INSTITUTIONAL FACTORS, CORPORATE GOVERNANCE ATTRIBUTES AND SUSTAINABILITY INITIATIVES OF NIGERIAN LISTED FIRMS: THE MODERATING EFFECT OF ENVIRONMENTAL POLICY

BY

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Abstract

Sustainability Initiatives (SI), which encompass economic, environmental, social, and governance aspects, have gained prominence due to growing stakeholder interest and are closely related to Corporate Social Responsibility (CSR) reporting. The purpose of this study is to examine the relationship between institutional factors Economic Constraints and Competition (COMP), Governance Attributes of Board Size (BSZE), Board Independence (BOIND), Board Gender Diversity (BGD) and Board CSR Committee (BCSRC)) and SI, and to investigate the moderating effect of Environmental Policy (ENVP) on the relationship between governance attributes and SI on the financial and non-financial listed firms from 2016 to 2021. Data were collected from the companies assessed and recognized by Nigeria's global CSR Consensus Rater (CSRHUB). A total of 504 firm-year observations were considered using the annual reports and accounts of 84 sampled companies. The panel-corrected standard errors (PCSEs) regression was used to test the developed hypotheses for this study. The result of this study documents that economic constraints measured by Access to Finance (ACFI) shows that ACFI is not significantly related to SI. In contrast, COMP is positive and significantly associated with SI. However, the findings also portray that BSZE is negative and significantly associated with SI. At the same time, BOIND significantly and positively influences SI. Similarly, BGD is significant and positively related to SI. On the contrary, BCSRC is negative and insignificantly related to SI. Even though the environmental policy does not moderate the other variables (BSZE, BOIND, and BGD), the finding shows a positive and significant moderating effect of ENVP on the BCSRC and SI. The univariate result of the t-test also shows that SI has substantially improved positively among non-financial sector firms than the financial sector. Hence, this study suggests that regulatory authorities should assess how the companies deal with environmental policies in connection with their boards to ensure a good CSR committee that could be responsible for SI practices among firms in Nigeria.

Keywords: Sustainability initiatives; Institutional factors; Governance attributes; Environmental policy

Abstrak

Inisiatif Kemampanan *(SI)*, yang merangkumi aspek ekonomi, alam sekitar, sosial, dan tadbir urus, telah mendapat perhatian yang semakin meningkat disebabkan oleh minat pemegang berkepentingan dan berkait rapat dengan pelaporan Tanggungjawab Sosial Korporat *(CSR)*. Tujuan kajian ini adalah untuk mengkaji hubungan antara faktor institusi Kekangan Ekonomi dan Persaingan *(COMP)*, Atribut Tadbir Urus Saiz Lembaga *(BSZE)*, Kebebasan Lembaga *(BOIND)*, Kepelbagaian Jantina Lembaga *(BGD)* dan Ahli Jawatankuasa Lembaga *CSR (BCSRC)* dan *SI*. Ia juga menyiasat kesan penyederhanaan Polisi Alam Sekitar *(ENVP)* dan hubungannya dengan tadbir urus syarikat. Sampel kajian adalah melibatkan syarikat tersenarai yang bukan kewangan dan kewangan, dari tahun 2016 hingga 2021. Data dikumpul daripada syarikat yang dinilai dan diiktiraf oleh Penilai Konsensus *CSR* Global Nigeria *(CSRHUB)*. Sejumlah 504 pemerhatian bagi tahun firma telah menggunakan laporan tahunan dan 84 pemerhatian menggunakan akaun syarikat sebagai sampel. Regresi ralat Piawai Yang Diperbetulkan Panel *(PCSE)* digunakan untuk menguji hipotesis yang dibangunkan untuk kajian ini. Hasil kajian ini mendapati bahawa kekangan ekonomi yang diukur melalui Akses Kepada Kewangan *(ACFI)* menunjukkan bahawa *ACFI* tidak mempunyai kaitan yang signifikan dengan *SI*. Sebaliknya, *COMP* adalah positif dan signifikan berkaitan dengan *SI*. Walau bagaimanapun, dapatan juga menggambarkan bahawa *BSZE* adalah negatif dan mempunyai kaitan yang signifikan dengan *SI*. Pada masa yang sama, *BOIND* secara signifikan dan positif mempengaruhi *SI*. Begitu juga dengan *BGD* yang signifikan dan positif terhadap *SI*. Sebaliknya, *BCSRC* adalah negatif dan tidak signifikan terhadap *SI*. Walaupun polisi alam sekitar tidak *moderate* pemboleh ubah yang lain *(BSZE, BOIND* dan *BGD)*, hasil dapatan menunjukkan kesan *moderating* yang positif dan signifikan bagi *ENVP* terhadap *BCSRC* dan *SI*. Hasil keputusan *univariate* bagi *t-test* menunjukkan bahawa *SI* menunjukkan peningkatan yang ketara bagi syarikat di sektor bukan kewangan berbanding sektor kewangan. Oleh itu, kajian ini mencadangkan pihak berkuasa kawal selia perlu menilai bagaimana syarikat mengurus polisi alam sekitar berhubung dengan lembaga bagi memastikan jawatankuasa *CSR* yang baik yang boleh bertanggungjawab bagi amalan *SI* di kalangan firma di Nigeria.

