The implications of financial conservatism for African firms

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Highlights

- Firm value increases with financial conservatism both in the short and long-run.
- The benefits of financial conservatism are more pronounced for unconstrained firms.
- Conservatism improves profitability, but reduces investments and employment.

Abstract

Using a large sample of African firms over the period 1982—2015, we find that firms *forced* into financial conservatism due to financial constraints have lower stock market valuation and profitability relative to their unconstrained counterparts who choose conservatism (*optional financial conservatism*) for motives linked to financial flexibility. Our further analyses, however, show a decrease in investments and employment with financial conservatism in the long-run. This finding highlights a significant trade-off with the desire to attain or enhance financial flexibility. Overall, our study confirms the benefits of *optional financial conservatism* and detriments of *forced financial conservatism* in developing markets where access to finance is limited.

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1 Introduction

A growing number of studies report puzzling evidence of high prevalence and persistence in financial conservatism (zero or low-levered).[1] This emerging evidence is inconsistent with predictions of standard capital structure theories and widely accepted views that debt is cheaper than equity. At the same time, some empirical studies explore a host of interesting demand- and supply-side factors that explain why firms are zero or low-levered.[2] Notwithstanding the aforementioned contributions, the literature is, however, largely silent on the implications, if any, of adopting financial conservatism.

We address this research gap within the context of developing markets and examine the impact of financial conservatism on stock market valuation, profitability, investments and employment of African firms. Our study contributes to the literature along three dimensions. First, unlike prior studies on financial conservatism (see Bessler et al., 2013; Strebulaev and Yang, 2013; Sánchez-Vidal et al., 2020), we focus on firms in understudied developing countries beleaguered by a host of institutional constraints (see Levine, 2005; Beck et al., 2008; Amaeshi et al., 2016). To the extent that developing markets, as exemplified by African countries, have different institutional structures, they increase our ability to discriminate among competing propositions on the impact of financial conservatism on corporate decisions or outcomes.

Second, in contrast to studies mentioned above, we distinguish between "forced financial conservatism" and "optional financial conservatism" as the two lead to contrasting predictions. On the one hand, *forced financial conservatism*, which is due to binding credit constraints, is detrimental as the firm might have to curtail or postpone value-enhancing projects. On the other hand, *optional financial conservatism* arising from management's decision to eschew debt immunises the firm against contractions in credit supply, thereby boosting future investment and performance. Without such a distinction

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[1]For example, Strebulaev and Yang (2013) find that 22% of US firms have ultra-low leverage, while 34.5% of these firms do not alter their non-standard financing policies for at least five years. Likewise, Dang (2013) finds that 34.46% of UK firms have zero debt. Similarly, El Ghoul et al. (2018) report an increased prevalence of financial conservatism in both developed and developing economies, and that, on average, high income OECD and low/lower middle-income countries account for 15% and 7% of zero-levered firms, respectively.

[2]See Yasmin and Rashid (2019), Morais et al. (2020), Ebrahimi et al. (2020) and Lundberg and Lotfaliei (2020).

as in prior studies, it is not *a priori* clear how and why financial conservatism affects stock market valuation, profitability, investments and employment, especially within the context of understudied developing markets.

Third, we also investigate the short and long-run impact of financial conservatism as *forced financial conservatism* entails further curtailment or postponement of investments in the long-run. This outcome has broader social and economic implications, especially in the context of developing countries characterised by under-investments, high unemployment and low economic growth. Therefore, examining the implications of financial conservatism both in the short and long-run is of interest to academics, practitioners and policymakers alike.

Using a large sample of 1,308 African firms over the period 1982—2015, we find that financially conservative firms have higher stock market valuations relative to their less conservative counterparts, with these differences being more pronounced in the long-run. At the same time, we find that, in the long run, profitability increases with financial conservatism, while investment and employment decrease. Our analyses further show that financial conservatism is only detrimental, both in the short and long run, if it is forced (*forced financial conservatism*) due to binding credit constraints. These robust findings, which are consistent with our predictions, highlight not only the importance of distinguishing between *optional* and *forced* financial conservatism but also the need to examine the effects of the two forms of conservatism in the short and long-run. By identifying the form of financial conservatism that has negative or positive implications, our empirical findings call for more targeted interventions in capital markets, especially in developing countries where access to finance is limited.

The rest of the paper is organised as follows. Section 2 describes the methodology and data used. Section 3 reports and discusses the results. Section 5 concludes.

2 Methodology and data

To examine the implications of financial conservatism on firm performance, investments and employment, we estimate the following model:

$$y_{ijkt} = \gamma_1 FC_{ijkt} + \gamma_2 FC_{ijkt} \times LD_{ijkt} + \boldsymbol{\vartheta} \boldsymbol{X}_{ijkt-1} + \eta_i + \eta_{jkt} + \xi_{ijkt} \tag{1}$$

where y_{ijkt} is the corporate outcome for firm i in industry j and country k at time t. γ_1, γ_2 and $\boldsymbol{\vartheta}$ are parameter coefficients to be estimated. FC is a dummy variable for financial conservatism that takes the value of one if a firm is financially conservative and zero otherwise. LD is a dummy variable that takes the value of one if a firm is financially conservative for more than five consecutive years and zero otherwise. The vector of lagged control variables, $\boldsymbol{X}$, includes sales growth (SG), property, plant and equipment (PPE), intangible assets ($INTANG$), the logarithm of total assets ($Size$), GDP growth and inflation. η_i and η_{jkt} are the firm and industry-country-year fixed effects. ξ_{ijkt} is the error term. The corporate outcomes, y, include firm value (Q), performance (ROA), investments ($Capex$) and employment ($LogEmp$).

