Conditional Conservatism and Capital Structure Adjustments: Evidence from Brazilian Public Firms

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Abstract

In this paper I test the association between conditional conservatism and speed of adjustment of capital structure in Brazil. Understanding the role of accounting conservatism involves understanding how this property of financial reporting can affect different users of financial statements. However, few studies in present literature have documented the consequences of accounting conservatism on corporate financing decisions in the Brazilian context. Therefore, this study aims to highlight the impact of conditional conservatism on firms' financing strategies through the dynamic capital structure trade-off theory and address the net effect of conditional conservatism on equity and debt contracting. My sample comprises Brazilian public firms which published financial statements during the period from 2009 to 2018 (1,310 firm-year observations) collected from the Economatica® database. I use the speed of adjustment (SOA) model to test the association between conditional conservatism and capital structure adjustments. The results confirm the research hypothesis that there is a negative association between conditional conservatism and SOA. Additionally, I separate the sample in over and under-leveraged firms and find that this negative association comes from under-leveraged firms. I contribute to accounting conservatism literature showing that conditional conservatism is related to leverage adjustment in the Brazilian setting, but in the opposite direction of the international evidence, which is consistent with previous literature focused on Brazilian public firms. I also show that financial reporting quality can be a determinant of the SOA. The evidence in my paper is also relevant to users of financial statements that seek to understand the impact of financial reporting properties on corporate financing decisions.

Keywords: conditional conservatism, speed of adjustment, capital structure.

1 INTRODUCTION

Existing literature has shown that conditional conservatism is associated with contracting efficiency (Ball & Shivakumar, 2005; Kim, Li, Pan & Zuo, 2013; Nikolaev, 2010). The contracting role of conditional conservatism may decrease information asymmetry and the cost of capital which imply that it can affect financing decisions (e.g, capital structure adjustments) (García Lara, García Osma & Penalva, 2011; Goh, Lim, Lobo & Tong, 2017). Ramalingegowda and Yu (2021) show that conditional conservatism increases speed of leverage adjustments (SOA) in the US market since it facilitates firms' access to equity and debt markets. However, accounting conservatism benefits for investors and creditors depend on the economic (Ball, Robin & Sadka, 2008), cultural (Kanagaretnam, Lim & Lobo, 2014) and institutional (Bushman & Piotroski, 2006) environment which implies that Ramalingegowda and Yu (2021) findings may be limited to, at least, countries similar to United States.

Brazil has historically low domestic credit provided by the private sector and high interest rate (Ball et al., 2008; Brito & Martins, 2010). Furthermore, most Brazilian public firms have a concentrated ownership structure and Brazil has institutional characteristics that do not rely on financial reporting to solve information asymmetry problems (Ball, Kothari & Robin, 2000). For these reasons, the Brazilian market proved to be adequate to challenge previous evidence on the impact of accounting conservatism on financing decisions. Doing so, I use a sample of Brazilian public firms to test this relationship and discuss aspects of the conditional conservatism influence on capital structure adjustments not yet addressed in accounting literature.

The literature about the role of accounting conservatism in Brazil has been focused on its determinants. Few studies directly address the consequences of accounting conservatism for the users of financial statements. Among these few papers, Brito and Martins (2010) show that accounting conservatism has no effect on cost of debt capital. Besides, Canton, Muller, Silva and Rodrigues Júnior (2019) evidence that conditional conservatism increases the cash holding speed of adjustment. However, there is no study in Brazil that tests the role of conditional conservatism on capital structure adjustments.

My results show a negative association between conditional conservatism and SOA. This evidence is different from Ramalingegowda and Yu (2021), which suggests that accounting conservatism's influence on financing decisions can be sensible to the country economic arrangement. This is consistent with accounting literature about the impact of country-level characteristics on accounting conservatism contracting benefits (Boulton, Smart & Zutter, 2017; Li, 2015). Also, previous literature focused in Brazil has documented that firms do not adopt accounting conservatism as a mechanism do meet the creditors demand for timely recognition of losses (Brito & Martins, 2010; Demonier, Almeida & Bortolon, 2015), which is contrary to international evidence (Beatty, Weber & Yu, 2008; Nikolaev, 2010) and may help to explain the negative relationship between conservatism and SOA.

I highlight three main contributions from this paper. First, I document that conditional conservatism is relevant to explain financing decisions. Previous studies associate financial reporting quality to corporate decisions when it affects their costs or benefits (Balakrishnan, Core & Verdi, 2014; Biddle, Hilary & Verdi, 2009). The degree of conditional conservatism in financial reporting can be seen as an aspect of financial reporting quality in a contractual perspective (Watts, 2003). Thus, I evidence that accounting choices that lead to a higher conditional conservatism matter to understand corporate financing strategies and can be a determinant of SOA.

Second, I find that conditional conservatism association with SOA only arises for the under-leveraged firms. Firms that have a leverage ratio below the target (under-leverage) have to increase the debt (or decrease equity) in order to adjust their capital structure. I find that this movement is reduced to the extent that the degree of conservatism increases. Accounting literature provides two complementary explanations for this result. First, Goh et al. (2017) argue that conservative firms have a preference for equity instead of debt, which would imply that the higher the degree of conditional conservatism the lower firms tend to make debt-increasing leverage adjustments. Second, Demonier et al. (2015) argue that conservatism in the Brazilian context limits the access to the debt market since that conservative firms are more likely to violate covenants.

Third, I contribute to the literature of conservatism in financial reporting of Brazilian companies. Previous studies show that the Brazilian equity market demands conditional conservatism (Paulo, Antunes & Formigoni, 2008; Sarlo Neto, Rodrigues & Almeida, 2010). However, Brito and Martins (2010) do not evidence that the Brazilian debt market demands accounting conservatism. My research indirectly tests the role of accounting conservatism in the equity and debt market through financing decisions and it corroborates the previous literature showing that in Brazil the equity market may demand conditional conservatism more than the debt market.

2 RELATED LITERATURE AND HYPOTHESIS

2.1. Dynamic trade-off of capital structure

Trade-off theory establishes a relationship between the capital structure and the firm's market value. This theory points out that the trade-off between benefits (e.g., tax shield) and costs (e.g., financial distress risk) of debt create an optimal leverage level which varies depending on firm and industry characteristics (Frank & Goyal, 2008). As some characteristics vary across time, trade-off theory also implies that firms need to change their capital structure in order to meet the optimal level (leverage target) and maximize their market value (Fischer, Heinkel & Zechner, 1989).