Kata kunci: Inisiatif kemampanan; Faktor institusi; Sifat tadbir urus; Dasar alam sekitar

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Abbreviations	Definitions of Terms
ACFI	Access to finance
AGE	Company Age
BCSRC	Board CSR committee
BGD	Board gender diversity
BOIND	Board independence
BSZE	Board size
CBN	Central Bank of Nigeria
CDP	Carbon Disclosure Project
CFCS	China Forest Certification Scheme
CG	Corporate Governance
COMP	Competition
CSR	Corporate Social Responsibility
DPR	Department of Petroleum Reserves
ENVP	Environmental Policy
ESEG	Economic, Social, Environmental, and Governance
ESI	Environmentally Sensitive Industries
GRI	Global Reporting Initiatives
IT	Institutional Theory
LEV	Company Leverage
LT	Legitimacy Theory
NDU	Nigerian Development Update
NESREA	National Environmental Standards and Regulations Enforcement Agency
NSE	Nigerian Stock Exchange
SI	Sustainability initiatives
ST	Stakeholder Theory
SZE	Company size
UNGC	United Nations Global Compact

Source: Researchers' compilation.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The businesses' sustainability initiatives (SI) focus on economic, environmental, social, and governance. It is a sister concept of Corporate Social Responsibility (CSR) reporting (Hamid & Othman, 2019; Kiyanga et al., 2016). The expansion of SI is due to increased stakeholder interest in companies' environmental, social, and governance performance (Correia, 2019; Dhaliwal et al., 2014). Also, SI has become increasingly important to society and a matter of interest to scholars and professionals on social, environmental, and governance issues as business stakeholders (Correia, 2019).

SI depict the impact of present actions on the future's ecosystems, societies, and environments (Singh & Misra, 2021). The institutions involved in promoting SI include the United Nations (UN), the International Federation of Accountants (IFAC), the Global Reporting Initiative (GRI), the Organisation for Economic Co-operation and Development (OECD), and the Institute of Directors in Southern Africa [IoDSA] (Adedeji et al., 2020; Almatrooshi et al., 2018; and Chang, 2016). Sustainability issues gained acceptance globally when the Brundtland Commissions' published report of 1987 averred that sustainability as,

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APPENDICES

APPENDIX A: LISTED FIRM ON THE NIGERIAN STOCK EXCHANGE AS AT 31 DECEMBER 2021

S/N	COMPANY NAME	TICKER	SECTOR
1	ELLAH LAKES PLC.	ELLAHLAKES	AGRICULTURE
2	FTN COCOA PROCESSORS PLC	FTNCOCOA	AGRICULTURE
3	LIVESTOCK FEEDS PLC.	LIVESTOCK	AGRICULTURE
4	OKOMU OIL PALM PLC.	OKOMUOIL	AGRICULTURE
5	PRESCO PLC	PRESCO	AGRICULTURE
	CONGLOMERATES		
1	AG LEVENTIS NIGERIA PLC.	AGLEVENTIS	CONGLOMERATES
2	CHELLARAMS PLC.	CHELLARAM	CONGLOMERATES
3	JOHN HOLT PLC.	JOHNHOLT	CONGLOMERATES
4	S C O A NIG. PLC.	SCOA	CONGLOMERATES
5	TRANSNATIONAL CORPORATION NIGERIA PLC	TRANSCORP	CONGLOMERATES
6	U A C N PLC.	UACN	CONGLOMERATES
	CONSTRUCTION/REAL ESTATE		
1	ARBICO PLC.	ARBICO	CONSTRUCTION/REAL ESTATE
2	JULIUS BERGER NIG. PLC.	JBERGER	CONSTRUCTION/REAL ESTATE
3	ROADS NIG PLC.	ROADS	CONSTRUCTION/REAL ESTATE
4	SFS REAL ESTATE INVESTME TRUST	SFSREIT	CONSTRUCTION/REAL ESTATE
5	SMART PRODUCTS NIGERIA PLC	SMURFIT	CONSTRUCTION/REAL ESTATE
6	UACN PROPERTY DEVELOPME COMPANY PLC	UAC-PROP	CONSTRUCTION/REAL ESTATE
7	UNION HOMES REAL ESTA INVESTMENT TRUST	UHOMREIT	CONSTRUCTION/REAL ESTATE
8	UPDC REAL ESTATE INVESTME TRUST	UPDCREIT	CONSTRUCTION/REAL ESTATE
	CONSUMER GOODS		
1	CADBURY NIGERIA PLC.	CADBURY	CONSUMER GOODS
2	CHAMPION BREWERIES PLC.	CHAMPION	CONSUMER GOODS
3	DANGOTE FLOUR MILLS PLC.	DANFLOUR	CONSUMER GOODS
4	DANGOTE SUGAR REFINERY PLC.	DANGSUGAR	CONSUMER GOODS
5	DN TYRE & RUBBER PLC.	DUNLOP	CONSUMER GOODS

6	FLOUR MILLS NIGERIA PLC.	FLOURMILL	CONSUMER GOODS
7	GOLDEN GUINEA BREWERIES PLC.	GOLDBREW	CONSUMER GOODS
8	GUINNESS NIG PLC.	GUINNESS	CONSUMER GOODS
9	HONEYWELL FLOUR MILL PLC	HONYFLOUR	CONSUMER GOODS
10	INTERNATIONAL BREWERIES PLC.	INTBREW	CONSUMER GOODS
11	JOHN HOLT PLC.	JOHNHOLT	CONSUMER GOODS
12	MCNICHOLS PLC.	MCNICHOLS	CONSUMER GOODS
13	MULTI-TREX INTEGRATED FOC PLC	MULTITREX	CONSUMER GOODS
14	NOTHERN NIGERIA FLOUR MILLS P	NNFM	CONSUMER GOODS
15	NASCON ALLIED INDUSTRIES PLC	NASCON	CONSUMER GOODS
16	NESTLE NIGERIA PLC.	NESTLE	CONSUMER GOODS
17	NIGERIAN BREWERIES PLC.	NB	CONSUMER GOODS
18	NIGERIAN ENAMELWARE PLC.	ENAMELWA	CONSUMER GOODS
19	P Z CUSSONS NIGERIA PLC.	PZ	CONSUMER GOODS
20	UTC NIGERIA PLC.	UTCNIG	CONSUMER GOODS
21	UNILEVER NIGERIA PLC.	UNILEVER	CONSUMER GOODS
22	UNION DICON SALT PLC.	UNIONDICON	CONSUMER GOODS
23	VITAFOAM NIG PLC.	VITAFOAM	CONSUMER GOODS
	FINANCIAL SERVICES		
1	ABBEY MORTGAGE BANK PLC	ABBEYBDS	FINANCIAL SERVICES
2	ACCESS BANK PLC.	ACCESS	FINANCIAL SERVICES
3	AFRICA PRUDENTIAL PLC	AFRIPRUD	FINANCIAL SERVICES
4	AFRICAN ALLIANCE INSURANCE PI	AFRINSURE	FINANCIAL SERVICES
5	AIICO INSURANCE PLC.	AIICO	FINANCIAL SERVICES
6	ASO SAVINGS AND LOANS PLC	ASOSAVINGS	FINANCIAL SERVICES
7	AXAMANSARD INSURANCE PLC	MANSARD	FINANCIAL SERVICES
8	CONSOLIDATED HALLMA INSURANCE PLC	CHIPLC	FINANCIAL SERVICES