In order to examine the moderating effects of financial constraints, we estimate a modified version of Equation (1) that is specified as follows:

$$
\begin{aligned}
y_{ijkt} =& \alpha_1 FC_{ijkt} + \alpha_2 FC_{ijkt} \times LD_{ijkt} + \alpha_3 CONS_{ijkt} + \alpha_4 FC_{ijkt} \times CONS_{ijkt} \\
& + \alpha_5 FC_{ijkt} \times CONS_{ijkt} \times LD_{ijkt} + \boldsymbol{\Gamma} \boldsymbol{X}_{ijkt-1} + \eta_i + \eta_{jkt} + \xi_{ijkt}
\end{aligned}
\tag{2}
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where y_{ijkt} is the corporate outcome for firm i in industry j and country k at time t. α_1– α_5 and $\boldsymbol{\Gamma}$ are parameter coefficients to be estimated. $CONS$ is also a dummy variable that takes the value of one if a firm is categorised as financially constrained, and zero otherwise. $\boldsymbol{X}$ is a vector of lagged control variables that include sales growth (SG), property, plant and equipment (PPE), intangible assets ($INTANG$), the log of total assets ($Size$), GDP growth and inflation. Finally, ξ_{ijkt} is the error term. The corporate outcomes (y) include firm value (Q), performance (ROA), investments ($Capex$) and employment ($LogEmp$). In each year for each country, we categorise a firm as constrained (unconstrained) if it

3

is in the upper (lower) tercile of the WW Index (Whited and Wu, 2006) and HP Index (Hadlock and Pierce, 2010). For categorisations based on firm size, we consider a firm as constrained (unconstrained) if it is in the lower (upper) tercile of firm-size in each year for each country.

We draw our firm-level dataset from *Datastream* over the period 1982—2015. In line with the extant literature, firms with missing data points, and firms in the highly regulated financial and utility sectors (Standard Industrial Classification 6000—6999 and 4900—4999, respectively) are excluded from the analysis. To mitigate the potential effects of outliers, firm-level variables are winsorised at the bottom and upper one percentile of the distribution. The final sample consists of 1,308 firms (12,908 firm-year observations) from thirteen African countries (Botswana, Egypt, Ghana, Ivory Coast, Kenya, Morocco, Namibia, Nigeria, South Africa, Tanzania, Tunisia, Zambia and Zimbabwe).

Our main variable of interest is zero-leverage (ZL), a dummy variable that is assigned a value of one if firm i has no debt in year t, and zero otherwise. To ensure robustness in our results, we incorporate several additional proxies of financial conservatism, namely; (1) ultra-low leverage (UL) (leverage ratio equal to 5% and below), (2) non-positive net-debt ($NPND$) (book value of debt *minus* cash), and (3) almost zero Leverage (AZL) for firms with leverage ratios less than or equal to 1%. The detailed definitions and summary statistics of all the variables used are presented in Table 1.

<center>PLEASE INSERT TABLE 1 HERE</center>

Panel A of Table 1 presents the basic statistics for the full sample. The mean value of our main dependent variable, Tobin's q (Q), is 1.515, while ROA, $CAPEX$ and $LogEmp$ are averaging 13.7%, 32% and 8.5, respectively. The mean proportions of ZL (main proxy for financial conservatism), UL, $NPND$ and AZL firms (alternative proxies of financial conservatism) are 9.8%, 29.2%, 41.8% and 37.5%, respectively. In comparison, Strebulaev and Yang (2013) report averages of 10.6%, 33.1%, and 22.6% for ZL, $NPND$ and AZL, respectively, for the US firms. In panel B, we show that there are significant differences in stock market valuations, profitability, investments and employment between unconstrained and constrained firms.

<center>4</center>

PLEASE INSERT TABLE 2 HERE

Table 2 presents the pairwise correlations for all the variables used. Our main variables of interest are Tobin's q (Q) (market valuation), ROA (profitability), $CAPEX$ (investment), $LogEmp$ (employment) and ZL. Accordingly, ZL is positively and significantly correlated to Tobin's q, ROA, and negatively correlated to $CAPEX$ and $LogEmp$. This *prima facie* evidence suggests that financially conservative firms are more valued by investors and profitable, but associated with a significant reduction in investments and employment. In the next section, we explore whether these correlations remain unchanged after controlling for firm-specific and macroeconomic factors.

3 Results and discussion

Table 3 reports the results for estimation Equations (1) and (2) that relate firm value to financial conservatism, interaction terms of financial conservatism and constraints, and several control variables.

PLEASE INSERT TABLE 3 HERE

The coefficients of the ZL variable, in Columns (1)—(6), are positive and statistically significant, suggesting that financially conservative firms perform better than non-conservative firms. We extend our analysis and report the coefficient of $LD \times ZL$, which shows that maintaining financial conservatism for more than five years has a significant positive effect on stock market valuation (Tobin's q). We attribute this positive effect to; (1) the investors' favourable perceptions of the performance and viability of firms unencumbered by debt-servicing obligations (due to financial conservatism), and (2) the signalling role of financial conservatism where investors attach a premium to financial flexibility, especially in developing countries characterised by limited access to external finance. In unreported analysis, we estimate the lagged effects of financial conservatism and note that the benefits of financial conservatism can be observed for prolonged periods of up to ten years. These findings are broadly consistent with the financial flexibility proposition.

We further explore differences in the financial performance of conservative firms conditional on financial constraints. In Columns (7)—(12), we find that the coefficients of

5

$CONS \times ZL$ and $CONS \times LD \times ZL$ are negative for all proxies of financial constraints. Two important insights emerge from this additional analysis; (1) firms that are forced into financial conservatism due to financial constraints under-perform their unconstrained counterparts who choose conservatism for motives linked to financial flexibility, and (2) firms that are forced to adopt persistent financial conservatism due to financial constraints under-perform their unconstrained counterparts who choose to remain conservative for more than five years. We interpret this finding as signalling both the detrimental effects of *forced financial conservatism* and benefits of enhanced financial flexibility arising from *optional financial conservatism.*

Overall our results highlight the negative implications of limited access to external finance, which remains a major policy challenge in developing countries.

4   Robustness

In this section, we implement a battery of robustness tests. First, we control for changes in macroeconomic conditions. Second, we test the robustness of our results to alternative sub-sampling by examining events around the financial crisis. Third, we re-estimate our main models using other proxies of corporate outcomes — return on total assets (ROA), capital expenditure to total assets ($CAPEX$) and the logarithm of employment ($LogEmp$). Finally, we evaluate the sensitivity of our results to alternative measures of financial conservatism — ultra-low levered (UL), non-positive net debt ($NPND$) and almost zero-levered (AZL) firms. Table 4 presents our robustness tests.