Leverage adjustments literature documents that firms take time to move their capital structure toward the target and that adjustment costs are the main responsible for the slow movement of the capital structure (Elsas & Florysiak, 2011). According to Flannery and Rangan (2006), if the leverage adjustment costs were zero, firms would adjust their leverage immediately. On the other hand, if the leverage adjustment costs were infinite, firms never would adjust their capital structure. So, leverage adjustment costs are one of the main factors which explain the speed of adjustment (SOA). That is, the lower the adjustment cost the faster the SOA.

Adjustment costs depend on firm-level, country-level and macroeconomics factors (Devos, Rahman & Tsang, 2017; Öztekin & Flannery, 2012; Warr, Elliott, Koëter-Kant & Öztekin, 2012). Naturally, these factors are usually related to the ability of the firms to increase and/or decrease equity and/or debt. An, Li and Yu (2015) find that firms exposed to high crash risk, which are presumably those with extreme information asymmetry, face high transaction costs to issue risky securities (risky debt and outside equity). With less access to external capital, these firms tend to adjust their leverage ratio slower. A similar behavior can be observed in mispriced firms. Warr et al. (2012) show that equity mispricing, which is part of costs or benefits to raise capital, tends to drive the speed of adjustment of capital structure. Overleveraged firms, which should issue equity (or retire debt) to adjust the leverage ratio,

show a higher speed of adjustment when they are overvalued. The authors argue that overvalued firms face less cost to raise equity capital which facilitates leverage adjustments.

Firm-level characteristics associated with debt capital are also relevant to explain dynamic capital structure choices. The presence of covenants in debt contracts can decrease the SOA, which is more pronounced for financially constrained firms (Devos et al., 2017). Debt covenants are mechanisms established in debt contracts that aim to protect debt-holders creating restrictions on issuing firms. These restrictions include not issuing new debt or not paying dividends (i.e., adjusting capital structure) under particular circumstances (Devos et al., 2017).

Focused in Brazilian firms, Brunaldi, Kayo and Securato (2015) find that overleveraged firms tend to adjust their capital structure faster than underleveraged ones and that cash flows influence speed of leverage adjustments. Albanez and Schiozer (2021) find that, in Brazil, the presence of covenants in debt contracts increases the speed of leverage adjustments which conflicts with evidence from the US market. This result can be explained by the notion that covenants allow firms from emerging markets to obtain more favorable contractual terms and mitigate information asymmetry consequences, which facilitate leverage adjustments (Albanez & Schiozer, 2021; Miller & Reisel, 2012). These differences in dealing with information asymmetry in the Brazilian setting in relation to other countries seem to not affect only the role of covenants and leverage adjustments but they are also relevant to understand the role of financial statements on contracting, as I argue in the next section.

2.2. SOA, conditional conservatism and Brazilian setting

The influence of financial reporting on SOA relies on the association between financial reporting quality and cost of equity and debt. Ramalingegowda and Yu (2021) find a positive association between conditional conservatism and SOA and argue that conditional conservatism reduces cost of equity and debt similarly in the US market. Nevertheless, as leverage adjustments occur through two main sources (equity or debt), a disproportion in financial reporting influences on these both alternatives of raising capital may substantially change its role on leverage adjustments (Ramalingegowda & Yu, 2021). Goh et al. (2017) argue that conditional conservatism reduces information asymmetry more between firms and shareholders than between firms and debtholders. If this difference in conditional conservatism effects increases, it is expected that the positive association between conditional conservatism and SOA decreases or even becomes negative.

The Brazilian setting has some characteristics that may increase the disproportional effect of conditional conservatism on financing decisions. Brazil has a small debt market and a low demand for accounting conservatism by creditors. Ball et al. (2008) document that accounting conservatism is strongly demanded by creditors in countries with a large debt market. They compare 22 countries with different institutional arrangements and find that the degree of accounting conservatism is lower in countries with a small debt-GDP ratio (in their sample, Brazil has the second lowest debt-GDP ratio).

Brito and Martins (2010) through a sample of 1,300 companies show that there is no relation between accounting conservatism and cost of debt in Brazil. Also, Demonier et al. (2015) find a positive association between conditional conservatism and financial constraints which implies that conditional conservatism may difficult the access of firms to debt capital. This result conflit with international evidence (Beatty et al., 2008; Nikolaev, 2010). The relation between covenants and conditional conservatism can be addressed in two perspectives, according to Nikolaev (2010) view. First, conservatism enhances debt covenants

efficiency to the extent that conservative firms violate covenants earlier, which better protects bondholders from the risk of wealth expropriation (i.e., creditors demand for conservatism). Second, managers have incentive to meet debt market demands for reasons of reputation and litigation. Debt market demands for conditional conservatism are communicated through debt cost, which is not corroborated in Brazil by Brito and Martins (2010). Also, Demonier et al. (2015) study suggests that Brazilian firms exposed to covenants avoid adopting conservative practice, which is contrary to managers meeting debt market demand.

On the other hand, previous literature has documented the relevance of the conditional conservatism to the shareholders in the Brazilian equity market. Paulo et al. (2008) using a sample of Brazilian private and public companies document that public firms have a higher degree of conditional conservatism. Moreover, Sarlo Neto et al. (2010) and Prazeres (2018) show that the higher the ownership concentration the lower the degree of conditional conservatism, implying that the agency conflicts between shareholders and managers increase the investors demand for conditional conservatism.

In sum, empirical evidence shows that equity market contracting demands are associated with conditional conservatism in the Brazilian setting while debt market demands do not. Also, the evidence suggests that conservative practices may difficult the access of firms to debt capital. As mentioned previously, if conditional conservatism creates incentives to a financing alternative (e.g., equity) instead of another (e.g. debt), I expect that conditional conservatism will decrease the speed of leverage adjustments (Ramalingegowda & Yu, 2021). Thus, I establish the following research hypothesis:

Hypothesis: There is a negative association between conditional conservatism and speed of leverage adjustments.

3 RESEARCH DESIGN

3.1. Sample selection

I start my sample with all [B][3] firm-year observations between 2009 and 2018 in the Economatica® database. It is necessary a time interval of, at least, 10 year for each firm to avoid a reversal causality problem in which firms that intend to raise capital to meet optimal leverage can increase conditional conservatism (Ramalingegowda & Yu, 2021). I exclude financial firms and observations with missing variables. The main sample consists of 131 firms (1310 firm-year observations).

