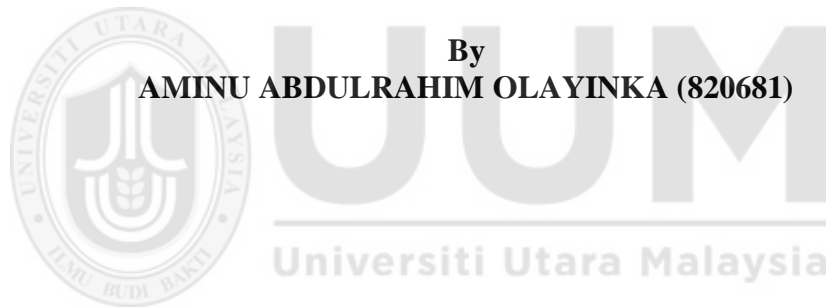


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**CORPORATE GOVERNANCE MECHANISMS, FIRM'S CHARACTERISTICS
AND CAPITAL STRUCTURE IN NIGERIAN LISTED FIRMS**



Thesis Submitted to:
Tunku Puteri Intan Safinaz School of Accountancy
University Utara Malaysia
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Accounting (by research)

CERTIFICATION OF THESIS WORK (Master by Research)



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ABSTRACT

Studies on the influence of corporate governance mechanisms on capital structure decisions in the emerging markets are still very limited. This study examined the influence of corporate governance mechanisms, firm characteristics and macroeconomic variables on capital structure of Nigeria non-financial listed firms. Unlike the vast majority of previous studies, this study employed *panels corrected standard errors* (PCSEs) model to analyse the relationship between corporate governance mechanism, firm characteristics and macroeconomic variables on capital structure of 106 Nigerian non-financial listed firms during the 2012 to 2016 period. The model was robust to any unit heterokedasticity and possible contemporaneous correlation issues. The results revealed that board structure (board size, board meeting and board independence) and ownership structure (managerial and institutional ownership) were negatively related to the total debt ratio, whereas blockholder ownership and firm characteristics (firm age, firm size and firm growth) were positively related. In addition, the choice of external auditor (B4 audit firm) had no significant relationship to the total debt ratio of the sample firms. Control variables namely GDP and inflation rate were negatively related to the total debt ratio, whereas bank lending rate was positively related. Corporate governance in Nigeria is at its developing stage, the firms still has weak corporate governance mechanisms as compared to firms in developed countries. The study found that, corporate governance attributes and firm characteristics partly explained the capital structure of Nigeria firms. Nigeria firms' manager should be aware of the benefits on the implementation of effective corporate governance monitoring mechanisms. An effective implementation of the Corporate Governance Code 2011 issued by Security and Exchange Commission should improve the efficiency and effectiveness of Nigeria firms and the stock markets. To the author's best knowledge, this study is among the few studies that utilised *panels corrected standard errors* model in providing evidence of the influence of corporate governance mechanisms and firm characteristics on capital structure in Nigeria.

Keywords: capital structure, corporate governance, firms' characteristics, Nigeria, ownership structure.

