Journal of Applied Finance (Formerly Financial Practice and Education)* 23:1–10.

Asker, John, Joan Farre-Mensa, and Alexander Ljungqvist. 2015. Corporate investment and stock market listing: A puzzle? *The Review of Financial Studies* 28: 342–90. [CrossRef]

Baber, William R., Sok-Hyon Kang, and Ying Li. 2011. Modeling discretionary accrual reversal and the balance sheet as an earnings management constraint. *The Accounting Review* 86: 1189–212. [CrossRef]

Bar-Yosef, Sasson, Carlo D'Augusta, and Annalisa Prencipe. 2019. Accounting research on private firms: State of the art and future directions. *The International Journal of Accounting* 54: 1950007. [CrossRef]

Beatty, Anne, Sandra L. Chamberlain, and Joseph Magliolo. 1995. Managing financial reports of commercial banks: The influence of taxes, regulatory capital, and earnings. *Journal of Accounting Research* 33: 231–61. [CrossRef]

Behr, Patrick, Lars Norden, and Felix Noth. 2013. Financial constraints of private firms and bank lending behavior. *Journal of Banking & Finance* 37: 3472–85.

Belot, François, and Stéphanie Serve. 2018. Earnings quality in private smes: Do ceo demographics matter? *Journal of Small Business Management* 56: 323–44. [CrossRef]

Beltrame, Federico, Luca Grassetti, Giorgio Stefano Bertinetti, and Alex Sclip. 2022. Relationship lending, access to credit and entrepreneurial orientation as cornerstones of venture financing. *Journal of Small Business and Enterprise Development*, *ahead-of-print*. [CrossRef]

Berger, Allen N., and Gregory F. Udell. 1998. The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of Banking & Finance* 22: 613–73.

Bigus, Jochen, and Christa Hillebrand. 2017. Bank relationships and private firms' financial reporting quality. *European Accounting Review* 26: 379–409. [CrossRef]

Burgstahler, David, and Michael Eames. 2006. Management of earnings and analysts' forecasts to achieve zero and small positive earnings surprises. *Journal of Business Finance & Accounting* 33: 633–52.

Cahan, Steven F. 1992. The effect of antitrust investigations on discretionary accruals: A refined test of the political-cost hypothesis. *Accounting Review* 67: 77–95.

Cameran, Mara, Annalisa Prencipe, and Marco Trombetta. 2016. Mandatory audit firm rotation and audit quality. *European Accounting Review* 25: 35–58. [CrossRef]

Cameron, Adrian Colin, and Pravin K. Trivedi. 2010. *Microeconometrics Using Stata*. College Station: Stata Press, vol. 2.

Capalbo, Francesco, Alex Frino, Vito Mollica, and Riccardo Palumbo. 2014. Accrual-based earnings management in state owned companies: Implications for transnational accounting regulation. *Accounting, Auditing & Accountability Journal* 27: 1026–40.

Cassar, Gavin, Christopher D. Ittner, and Ken S. Cavalluzzo. 2015. Alternative information sources and information asymmetry reduction: Evidence from small business debt. *Journal of Accounting and Economics* 59: 242–63. [CrossRef]

Chen, Feng, Ole-Kristian Hope, Qingyuan Li, and Xin Wang. 2011. Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review* 86: 1255–88. [CrossRef]

Chen, Hanwen, Jeff Zeyun Chen, Gerald J. Lobo, and Yanyan Wang. 2011. Effects of audit quality on earnings management and cost of equity capital: Evidence from china. *Contemporary Accounting Research* 28: 892–925. [CrossRef]

Chou, De-Wai, Michael Gombola, and Feng-Ying Liu. 2006. Earnings management and stock performance of reverse leveraged buyouts. *Journal of Financial and Quantitative Analysis* 41: 407–38. [CrossRef]

Cohen, Daniel A., and Paul Zarowin. 2010. Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics* 50: 2–19. [CrossRef]

Cole, Rebel A., Lawrence G. Goldberg, and Lawrence J. White. 2004. Cookie cutter vs. character: The micro structure of small business lending by large and small banks. *Journal of Financial and Quantitative Analysis* 39: 227–51. [CrossRef]

Collins, Julie H., Douglas A. Shackelford, and James M. Wahlen. 1995. Bank differences in the coordination of regulatory capital, earnings, and taxes. *Journal of Accounting Research* 33: 263–91. [CrossRef]

Datta, Sudip, Mai Iskandar-Datta, and Vivek Singh. 2013. Product market power, industry structure, and corporate earnings management. *Journal of Banking & Finance* 37: 3273–85.