9	CORNERSTONE INSURANCE PLC	CORNERST	FINANCIAL SERVICES
10	CORONATION INSURANCE PLC	WAPIC	FINANCIAL SERVICES
11	CUSTODIAN INVESTMENT PLC	CUSTODIAN	FINANCIAL SERVICES
12	DEAP CAPITAL MANAGEMENT TRUST PLC	DEAPCAP	FINANCIAL SERVICES
13	ECOBANK TRANSNATION INCORPORATED	ETI	FINANCIAL SERVICES
14	FBN HOLDINGS PLC	FBNH	FINANCIAL SERVICES
15	FCMB GROUP PLC.	FCMB	FINANCIAL SERVICES
16	FIDELITY BANK PLC	FIDELITYBK	FINANCIAL SERVICES
17	GOLDLINK INSURANCE PLC	GOLDINSURE	FINANCIAL SERVICES
18	GUARANTY TRUST BANK PLC.	GUARANTY	FINANCIAL SERVICES
19	GUINEA INSURANCE PLC.	GUINEAINS	FINANCIAL SERVICES
20	INFINITY TRUST MORTGAGE BA PLC	INFINITY	FINANCIAL SERVICES
21	INTERNATIONAL ENER INSURANCE PLC	INTENEGINS	FINANCIAL SERVICES
22	JAIZ BANK PLC	JAIZBANK	FINANCIAL SERVICES
23	LASACO ASSURANCE PLC.	LASACO	FINANCIAL SERVICES
24	LAW UNION AND ROCK INSURAN PLC	LAWUNIONINS	FINANCIAL SERVICES
25	LINKAGE ASSURANCE PLC	LINKASSURE	FINANCIAL SERVICES
26	LIVINGTRUST MORTGAGE BANK PI	LIVINGTRUST	FINANCIAL SERVICES
27	MUTUAL BENEFITS ASSURANCE PL	MBENEFIT	FINANCIAL SERVICES
28	NEM INSURANCE PLC	NEM	FINANCIAL SERVICES
29	NIGER INSURANCE PLC	NIGERINS	FINANCIAL SERVICES
30	NIGERIA ENERYGY SECTOR FUND	NESF	FINANCIAL SERVICES
31	NPF MICROFINANCE BANK PLC	NPFMCRFBK	FINANCIAL SERVICES
32	PRESTIGE ASSURANCE PLC	PRESTIGE	FINANCIAL SERVICES
33	REGENCY ASSURANCE PLC	REGALINS	FINANCIAL SERVICES
34	RESORT SAVINGS & LOANS PLC	RESORTSAL	FINANCIAL SERVICES
35	ROYAL EXCHANGE PLC.	ROYALEX	FINANCIAL SERVICES

36	SOVEREIGN TRUST INSURANCE PL(	SOVRENINS	FINANCIAL SERVICES
37	STACO INSURANCE PLC	STACO	FINANCIAL SERVICES
38	STANBIC IBTC HOLDINGS PLC	STANBIC	FINANCIAL SERVICES
39	STANDARD ALLIANCE INSURAN PLC.	STDINSURE	FINANCIAL SERVICES
40	STERLING BANK PLC.	STERLNBANK	FINANCIAL SERVICES
41	SUNU ASSURANCES NIGERIA PLC.	SUNUASSUR	FINANCIAL SERVICES
42	UNIC DIVERSIFIED HOLDINGS PLC.	UNIC	FINANCIAL SERVICES
43	UNION BANK NIG.PLC.	UBN	FINANCIAL SERVICES
44	UNION HOMES SAVINGS AND LOA PLC.	UNHOMES	FINANCIAL SERVICES
45	UNITED BANK FOR AFRICA PLC	UBA	FINANCIAL SERVICES
46	UNITED CAPITAL PLC	UCAP	FINANCIAL SERVICES
47	UNITY BANK PLC	UNITYBNK	FINANCIAL SERVICES
48	UNIVERSAL INSURANCE PLC	UNIVINSURE	FINANCIAL SERVICES
49	VALUEALLIANCE VALUE FUND	VALUEFUND	FINANCIAL SERVICES
50	VERITAS KAPITAL ASSURANCE PL(	VERITASKAP	FINANCIAL SERVICES
51	WEMA BANK PLC.	WEMABANK	FINANCIAL SERVICES
52	ZENITH BANK PLC	ZENITHBANK	FINANCIAL SERVICES
	HEALTHCARE		
1	EKOCORP PLC.	EKOCORP	HEALTHCARE
2	EVANS MEDICAL PLC.	EVANSMED	HEALTHCARE
3	FIDSON HEALTHCARE PLC	FIDSON	HEALTHCARE
4	GLAXO SMITHKLINE CONSUMER N PLC.	GLAXOSMITH	HEALTHCARE
5	MAY & BAKER NIGERIA PLC.	MAYBAKER	HEALTHCARE
6	MORISON INDUSTRIES PLC.	MORISON	HEALTHCARE
7	NEIMETH INTERNATION PHARMACEUTICALS PLC	NEIMETH	HEALTHCARE
8	NIGERIA-GERMAN CHEMICALS PL(	NIG-GERMAN	HEALTHCARE
9	PHARMA-DEKO PLC.	PHARMDEKO	HEALTHCARE
10	UNION DIAGNOSTIC & CLINIC SERVICES PLC	UNIONDAC	HEALTHCARE
	ICT		
1	AIRTEL AFRICA PLC	AIRTELAFRI	ICT
2	BRICLINKS AFRICA PLC	BAPLC	ICT
3	CHAMS PLC	CHAMS	ICT