ABSTRAK

Kajian tentang pengaruh mekanisma tadbir urus korporat terhadap keputusan struktur modal dalam pasaran baru muncul adalah masih sangat terhad. Kajian ini meneliti pengaruh mekanisma tadbir urus korporat, ciri-ciri syarikat dan pemboleh ubah makroekonomi terhadap struktur modal syarikat bukan kewangan Nigeria yang tersenarai. Tidak seperti kebanyakan kajian lepas, kajian ini menggunakan model *panels corrected standard errors* (PCSEs), untuk menganalisis hubungan di antara mekanisma tadbir urus korporat, ciri-ciri syarikat dan pemboleh ubah makroekonomi terhadap struktur modal di 106 buah syarikat bukan kewangan Nigeria yang tersenarai pada tahun 2012-2016. Model ini adalah kukuh bagi mana-mana *heterokedasticity* unit dan isu korelasi komtemporari yang sesuai. Hasil kajian menunjukkan struktur lembaga (saiz lembaga, mesyuarat lembaga dan kebebasan lembaga) dan struktur pemilikan (pemilikan pengurusan dan institusi) berkaitan secara negatif kepada nisbah jumlah hutang, dan pemilikan pemegang blok dan ciri-ciri syarikat (umur syarikat, saiz syarikat dan pertumbuhan syarikat) pula berkaitan secara positif. Tambahan lagi, pemilihan juruaudit luar (firma audit B4) tidak mempunyai hubungan yang signifikan kepada nisbah jumlah hutang syarikat sampel. Pemboleh ubah kawalan iaitu KDNK dan kadar inflasi mempunyai perkaitan yang negatif kepada nisbah jumlah hutang, dan kadar peminjaman bank pula berkaitan secara positif. Pentadbir urus korporat di Nigeria berada pada tahap yang pembangunan syarikat-syarikatnya mempunyai mekanisma tadbir urus korporat yang masih lemah berbanding dengan syarikat-syarikat di negara-negara membangun. Kajian mendapati, sifat tadbir urus korporat dan ciri-ciri syarikat sebahagiannya menerangkan struktur modal syarikat-syarikat di Nigeria. Pengurus syarikat di Nigeria perlu sedar mengenai faedah pelaksanaan pemantauan mekanisma tadbir urus korporat yang berkesan. Pelaksanaan Kod Tadbir Urus Korporat 2011 yang berkesan oleh Suruhanjaya Keselamatan dan Pertukaran perlu meningkatkan kecekapan dan keberkesanan syarikat-syarikat dan pasaran saham Nigeria. Kajian ini merupakan antara kajian yang menggunakan model *corrected standard errors* untuk memberikan bukti mengenai pengaruh mekanisma tadbir urus korporat dan ciri-ciri syarikat terhadap struktur modal di Nigeria.

Kata kunci: struktur modal, tadbir urus korporat, ciri-ciri syarikat, Nigeria, struktur Pemilikan.

DEDICATION

This thesis is dedicated to **the Almighty Allah**, the most beneficent, the most merciful for His benevolence and mercies towards me and my entire family,

And to

My beloved father, **Mallam Aminu Abdulsalam** for the unadulterated maternal care I enjoyed from cradle till the cold hands of death touched him. May Almighty Allah (SWT) forgive him and grant him al-jana fridaus (Aamin).



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LIST OF ABBREVIATIONS

Big 4	Big four Audit Firms (Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers)
BLR	Bank lending rate
CBN	Central Bank of Nigeria
CEO	Chief Executive Officer
CG	Corporate governance
CGMs	Corporate governance mechanisms
CPI	Consumer Price Index
CS	Capital structure
CSD	Capital structure decision
DR	Debt Ratio
KPMG	Klynveld Peat Marwick Goerdeler
LTDR	Long term debt ratio
NSE	Nigeria Securities Exchange
OLS	Ordinary Least Squares
PCSEs	Panels Corrected Standard Errors
PPP	Purchasing Power Parity
SEC	Securities and Exchange Commission
STDR	Short term debt ratio
TDR	Total debt ratio



CHAPTER ONE

INTRODUCTION

1.1 Background and Motivation of the Study

Amongst a firm's strategic decision making processes, the capital structure decision process is the most noticeable and essential process, and that is why it is a heated issue in corporate finance (Myers & Majluf, 1984; Bolton, 2016). Shafana (2016) explained that, the aim of the corporate finance decisions are to maximise the shareholders' wealth. This is achieved through four major corporate finance decisions, namely, decisions on the dividend, working capital management, budgeting, and capital structure. Shafana (2016) argued further that, amongst these various corporate finance decisions, the capital structure decision is a key decision leading to meet the other three corporate finance decisions.

The issue of capital structure started to generate a great interest continuously in accounting and finance, ever since the publication of the seminal paper of Modigliani and Miller (1958). Modigliani and Miller (1958) formulated a proposition that in a perfect capital market free of taxes, transaction cost, and other frictions, capital structure would be irrelevant in ascertaining firm value. This proposition, popularly known as the MM model, led to numbers of research works on capital structure with researchers examining the robustness of the model.