PLEASE INSERT TABLE 4 HERE

We find, in Columns (1)—(4) of Table 4, that the coefficient of FC, the financial conservatism variable, remains positive and significant even after controlling for macroeconomic factors, namely; the size of the economy (the logarithm of real GDP — $lnGDP$), financial development (domestic credit to the private sector by banks (% of GDP — $Credit$) and stock market capitalisation (% of GDP — $STKMKTGDP$). In Columns (5)—(6), we find that the signs on the coefficients for the pre-crisis and crisis epochs remain unchanged. However, we note that the coefficient of FC for the crisis period is relatively lower than for the pre-crisis period. In Column (7), we find that FC has a

6

significant positive effect on profitability. However, in Column (8), investments decline significantly with financial conservatism. Likewise, firms that persistently stick to financial conservatism experience a further significant decrease in investments, *albeit*, with a lesser magnitude. In untabulated results, we further find the decrease in investment with FC is more pronounced for mature firms with larger cash holdings and higher dividend payouts.[3] Similarly, in Column (9), employment decreases significantly with persistent financial conservatism. Our intuition is that, as investment opportunities diminish, conservative firms tend to employ fewer people.

In Columns (10)—(12), we report the results for ultra-levered firms (UL), non-positive net debt firms ($NPND$) and almost zero-levered firms (AZL) using Tobin's q as the dependent variable. The signs on the coefficients for FC and $LD \times CONS$ remain unchanged, which confirms the robustness of our results to using alternative measures or proxies of financial conservatism. We further note that the coefficients of ZL, our main proxy of FC, are higher than those of UL, $NPND$ and AZL, the alternative and *less* extreme forms of financial conservatism. A similar pattern is observed on the coefficients for the interaction term $LD \times CONS$.[4] We, therefore, conclude that the benefits of financial conservatism are more pronounced for the extreme form of financial conservatism (ZL) relative to other less-extreme forms (UL, $NPND$ and AZL).

5 Conclusion

This paper examines the implications of financial conservatism on corporate outcomes for listed African firms. Our results suggest that financial conservatism is beneficial as it enhances financial flexibility, especially for unconstrained firms. However, it is associated with decreases in investments and employment as firms can only attain or sustain conservatism by cutting-back or postponing investments and hoarding idle or excess cash balances. For developing markets marred by under-investment problems, high unemployment rates and low economic growth, this is an undesirable outcome that

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[3]As firms approach the maturity phase of their life-cycle, they experience a decline in investment opportunities, and tend to hoard excess cash, which could be paid out as dividends or diverted for private consumption benefits.

[4]In untabulated results, we find that our results are robust to controlling for institutional factors such as culture, legal origin, the rule of law, corruption, and political stability.

is of concern to policymakers.

Our study, more specifically, highlights importance of a clear distinction between firms that are supposedly *forced* into financial conservatism due to binding credit constraints and the ones that *optionally* choose such a non-standard financing policy for reasons linked to financial flexibility. Such a distinction enables evidence-based and targeted policy interventions, with more emphasis being placed on *forced financial conservatism* as it has detrimental effects on social and economic welfare. Future research should focus on extending this fruitful line of inquiry to encompass other developing markets beleaguered by institutional constraints.

Credit Author Contribution Statement

Chimwemwe Chipeta: Conceptualisation, Writing-Original draft, Writing-review and editing, Visualisation, Supervision, Project administration. Nadeem Aftab: Conceptualisation, Formal analysis, Writing-original draft, Writing-review and editing. Michael Machokoto: Methodology, Software programming, Formal analysis, Data curation, Writing-original draft, Writing-review and editing.

Data Availability

The data that support the findings of this study are available from Datastream. Restrictions may apply to the availability of these data, which were used under license.

Disclosure statement

We certify that there are no potential conflicts of interest relating to the subject matter discussed in this manuscript.

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Table 1 Basic statistics

The table presents the summary statistics and trends for the variables used. Q is market of equity plus total debt to total assets (Tobin's q). ROA is net profit to total assets. CAPEX is capital expenditure to property, plant and equipment. LogEmp is the logarithm of employees. ZL is a dummy variable that takes the value of one if a firm has no debt, and zero otherwise. UL is a dummy variable that takes the value of one if a firm has leverage less than 5% and otherwise, zero. NPND is a dummy variable that takes the value of one if a firm has leverage less than and otherwise, zero. AZL is a dummy variable that takes the value of one if a firm has leverage less than 1% and otherwise, zero. Size is the logarithm of total assets. Cash is cash and cash equivalent to total assets. NTC is net-trade credit to total assets. DIVTA is cash dividend to total assets. WW Index is based on Whited and Wu (2006). $WW\ Index = -0.091 \times \frac{Cash\ Flow}{Assets} - 0.062 \times DivDummy + 0.021 \times \frac{Total\ debt}{Assets} - 0.044 \times Size + 0.102 \times IndustrySalesGrowth - 0.035 \times SalesGrowth$. The WW Index is based on Whited and Wu (2006). $HP\ Index = -0.737 \times Size + 0.043 \times Size^2 - 0.040 \times Age$. The HP Index is based on Hadlock and Pierce (2010). lnGDP is the logarithm of real GDP. Credit is domestic credit to private sector by banks (% of GDP). StkMktCap is stock market capitalisation (% of GDP). The sample consists of listed non-utility and non-financial firms in South Africa drawn from Datastream from 1991 to 2014. All firm-level variables are drawn from Thomson DataStream and macroeconomic variables are from The World Bank. All variables used are winsorised at the lower and upper one percentiles. ***, **, * indicate the statistical significance of the F-statistic for the differences in means at the one, five, and ten percent levels, respectively.