4	COURTEVILLE BUSINESS SOLUTIC PLC	COURTVILLE	ICT
5	E-TRANZACT INTERNATIONAL PLC	ETRANZACT	ICT
6	MTN NIGERIA COMMUNICATIONS F	MTNN	ICT
7	NCR (NIGERIA) PLC.	NCR	ICT
8	OMATEK VENTURES PLC	OMATEK	ICT
9	TRIPPLE GEE AND COMPANY PLC.	TRIPPLEG	ICT
	INDUSTRIAL GOODS		
1	AUSTIN LAZ & COMPANY PLC	AUSTINLAZ	INDUSTRIAL GOODS
2	BERGER PAINTS PLC	BERGER	INDUSTRIAL GOODS
3	BETA GLASS PLC.	BETAGLAS	INDUSTRIAL GOODS
4	BUA CEMENT PLC	BUACEMENT	INDUSTRIAL GOODS
5	CAP PLC	CAP	INDUSTRIAL GOODS
6	CUTIX PLC.	CUTIX	INDUSTRIAL GOODS
7	DANGOTE CEMENT PLC	DANGCEM	INDUSTRIAL GOODS
8	FIRST ALLUMINIUM PLC	FIRSTALUM	INDUSTRIAL GOODS
9	GREIF NIGERIA PLC	VANLEER	INDUSTRIAL GOODS
10	LAFARGE AFRICA PLC.	WAPCO	INDUSTRIAL GOODS
11	MEYER PLC.	MEYER	INDUSTRIAL GOODS
12	NOTORE CHEMICAL IND PLC	NOTORE	INDUSTRIAL GOODS
13	PORTLAND PAINTS & PRODUC NIGERIA PLC	PORTPAINT	INDUSTRIAL GOODS
14	PREMIER PAINTS PLC.	PREMPAINTS	INDUSTRIAL GOODS
15	THOMAS WYATT NIGERIA PLC.	THOMASWYAT	INDUSTRIAL GOODS
	NATURAL RESOURCES		
1	ALUMINIUM EXTRUSION IND. PLC.	ALEX	NATURAL RESOURCES
2	B.O.C. GASES PLC.	BOCGAS	NATURAL RESOURCES
3	MULTIVERSE MINING A EXPLORATION PLC	MULTIVERSE	NATURAL RESOURCES
4	THOMAS WYATT NIG. PLC.	THOMASWY	NATURAL RESOURCES
	OIL AND GAS		
1	ARDOVA PLC	ARDOVA	OIL AND GAS
2	CAPITAL OIL PLC	CAPOIL	OIL AND GAS
3	CONOIL PLC	CONOIL	OIL AND GAS
4	ETERNA PLC.	ETERNA	OIL AND GAS
5	FORTE OIL PLC.	FORTE	OIL AND GAS

6	JAPAUL GOLD & VENTURES PLC	JAPAULGOLD	OIL AND GAS
7	MRS OIL NIGERIA PLC.	MRS	OIL AND GAS
8	OANDO PLC	OANDO	OIL AND GAS
9	RAK UNITY PET. COMP. PLC.	RAKUNITY	OIL AND GAS
10	SEPLAT PETROLEUM DEV. COMPA PLC	SEPLAT	OIL AND GAS
11	TOTAL NIGERIA PLC.	TOTAL	OIL AND GAS
	SERVICES		
1	ACADEMY PRESS PLC.	ACADEMY	SERVICES
2	AFROMEDIA PLC	AFROMEDIA	SERVICES
3	ASSOCIATED BUS COMPANY PLC	ABCTRANS	SERVICES
4	C & I LEASING PLC.	CILEASING	SERVICES
5	CAPITAL HOTEL PLC	CAPHOTEL	SERVICES
6	CAVERTON OFFSHORE SUPPORT G PLC	CAVERTON	SERVICES
7	DAAR COMMUNICATIONS PLC	DAARCOMM	SERVICES
8	GLOBAL SPECTRUM ENER SERVICES PLC	GSPECPLC	SERVICES
9	IKEJA HOTEL PLC	IKEJAHOTEL	SERVICES
10	INTERLINKED TECHNOLOGIES PLC	INTERLINK	SERVICES
11	JULI PLC.	JULI	SERVICES
12	LEARN AFRICA PLC	LEARNAFRCA	SERVICES
13	MEDVIEW AIRLINE PLC	MEDVIEWAIR	SERVICES
14	NIGERIAN AVIATION HANDLI COMPANY PLC	NAHCO	SERVICES
15	R T BRISCOE PLC.	RTBRISCOE	SERVICES
16	RED STAR EXPRESS PLC	REDSTAREX	SERVICES
17	SECURE ELECTRONIC TECHNOLO PLC	NSLTECH	SERVICES
18	SKYWAY AVIATION HANDLI COMPANY PLC	SKYAVN	SERVICES
19	TANTALIZERS PLC	TANTALIZER	SERVICES
20	THE INITIATES PLC	INITSPLC	SERVICES
21	TOURIST COMPANY OF NIGERIA PL	TOURIST	SERVICES
22	TRANSCORP HOTELS PLC	TRANSCOHOT	SERVICES
23	TRANS-NATIONWIDE EXPRESS PLC	TRANSEXPR	SERVICES
24	UNIVERSITY PRESS PLC.	UPL	SERVICES