However, despite extensive empirical work and literature on capital structure (Myers & Majluf, 1984; Lemmon, Roberts, & Zender, 2008; Graham & Leary, 2011; Fama & French, 2012; Graham, Leary, & Roberts, 2014a, 2014b; and DeAngelo & Roll, 2015) the debate

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APPENDIX

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----- (R)
/___/ /___/ /___/ /___/ /___/
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Notes:

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1.  (/v# option or -set maxvar-) 5000 maximum variables

. import excel "C:\Users\HP\Desktop\Preliminary Data & Result\Final Data.xlsx", sheet("Update Data") firstrow

. xtset Firms Years
  panel variable:  Firms (strongly balanced)
  time variable:  Years, 2012 to 2016
  delta: 1 unit

```

Appendix A: Descriptive Analysis for the variables (2012-2016)

variable	mean	p50	min	max	sd	skewness	kurtosis
TDRwinsor	.5603101	.5540185	.1817792	.9862211	.2215642	.1643836	2.226676
BSwinsor	8.684906	9	5	13	2.201726	.3073439	2.300296
BMwinsor	4.745283	4	4	7	1.029447	1.096388	2.830734
BIwinsor	.77494	.8	.55	.909	.1051697	-.6210405	2.361333
BHowsor	59.93136	64	17	88	20.10673	-.6551017	2.576224
MOwinsor	18.73328	4.71	0	76.78	25.11151	1.245202	3.205515
IOwinsor	49.57367	55	0	87.95	27.29023	-.5096718	2.10425
B4	.5433962	1	0	1	.4985838	-.1742424	1.03036
FAwinsor	31.04151	32	5	59	16.69945	.0708691	1.907043
Totalasset~r	3.02e+10	8.27e+09	4.20e+08	2.08e+11	5.08e+10	2.476267	8.531347
FGwinsor	7.916132	4.577071	-20.9253	54.27999	17.84422	.9024308	3.704241
GDP	3.423019	4.2	-1.6	6.2	2.763788	-.9055403	2.444549
INF	10.7	9	8.1	15.7	2.89202	.7897081	2.030555
BLR	12.4	12	11	14	1.020767	.2715454	1.955621

Appendix B: VIF and Tolerance value for Independent variables

. vif

Variable	VIF	1/VIF
INF	5.36	0.186557
GDP	4.28	0.233491
IOwinsor	2.99	0.334596
BHOwinsor	2.34	0.426763
MOwinsor	1.82	0.549073
FSwinsor	1.69	0.592838
BLR	1.68	0.595597
BSwinsor	1.29	0.776083
FAwinsor	1.29	0.777647
B4	1.27	0.790180
BIwinsor	1.21	0.826751
BMwinsor	1.16	0.862951
FGwinsor	1.09	0.914079

Appendix C: Correlation Matrix of the variables

	TDRwin~r	BSwinsor	BMwinsor	BIwinsor	BHOwin~r	MOwinsor	IOwinsor				
TDRwinsor	1.0000										
BSwinsor	-0.1108	1.0000									
BMwinsor	-0.1343	0.1747	1.0000								
BIwinsor	-0.0905	0.0784	-0.1115	1.0000							
BHOwinsor	0.0137	-0.0612	0.0530	0.0371	1.0000						
MOwinsor	-0.2096	-0.1244	-0.1014	-0.0531	0.0788	1.0000					
IOwinsor	0.0097	0.0883	0.1378	0.1988	0.6459	-0.3886	1.0000				
B4	0.0660	0.1184	0.2297	0.0280	0.1929	-0.2090	0.3018				
FAwinsor	0.2464	0.0222	0.1484	0.0303	-0.0164	-0.4391	0.1642				
FSwinsor	0.0999	0.4174	0.2656	-0.1687	0.0780	-0.2641	0.2977				
FGwinsor	0.1221	-0.0123	0.0307	0.0536	0.1567	-0.0355	0.1723				
GDP	-0.0576	-0.0139	-0.0915	-0.0210	-0.0438	-0.0147	-0.0053				
INF	0.0580	0.0034	0.0572	0.0251	0.0479	0.0107	0.0062				
BLR	0.0413	-0.0094	0.0899	0.0067	0.0393	0.0066	0.0106				
		B4	FAwinsor	FSwinsor	FGwinsor	GDP	INF	BLR			
B4	1.0000										
FAwinsor	0.1428	1.0000									
FSwinsor	0.3672	0.0773	1.0000								
FGwinsor	0.1245	-0.0424	0.1618	1.0000							
GDP	-0.0161	-0.0805	-0.0271	-0.0010	1.0000						
INF	0.0047	0.0620	0.0146	0.0708	-0.8675	1.0000					
BLR	0.0215	0.0496	0.0223	0.0732	-0.4699	0.6177	1.0000				

Appendix D: Diagnostic Test