Panel A: Summary statistics

											ZL Firms					
	ALL			Non-ZL			ZL			Non-LD			LD			
Variables	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	
Q	12,908	1.515	0.822	11,640	1.475	0.764	1,268	1.884***	1.173***	559	1.696	0.989	709	2.032***	1.281***	
ROA	12,908	0.137	0.394	11,640	0.130	0.409	1,268	0.194***	0.195***	559	0.164	0.181	709	0.217***	0.201***	
CPAEX	12,906	0.320	1.241	11,638	0.327	1.303	1,268	0.247**	0.280***	559	0.258	0.309	709	0.238	0.255***	
LogEmp	12,908	8.486	1.719	11,640	8.542	1.708	1,268	7.966***	1.727	559	7.603	1.557	709	8.253***	1.800***	
ZL	12,908	0.098	0.298	11,640	0.000	0.000	1,268	1.000***	0.000***	559	1.000	0.000	709	1.000***	0.000***	
UL	12,908	0.292	0.455	11,640	0.215	0.411	1,268	1.000***	0.000***	559	1.000	0.000	709	1.000***	0.000***	
NPND	12,908	0.418	0.493	11,640	0.356	0.479	1,268	0.994***	0.079***	559	0.986	0.119	709	1.000***	0.000***	
AZL	12,908	0.169	0.375	11,640	0.079	0.269	1,268	1.000***	0.000***	559	1.000	0.000	709	1.000***	0.000***	
Size	12,908	14.541	1.992	11,640	14.648	1.988	1,268	13.556***	1.742***	559	13.477	1.665	709	13.618	1.799*	
Cash	12,908	0.118	0.113	11,640	0.106	0.102	1,268	0.225***	0.145***	559	0.210	0.151	709	0.238***	0.138**	
NTC	12,908	0.059	0.161	11,640	0.058	0.163	1,268	0.068**	0.145***	559	0.063	0.153	709	0.072	0.138***	
SALESTA	12,908	1.287	0.854	11,640	1.309	0.867	1,268	1.083***	0.683***	559	1.200	0.852	709	0.992***	0.495***	
DIVTA	12,908	0.043	0.063	11,640	0.039	0.060	1,268	0.079***	0.081***	559	0.063	0.082	709	0.091***	0.078	
WW Index	12,908	-1.111	10.308	11,640	-1.152	10.853	1,268	-0.737	0.500***	559	-0.729	0.502	709	-0.744	0.498	
HP Index	12,908	-11.329	1.140	11,640	-11.384	1.124	1,268	-10.825***	1.166*	559	-10.806	1.127	709	-10.841	1.197	
lnGDP	12,908	8.625	0.449	11,640	8.634	0.445	1,268	8.543***	0.477***	559	8.529	0.475	709	8.554	0.478	
Credit	12,908	0.593	0.164	11,640	0.597	0.162	1,268	0.554***	0.173***	559	0.564	0.167	709	0.546*	0.178	
StkMktCap	12,908	1.599	0.776	11,640	1.617	0.773	1,268	1.434***	0.777	559	1.454	0.788	709	1.418	0.769	

Panel B: Differences between constrained (CONS) and unconstrained (UN CONS) firms

	Variables	ALL			Non-ZL			ZL			Non-LD			LD		
		UN CONS	CONS	Diff	UN CONS	CONS	Diff	UN CONS	CONS	Diff	UN CONS	CONS	Diff	UN CONS	CONS	Diff
WW	Q	1.631	1.337	0.294***	1.551	1.324	0.227***	2.738	1.424	1.314***	2.274	1.590	0.684***	1.619	1.320	0.299***
	ROA	0.146	0.119	0.027***	0.135	0.118	0.017	0.305	0.124	0.181***	0.238	0.136	0.102***	0.145	0.118	0.027***
	CAPEX	0.251	0.418	-0.167***	0.255	0.438	-0.183***	0.205	0.289	-0.084***	0.223	0.297	-0.074*	0.252	0.427	-0.175***
	LogEmp	9.485	7.346	2.139***	9.528	7.363	2.165***	8.894	7.238	1.656***	8.215	7.088	1.127***	9.509	7.364	2.145***
HP	Q	1.582	1.364	0.218***	1.544	1.348	0.196***	2.273	1.452	0.821***	1.777	1.655	0.122	1.578	1.340	0.238***
	ROA	0.135	0.128	0.007	0.130	0.127	0.003	0.228	0.134	0.094***	0.174	0.154	0.020	0.135	0.126	0.009
	CAPEX	0.249	0.411	-0.162***	0.254	0.438	-0.184***	0.171	0.270	-0.099***	0.185	0.284	-0.099***	0.251	0.422	-0.171***
	LogEmp	9.442	7.215	2.227***	9.475	7.207	2.268***	8.847	7.261	1.586***	8.335	7.174	1.161***	9.465	7.219	2.246***
Size	Q	1.548	1.364	0.184***	1.509	1.348	0.161***	2.383	1.447	0.936***	2.056	1.646	0.410***	1.541	1.340	0.201***
	ROA	0.131	0.137	-0.006	0.125	0.138	-0.013	0.248	0.134	0.114***	0.172	0.154	0.018	0.130	0.136	-0.006
	CAPEX	0.240	0.413	-0.173***	0.244	0.441	-0.197***	0.166	0.266	-0.100***	0.189	0.282	-0.093**	0.241	0.424	-0.183***
	LogEmp	9.638	7.221	2.417***	9.662	7.211	2.451***	9.140	7.272	1.868***	8.702	7.169	1.533***	9.652	7.225	2.427***

Table 2 Correlations

The table presents the pairwise Spearman (Pearson) correlations in the above (below) diagonal. The sample consists of listed non-utility and non-financial firms in thirteen African countries drawn from *Datastream* from 1982 to 2015. All variables used are defined in Table 1, and are winsorised at the lower and upper one percentiles. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

