

* Do the JSE firms manage earnings differently during high- and low-Sentiment states?

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- * Traditional capital asset pricing models in finance assume market efficiency and fully informed stock prices, did not initially consider the role of investor sentiment. These models suggest that rational investors set asset prices to guarantee expected returns, based on the present value of future cash flows (Fama, 1965; Linter, 1964; Baker & Wurgler, 2006).

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- * Literature suggests that the effects of sentiment (optimistic or pessimistic) significantly impact financial investments and decisions, particularly in accounting and earnings management. Managers tend to report inflated earnings in high-sentiment periods and become more conservative in low-sentiment periods, affecting the quality of earnings through accruals and cash flows (Ali & Gurun, 2015; Simpson, 2013; Baker & Wurgler, 2007).

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Overview of empirical literature . . . ;

- ✦ Empirical evidence offers explanation on the effect of sentiment on earnings management during high- and low-sentiment states (Jiajun, Liu & Sun, 2020; Park, 2018; Miranda, Machado & Macedo, 2018; Hurwitz, 2017; Ali & Gurun, 2015).

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Literature gap

- ✦ The issue of how sentiment affects earnings management has been understudied for Africa, particularly South Africa, despite reports of earnings management among firms (Brennan, (2022; Adedokun et al., 2022; Gbadebo, 2022; Pududu & de Villiers, 2016).

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We attempt to answer two research questions on which the hypotheses are tested: does investor sentiment affect earnings management during optimistic and pessimistic states? and Is earnings management higher during optimistic than pessimistic market periods?

We compute the sentiment index and verify whether the influence on earnings management differs remarkably during high- and low-sentiment using a final sample of 174 firms with 1,392 firm-years data sourced from the published McGregor BFA database and earnings information from firms' consolidated financial statements during 2010–2019.

The multivariate static model related to Parks (2018) is estimated differently for the two sentiment periods.

$$EM_{i,t} = \alpha + \theta ISENT_{i,t} + \beta_1 BTM_{i,t} + \beta_2 CFO_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 ROE_{i,t} + \sum \tau_i T_i + \epsilon_{4i,t}$$

Earnings management, for simplicity, is measured based on the Jones discretionary accruals, and investor sentiment is computed using the difference in the price-to-earnings ratio based on the stock market level according to Conrad et al. (2002).



Methods . . .

The estimation is made based on the random and dynamic effects using the panel corrected standard error (PCSE) estimator which uses the error-variance-covariance matrix (EVCV) to correct for cross-sectional dependence to obtain unbiased estimates of the variance estimator.

Initially, our estimation assumes that no other financial factors in the coverage period are sufficient to influence earnings management; hence, we solely estimate the impact of sentiment for the two periods by separately analysing high- and low-sentiment states.

Subsequently, we evaluate how potential firm-performance factors, along with sentiment, influence earnings management.

The study completes the sensitivity by, first, introducing the substitution of two correlated factors and observe their significance and improvements related to the model's predictability, and second, by redefining earnings management according to the modified Jones procedure.

Table 1: Basic (statistics) information for the model's variables

	μ	med	σ	$\tilde{\mu}_3$	$\tilde{\mu}_4$
High-sentiment state					
EM	0.017	0.029	0.307	-14.959	310.516
HSENT	2.513	7.130	15.01	14.093	242.327
BTM	1.119	0.647	2.423	12.976	225.987
CFO	0.081	0.081	0.179	-5.165	75.847
GROW	4.376	1.088	68.165	23.884	574.890
LEV	1.731	0.840	3.859	7.849	82.339
ROA	10.092	9.010	8.713	2.058	16.417
ROE	11.318	15.560	2.778	8.665	158.738
SIZE	8.204	8.000	2.409	0.250	2.842

What did we find?

Table 2: Basic (statistics) information for the model's variables

	μ	med	σ	$\tilde{\mu}_3$	$\tilde{\mu}_4$
Low-sentiment state					
EM	-0.009	0.018	0.488	-14.848	252.320
LSENT	-23.126	-10.041	38.590	-5.207	52.284
BTM	1.333	0.682	3.094	7.821	84.221
CFO	0.077	0.069	0.402	-21.909	580.693
GROW	1.899	1.097	10.456	18.120	361.413
LEV	1.998	0.780	8.196	2.691	72.856
ROA	8.140	7.340	35.012	13.442	253.836
ROE	8.391	9.342	96.139	9.256	163.157
SIZE	12.014	8.296	3.285	0.423	3.401

What did we find?

Table 3: Pearson's correlation among the model's variables

	EM	ISENT	BTM	CFO	GROW	LEV	ROA	ROE	SIZE
	High-sentiment (ISENT=HSENT)								
EM	1	-0.103	0.018	0.029	-0.001	0.092	-0.043	-0.025	-0.081
ISENT	-0.012	1	0.001	0.081	-0.009	-0.039	-0.118	-0.066	0.017
BTM	-0.023	0.011	1	-0.055	-0.012	-0.040	-0.111	-0.083	0.059
CFO	0.019	-0.007	-0.032	1	0.002	0.083	0.008	-0.005	0.014
GROW	0.007	-0.045	-0.013	-0.017	1	-0.002	0.011	0.010	-0.007
LEV	0.013	-0.049	0.064	0.016	-0.014	1	-0.035	0.212	0.106
ROA	-0.005	0.043	-0.029	0.015	-0.013	0.008	1	0.414	-0.047
ROE	-0.019	0.074	-0.032	0.010	-0.005	-0.431	0.096	1	0.053
SIZE	0.017	-0.112	0.016	-0.007	-0.016	0.049	-0.018	-0.067	1
	Low-sentiment (ISENT=LSENT)								

What did we find?