```

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

TDRwinsor[Firms,t] = Xb + u[Firms] + e[Firms,t]

Estimated results:
-----+-----+-----
                |          Var          | sd = sqrt(Var)
-----+-----+-----
TDRwinsor      |          .0490907      |          .2215642
e               |          .0120485      |          .1097657
u               |          .0308833      |          .1757365

Test:  Var(u) = 0
              chibar2(01) = 487.53
              Prob > chibar2 = 0.0000

              b = consistent under Ho and Ha; obtained from xtreg
              B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test:  Ho: difference in coefficients not systematic

              chi2(13) = (b-B)'[(V_b-V_B)^(-1)](b-B)
              = 22.40
              Prob>chi2 = 0.0494
              (V_b-V_B is not positive definite)

. hetttest BS EM BC BHO MO IO B4 FA FS FGwinsor GDP INF BLR

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: BS EM BC BHO MO IO B4 FA FS FGwinsor GDP INF BLR

              chi2(13) = 70.73
              Prob > chi2 = 0.0000

. imtest, white

White's test for Ho: homoskedasticity
against Ha: unrestricted heteroskedasticity

              chi2(99) = 198.96
              Prob > chi2 = 0.0000

Cameron & Trivedi's decomposition of IM-test

-----+-----+-----+-----+-----
Source |          chi2          | df | p
-----+-----+-----+-----+-----
Heteroskedasticity |          198.96          | 99 | 0.0000
Skewness |          43.70          | 13 | 0.0000
Kurtosis |          17.66          | 1  | 0.0000
-----+-----+-----+-----+-----
Total |          260.32          | 113 | 0.0000
-----+-----+-----+-----+-----