3.2. Regression model

In order to test the research hypothesis, the regression model follows Ramalingegowda and Yu (2021). I changed the speed of adjustment (equation 1) to include the conditional conservatism measure and some control variables creating the main model (equation 2).

$$\Delta LEV_{i,t} = \lambda DEV_{i,t} + \varepsilon_{i,t} \qquad (1)$$

$$\Delta LEV_{i,t} = (\alpha_0 + \alpha_1 C\text{-}SCORE_{i,t-1} + CONTROLS_{i,t-1})\, DEV_{i,t} + \varepsilon_{i,t} \qquad (2)$$

Equation 1 is broadly used in the literature to measure leverage adjustments and test trade-off theory. In this model, changes in firms' leverage from the previous period to the current one (ΔLEV) are explained by the distance between current target leverage and the previous leverage (DEV). The higher the coefficient λ the faster firms adjust their leverage

toward the optimal level. Thus, following Ramalingegowda & Yu (2021), I include an interaction between the conditional conservatism measure (C-SCORE) and the deviation of leverage from targets (DEV) to test the effect of accounting conservatism on the coefficient that measure leverage adjustment speed (λ).

I also include three sets of control variables. The first group of variables controls for firms and industry characteristics that capture benefits and costs of the target leverage. These characteristics are properly mentioned in section 3.4.

The second group of variable controls for leverage adjustment determinants. I control for financial deficit which can limit firm's ability to issue and repurchase equity (Elsas & Florysiak, 2011), Altman Z-Score modified by Mackie-Mason (1990) which measure bankruptcy risk (Kisgen, 2009) and SPREAD as a proxy for information asymmetry that is associated with higher adjustment costs (Ramalingegowda & Yu, 2021). I also include a measure for dividend paying firms (DIV) as a proxy for financial constraints (Faulkender, Flannery, Hankins & Smith, 2012) and control market timing effects through the difference between firm's market-to-book ratio and the average industry market-to-book (MBDIFF) (Baker & Wurgler, 2002; Faulkender et al., 2012).

The third group of variables controls for characteristics that can affect the level of conditional conservatism. I control for age (AGE), return volatility (STDRET) and litigation risk (LIT). I also control for capital expenditure (CAPEX), sales growth (SALEGR) and International Financial Reporting Standards (IFRS) adoption in Brazil.

Table 1 reports all control variables that were used in the regression models and their operational definitions.

Table 1 - Variable definitions

Abbreviation	Description	Measure
Target leverage		
ROA	Return on assets	(Net income + Interest expenses)/total assets
MTB	Market-to-book	(Debt + market value of equity)/total assets
SIZE	Size	Log of total assets
DEP	Fiscal shield	Depreciation expenses/total assets
PPE	Tangibility	Property, plant and equipment/total assets
TAX	Marginal tax rate	Statutory tax rate if the firm reports a positive pretax return and zero otherwise.
INDLEV	Industry	Industry median leverage ratio
Speed of leverage adjustments		
DEFICIT	Financial deficit	Dividends + Investment + Change in net working capital –Operating cash flow after interest and taxes

	ZSCORE	Bankruptcy risk	3,3*[(operating income/total assets) + (sales/total assets)] + 1,4*(retained earnings/total assets) + 1,2*(working capital/total assets)
	SPREAD	Information asymmetry	Average of the daily bid-ask spreads, where the daily bid-ask spread= (maximum price –minimum price)/[(maximum price + minimum price)/2]
	DIV	Financial constraints	Cash dividends/total assets
	MBDIFF	Market timing	Difference between industry MTB and firms' MTB
Conservatism			
	AGE	Age	Numbers of years listed on CVM
	IFRS	IFRS adoption	Dummy variable equal 1 for all firms during the years that Brazil adopted IFRS and 0 otherwise.
	LIT	Litigation risk	Dummy equal 1 if the firm belongs to Biotechnology, Computers, Electronics or Retailing industries and equal to 0 otherwise.
	CAPEX	Capital expenditure	Total capital expenditure
	SALES	Sales growth	(Sales in year t)/(sales in year t-1)

3.3. Conditional conservatism measure

I measure conditional conservatism using C-Score developed by Khan and Watts (2009) that created a firm-year measure of conditional conservatism based on the Basu (1997) model. This model consists in a regression of stock returns (proxy for news) and earnings. According to Basu (1997), a conservative financial reporting reflects bad news timelier than good news creating an asymmetric relation between stock returns and earnings. The model captures this asymmetry through an interaction between a dummy variable, equal one if the stock return is negative (bad news) and zero otherwise, and the stock return variable. Cross-sectional regression of Basu (1997) is presented in equation 3:

$$X_i = \beta_0 + \beta_1 D_i + \beta_2 R_i + \beta_3 D_i R_i + e_i \qquad (3)$$

Where *i* indexes the firm. X is earnings deflated by stock price in the beginning of the period, R is the stock return from April of the period to March of the next period and D is a dummy variable equal 1 if R is negative and zero otherwise. The coefficient β_3 captures the incremental timeliness for bad news over good news (conservatism) in each cross-sectional regression. However, this coefficient is the average of conditional conservatism of all firms in the cross-sectional. To differentiate firm levels of conditional conservatism, Khan and Watts (2009) use three firm-level determinants of conservatism in each cross-sectional regression: Size (log of the market value of equity), M/B (market-to-book ratio) and Lev (market

leverage). To access the degree of association between the determinants mentioned and conservatism, Khan and Watts (2009) estimate the following regression:

$$X_i = \beta_0 + \beta_1 D_i + R_i(\mu_0 + \mu_1 Size_i + \mu_2 M/B_i + \mu_3 Lev_i) + D_i R_i(\lambda_0 + \lambda_1 Size_i + \lambda_2 M/B_i + \lambda_3 Lev_i) + (\delta_1 Size_i + \delta_2 M/B_i + \delta_3 Lev_i + \delta_4 D_i Size_i + \delta_5 D_i M/B_i + \delta_6 D_i Lev_i) + e_i \quad (6)$$

The parameters λ_1, λ_2 and λ_3 capture the association between Size, M/B and Lev and conditional conservatism, respectively. Thus, C-Score measure of conditional conservatism is calculated through the following equation:

$$C_{Score} = \lambda_0 + \lambda_1 Size_i + \lambda_2 M/B_i + \lambda_3 Lev_i \quad (5)$$