#	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)	Q	1	0.512***	0.236***	0.076***	0.084***	0.140***	0.169***	0.110***	0.151***	0.249***	-0.057***
(2)	ROA	0.196***	1	0.285***	0.042***	0.085***	0.172***	0.176***	0.108***	-0.049***	0.129***	0.108***
(3)	CPAEX	0.048***	0.039***	1	-0.013	-0.077***	-0.066***	0.035***	-0.065***	-0.088***	0.183***	0.107***
(4)	LogEmp	0.045***	0.011	-0.041***	1	-0.097***	-0.096***	-0.083***	-0.102***	0.606***	-0.093***	-0.236***
(5)	ZL	0.148***	0.048***	-0.019*	-0.100***	1	0.514***	0.385***	0.731***	-0.165***	0.264***	0.002
(6)	UL	0.182***	0.070***	-0.015*	-0.097***	0.514***	1	0.661***	0.703***	-0.184***	0.324***	-0.063***
(7)	NPND	0.188***	0.061***	0.021**	-0.086***	0.385***	0.661***	1	0.515***	-0.149***	0.541***	-0.113***
(8)	AZL	0.169***	0.040***	-0.018**	-0.104***	0.731***	0.703***	0.515***	1	-0.173***	0.303***	-0.046***
(9)	Size	0.120***	0.007	-0.055***	0.597***	-0.163***	-0.177***	-0.150***	-0.170***	1	-0.014	-0.210***
(10)	Cash	0.241***	0.047***	0.026***	-0.161***	0.315***	0.363***	0.529***	0.359***	-0.127***	1	-0.123***
(11)	NTC	-0.063***	0.034***	0.030***	-0.195***	0.019**	-0.071***	-0.132***	-0.049***	-0.185***	-0.116***	1
(12)	SALESTA	0.074***	0.021**	0.017*	0.041***	-0.079***	0.024***	0.121***	0.236***	-0.025***	0.093***	-0.190***
(13)	DIVTA	0.490***	0.073***	0.050***	0.007	0.190***	0.264***	0.235***	0.016*	0.055***	0.251***	0.006
(14)	WW Index	-0.022**	-0.004	-0.002	-0.021**	0.012	0.020**	0.022**	0.157***	-0.053***	-0.003	0.009
(15)	HP Index	-0.121***	0.004	0.052***	-0.459***	0.146***	0.170***	0.115***	-0.082***	-0.921***	0.076***	0.182***
(16)	lnGDP	-0.013	-0.034***	-0.019**	0.226***	-0.060***	-0.086***	-0.032***	-0.078***	0.121***	0.007	-0.038***
(17)	Credit	0.020**	-0.051***	0.015*	0.033***	-0.078***	-0.099***	-0.028***	-0.102***	0.094***	0.064***	-0.005
(18)	StkMktCap	0.030***	-0.026***	-0.019**	0.144***	-0.070***	-0.104***	-0.037***		0.252***	0.030***	-0.065***

#	Variables	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1)	Q	0.079***	0.490***	-0.202***	-0.153***	0.024***	0.039***	0.075***
(2)	ROA	0.198***	0.544***	-0.040***	0.090***	-0.049***	-0.093***	-0.046***
(3)	CPAEX	0.357***	0.098***	0.081***	0.074***	0.131***	0.136***	0.123***
(4)	LogEmp	-0.005	0.107***	-0.531***	-0.422***	0.087***	-0.031***	0.098***
(5)	ZL	-0.079***	0.156***	0.095***	0.150***	-0.086***	-0.089***	-0.070***
(6)	UL	-0.018**	0.285***	0.109***	0.183***	-0.132***	-0.110***	-0.104***
(7)	NPND	0.088***	0.276***	0.073***	0.133***	-0.077***	-0.039***	-0.036***
(8)	AZL	-0.056***	0.214***	0.103***	0.166***	-0.116***	-0.089***	-0.102***
(9)	Size	-0.203***	0.094***	-0.856***	-0.933***	0.223***	0.157***	0.249***
(10)	Cash	0.115***	0.238***	-0.045***	-0.032***	0.077***	0.116***	0.101***
(11)	NTC	0.016*	0.003	0.182***	0.166***	0.040***	0.001	-0.066***
(12)	SALESTA	1	0.068***	0.160***	0.165***	0.103***	0.051***	0.094***
(13)	DIVTA	-0.006	1	-0.229***	-0.071***	-0.109***	-0.150***	-0.132***
(14)	WW Index	0.012	-0.031***	1	0.797***	-0.168***	-0.129***	-0.216***
(15)	HP Index	0.119***	-0.057***	0.038***	1	-0.340***	-0.273***	-0.346***
(16)	lnGDP	0.124***	-0.162***	-0.003	-0.122***	1	0.676***	0.802***
(17)	Credit	0.055***	-0.115***	-0.031***	-0.157***	0.682***	1	0.671***
(18)	StkMktCap	0.095***	-0.126***	0.017*	-0.305***	0.769***	0.635***	1

Table 3 The effects of financial conservatism and constraints on firm value

The table presents the estimation results of Equation (1) and (2) that relate firm value to financial conservatism, the interactions of financial conservatism and constraints, and several control variables. *LD* is a dummy variable that takes the value of one if a firm is financially conservative for more than five consecutive years and zero otherwise. *CONS* is also a dummy variable that takes the value of one if a firm is categorised as financially constrained, and zero otherwise. The sample consists of listed non-utility and non-financial firms in thirteen African countries drawn from *Datastream* from 1982 to 2015. All variables used are defined in Table 1, and are winsorised at the lower and upper one percentiles. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

Variables	ALL (1)	ALL (2)	ALL (3)	ALL (4)	ALL (5)	ALL (6)	Measures of financial constraints (CONS) WW (7)	HP (8)	Size (9)	WW (10)	HP (11)	Size (12)
ZL	0.409*** (0.034)	0.322*** (0.030)	0.150*** (0.043)	0.129*** (0.030)	0.224*** (0.059)	0.256*** (0.051)	0.656*** (0.064)	0.531*** (0.058)	0.792*** (0.075)	0.866*** (0.076)	0.763*** (0.073)	0.960*** (0.083)
LD × ZL					0.163*** (0.059)	0.197*** (0.058)				0.608*** (0.123)	0.524*** (0.107)	0.526*** (0.145)
CONS							0.120*** (0.032)	0.116** (0.057)	0.350*** (0.076)	0.916*** (0.142)	1.021*** (0.144)	1.213*** (0.178)
CONS × ZL							-0.674*** (0.073)	-0.560*** (0.071)	-0.832*** (0.084)	-1.007*** (0.093)	-1.070*** (0.095)	-1.263*** (0.101)
CONS × LD × ZL										-0.797*** (0.141)	-0.907*** (0.131)	-0.890*** (0.160)
Size			0.054*** (0.005)	-0.048*** (0.016)	0.054*** (0.005)	-0.044*** (0.016)	-0.003 (0.019)	-0.027 (0.021)	0.026 (0.023)	0.006 (0.019)	-0.024 (0.021)	0.027 (0.023)
Cash			0.879*** (0.158)	1.027*** (0.096)	0.871*** (0.156)	0.992*** (0.094)	0.869*** (0.110)	1.029*** (0.108)	0.992*** (0.115)	0.814*** (0.110)	1.016*** (0.107)	0.982*** (0.113)
NTC			-0.060 (0.045)	0.350*** (0.062)	-0.061 (0.045)	0.348*** (0.062)	0.216*** (0.072)	0.155** (0.068)	0.231*** (0.071)	0.226*** (0.072)	0.168** (0.068)	0.241*** (0.071)
SALESTA			0.084*** (0.007)	0.146*** (0.019)	0.086*** (0.007)	0.148*** (0.019)	0.169*** (0.023)	0.159*** (0.022)	0.160*** (0.023)	0.166*** (0.022)	0.158*** (0.022)	0.155*** (0.022)
DIVTA			5.769*** (1.086)	3.199*** (0.430)	5.743*** (1.086)	3.176*** (0.428)	2.418*** (0.405)	2.584*** (0.485)	2.388*** (0.491)	2.434*** (0.407)	2.603*** (0.483)	2.408*** (0.490)
Constant	1.475*** (0.007)	1.484*** (0.005)	0.258*** (0.064)	1.730*** (0.238)	0.097 (0.097)	1.475*** (0.255)	1.022*** (0.287)	1.379*** (0.329)	0.470 (0.364)	0.290 (0.315)	0.819** (0.361)	-0.053 (0.410)
Firm FE	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC×FIC×Year FE	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	12,908	12,908	12,908	12,908	12,908	12,908	8,432	9,537	8,511	8,432	9,537	8,511
Adj.R²	0.022	0.668	0.277	0.716	0.278	0.716	0.724	0.722	0.714	0.726	0.724	0.716