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F( 1, 105) = 16.623
Prob > F = 0.0001

```

Appendix E: Regression result using OLS

. reg TDRwinsor BSwinsor BMwinsor BIwinsor BHOWinsor MOWinsor IOwinsor B4 FAWinsor FSwinsor FGwinsor GDP

Source	SS	df	MS	Number of obs =	530
Model	4.63858654	13	.356814349	F(13, 516) =	8.63
Residual	21.3303953	516	.041337975	Prob > F =	0.0000
Total	25.9689818	529	.049090703	R-squared =	0.1786
				Adj R-squared =	0.1579
				Root MSE =	.20332

TDRwinsor	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
BSwinsor	-.0139967	.0045575	-3.07	0.002	-.0229503	-.0050431
BMwinsor	-.0439075	.0092438	-4.75	0.000	-.0620676	-.0257474
BIwinsor	-.1347127	.0924419	-1.46	0.146	-.3163214	.0468961
BHOWinsor	.001526	.000673	2.27	0.024	.0002039	.0028482
MOWinsor	-.001778	.0004751	-3.74	0.000	-.0027113	-.0008447
IOwinsor	-.0017408	.00056	-3.11	0.002	-.0028409	-.0006407
B4	.010244	.0199455	0.51	0.608	-.0289405	.0494284
FAwinsor	.0028604	.0006003	4.77	0.000	.0016811	.0040397
FSwinsor	.0469588	.0157305	2.99	0.003	.016055	.0778626
FGwinsor	.0014922	.0005182	2.88	0.004	.0004742	.0025101
GDP	-.005898	.0066192	-0.89	0.373	-.018902	.0071059
INF	-.0023273	.0070768	-0.33	0.742	-.0162303	.0115756
BLR	.003847	.0112213	0.34	0.732	-.0181981	.0258921
_cons	.4470724	.2235451	2.00	0.046	.0079019	.8862429

Appendix F: Regression Result using Random Effect

. xtreg TDRwinsor BSwinsor BMwinsor BIwinsor BHOWinsor MOWinsor IOwinsor B4 FAWinsor FSwinsor FGwinsor GDP

Random-effects GLS regression Number of obs = 530
 Group variable: Firms Number of groups = 106

R-sq: within = 0.0490 Obs per group: min = 5
 between = 0.1777 avg = 5.0
 overall = 0.1436 max = 5

Wald chi2(13) = 38.54
 Prob > chi2 = 0.0002

corr(u_i, X) = 0 (assumed)

TDRwinsor	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
BSwinsor	-.0016594	.004967	-0.33	0.738	-.0113946	.0080757
BMwinsor	-.0135119	.0083964	-1.61	0.108	-.0299686	.0029449
BIwinsor	-.0139679	.0946441	-0.15	0.883	-.199467	.1715311
BHOWinsor	.001534	.0007944	1.93	0.053	-.0000229	.0030909
MOWinsor	-.0009934	.0006334	-1.57	0.117	-.0022348	.0002481
IOwinsor	-.0018185	.0007652	-2.38	0.017	-.0033182	-.0003188
B4	-.0006907	.0229043	-0.03	0.976	-.0455824	.0442009
FAwinsor	.002116	.0008793	2.41	0.016	.0003925	.0038394
FSwinsor	.0310552	.0258195	1.20	0.229	-.01955	.0816605
FGwinsor	.0011113	.0003378	3.29	0.001	.0004492	.0017735
GDP	-.0035077	.0037333	-0.94	0.347	-.0108248	.0038094
INF	-.0002946	.003927	-0.08	0.940	-.0079914	.0074022
BLR	.0020891	.0061977	0.34	0.736	-.0100582	.0142364
_cons	.2728548	.2793853	0.98	0.329	-.2747303	.8204399
sigma_u	.1757365					
sigma_e	.10976571					
rho	.71935712	(fraction of variance due to u_i)				

Appendix G: Regression Result using Fixed Effect

```
. xtreg TDRwinsor BSwinsor BMwinsor BIwinsor BHOWinsor MOWinsor IOwinsor B4 FAWinsor FSWinsor FGwinsor GDP
Fixed-effects (within) regression                Number of obs   =       530
Group variable: Firms                          Number of groups =       106

R-sq:  within = 0.0669                        Obs per group:  min =         5
        between = 0.0104                       avg =           5.0
        overall = 0.0018                       max =           5

corr(u_i, Xb) = -0.3726                        F(13,411)       =       2.27
                                                Prob > F        =       0.0069
```

TDRwinsor	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
BSwinsor	.006036	.0057945	1.04	0.298	-.0053545	.0174265
BMwinsor	-.0039771	.0091482	-0.43	0.664	-.0219602	.014006
BIwinsor	.0290876	.1057609	0.28	0.783	-.1788121	.2369874
BHOWinsor	.0021452	.0010058	2.13	0.034	.000168	.0041224
MOWinsor	.0006107	.0008813	0.69	0.489	-.0011217	.0023432
IOwinsor	-.0024988	.0011031	-2.27	0.024	-.0046673	-.0003304
B4	-.0011153	.0268043	-0.04	0.967	-.0538059	.0515754
FAwinsor	.0000558	.0013272	0.04	0.966	-.0025531	.0026647
FSwinsor	-.0260285	.0722935	-0.36	0.719	-.1681396	.1160826
FGwinsor	.0011658	.0003637	3.21	0.001	.0004509	.0018807
GDP	-.0047538	.0040406	-1.18	0.240	-.0126966	.0031889
INF	-.0012639	.0041323	-0.31	0.760	-.009387	.0068592
BLR	.0034368	.0063408	0.54	0.588	-.0090276	.0159012
_cons	.7237202	.7253436	1.00	0.319	-.7021259	2.149566
sigma_u	.21537517					
sigma_e	.10976571					
rho	.79381334	(fraction of variance due to u_i)				

F test that all u_i=0: F(105, 411) = 12.95 Prob > F = 0.0000

Appendix H: Regression Result using PCSEs