APPENDIX *B*

List of quoted companies rated and ranked by CSRHUB consensus ESG rating as of November. (2021)

	COMPANIES CATEGORY	CSRHUB OVERALL %RATING	COMMUNITY	EMPLOYEE	ENVIRONMENT	GOVERNANCE
	Financial Services					
1	Ecobank Transnational Incorporated	98	51	51	63	49
2	Fidelity Bank Plc	54	51	51	63	49
3	Guaranty Trust Bank Plc	62	51	51	63	49
4	Jaizbank Plc	NA	51	51	63	49
5	Sterling Bank Plc	98	51	51	63	49
6	Union Bank Nigeria Plc	96	51	51	63	49
7	Unity Bank Plc	NA	51	51	63	49
8	Wema Bank Plc	NA	51	51	63	49
9	Access Bank Plc	99	51	51	63	49
10	United Bank for Africa Plc	74	51	51	63	49
11	Zenith International Bank Plc	92	51	51	63	49
12	Fbn Holdings Plc	85	51	51	63	49
13	Fcmb Group Plc	89	51	51	63	49
14	Stanbic IBTC Holdings	NA	51	51	63	49
15	NPF Microfinance Bank	NA	51	51	63	49
16	Aiico Insurance Plc	NA	51	51	63	49
17	Consolidated Hallmark Insurance Plc	NA	51	51	63	49

18	Cornerstone Insurance Plc	NA	51	51	63	49
19	Goldlink Insurance Plc	NA	51	51	63	49
20	Guinea Insurance Plc	NA	51	51	63	49
21	Lasaco Assurance Plc	NA	51	51	63	49
22	Linkage Assurance Plc	NA	51	51	63	49
23	Mansard Insurance Plc	NA	51	51	63	49
24	Mutual Benefits Assurance Plc	NA	51	51	63	49
25	Nem Insurance Plc	NA	51	51	63	49
26	Niger Insurance Plc	NA	51	51	63	49
27	Prestige Assurance Plc	NA	51	51	63	49
28	Sovereign Trust Insurance Plc	NA	51	51	63	49
29	Standard Alliance Insurance Plc	NA	51	51	63	49
30	Universal Insurance Plc	NA	51	51	63	49
31	Abbey Mortgage Bank Plc	NA	51	51	63	49
32	Aso Savings and Loans Plc	NA	51	51	63	49
33	Resorts Savings and Loans Plc	NA	51	51	63	49
34	Union Homes Savings & Loans	NA	51	51	63	49
35	Africa Prudential Plc	NA	51	51	63	49
36	Royal Exchange Plc	NA	51	51	63	49
37	Custodian Investment Plc	NA	51	51	63	49
	INDUSTRIAL GOODS					
38	Chemicals and Allied Products PLC	NA	51	51	63	49
39	Cutix Plc	NA	51	51	63	49
40	Dangote Cement	59	51	51	63	49
41	Dangote Flour Mills Plc	67	51	51	63	49

42	Lafarge Africa plc	11	51	51	63	49
43	Ashaka Cement	NA	51	51	63	49
44	Beta glass plc	NA	51	51	63	49
	CONSUMER GOODS					
45	Unilever Nigeria plc	33	51	51	63	49
46	PZ Cussons Nigeria Plc	41	51	51	63	49
47	Nigeria Enamelware	NA	51	51	63	49
48	Nestle Nigeria	84	51	51	63	49
49	Cadbury Nigeria plc	NA	51	51	63	49
50	Honeywell Four Mills Nigeria	NA	51	51	63	49
51	Flour Mills Nigeria Plc	30	51	51	63	49
52	Nigerian Breweries Plc	16	51	51	63	49
53	Guinness Nigeria plc	11	51	51	63	49
54	International breweries plc	NA	51	51	63	49
55	Champion Breweries Plc	NA	51	51	63	49
56	Dangote Sugar Refinery	NA	51	51	63	49
57	DN Tyre and Rubber Plc	NA	51	51	63	49
	CONGLOMERATES					
58	SCOA Nigeria plc	NA	51	51	63	49
59	Transnational Corporation Nigeria plc	75	51	51	63	49
60	UAC Nigeria Plc	1	51	51	63	49
61	Julius BERGER Nigeria plc	36	51	51	63	49
62	Chellarams Plc	NA	51	51	63	49
	CONSTRUCTION AND REAL ESTATE					
63	UACN Property Development plc	NA	51	51	63	49
	HEALTH CARE					

64	Fidson Health Care Nigeria Plc	NA	51	51	63	49
65	Glaxo Smithkline Consumer Nig. Plc	NA	51	51	63	49
	ICT					
66	Computer Warehouse Group CWG	NA	51	51	63	49
67	Airtel Africa plc	82	51	51	63	49
68	MTN Nigeria Communications Ltd	NA	51	51	63	49
	NATURAL RESOURCES					
69	BOC Gases Plc	NA	51	51	63	49
70	Aluminium Extrusion Industries plc	NA	51	51	63	49
	OIL AND GAS					
71	Oando Plc	78	51	51	63	49
72	Conoil Plc	NA	51	51	63	49
73	Eterna Plc	NA	51	51	63	49
74	MRS Oil Nigeria Plc	NA	51	51	63	49
75	Total Nigeria Plc	NA	51	51	63	49
76	Seplat Petroleum Development Co.	89	51	51	63	49
77	Fort Oil Plc	53	51	51	63	49
78	Capital Oil Plc	NA	51	51	63	49
	AGRICULTURE					
79	Okomu Oil Palm Company Plc	NA	51	51	63	49
80	Presco Plc	NA	51	51	63	49
81	Lives Stock Feeds Plc	NA	51	51	63	49
	SERVICES					
82	Redstar Express Plc	NA	51	51	63	49
83	Tantalizers Plc	NA	51	51	63	49
84	Capital Hotel Plc	NA	51	51	63	49