3.4. Target leverage estimation

Following previous studies (Faulkender et al., 2012; Flannery & Rangan, 2006; Ramalingegowda & Yu, 2021), I estimate the target leverage using the partial leverage adjustment model:

$$LEV_{i,t} = \lambda\beta X_{i,t-1} + \lambda\eta_i + \lambda v_t + (1-\lambda) LEV_{i,t-1} + e_{i,t} \quad (8)$$

Where *i* and *t* index firm and time, respectively, λ is the speed of leverage adjustment, η and *v* are the firm and time fixed effect, respectively, LEV is the book leverage and X is the matrix of determinants of the target leverage. My selection of X follows prior research (Faulkender et al., 2012; Ramalingegowda & Yu, 2021) and includes: return on assets (ROA); market-to-book ratio (MTB); size (SIZE); depreciation expenses (DEP); property, plant and equipment as a proportion of total assets (PPE); taxation (TAX); industry effect (INDLEV).

4 RESULTS

4.1. Descriptive analysis

Table 2 reports the descriptive analysis of all variables used in the main model divided in two groups. The first group comprises firms with the lowest degree of conditional conservatism and the second group comprises firms with the highest degree of conditional conservatism. The regression results of the estimation of C-Score and target leverage are presented in Appendix.

Table 2 - Descriptive analysis by group of conditional conservatism

Variables	C-Score below median			C-Score above median		
	Median	Mean	Std-Dev	Median	Mean	Std-Dev
ΔLEV	0.0000	-0.0001	0.0747	0.0004	0.0054	0.0814
DEV	-0.0442	-0.0721	0.3470	-0.0993	-0.1363	0.3847
ROA	0.0902	0.0958	0.1156	0.0871	0.0776	0.1093
MTB	0.7980	1.0551	0.8688	0.8105	1.0341	0.7520
SIZE	22.2037	22.2486	1.7497	22.0929	22.0791	0.0789

DEP	0.0290	0.0304	0.0212	0.0255	0.0279	0.0222
PPE	0.2300	0.2511	0.2076	0.2403	0.2687	0.2227
TAX	0.3397	0.2540	0.1462	0.3396	0.2421	0.1525
INDLEV	0.2945	0.2960	0.0817	0.2891	0.2937	0.0696
DEFICIT	-0.0285	0.0000	1.0000	-0.0468	0.0000	1.0000
ZSCORE	1.1974	1.2368	0.8336	1.1598	1.1041	0.9716
SPREAD	0.0328	0.0364	0.0182	0.0346	0.0401	0.0265
DIV	0.0112	0.0254	0.0379	0.0090	0.0194	0.0368
AGE	39.0000	33.4100	19.0240	39.0000	33.7300	18.1923
CAPEX	0.0351	0.0482	0.0602	0.0311	0.0530	0.0690
SALES	1.1780	2.0096	16.6871	1.1670	2.0290	11.3594
MBDIFF	0.7729	0.8613	0.3160	0.7971	0.8615	0.2609
LIT	0.0000	0.0779	0.2682	0.0000	0.0748	0.2633
IFRS	1.0000	0.8046	0.3968	1.0000	0.7954	0.4037
Nº Obs.		655			655	

Note: ΔLEV: Leverage change; DEV: Leverage deviation; C-SCORE: degree of conditional conservatism; The other variables are described in Table 1.

Most control variables have mean and median similar in the two groups. Nevertheless, there are relevant differences between the two groups comparing the measures of central tendency of the leverage changes (ΔLEV) and leverage deviations (DEV). That is, less conservative firms decrease their leverage ratio and more conservative firms increase it, on average.

The descriptive analysis shows that average DEV is negative (over-leverage) in both groups, but ΔLEV is positive in more conservative firms (0.0054) and negative in less conservative firms (-0.0001). These results suggest that less conservative firms move their leverage toward the target leverage while more conservative firms do not. Dynamic trade-off literature argues that leverage changes occur to decrease leverage deviations when the costs of adjustment is lower than its benefits (Flannery & Rangan, 2006). Thus, it would be expected to find a difference in the mean of leverage changes between firms with different degrees of conservatism and over-leveraged if conditional conservatism is associated with leverage adjustment costs or benefits.

4.2. Regression model

Table 3 reports regression results of the equation 2. I estimate the model in two specifications. First, I interact only the conservatism measure (C-SCORE) with DEV. Second, I interact all control variables with DEV following Ramalingegowda and Yu (2021). I include time and firm fixed effects in both specifications and adjust standard-errors using Driscoll and Kraay (1998) approach that correct for serial correlation, heteroskedasticity and cross-sectional dependence.

Table 3 – Leverage adjustment speed and conditional conservatism regression

Variables	(1)		Variables	(2)	
	Coefficient	**Std. Dev.**		**Coefficient**	**Std. Dev.**
DEV	0.1950***	0.0321	**DEV**	0.1297	0.0757
CSCORE	0.0101	0.0110	**CSCORE**	0.0192	0.0177
DEV × C-SCORE	-0.0531***	0.0162	**DEV × C-SCORE**	-0.0926***	0.0244

ROA	0.0946***	0.0106	**DEV × ROA**	-0.0652	0.0392
MTB	0.0007	0.0016	**DEV × MTB**	0.0170***	0.0039
SIZE	-0.0017	0.0035	**DEV × SIZE**	0.0025	0.0027
DEP	-1.0170***	0.1950	**DEV × DEP**	-1.2277***	0.1519
PPE	0.0117	0.0111	**DEV × PPE**	-0.0347	0.0258
TAX	0.0861***	0.0141	**DEV × TAX**	0.0874**	0.0305
INDLEV	0.0000	0.0000	**DEV × INDLEV**	-0.1855*	0.0908
DEFICIT	0.00210**	0.0009	**DEV × DEFICIT**	-0.0074*	0.0034
ZSCORE	0.0093***	0.0022	**DEV× ZSCORE**	-0.0086	0.0098
SPREAD	0.0417	0.0841	**DEV × SPREAD**	0.2045	0.3890
DIV	0.0175	0.0282	**DEV × DIV**	-0.1063	0.0804
AGE	-0.000496	0.0026	**DEV × AGE**	0.0003	0.0003
CAPEX	-0.033	0.0264	**DEV × CAPEX**	0.1326	0.1137
SALES	0.000195	0.0001	**DEV × SALES**	0.0012	0.0013
MBDIFF	0.000	0.0000	**DEV × MBDIFF**	0.0108	0.0135
LIT	0.000	0.0000	**DEV × LIT**	0.0007	0.0114
IFRS	0.000	0.0000	**DEV × IFRS**	-0.0153	0.0127
Constant	0.000	0.0000	**Constant**	-0.0281***	0.0013
Nº Obs.	1310		**Nº Obs.**	1310	

Note: *Significance at 10% level. **Significance at 5% level. ***Significance at 1% level. ΔLEV:Leverage changes; DEV: Leverage deviations; C-SCORE: degree of conditional conservatism; The other variables are described in Table 1.