12

Table 4 Alternative models, other corporate outcomes and proxies of financial conservatism

The table presents the estimation results of Equation (1) that relates corporate outcomes to financial conservatism, financial constraints and control variables. LD is a dummy variable that takes the value of one if a firm is financially conservative for more than five consecutive years and zero otherwise. The sample consists of listed non-utility and non-financial firms in thirteen African countries drawn from *Datastream* from 1982 to 2015. All variables used are defined in Table 1, and are winsorised at the lower and upper one percentiles. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

Period	1982–2015				2002–07	2008–12	1982–2015					
Proxies of FC										UL	NPND	AZL
Dependent variable	Q				ZL		ROA	CAPEX	LogEmp		Q	
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FC	0.226***	0.226***	0.225***	0.230***	-0.306**	0.249**	0.122***	-0.157***	-0.390***	0.111***	0.108***	0.125***
	(0.053)	(0.053)	(0.053)	(0.053)	(0.132)	(0.101)	(0.044)	(0.030)	(0.067)	(0.028)	(0.019)	(0.043)
LD × FC	0.174***	0.175***	0.176***	0.177***	-0.532***	0.100	0.095**	-0.082***	-0.347***	0.126***	0.071***	0.132***
	(0.060)	(0.060)	(0.060)	(0.060)	(0.156)	(0.124)	(0.039)	(0.031)	(0.074)	(0.032)	(0.023)	(0.048)
Size	-0.035**	-0.042**	-0.043**	-0.031*	0.025	-0.156**	0.027	-0.229***	0.555***	-0.050***	-0.053***	-0.051***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.041)	(0.063)	(0.025)	(0.040)	(0.021)	(0.016)	(0.016)	(0.016)
Cash	1.068***	1.070***	1.072***	1.067***	0.947***	0.838***	0.435***	0.170	-0.074	1.045***	0.963***	1.044***
	(0.122)	(0.121)	(0.122)	(0.121)	(0.165)	(0.154)	(0.159)	(0.112)	(0.095)	(0.094)	(0.099)	(0.095)
NTC	0.204***	0.199***	0.198***	0.205***	0.370***	0.062	0.151**	0.141*	0.046	0.345***	0.361***	0.342***
	(0.066)	(0.066)	(0.066)	(0.066)	(0.104)	(0.165)	(0.067)	(0.084)	(0.081)	(0.062)	(0.062)	(0.062)
SALESTA	0.124***	0.125***	0.124***	0.126***	0.207***	0.210***	0.103***	-0.023	0.215***	0.145***	0.141***	0.145***
	(0.022)	(0.023)	(0.022)	(0.023)	(0.046)	(0.054)	(0.034)	(0.027)	(0.026)	(0.019)	(0.019)	(0.019)
DIVTA	3.451***	3.434***	3.432***	3.464***	1.359***	1.779***	-1.315	0.348	0.701***	3.171***	3.211***	3.202***
	(0.634)	(0.632)	(0.634)	(0.629)	(0.472)	(0.363)	(1.046)	(0.330)	(0.161)	(0.432)	(0.430)	(0.432)
lnGDP	0.479*			0.462*								
	(0.255)			(0.258)								
Credit		0.391**		0.361**								
		(0.156)		(0.160)								
StkMktCap			0.083**	0.040								
			(0.036)	(0.034)								
Constant	-2.745	1.253***	1.373***	-2.946	1.283**	3.245***	-0.490	3.733***	0.481	1.632***	1.733***	1.647***
	(2.254)	(0.282)	(0.275)	(2.330)	(0.652)	(1.001)	(0.405)	(0.607)	(0.341)	(0.256)	(0.236)	(0.252)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC×Year FE	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No
SIC×FIC×Year FE	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	12,908	12,908	12,908	12,908	2,915	3,454	12,908	12,906	12,908	12,908	12,908	12,908
Adj.R²	0.642	0.642	0.642	0.642	0.747	0.818	0.396	0.421	0.906	0.715	0.716	0.715