De Meyere, Michiel, Heidi Vander Bauwhede, and Philippe Van Cauwenberge. 2018. The impact of financial reporting quality on debt maturity: The case of private firms. *Accounting and Business Research* 48: 759–81. [CrossRef]

DeAngelo, Linda Elizabeth. 1988. Managerial competition, information costs, and corporate governance: The use of accounting performance measures in proxy contests. *Journal of Accounting and Economics* 10: 3–36. [CrossRef]
Dechow, Patricia M., and Ilia D. Dichev. 2002. The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77: 35–59. [CrossRef]
Dechow, Patricia M., Richard G. Sloan, and Amy P. Sweeney. 1995. Detecting earnings management. *Accounting Review* 70: 193–225.
Dechow, Patricia M., Richard G. Sloan, and Amy P. Sweeney. 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the sec. *Contemporary Accounting Research* 13: 1–36. [CrossRef]
DeFond, Mark L., and James Jiambalvo. 1994. Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics* 17: 145–76. [CrossRef]
Degeorge, Francois, Yuan Ding, Thomas Jeanjean, and Hervé Stolowy. 2013. Analyst coverage, earnings management and financial development: An international study. *Journal of Accounting and Public Policy* 32: 1–25. [CrossRef]
Dichev, Ilia D., and Douglas J. Skinner. 2002. Large–sample evidence on the debt covenant hypothesis. *Journal of Accounting Research* 40: 1091–123. [CrossRef]
Ding, Shujun, Mingzhi Liu, and Zhenyu Wu. 2016. Financial reporting quality and external debt financing constraints: The case of privately held firms. *Abacus* 52: 351–73. [CrossRef]
Doyle, Jeffrey T., Jared N. Jennings, and Mark T. Soliman. 2013. Do managers define non-gaap earnings to meet or beat analyst forecasts? *Journal of Accounting and Economics* 56: 40–56. [CrossRef]
El Ghoul, Sadok, Omrane Guedhami, Yongtae Kim, and Hyo Jin Yoon. 2021. Policy uncertainty and accounting quality. *The Accounting Review* 96: 233–60. [CrossRef]
European Commission. 2019. *2019 SBA Fact Sheet—Italy*. Brussels and Luxembourg: European Commission.
Fraser, Donald R., Benton E. Gup, and James W. Kolari. 2001. *Commercial Banking: The Management of Risk*. La Jolla: South-Western College Pub.
Fredriksson, Antti, and Andrea Moro. 2014. Bank–smes relationships and banks' risk-adjusted profitability. *Journal of Banking & Finance* 41: 67–77.
Fung, Simon Y. K., and John Goodwin. 2013. Short-term debt maturity, monitoring and accruals-based earnings management. *Journal of Contemporary Accounting & Economics* 9: 67–82.
García-Teruel, Pedro J., Pedro Martínez-Solano, and Juan Pedro Sánchez-Ballesta. 2014. The role of accruals quality in the access to bank debt. *Journal of Banking & Finance* 38: 186–93.
Ghosh, Aloke, Antonio Marra, and Doocheol Moon. 2010. Corporate boards, audit committees, and earnings management: Pre-and post-sox evidence. *Journal of Business Finance & Accounting* 37: 1145–76.
Gupta, Manu, Inder K. Khurana, and Raynolde Pereira. 2008. Legal inforcement, short maturity debt, and the incentive to manage earnings. *The Journal of Law and Economics* 51: 619–39. [CrossRef]
Habib, Ahsan, Borhan Uddin Bhuiyan, and Ainul Islam. 2013. Financial distress, earnings management and market pricing of accruals during the global financial crisis. *Managerial Finance* 39: 155–80. [CrossRef]
Healy, Paul M. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics* 7: 85–107. [CrossRef]
Healy, Paul M., and James M. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13: 365–83. [CrossRef]
Holthausen, Robert W., David F. Larcker, and Richard G. Sloan. 1995. Annual bonus schemes and the manipulation of earnings. *Journal of Accounting and Economics* 19: 29–74. [CrossRef]
Hölzer, Moritz, Thomas R. Loy, and Jochen Zimmermann. 2022. Policy uncertainty, earnings management and the role of political connections. *Earnings Management and the Role of Political Connections*. http://dx.doi.org/10.2139/ssrn.4052786: 1–49. [CrossRef]
Hope, Ole-Kristian, Wayne B. Thomas, and Dushyantkumar Vyas. 2017. Stakeholder demand for accounting quality and economic usefulness of accounting in us private firms. *Journal of Accounting and Public Policy* 36: 1–13. [CrossRef]
Hribar, Paul, and Daniel W. Collins. 2002. Errors in estimating accruals: Implications for empirical research. *Journal of Accounting Research* 40: 105–34. [CrossRef]
Jaggi, Bikki, and Picheng Lee. 2002. Earnings management response to debt covenant violations and debt restructuring. *Journal of Accounting, Auditing & Finance* 17: 295–324.
Kahle, Kathleen M., and René M. Stulz. 2013. Access to capital, investment, and the financial crisis. *Journal of Financial Economics* 110: 280–99. [CrossRef]
Kim, Hyonok, and Yukihiro Yasuda. 2021. Economic policy uncertainty and earnings management: Evidence from japan. *Journal of Financial Stability* 56: 100925. [CrossRef]
Kim, Young Sang, Yura Kim, and Ha-Chin Yi. 2021. Vice or virtue? the impact of earnings management on bank loan agreements. *International Review of Economics & Finance* 73: 303–24.
Kolev, Atanas, Tanja Tanayama, and Rien Wagenvoort. 2013. Investment and investment finance in europe. In *Annual Economic Conference and Publication*. Luxembourg: European Investment Bank (EIB).
Mafrolla, Elisabetta, and Eugenio D'Amico. 2017. Borrowing capacity and earnings management: An analysis of private loans in private firms. *Journal of Accounting and Public Policy* 36: 284–301. [CrossRef]
Makar, Stephen D., Perviaz Alam, and Michael A. Pearson. 1998. Antitrust merger investigations and the quality of reported earnings. *Journal of Applied Business Research (JABR)* 14: 89–100. [CrossRef]