The estimated parameter associated with DEV × C-SCORE is negative and statistically significant in both specifications, confirming the research hypothesis. That is, the higher the conditional conservatism the lower the speed of leverage adjustment. Accounting literature provides two alternative explanations for this result.

First, on one hand, conditional conservatism can decrease costs of adjustment, on the other hand, it can also decrease its benefits. According to Ramalingegowda and Yu (2021), agency conflict is an incentive for leverage adjustment to the extent that meeting the target leverage firms face less agency costs. Conditional conservatism is also an alternative to mitigate agency conflicts and could be a substitute to the leverage adjustment decisions.

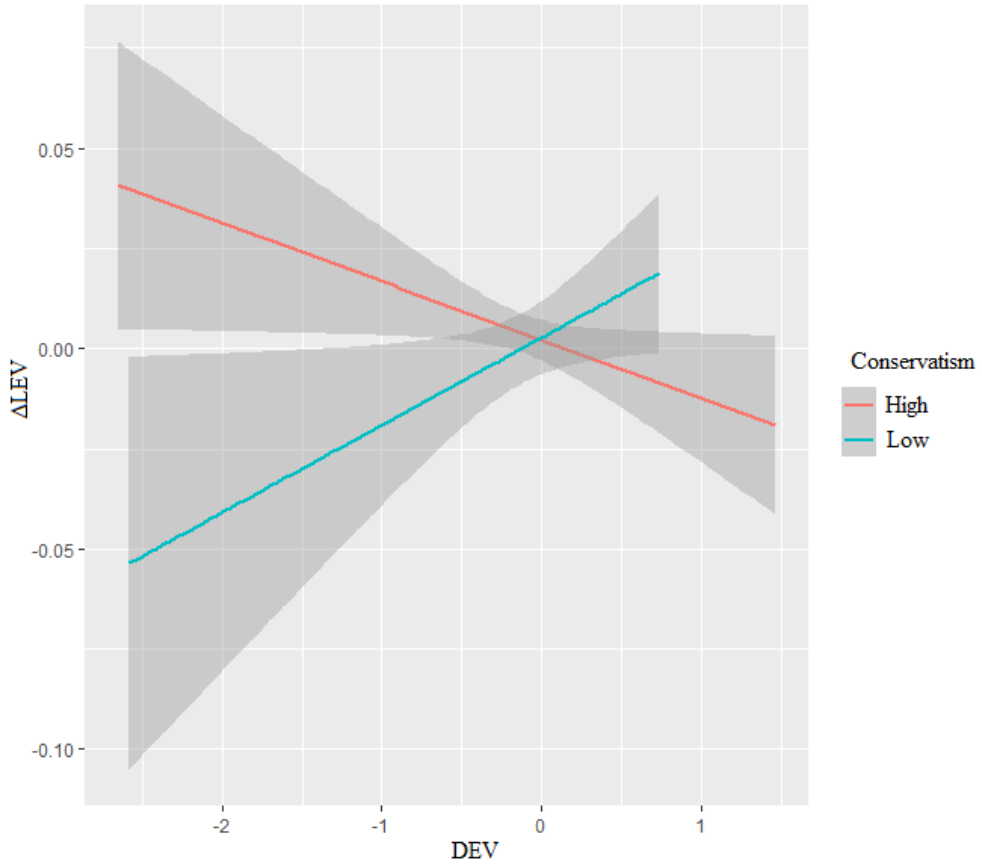
Second, Goh et al. (2017) show that conservatism reduces information asymmetry more in shareholder-manager than in firm-creditors relationship. If conditional conservatism makes one form of financing more attractive than another, that creates a preference in conservative firms for the equity market instead of debt market. This effect could be higher if conditional conservatism limits the access to debt capital, which is indirectly documented in the Brazilian context (Demonier et al., 2015). I present an analysis that corroborates this view in section 4.3.

Nevertheless, my results are different from Ramalingegowda and Yu (2021) who test the same relationship using a sample of firms from the United States. Based on previous literature, I attribute this difference to the Brazilian economic and institutional environment. Ball et al. (2008) argue that the demand of conditional conservatism is mainly driven by the debt market. The Brazilian setting is characterized by a small debt market and by not being usual to use covenants in debt contracts (Ball et al., 2008; Li, 2015). Also, papers focused on Brazilian firms have evidenced that conditional conservatism is not relevant (Brito & Martins, 2010) or costly (Demonier et al., 2015) for debt contracting. These characteristics may

increase the preference (aversion) of conservative firms for the equity market (debt market) (Goh et al., 2017).

To illustrate the relationship that it is presented in the regression model in Table 3, I plot two regression curves in Figure 1. Each curve establishes the linear relation between leverage deviations and leverage changes. A curve with a positive inclination implies that firms move their leverage toward the target leverage (i.e., the higher the deviation the bigger the leverage change in the same direction). On the other hand, a curve with a negative inclination implies that firms deviate from the target leverage. In Figure 1, I divide the sample in two groups (C-Score above and below the third quartile) and estimate the curve for each one.

Figure 1 – Speed of adjustment by highest and lowest degree of conservatism



The two lines cross on each other at the point where there is no leverage deviation (DEV ≈ 0). To the right of the intersection point, more conservative firms (red line) tend to decrease their leverage the bigger the under-leverage. That is, more conservative firms tend to move in the opposite direction of the target leverage, getting more under-leveraged. Similarly, to the left of the intersection point, more conservative firms (blue line) tend to increase their leverage the bigger the over-leverage.