13

Online Appendices Not For Publication
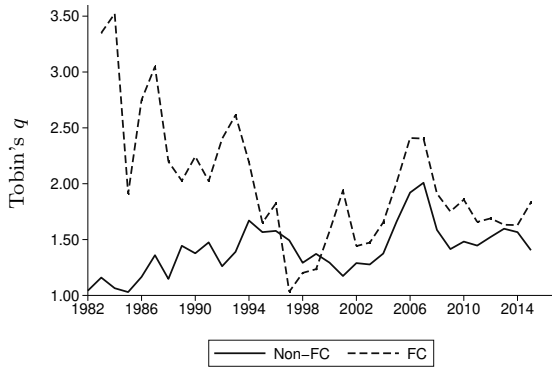
(a) Non-ZL *vs* ZL firms
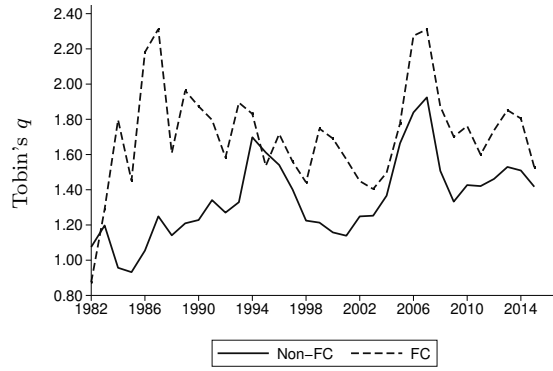
(b) Non-UL *vs* UL firms
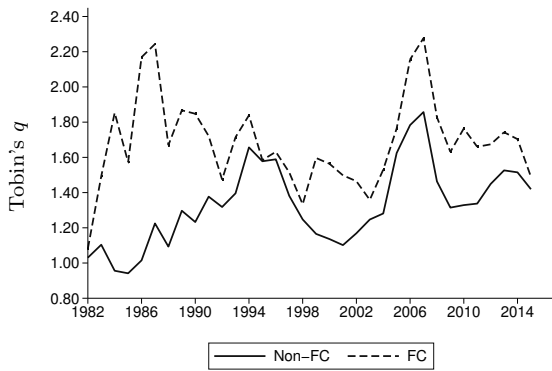
(c) Non-NPND *vs* NPND firms
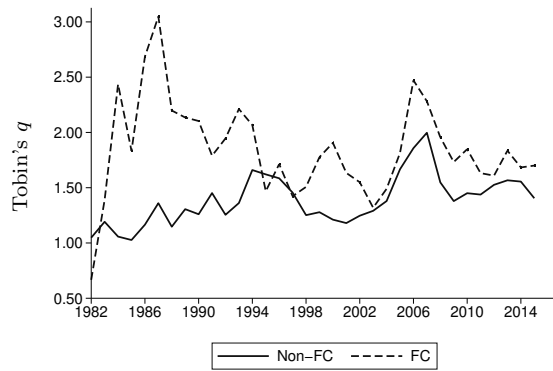
(d) Non-AZL *vs* AZL firms

Figure A.1 The time series changes in firm value

The figures plots the average firm value over the sample period. The sample consists of listed non-utility and non-financial firms in thirteen African countries drawn from *Datastream* from 1982 to 2015. All variables used are defined in Table 1, and are winsorised at the lower and upper one percentiles.

1

Appendix A.1 Sample distribution across industries and countries

The table presents the sample distribution across industries and countries. The sample consists of listed non-utility and non-financial firms in thirteen African countries drawn from *Datastream* from 1982 to 2015. All variables used are defined in Table 1, and are winsorised at the lower and upper one percentiles.

Panel A: Financial conservatism by industry

Industry	N	Firms	ZL	UL	NPND	ZAL
Basic Materials	3,897	343	0.143	0.354	0.425	0.218
Consumer Goods	2,106	220	0.078	0.252	0.361	0.137
Consumer Service	2,109	213	0.114	0.340	0.507	0.211
Health Care	334	47	0.090	0.228	0.311	0.129
Industrials	3,454	361	0.039	0.201	0.356	0.087
Oil & Gas	133	26	0.165	0.489	0.586	0.361
Technology	594	68	0.168	0.407	0.670	0.269
Telecomms	281	30	0.068	0.238	0.377	0.181
Total	12,908	1,308	0.098	0.292	0.418	0.169

Panel B: Financial conservatism by country

Country	N	Firms	ZL	UL	NPND	ZAL
Botswana	10	5	0.100	0.400	0.600	0.400
Egypt	783	120	0.181	0.377	0.457	0.266
Ghana	68	14	0.206	0.412	0.397	0.279
Ivory Coast	99	19	0.152	0.394	0.475	0.212
Kenya	175	29	0.149	0.429	0.451	0.246
Morocco	252	46	0.028	0.270	0.325	0.143
Namibia	6	2	0.000	0.000	1.000	0.000
Nigeria	158	36	0.165	0.310	0.386	0.203
South Africa	10,894	954	0.091	0.280	0.415	0.156
Tanzania	12	4	0.000	0.500	0.583	0.417
Tunisia	294	52	0.153	0.405	0.507	0.313
Zambia	41	8	0.073	0.098	0.098	0.073
Zimbabwe	116	19	0.009	0.328	0.491	0.155
Total	12,908	1,308	0.098	0.292	0.418	0.169

Appendix A.2 The short and long-term effects of financial conservatism

The table presents the estimation results of Equation (1) that relates firm value to financial conservatism and control variables. The sample consists of listed non-utility and non-financial firms in thirteen African countries drawn from *Datastream* from 1982 to 2015. All variables used are defined in Table 1, and are winsorised at the lower and upper one percentiles. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
FC_{ijkt-1}	0.097***									
	(0.029)									
FC_{ijkt-2}		0.102***								
		(0.030)								
FC_{ijkt-3}			0.114***							
			(0.031)							
FC_{ijkt-4}				0.188***						
				(0.034)						
FC_{ijkt-5}					0.359***					
					(0.035)					
FC_{ijkt-6}						0.330***				
						(0.039)				
FC_{ijkt-7}							0.250***			
							(0.045)			
FC_{ijkt-8}								0.299***		
								(0.044)		
FC_{ijkt-9}									0.166***	
									(0.044)	
$FC_{ijkt-10}$										0.143***
										(0.046)
Size	-0.025	-0.020	-0.022	-0.029*	-0.007	-0.017	-0.048**	-0.059***	-0.088***	-0.178***
	(0.016)	(0.014)	(0.015)	(0.017)	(0.018)	(0.020)	(0.022)	(0.023)	(0.025)	(0.025)
Cash	0.995***	0.723***	0.764***	0.748***	0.732***	0.858***	0.793***	0.815***	0.801***	0.831***
	(0.096)	(0.086)	(0.093)	(0.104)	(0.113)	(0.120)	(0.128)	(0.132)	(0.134)	(0.131)
NTC	0.310***	0.293***	0.322***	0.344***	0.284***	0.257***	0.224***	0.184**	0.129	-0.076
	(0.066)	(0.067)	(0.071)	(0.077)	(0.072)	(0.075)	(0.082)	(0.093)	(0.098)	(0.107)
SALESTA	0.153***	0.151***	0.152***	0.154***	0.167***	0.169***	0.178***	0.191***	0.198***	0.138***
	(0.020)	(0.018)	(0.019)	(0.021)	(0.024)	(0.026)	(0.028)	(0.032)	(0.034)	(0.034)
DIVTA	3.350***	4.250***	4.313***	4.260***	4.417***	4.454***	4.592***	4.472***	4.573***	4.682***
	(0.399)	(0.248)	(0.255)	(0.263)	(0.248)	(0.263)	(0.282)	(0.287)	(0.300)	(0.314)
Constant	1.395***	1.332***	1.368***	1.474***	1.122***	1.269***	1.765***	1.931***	2.408***	3.946***
	(0.238)	(0.210)	(0.233)	(0.262)	(0.291)	(0.320)	(0.366)	(0.377)	(0.420)	(0.421)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIC×FIC×Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	11,429	10,168	9,026	7,992	7,005	6,170	5,501	4,913	4,386	3,904
Adj.R²	0.723	0.738	0.742	0.745	0.756	0.758	0.753	0.768	0.785	0.808