McKeown, James C., Jane F. Mutchler, and William Hopwood. 1991. Towards an explanation of auditor failure to modify the audit opinions of bankrupt companies. *Auditing-a Journal of Practice & Theory* 10: 1–13.
Moro, Andrea, and Matthias Fink. 2013. Loan managers' trust and credit access for smes. *Journal of Banking & Finance* 37: 927–36.
OECD. 2019. *OECD SME and Entrepreneurship Outlook 2019*.
OECD. 2020. *Financing Smes and Entrepreneurs 2020: An Oecd Scoreboard*. Paris: OECD.
Pappas, Kostas, Eamonn Walsh, and Alice Liang Xu. 2019. Real earnings management and loan contract terms. *The British Accounting Review* 51: 373–401. [CrossRef]
Perry, Susan E., and Thomas H. Williams. 1994. Earnings management preceding management buyout offers. *Journal of Accounting and Economics* 18: 157–79. [CrossRef]
Petersen, Mitchell A. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *The Review of Financial Studies* 22: 435–80. [CrossRef]
Roodman, David. 2009. How to do xtabond2: An introduction to difference and system gmm in stata. *The Stata Journal* 9: 86–136. [CrossRef]
Scellato, Giuseppe, and Elisa Ughetto. 2010. The basel ii reform and the provision of finance for r & d activities in smes: An analysis of a sample of italian companies. *International Small Business Journal* 28: 65–89.
Stubben, Stephen R. 2010. Discretionary revenues as a measure of earnings management. *The Accounting Review* 85: 695–717. [CrossRef]
Teoh, Siew Hong, Tak J. Wong, and Gita R. Rao. 1998. Are accruals during initial public offerings opportunistic? *Review of Accounting Studies* 3: 175–208. [CrossRef]