4.3. Over-leverage vs under-leverage

As mentioned previously, leverage adjustment has two directions, decreasing or increasing leverage ratio depending on whether the previous leverage is above or below the target. When firms are over-leveraged (negative DEV), the financing decisions to adjust the leverage ratio are decreasing the debt (e.g., debt payments) or increasing the equity (e.g., equity issue). On the other hand, when firms are under-leveraged (positive DEV), the

financing decisions to adjust the leverage ratio are to increase the debt (e.g., debt issue) or decrease the equity (e.g., dividend payments). As each direction has a different type of financing decision, I estimate a regression for over and under-leveraged firms separately. Table 4 reports the regression results:

Table 4–SOA and conservatism regression results by under and over-leveraged firms

Variables	Under-leverage		Over-leverage	
	Coefficient	Std. Dev.	Coefficient	Std. Dev.
DEV	0.3342***	0.0244	0.2145***	0.0410
C-SCORE	0.0079	0.0094	0.1681	0.1050
DEV × CSCORE	-0.0570**	0.0203	0.3349	0.2415
ROA	0.1878***	0.0462	0.0866***	0.0255
MTB	-0.0061*	0.0031	-0.0025	0.0039
SIZE	0.0149**	0.0062	-0.0239**	0.0095
DEP	-1.8755***	0.1751	-0.7984***	0.2085
PPE	-0.0038	0.0232	0.0198	0.0371
TAX	0.1283***	0.0235	0.0516*	0.0234
INDLEV	0.0000	0.0000	0.0000	0.0000
DEFICIT	-0.0019*	0.0010	0.0156**	0.0058
ZSCORE	-0.0065	0.0046	0.0240***	0.0032
SPREAD	0.0899*	0.0436	-0.0376	0.2068
DIV	-0.0422	0.0324	0.0554	0.0520
AGE	-0.0097**	0.0037	0.0130**	0.0055
CAPEX	0.0425	0.0297	-0.0328	0.0349
SALES	0.0001	0.0001	0.0131***	0.0034
MBDIFF	0.0000	0.0000	0.0000	0.0000
LIT	0.0000	0.0000	0.0000	0.0000
IFRS	0.0000	0.0000	0.0000	0.0000
Constant	0.0000	0.0000	0.0000	0.0000
Nº Obs.	545		765	

Note: *Significance at 10% level. **Significance at 5% level. ***Significance at 1% level. ΔLEV: Leverage change; DEV: Leverage deviation; C-SCORE: degree of conditional conservatism; The other variables are described in Table 1.

The regression results for over-leveraged firms present a positive coefficient for DEV × C-SCORE (0.3349), but it has no statistical significance. This result suggests that the relationship between conditional conservatism and SOA is not present in over-leveraged firms. To adjust their leverage, over-leveraged firms can increase equity which seems to not be facilitated by conditional conservatism in Brazilian companies. On the other hand, under-leveraged firms have a negative and statically significant coefficient for DEV × C-SCORE (-0.0570). This result indicates that conservative firms tend to increase their deviation from the target leverage instead of adjusting it.

My results are consistent with Goh et al. (2017) who find that accounting conservatism creates a preference for the equity market rather than debt market. If this preference affects conservative firms, it would be expected that under-leveraged firms (i.e., firms that could adjust leverage increasing debt) would have a negative relation, issuing equity instead of debt and deviating from the target leverage. This is also consistent with evidence that, in Brazil, conditional conservatism may be costly for debt contracting (Demonier et al., 2015).

5 CONCLUSION

Financial reporting can be associated with financing decisions to the extent that it can facilitate the access to debt and equity capital. This paper aims to evidence the role of financial reporting conservatism on speed of adjustment of capital structure. In order to meet this objective, I use Ramalingegowda and Yu (2021) methodology in a sample of Brazilian public firms from 2009 to 2018, excluding financial firms and firms with missing data.

The results confirm the research hypothesis that conditional conservatism is negatively associated with the speed of leverage adjustments. This result conflicts with Ramalingegowda and Yu (2021) which is expected considering international evidence about accounting conservatism and the literature about conditional conservatism in the Brazilian context. Brazil has institutional and economic characteristics that suggest that conditional conservatism does not decrease the cost of debt (Brito & Martins, 2010) and can limit the access to debt capital (Demonier et al., 2015), which is different from international evidences (Beatty et al., 2008; Nikolaev, 2010).

This paper contributes to accounting literature showing that some of the conditional conservatism benefits (efficiency of debt contracting) depend on an economic and institutional arrangement that rely on this aspect of financial reporting to solve information asymmetry problems, which seems to not be present in Brazilian context. On the contrary, conservative firms in Brazil may face difficulties in accessing debt capital which can create the negative association between conditional conservatism and speed of adjustment. My results also contribute to literature addressing the difference in the role of conditional conservatism for the equity and debt market. I test the research hypothesis for under and over-leveraged firms separately and find that conditional conservatism is (is not) negatively associated with leverage adjustments in underleveraged (overleveraged) firms. This corroborates the notion that conditional conservatism is disproportionally efficient for equity versus debt contracting (Goh et al., 2017).

This study also contributes to decision makers showing the consequences of the adoption of conservative practice on financing strategies. Conservatism in financial reporting can affect investors and creditors perception and contracts (LaFond & Watts, 2008; Watts, 2003). I show that, in the Brazilian setting, conditional conservatism can limit the access of debt capital which deviates under-leveraged firms from their leverage target. This implies that managers consider the degree of conditional conservatism in their financing strategies.

An important limitation of this research is that I focus on speed of leverage adjustment, which includes several aspects of financing decisions. This is useful to test the net effect of accounting conservatism on equity and debt capital. However, I do not differentiate the types of debt and do not consider the heterogeneity of the debt, which can be addressed in future research. I also test only a particular form of accounting conservatism (that is, conditional conservatism), which is usually associated with contracting matters. Still, unconditional conservatism can also significantly affect financial reporting and its impact can be quite different from the conditional form (Beaver & Ryan, 2005).