Table 4: Random effects estimations for the considered models

$$EM_{i,t} = \alpha + \theta ISENT_{i,t} + \beta_1 BTM_{i,t} + \beta_2 CFO_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 ROE_{i,t} + \sum \tau_i T_i + \epsilon_{4i,t}$$

Variable	Low	High	Low	High	Low	High
	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$
C	-0.4116***	0.9672***	-0.3526*	1.1131***	0.4001*	1.1228***
ISENT	-0.0012	0.0079*	-0.0031	0.0062*	-0.0038	0.0065*
BTM			-0.0036	0.0034*	-0.0040	0.0026
CFO			0.0217	0.0527	0.0251	0.0512
LEV			0.0004	0.0102**	0.0003	0.0091**
SIZE			0.0033*	-0.0141**	0.0040*	-0.0133***
ROE			-0.0793*	-0.0562**	-0.0849*	-0.0676*
Fixed Effect:						
Year Effects			No	No	Yes	Yes
Statistics						
\bar{R}^2	0.2851	0.4155	0.1584	0.2669	0.1599	0.2760
F-stat.	4.0684	3.0012	2.0640	4.6021	2.2925	6.0984
DW stat.	2.5995	1.6506	2.6011	1.6733	2.5817	1.6716

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Table 5: PCSE estimations for the considered Jones' EM models

$$EM_{i,t} = \alpha + \theta ISENT_{i,t} + \beta_1 BTM_{i,t} + \beta_2 CFO_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 ROE_{i,t} + \sum \tau_i T_i + \epsilon_{4i,t}$$

Variables	Low	High	Low	High
	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$
C	-0.3532*	1.1137**	0.3916*	1.1273*
ISENT	-0.0017	0.0038***	-0.0022*	0.0035**
BTM	-0.0046	0.0032	-0.004	0.0063
CFO	0.0223	0.0533	0.0254	0.0521
LEV	0.0005	0.0105**	0.0000	0.0000**
SIZE	0.0033	-0.0145	0.0043	-0.0138
ROE	-0.0719**	-0.0568***	-0.0856**	-0.0761***
Fixed Effect:				
Year Effects	No	No	Yes	Yes
Statistics				
\bar{R}^2	0.1541	0.2531	0.1602	0.2666
F-stat.	2.2066	2.6630	1.9921	3.0199
DW stat.	2.6014	1.6753	2.5813	1.6756

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Table 6: Mean difference test for earnings management

Variable	HSENT		LSENT		Difference	
	μ	σ	μ	σ	Test	Welch t test*
$EM_{i,t}$	0.017	0.307	-0.009	0.488	0.0263	9.8150* (0.000)

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Table 7: PCSE estimations for considered Jones' EM models

$$EM_{i,t} = \alpha + \theta ISENT_{i,t} + \beta_1 BTM_{i,t} + \beta_2 CFO_{i,t} + \beta_3 LEV_{i,t} + \beta_4 GROW_{i,t} + \beta_5 ROE_{i,t} + \sum T_i T_i + \epsilon_{i,t}$$

Variables	Low	High	Low	High
	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$
C	-0.3965***	0.9848***	-0.4192***	1.0251***
ISENT	-0.0087*	0.0289***	-0.0421*	0.0445***
BTM	-0.0036	0.0024	-0.0039	0.0015
CFO	0.0215	0.0562	0.0250	0.0542
LEV	0.0008	0.0086*	0.0008	0.0070
GROW	0.0003	0.0000	0.0002	0.0000
ROA	-0.0174*	-0.0331***	-0.0850*	-0.1171***
Fixed Effect:				
Year-Effects	No	No	Yes	Yes
Statistics				
\bar{R}^2	0.1156	0.2100	0.1545	0.2403
F-stat.	4.1543	4.9697	5.9575	6.9148
DW-stat.	2.5998	1.6775	2.5807	1.6801

Table 8: PCSE estimations for the considered modified Jones' EM* models

$$EM_{i,t}^* = \alpha + \theta ISENT_{i,t} + \beta_1 BTM_{i,t} + \beta_2 CFO_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 ROE_{i,t} + \sum \tau_i T_i + \epsilon_{i,t}$$

Variables	Low	High	Low	High
	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$	$EM_{i,t}$
C	-0.5698**	1.1318*	-0.5419**	1.1516*
ISENT	0.0019	0.0073***	0.0092*	0.0069***
BTM	-0.0064*	0.0040**	-0.0067*	0.0034**
CFO	0.0070	0.0625	0.0114	0.0650
LEV	0.0011	0.0100***	0.0014	0.0092***
SIZE	-0.0075**	-0.0167	-0.0075**	-0.0162*
ROE	-0.0001*	-0.0006***	0.0000*	-0.0008***
Fixed Effect:				
Year-Effects	No	No	Yes	Yes
Statistics				
\bar{R}^2	0.4120	0.3074	0.4055	0.3124
F-stat.	8.1312	3.6396	6.5949	3.8420
DW stat	2.1692	1.6061	2.1868	1.6078

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Key findings.

- * optimistic market states positively influence earnings management, causing increased distortions and less value-relevant reporting.

What is new?

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- * influence stronger in high-sentiment states and sensitive to time-varying correlated controls and alternative earnings management measures.

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Potential contribution.

- * estimating the earnings management model differently for the low- and high-sentiment periods

Then what?

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Policy implication.

- + underscore the need for investors to scrutinize reported earnings, as prevailing sentiment may prompt managers to inflate profits and influence market decisions.

Questions and contributions



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Thank you