85	Ikeja Hotel Plc	NA	51	51	63	49
86	Tourist Company of Nigeria Plc	NA	51	51	63	49
87	Daar Communications Plc	NA	51	51	63	49
88	University Press Plc	NA	51	51	63	49
89	Secure Electronic Technology Plc	NA	51	51	63	49
90	Nigeria Aviation Handling Company	NA	51	51	63	49

Source: Researchers' compilation from CSRHUB (Nov.2021

Appendix C

Details of Table 3.4 SI Index used to measure DV

S/N	ECONOMIC INDICATORS
1	Income
2	Operational expenses
3	Employee remunerations and assistance
4	Costs to providers of Assets
5	Expenses to government
6	Communal funds
7	Hazards and prospects postured by climate change
8	Monetary implications of the hazard and prospect postured by climate change
9	Expenses of plans taken to manage hazards or prospects postured by climate change
10	Worth of clear profit plan commitments
11	Method of settling the clear profit plan commitments (Charges)
12	The proportion of remuneration donated by the employer and employee
13	Monetary support acknowledged by the government

14	Expenses on local contractors at momentous locations of operations
	SOCIAL INDICATORS
15	Reimbursements to full-time employees
16	Damage/grievance rate/job-related sicknesses rate
17	Healthiness and wellbeing employee physical activity
18	Illustration of males and females in governance physiques
19	Identical compensation of males and females
20	Juvenile labour
21	Resident community expansion programs
22	Shareholder appointment plans
23	Anti-corruption strategies and measures
24	Partisan monetary and other types of donations made by the organization
25	Contractors and customers focus on assessments for influences on society.
26	Possible negative influences on society identified in the source chain
	ENVIRONMENTAL INDICATORS
27	Renewable and non-renewable materials used
28	Recycled materials used to manufacture the organization's products and services
29	Fuel/electricity/heating/cooling/steam consumption
30	Electricity/heating/cooling/steam sold
31	Reduction in energy consumption due to conservation
32	Water is withdrawn for operations.
33	Water is recycled and reused.
34	Gross direct Greenhouse gas Emissions
35	Organic Pollutants
36	Water discharge and quality of water discharged

37	Waste and method of disposal
38	Number and volume of spills
39	Environmental protection expenditures
40	Assessment of suppliers based on environmental risks
41	Assessment of clients based on environmental risks
	GOVERNANCE INDICATORS
42	Governance composition and structure
43	Capabilities of associates of the peak governance body
44	Structure of board executives
45	Directors' tenancy period
46	Other significant spots and commitments of directors
47	Shareholder representation
48	The chairman is an administrative executive officer.
49	Clash of interest – cross-board association and interrelated party disclosures
50	Role of the board in finding and supervising economic, social, and environmental influences
51	The committee that integrates substantial features in the sustainability report
52	Main governance body in hazard management
53	Executives' and directors' compensation
54	Establishment's code of conduct and code of ethics
55	Apparatuses for seeking advice on honesty matters
56	Signal-propelling apparatuses or hotlines
	Total: 56 items

APPENDIX D: DIAGNOSTIC CHECKS AND MULTIVARIATE ANALYSIS

DESCRIPTIVE STATISTICS

```
. sum dvsi access_finance comp bsze boind bgd bcsrc csze age envp lev
```

Variable	Obs	Mean	Std. Dev.	Min	Max
dvsi	504	.3295777	.0594607	0.25	.5178571
access_fin~e	504	.9940476	.0769981	0	1
comp	504	.4761905	.499929	0	1
bsze	504	10.73413	3.672577	4	22
boind	504	5.222634	3.670575	0	25
bgd	504	17.51032	12.31823	0	66.66666
bcsrc	504	.0972222	.2965545	0	1
csze	504	18.07300	2.174317	14.226	24.064
age	504	7.590240	.0328821	7.07	7.9136
envp	504	.2919974	.1221083	0	.6666667
lev	504	.6892983	.5373867	0	5.600808

CORRELATION ANALYSIS

```
pwcorr dvsi access_finance comp bsze boind bgd bcsrc csze age envp lev
```

	dvsi	access~e	comp	bsze	boind	bgd	bcsrc
dvsi	1.0000						
access_fin~e	0.4293	1.0000					
comp	0.1714	0.0738	1.0000				
bsze	0.3260	0.2264	0.0572	1.0000			
boind	0.2991	0.1102	0.2674	0.3995	1.0000		
bgd	0.2795	0.1101	-0.0189	0.1301	0.1692	1.0000	
bcsrc	0.1543	0.0254	0.0358	0.3012	0.0714	0.0432	1.0000
csze	0.5954	0.4413	0.0596	0.6175	0.1610	0.2149	0.3447
age	0.6563	0.6520	0.1106	0.3473	0.1665	0.1687	0.0401
envp	0.5925	0.1852	-0.0406	0.2230	0.0951	0.1536	0.2576
lev	0.1624	0.0969	-0.1214	0.0900	-0.0200	0.0377	0.0506

	csze	age	envp	lev
csze	1.0000			
age	0.6765	1.0000		
envp	0.3776	0.2828	1.0000	
lev	0.1456	0.1494	0.0649	1.0000