References

Albanez, T., & Schiozer, R. (2021). The signaling role of covenants and the speed of capital structure adjustment under poor creditor rights: Evidence from domestically and cross-listed firms in Brazil. *Journal of Multinational Financial Management*, 100704. https://doi.org/10.1016/j.mulfin.2021.100704

An, Z., Li, D., & Yu, J. (2015). Firm crash risk, information environment, and speed of leverage adjustment. *Journal of Corporate Finance*, *31*, 132–151. https://doi.org/10.1016/j.jcorpfin.2015.01.015

Baker, M., & Wurgler, J. (2002). Market Timing and Capital Structure. *The Journal of Finance*, *57*(1), 1–32. https://doi.org/10.1111/1540-6261.00414

Balakrishnan, K., Core, J. E., & Verdi, R. S. (2014). The relation between reporting quality and financing and investment: Evidence from changes in financing capacity. *Journal of Accounting Research*, *52*(1), 1–36. https://doi.org/10.1111/1475-679X.12031

Ball, R., Kothari, S. ., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics*, *29*(1), 1–51. https://doi.org/10.1016/S0165-4101(00)00012-4

Ball, R., Robin, A., & Sadka, G. (2008). Is financial reporting shaped by equity markets or by debt markets? An international study of timeliness and conservatism. *Review of Accounting Studies*, *13*(2–3), 168–205. https://doi.org/10.1007/s11142-007-9064-x

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, *39*(1), 83–128. https://doi.org/10.1016/j.jacceco.2004.04.001

Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, *24*(1), 3–37. https://doi.org/10.1016/S0165-4101(97)00014-1

Beatty, A., Weber, J., & Yu, J. J. (2008). Conservatism and Debt. *Journal of Accounting and Economics*, *45*(2–3), 154–174. https://doi.org/10.1016/j.jacceco.2008.04.005

Beaver, W. H., & Ryan, S. G. (2005). Conditional and Unconditional Conservatism: Concepts and Modeling. *Review of Accounting Studies*, *10*(2–3), 269–309. https://doi.org/10.1007/s11142-005-1532-6

Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics*, *48*(2–3), 112–131. https://doi.org/10.1016/j.jacceco.2009.09.001

Boulton, T. J., Smart, S. B., & Zutter, C. J. (2017). Conservatism and international IPO underpricing. *Journal of International Business Studies*, *48*(6), 763–785. https://doi.org/10.1057/s41267-016-0054-8

Brito, G. A. S., & Martins, E. (2010). Conservadorismo contábil e o custo do crédito bancário no Brasil. *BBR - Brazilian Business Review*, *10*(1), 27–48. https://doi.org/10.11606/T.12.2010.tde-16122010-230604

Brunaldi, E. O., Kayo, E. K., & Securato, J. R. (2015). Influence of Cash Flow on Leverage Adjustments: Empirical Evidence from Brazil. *Revista de Finanças Aplicadas*, *3*, 1–20.

Bushman, R. M., & Piotroski, J. D. (2006). Financial reporting incentives for conservative accounting: The influence of legal and political institutions. *Journal of Accounting and Economics*, *42*(1–2), 107–148. https://doi.org/10.1016/j.jacceco.2005.10.005

Canton, C., Muller, M., Silva, T. P. da, & Rodrigues Júnior, M. M. (2019). Efeito do conservadorismo contábil na velocidade do ajuste do caixa 1 accounting conservatism effect on speed of adjustment of the cash 2 cristiane canton. *Revista Gestão Organizacional*, *12*(3), 3–17.

Demonier, G. B., Almeida, J. E. F. de, & Bortolon, P. M. (2015). The impact of financial constraints on accounting conservatism. *Review of Business Management*, *17*(57), 1264–1278. https://doi.org/10.7819/rbgn.v17i57.2326

Devos, E., Rahman, S., & Tsang, D. (2017). Debt covenants and the speed of capital structure adjustment. *Journal of Corporate Finance*, *45*, 1–18. https://doi.org/10.1016/j.jcorpfin.2017.04.008

Driscoll, J. C., & Kraay, A. C. (1998). Consistent Covariance Matrix Estimation with Spatially Dependent Panel Data. *Review of Economics and Statistics*, *80*(4), 549–560. https://doi.org/10.1162/003465398557825

Elsas, R., & Florysiak, D. (2011). Heterogeneity in the Speed of Adjustment toward Target Leverage*. *International Review of Finance*, *11*(2), 181–211. https://doi.org/10.1111/j.1468-2443.2011.01130.x

Faulkender, M., Flannery, M. J., Hankins, K. W., & Smith, J. M. (2012). Cash flows and leverage adjustments. *Journal of Financial Economics*, *103*(3), 632–646. https://doi.org/10.1016/j.jfineco.2011.10.013

Fischer, E. O., Heinkel, R., & Zechner, J. (1989). Dynamic Capital Structure Choice: Theory and Tests. *The Journal of Finance*, *44*(1), 19–40. https://doi.org/10.1111/j.1540-6261.1989.tb02402.x

Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics*, *79*(3), 469–506. https://doi.org/10.1016/j.jfineco.2005.03.004

Frank, M. Z., & Goyal, V. K. (2008). Trade-Off and Pecking Order Theories of Debt. In *Handbook of Empirical Corporate Finance* (pp. 135–202). Elsevier. https://doi.org/10.1016/B978-0-444-53265-7.50004-4

García Lara, J. M., García Osma, B., & Penalva, F. (2011). Conditional conservatism and cost of capital. *Review of Accounting Studies*, *16*(2), 247–271. https://doi.org/10.1007/s11142-010-9133-4

Goh, B. W., Lim, C. Y., Lobo, G. J., & Tong, Y. H. (2017). Conditional Conservatism and Debt versus Equity Financing. *Contemporary Accounting Research*, *34*(1), 216–251. https://doi.org/10.1111/1911-3846.12237

Kanagaretnam, K., Lim, C. Y., & Lobo, G. J. (2014). Influence of national culture on accounting conservatism and risk-taking in the banking industry. *The Accounting Review*, *89*(3), 1115–1149. https://doi.org/10.2308/accr-50682

Khan, M., & Watts, R. L. (2009). Estimation and empirical properties of a firm-year measure of accounting conservatism. *Journal of Accounting and Economics*, *48*(2–3), 132–150. https://doi.org/10.1016/j.jacceco.2009.08.002

Kim, Y., Li, S., Pan, C., & Zuo, L. (2013). The Role of Accounting Conservatism in the Equity Market: Evidence from Seasoned Equity Offerings. *The Accounting Review*, *88*(4), 1327–1356. https://doi.org/10.2308/accr-50420

Kisgen, D. J. (2009). Do Firms Target Credit Ratings or Leverage Levels? *Journal of Financial and Quantitative Analysis*, *44*(6), 1323–1344. https://doi.org/10.1017/S002210900999041X

LaFond, R., & Watts, R. L. (2008). The Information Role of Conservatism. *The Accounting Review*, *83*(2), 447–478. https://doi.org/10.2308/accr.2008.83.2.447