```
. xtpcse TDRwinsor BSwinsor BMwinsor BIwinsor BHOWinsor MOWinsor IOwinsor B4 FAWinsor FSWinsor FGwinsor GDP
Linear regression, correlated panels corrected standard errors (PCSEs)

Group variable: Firms                          Number of obs   =       530
Time variable:  Years                          Number of groups =       106
Panels:        correlated (balanced)           Obs per group:  min =         5
Autocorrelation: no autocorrelation            avg =           5
                                                max =           5

Estimated covariances = 5671                    R-squared       = 0.1786
Estimated autocorrelations = 0                  Wald chi2(13)   = 2407.12
Estimated coefficients = 14                     Prob > chi2     = 0.0000
```

TDRwinsor	Panel-corrected			P> z	[95% Conf. Interval]	
	Coef.	Std. Err.	z			
BSwinsor	-.0139967	.0035158	-3.98	0.000	-.0208875	-.0071106
BMwinsor	-.0439075	.0077851	-5.64	0.000	-.059166	-.028649
BIwinsor	-.1347127	.0768216	-1.75	0.080	-.2852802	.0158549
BHOWinsor	.001526	.0003986	3.83	0.000	.0007448	.0023073
MOWinsor	-.001778	.0002097	-8.48	0.000	-.0021889	-.001367
IOwinsor	-.0017408	.0003004	-5.79	0.000	-.0023296	-.0011519
B4	.010244	.0106978	0.96	0.338	-.0107234	.0312113
FAwinsor	.0028604	.0002254	12.69	0.000	.0024186	.0033022
FSwinsor	.0469588	.0073334	6.40	0.000	.0325856	.061332
FGwinsor	.0014922	.0003564	4.19	0.000	.0007935	.0021908
GDP	-.005898	.0011727	-5.03	0.000	-.0081965	-.0035996
INF	-.0023273	.001186	-1.96	0.050	-.0046518	-2.86e-06
BLR	.003847	.0010173	3.78	0.000	.0018532	.0058408
_cons	.4470724	.0892143	5.01	0.000	.2722157	.6219291

Appendix I: LTDR Regression Result using PCSEs

. xtpcse LTDRwinsor BSwinsor BMwinsor BIwinsor BHOWinsor MOWinsor IOWinsor B4 FAWinsor FSWinsor FGwinsor GDP

Linear regression, correlated panels corrected standard errors (PCSEs)

```

Group variable:  Firms                Number of obs   =    530
Time variable:  Years                Number of groups =    106
Panels:         correlated (balanced) Obs per group:  min =    5
Autocorrelation: no autocorrelation          avg =    5
                                                max =    5
Estimated covariances =    5671          R-squared       =    0.0924
Estimated autocorrelations =    0          Wald chi2(13)  =    635.99
Estimated coefficients =    14           Prob > chi2    =    0.0000
    
```

LTDRwinsor	Panel-corrected			z	P> z	[95% Conf. Interval]	
	Coef.	Std. Err.					
BSwinsor	.0046928	.0033666	1.39	0.163	-.0019056	.0112913	
BMwinsor	-.0343136	.0063245	-5.43	0.000	-.0467094	-.0219178	
BIwinsor	-.0245827	.0364921	-0.67	0.501	-.0961058	.0469405	
BHOWinsor	.0000942	.0001994	0.47	0.637	-.0002966	.000485	
MOWinsor	.0000837	.0001154	0.73	0.468	-.0001425	.0003099	
IOWinsor	-.0002344	.0001207	-1.94	0.052	-.0004709	2.22e-06	
B4	-.0390278	.0112194	-3.48	0.001	-.0610174	-.0170383	
FAwinsor	.0000653	.0003221	0.20	0.839	-.0005659	.0006966	
FSwinsor	.0348578	.0052077	6.69	0.000	.0246509	.0450647	
FGwinsor	-.0000103	.0003921	-0.03	0.979	-.0007788	.0007581	
GDP	-.0019164	.0009553	-2.01	0.045	-.0037889	-.000044	
INF	-.0029578	.0009426	-3.14	0.002	-.0048052	-.0011103	
BLR	.0052353	.0011129	4.70	0.000	.003054	.0074167	
_cons	-.0449917	.062553	-0.72	0.472	-.1675933	.0776098	

Appendix J: STDR regression result using PCSEs

. xtpcse STDRwinsor BSwinsor BMwinsor BIwinsor BHOWinsor MOWinsor IOWinsor B4 FAWinsor FSWinsor FGwinsor GDP

Linear regression, correlated panels corrected standard errors (PCSEs)