OLS Model

```
          reg dvsi access_finance comp bsze boind bgd bcsrc csze age envp lev

      Source |       SS           df       MS      Number of obs   =       504
-------------+----------------------------------   F(10, 493)      =    103.01
       Model |  1.20276223        10  .120276223   Prob > F        =    0.0000
    Residual |   .57563055       493  .001167608   R-squared       =    0.6763
-------------+----------------------------------   Adj R-squared   =    0.6698
       Total |  1.77839278       503  .003535572   Root MSE        =    .03417

------------------------------------------------------------------------------
         dvsi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
access_finance |    .0007634   .0260972     0.03   0.977     -.050512    .0520389
         comp |   .0129062   .0032336     3.99   0.000     .0065528    .0192595
         bsze |  -.0015427   .0005852    -2.64   0.009    -.0026925   -.0003928
        boind |    .002631   .0004846     5.43   0.000     .0016788    .0035832
          bgd |   .0004702   .0001289     3.65   0.000     .0002168    .0007235
        bcsrc |  -.0050716   .0058191    -0.87   0.384    -.0165048    .0063616
         csze |   .0035096   .0008767     4.00   0.000      .001787    .0052322
          age |   .0255654   .0028846     8.86   0.000     .0198977    .0312331
         envp |   .2004404   .0137855    14.54   0.000     .1733548    .2275261
          lev |   .0081416   .0028745     2.83   0.005     .0024938    .0137895
        _cons |   3.89e-16   .0197282     0.00   1.000    -.0387618    .0387618
----------------------------------------------------------------------------    ----
```

RANDOM EFFECT MODEL

```
 xtreg dvsi access_finance comp bsze boind bgd bcsrc csze age envp lev, re
Random-effects GLS regression                   Number of obs     =        504
Group variable: id                              Number of groups  =         84
R-sq:                                           Obs per group:
     within  = 0.8520                                         min =          6
     between = 0.4992                                         avg =        6.0
     overall = 0.6561                                         max =          6
                                                Wald chi2(10)     =    2444.55
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0000
------------------------------------------------------------------------------
          dvsi |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
---------------+--------------------------------------------------------------
access_finance |   -.003503   .0161834    -0.22   0.829     -.035222    .0282159
          comp |   .0074947   .0038405     1.95   0.051    -.0000325     .015022
          bsze |  -.0019381   .0005001    -3.88   0.000    -.0029183   -.0009579
         boind |   .0014958   .0004537     3.30   0.001     .0006067     .002385
           bgd |   .0003156   .0001143     2.76   0.006     .0000917    .0005396
         bcsrc |  -7.70e-06   .0071459    -0.00   0.999    -.0140135    .0139981
          csze |   .0014678   .0007992     1.84   0.066    -.0000987    .0030343
           age |   .0331502   .0024371    13.60   0.000     .0283737    .0379268
          envp |   .2232159   .0131847    16.93   0.000     .1973743    .2490575
           lev |   .0050671   .0042391     1.20   0.232    -.0032413    .0133756
         _cons |  -.0058343   .0121506    -0.48   0.631    -.0296491    .0179806
```

```
---------------+----------------------------------------------------------------
     sigma_u |  .03078685
     sigma_e |  .01687945
         rho |  .76887703   (fraction of variance due to u_i)
--------------------------------------------------------------------------------


. estimate store random
. xttest0
Breusch and Pagan Lagrangean multiplier test for random effects
        dvsi[id,t] = Xb + u[id] + e[id,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+-----------------------------
                    dvsi |   .0035356       .0594607
                       e |   .0002849       .0168795
                       u |   .0009478       .0307869

        Test:   Var(u) =   0
           chibar2(01) =   666.25
        Prob > chibar2 =   0.0000
```

FIXED EFFECT MODEL

```
. xtreg dvsi access_finance comp bsze boind bgd bcsrc csze age envp lev, fe

Fixed-effects (within) regression          Number of obs      =        504
Group variable: id                         Number of groups   =         84

R-sq:                                     Obs per group:
     within  = 0.8525                                    min =          6
     between = 0.4795                                    avg =        6.0
     overall = 0.6453                                    max =          6

                                           F(10,410)          =     237.01
corr(u_i, Xb)  = -0.0279                   Prob > F           =     0.0000

------------------------------------------------------------------------------
          dvsi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
---------------+--------------------------------------------------------------
access_finance |  -.0044578   .0165974    -0.27   0.788    -.0370844    .0281688
          comp |   .0046632   .0045314     1.03   0.304    -.0042444    .0135709
          bsze |  -.0019111   .0005373    -3.56   0.000    -.0029672    -.000855
         boind |   .0012534    .000498     2.52   0.012     .0002745    .0022323
           bgd |   .0002831   .0001216     2.33   0.020     .0000441    .0005222
         bcsrc |  -.0009672   .0086728    -0.11   0.911    -.0180158    .0160814
          csze |   .0010133   .0008713     1.16   0.246    -.0006995    .0027262
           age |   .0346566   .0027235    12.73   0.000     .0293029    .0400102
          envp |   .2259181   .0143386    15.76   0.000     .1977317    .2541045
           lev |   .0041807   .0054864     0.76   0.446    -.0066042    .0149656
         _cons |  -.0052826   .0119637    -0.44   0.659    -.0288005    .0182352
```

```
---------------+-------------------------------------------------------------

       sigma_u |  .03213593
       sigma_e |  .01687945
           rho |  .78376698   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(83, 410) = 19.40            Prob > F = 0.0000
```

HETEROSCEDASTICITY TEST

```
. xttest3

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (84) =    5.0e+06
Prob>chi2 =    0.0000
```

MULTICOLLINEARITY TEST(WITHOUT MODERATION)

```
 VIF

    Variable |       VIF       1/VIF  
-------------+----------------------
        csze |      3.22    0.310383
         age |      2.83    0.352907
        bsze |      1.99    0.502526
access_fin~e |      1.74    0.574886
       boind |      1.36    0.733546
       bcsrc |      1.28    0.779498
        envp |      1.22    0.819203
        comp |      1.13    0.888254
         bgd |      1.09    0.920212
         lev |      1.05    0.953735
-------------+----------------------
    Mean VIF |      1.69
```