Li, X. (2015). Accounting Conservatism and the Cost of Capital: An International Analysis. *Journal of Business Finance & Accounting*, *42*(5–6), 555–582. https://doi.org/10.1111/jbfa.12121

Mackie-Mason, J. K. (1990). Do Taxes Affect Corporate Financing Decisions? *The Journal of Finance*, *45*(5), 1471–1493. https://doi.org/10.1111/j.1540-6261.1990.tb03724.x

Miller, D. P., & Reisel, N. (2012). Do Country-level Investor Protections Affect Security-level Contract Design? Evidence from Foreign Bond Covenants. *Review of Financial Studies*, *25*(2), 408–438. https://doi.org/10.1093/rfs/hhr097

Nikolaev, V. V. (2010). Debt Covenants and Accounting Conservatism. *Journal of Accounting Research*, *48*(1), 137–176. https://doi.org/10.1111/j.1475-679X.2009.00359.x

Öztekin, Ö., & Flannery, M. J. (2012). Institutional determinants of capital structure adjustment speeds. *Journal of Financial Economics*, *103*(1), 88–112. https://doi.org/10.1016/j.jfineco.2011.08.014

Paulo, E., Antunes, M. T. P., & Formigoni, H. (2008). Conservadorismo contábil nas companhias abertas e fechadas brasileiras. *Revista de Administração de Empresas*, *48*(3), 46–60. https://doi.org/10.1590/S0034-75902008000300005

Prazeres, R. V. (2018). Relações entre a Concentração de Propriedade e o Conservadorismo Condicional nas Companhias Abertas Brasileiras: Uma Análise através do Modelo de Regressão Quantílica. *Revista Evidenciação Contábil & Finanças*, *6*(3), 21. https://doi.org/10.22478/ufpb.2318-1001.2018v6n3.36941

Ramalingegowda, S., & Yu, Y. (2021). The Role of Accounting Conservatism in Capital Structure Adjustments. *Journal of Accounting, Auditing & Finance*, *36*(2), 223–248. https://doi.org/10.1177/0148558X18814119

Sarlo Neto, A., Rodrigues, A., & Almeida, J. E. F. de. (2010). Concentração de votos e acordo de acionistas: influências sobre o conservadorismo. *Revista Contabilidade & Finanças*, *21*(54), 6–22. https://doi.org/10.1590/S1519-70772010000300002

Warr, R. S., Elliott, W. B., Koëter-Kant, J., & Öztekin, Ö. (2012). Equity Mispricing and Leverage Adjustment Costs. *Journal of Financial and Quantitative Analysis*, *47*(3), 589–616. https://doi.org/10.1017/S0022109012000051

Watts, R. L. (2003). Conservatism in Accounting Part I: Explanations and Implications. *Accounting Horizons*, *17*(3), 207–221. https://doi.org/10.2308/acch.2003.17.3.207

Appendix A - Khan and Watts (2009) parameters of cross-sectional regressions

Variables	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Mean
Intercepto	-1.647	-1.346	1.819	-2.914	0.104	-0.990	-0.631	3.220	-6.825	-1.100	-1.031
D	2.273	5.827	-3.904	3.156	-0.807	3.213	0.360	-2.149	22.366	1.358	3.169
R	0.046	0.019	-0.045	0.075	0.004	0.058	-0.032	-0.197	0.080	0.026	0.003
D × R	-0.008	0.336	0.063	-0.022	0.031	0.037	0.109	0.390	0.472	-0.011	0.140
R × Size	-0.002	-0.001	0.003	-0.004	0.000	-0.002	0.001	0.009	-0.004	-0.001	0.000
R × Lev	-0.001	0.000	-0.021	0.020	0.004	-0.006	0.003	-0.009	0.000	0.007	0.000
R × M/B	-0.002	-0.002	-0.001	0.002	0.000	-0.005	0.007	-0.002	0.007	0.002	0.001
D × R × Size	0.000	-0.009	-0.003	0.002	0.000	-0.002	-0.004	-0.019	-0.017	0.001	-0.005
D × R × Lev	-0.007	0.110	0.023	-0.022	-0.004	-0.002	-0.008	0.009	-0.014	-0.001	0.008
D × R × M/B	-0.003	-0.217	0.001	-0.013	-0.006	0.002	-0.007	0.015	-0.082	-0.012	-0.032
Size	0.084	0.074	-0.090	0.158	0.007	0.041	0.074	-0.131	0.314	0.071	0.060
Lev	-0.100	-0.456	0.666	-0.794	-0.330	0.226	-0.493	-0.097	-0.198	-0.491	-0.207
M/B	0.004	0.052	0.012	-0.104	-0.044	0.063	-0.423	-0.058	-0.165	-0.127	-0.079
D × Size	-0.089	-0.192	0.174	-0.158	0.035	-0.105	-0.031	0.075	-0.986	-0.105	-0.138
D × Lev	-0.585	2.580	-0.590	0.573	0.358	-0.848	0.077	0.033	-0.503	0.288	0.138
D × M/B	-0.136	-3.432	0.122	0.050	0.031	-0.270	0.205	0.238	0.452	0.625	-0.211

Note: R: Stock returns D: Dummy equal 1 if R is negative and 0 otherwise. Size: Log of total assets; M/B: Market-to-book ratio; Lev: Market leverage. The dependent variable is earnings per share divided by stock price at the beginning of the year.

Appendix B - Target leverage estimation

$LEV_{i,t}$	GMM	
	Coefficient	**Std. Dev.**
$LEV_{i,t-1}$	1.043***	-0.0896
$ROA_{i,t-1}$	0.0178	-0.0524
$MTB_{i,t-1}$	-0.00103	-0.00469
$SIZE_{i,t-1}$	-0.00188	-0.0024
$DEP_{i,t-1}$	-0.199*	-0.113
$PPE_{i,t-1}$	0.00812	-0.0122
$TAX_{i,t-1}$	0.0214	-0.0122
Test A2 (P-value)	0.465	
Hansen test	0.073	
Nº Obs.	1310	

Note: *Significance at 10% level. **Significance at 5% level. ***Significance at 1% level. LEV: Book leverage; ROA: Return on assets; MTB: Market-to-book ratio; SIZE: Log of total assets; DEP: Depreciation expenses; PPE: Property, Plant & Equipment; Tax: Taxation.