Appendix A.3 Firm value, financial conservatism and institutional factors

The table presents the estimation results of Equation (1) that relates firm value to financial conservatism, institutional factors and control variables. *Corruption* is the inverse of the Control of Corruption, Percentile Rank (0-100) the from *The World Bank*. *Civil Law* is dummy for countries with a civil legal origin. *RLE* is the estimate of the rule of law. *Polity2* is the revised combined polity score which measures the level of democracy. *Harmony* based on the Schwartz's Cultural Value Orientation Scores. *Embedded* is a measure of social embeddedness level based on the Schwartz's Cultural Value Orientation Scores. *Education* is the duration of compulsory education (years). *Kaopen* is the Chinn-Ito index (KAOPEN) of a country's degree of capital account. *Trade* is exports plus imports divided by GDP (% of GDP). *Credit* is domestic credit to private sector by banks (% of GDP). StkMktCap is stock market capitalisation (% of GDP). StkMktCap is stock market capitalisation (% of GDP). StkMktCap is listed non-utility and non-financial firms in South Africa drawn from *Datastream* from 1991 to 2014. All firm-level variables are drawn from *Thomson DataStream* and macroeconomic variables are from *The World Bank*. The sample consists of listed non-utility and non-financial firms in thirteen African countries drawn from *Datastream* from 1982 to 2015. All variables used are defined in Table 1, and are winsorised at the lower and upper one percentiles. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

Institutional Factors	Corruption	Civi Law	RLE	Polity2	Harmony	Embedded	Education	Kaopen	Trade	StkMktCap	Credit	lnGDP
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
ZL	0.197***	0.154***	0.123***	0.134**	0.210**	0.203**	0.441***	0.102**	0.421***	0.273***	0.430***	6.181***
	(0.044)	(0.041)	(0.038)	(0.059)	(0.103)	(0.102)	(0.064)	(0.052)	(0.117)	(0.068)	(0.106)	(1.320)
InstFactor	-5.461***	0.000	0.258***	0.010***	-0.037***	-0.036***	0.072***	-0.021	0.829***	0.020	0.504***	0.004
	(0.676)	(0.045)	(0.032)	(0.003)	(0.010)	(0.009)	(0.022)	(0.013)	(0.084)	(0.017)	(0.062)	(0.017)
ZL × InstFactor	-4.416***	-0.183**	-0.078	-0.002	-0.023	-0.019	-0.049***	-0.026	-0.511***	-0.101***	-0.535***	-0.231***
	(1.698)	(0.072)	(0.092)	(0.006)	(0.028)	(0.027)	(0.007)	(0.033)	(0.194)	(0.036)	(0.165)	(0.050)
Size	0.049***	0.047***	0.047***	0.042***	0.051***	0.051***	0.045***	0.047***	0.056***	0.046***	0.045***	0.048***
	(0.004)	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)
Cash	0.805***	0.872***	0.842***	0.855***	0.888***	0.888***	0.883***	0.870***	0.901***	0.874***	0.853***	0.880***
	(0.165)	(0.171)	(0.174)	(0.176)	(0.172)	(0.172)	(0.170)	(0.171)	(0.171)	(0.174)	(0.173)	(0.173)
NTC	0.154***	0.165***	0.159***	0.152***	0.175***	0.174***	0.169***	0.160***	0.194***	0.164***	0.156***	0.171***
	(0.054)	(0.057)	(0.056)	(0.058)	(0.057)	(0.056)	(0.055)	(0.057)	(0.056)	(0.058)	(0.056)	(0.058)
SALESTA	0.073***	0.084***	0.073***	0.075***	0.093***	0.093***	0.082***	0.082***	0.088***	0.084***	0.075***	0.087***
	(0.010)	(0.013)	(0.011)	(0.013)	(0.011)	(0.011)	(0.010)	(0.011)	(0.010)	(0.012)	(0.010)	(0.011)
DIVTA	5.664***	5.301***	5.487***	5.406***	5.197***	5.200***	5.306***	5.299***	5.186***	5.305***	5.418***	5.289***
	(1.047)	(1.121)	(1.111)	(1.142)	(1.097)	(1.096)	(1.085)	(1.101)	(1.087)	(1.116)	(1.105)	(1.103)
Constant	0.442***	0.377***	0.380***	0.380***	0.431***	0.436***	-0.104	0.349***	-0.229***	0.349***	0.107*	0.237
	(0.060)	(0.076)	(0.060)	(0.063)	(0.063)	(0.063)	(0.162)	(0.060)	(0.080)	(0.061)	(0.065)	(0.416)
SIC#Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	12,908	12,908	12,908	12,908	12,908	12,908	12,908	12,908	12,908	12,908	12,908	12,908
Adj.R²	0.402	0.389	0.395	0.390	0.390	0.390	0.394	0.389	0.395	0.389	0.394	0.391