```

Group variable:  Firms                Number of obs   =    530
Time variable:  Years                Number of groups =    106
Panels:         correlated (balanced) Obs per group:  min =    5
Autocorrelation: no autocorrelation          avg =    5
                                                max =    5
Estimated covariances =    5671          R-squared       =    0.1852
Estimated autocorrelations =    0          Wald chi2(13)  =    898.78
Estimated coefficients =    14           Prob > chi2    =    0.0000
    
```

STDRwinsor	Panel-corrected			z	P> z	[95% Conf. Interval]	
	Coef.	Std. Err.					
BSwinsor	-.0154982	.0033514	-4.62	0.000	-.0220668	-.0089296	
BMwinsor	-.0050828	.0062187	-0.82	0.414	-.0172711	.0071056	
BIwinsor	-.1503725	.059264	-2.54	0.011	-.2665279	-.0342171	
BHOWinsor	.0013997	.0004022	3.48	0.001	.0006115	.0021879	
MOWinsor	-.001687	.0001602	-10.53	0.000	-.002001	-.001373	
IOWinsor	-.001512	.000301	-5.02	0.000	-.0021019	-.0009222	
B4	.0402103	.0117435	3.42	0.001	.0171934	.0632272	
FAwinsor	.0029155	.0003001	9.71	0.000	.0023272	.0035038	
FSwinsor	.0066884	.0073988	0.90	0.366	-.0078129	.0211898	
FGwinsor	.0017583	.0004239	4.15	0.000	.0009274	.0025893	
GDP	-.002716	.0013599	-2.00	0.046	-.0053814	-.0000506	
INF	-.0002561	.0013517	-0.19	0.850	-.0029054	.0023932	
BLR	.001438	.0016862	0.85	0.394	-.0018668	.0047429	
_cons	.4872391	.1033613	4.71	0.000	.2846547	.6898236	

Appendix K: Robust Analysis

```
. tabstat TDRwinsor TERwinsor LTDRwinsor STDRwinsor, stat (mean median min max sd skewness kurtosis) col(stat)
```

variable	mean	p50	min	max	sd	skewness	kurtosis
TDRwinsor	.5603101	.5540185	.1817792	.9862211	.2215642	.1643836	2.226676
TERwinsor	.4396899	.4459815	.0137789	.8182208	.2215642	-.1643836	2.226676
LTDRwinsor	.1635218	.1231818	0	.4759374	.1449662	.8297303	2.594024
STDRwinsor	.3878877	.3600723	.0814654	.8197854	.2060868	.5094461	2.428361

	TDRwin~r	LTDRwi~r	STDRwi~r
TDRwinsor	1.0000		
LTDRwinsor	0.4189	1.0000	
STDRwinsor	0.7483	-0.2547	1.0000

```
. xtpcse TDRwinsor LTDRwinsor STDRwinsor
```

Linear regression, correlated panels corrected standard errors (PCSEs)

```
Group variable: Firms Number of obs = 530
Time variable: Years Number of groups = 106
Panels: correlated (balanced) Obs per group: min = 5
Autocorrelation: no autocorrelation avg = 5
max = 5
Estimated covariances = 5671 R-squared = 0.9572
Estimated autocorrelations = 0 Wald chi2(2) = 5011.66
Estimated coefficients = 3 Prob > chi2 = 0.0000
```

TDRwinsor	Panel-corrected				
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
LTDRwinsor	.9961383	.026099	38.17	0.000	.9449851 1.047291
STDRwinsor	.9830293	.0149926	65.57	0.000	.9536444 1.012414
_cons	.0161148	.0060923	2.65	0.008	.0041741 .0280555