MULTICOLLINEARITY TEST (WITH MODERATION)

```
 VIF

    Variable |       VIF       1/VIF  
-------------+----------------------
mean_bsz_e~p |      8.98    0.111393
mean_bcsrc~p |      7.95    0.125765
       bcsrc |      7.09    0.141070
mean_bin_e~p |      6.10    0.163897
        bsze |      4.16    0.240534
       boind |      3.94    0.253599
mean_bgd_e~p |      3.79    0.263742
         age |      3.52    0.284034
        csze |      3.39    0.295294
        envp |      3.24    0.308528
         bgd |      2.85    0.351012
access_fin~e |      1.83    0.547432
        comp |      1.20    0.830797
         lev |      1.05    0.950109
-------------+----------------------
    Mean VIF |      4.22
```

PANEL CORRECTED STANDARD ERROR TEST

```
 xtpcse dvsi access_finance comp bsze boind bgd bcsrc csze age envp lev
Linear regression, correlated panels corrected standard errors (PCSEs)
Group variable:   id                   Number of obs     =        504
Time variable:    year                 Number of groups  =         84
Panels:           correlated (balanced)  Obs per group:
Autocorrelation:  no autocorrelation                 min =          6
                                                     avg =          6
                                                     max =          6
Estimated covariances      =   3570                                    R-squared
=      0.6763
Estimated autocorrelations =    0
                        Wald chi2(10)      =     6694.94
Estimated coefficients     =   11
           Prob > chi2       =     0.0000

--------------------------------------------------------------------------------
               |           Panel-corrected
          dvsi |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
---------------+----------------------------------------------------------------
access_finance |   .0007634   .0108599     0.07   0.944    -.0205216    .0220485
          comp |   .0129062   .0020154     6.40   0.000      .008956    .0168564
```

```
        bsze |  -.0015427   .0003797    -4.06   0.000    -.0022868   -.0007985
       boind |    .002631   .0005807     4.53   0.000     .0014929    .0037691
         bgd |   .0004702   .0000864     5.44   0.000     .0003008    .0006395
       bcsrc |  -.0050716   .0033118    -1.53   0.126    -.0115627    .0014194
        csze |   .0035096   .0005412     6.48   0.000     .0024488    .0045704
         age |   .0255654    .002001    12.78   0.000     .0216435    .0294873
        envp |   .2004404   .0123048    16.29   0.000     .1763236    .2245573
         lev |   .0081416   .0012694     6.41   0.000     .0056537    .0106296
       _cons |   3.89e-16   .0090649     0.00   1.000    -.0177668    .0177668
------------------------------------------------------------------------------------


. xtgls dvsi access_finance comp bsze boind bgd bcsrc csze age envp lev


Cross-sectional time-series FGLS regression
Coefficients:  generalized least squares
Panels:        homoskedastic
Correlation:   no autocorrelation
Estimated covariances      =     1          Number of obs      =       504
Estimated autocorrelations =     0          Number of groups   =        84
Estimated coefficients     =    11          Time periods       =         6
                                            Wald chi2(10)      =   1053.09
Log likelihood             =  992.1211      Prob > chi2        =    0.0000
```

dvsi	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
access_finance	.0007634	.0258108	0.03	0.976	-.0498248	.0513517
comp	.0129062	.0031981	4.04	0.000	.006638	.0191744
bsze	-.0015427	.0005788	-2.67	0.008	-.0026771	-.0004082
boind	.002631	.0004793	5.49	0.000	.0016916	.0035705
bgd	.0004702	.0001275	3.69	0.000	.0002202	.0007201
bcsrc	-.0050716	.0057552	-0.88	0.378	-.0163516	.0062084
csze	.0035096	.0008671	4.05	0.000	.0018101	.0052091
age	.0255654	.002853	8.96	0.000	.0199737	.0311572
envp	.2004404	.0136343	14.70	0.000	.1737178	.2271631
lev	.0081416	.002843	2.86	0.004	.0025695	.0137138
_cons	1.42e-14	.0195117	0.00	1.000	-.0382423	.0382423

WITH MODERATION

```
. xtpcse dvsi access_finance comp bsze boind bgd bcsrc envp demeaned_bsz_envp demeaned_bin_envp
demeaned_bgd_envp demeaned_bcsrc_envp csze ag > e lev

Linear regression, correlated panels corrected standard errors (PCSEs)

Group variable:   id                     Number of obs     =          504
Time variable:    year                   Number of groups  =           84
Panels:           correlated (balanced)  Obs per group:
Autocorrelation:  no autocorrelation                  min   =            6
                                                      avg   =            6
                                                      max   =            6
Estimated covariances      =   3570
                                              R-squared       =      0.6793
Estimated autocorrelations =   0                                         Wald  chi2(14)      =
14927.51
Estimated coefficients     =   15                                        Prob  >  chi2       =
0.0000

------------------------------------------------------------------------------------
                    |           Panel-corrected
               dvsi |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------
```

```
     access_finance |   .0077456   .0126486     0.61   0.540    -.0170453    .0325364
               comp |   .0123885   .0016599     7.46   0.000     .0091351    .0156419
               bsze |  -.0014565   .0004201    -3.47   0.001    -.0022799    -.000633
              boind |   .0029563   .0006073     4.87   0.000     .0017661    .0041465
                bgd |   .0004645   .0000542     8.57   0.000     .0003583    .0005708
              bcsrc |  -.0084514   .0031093    -2.72   0.007    -.0145455   -.0023573
               envp |   .2012467   .0093412    21.54   0.000     .1829383    .2195551
  demeaned_bsz_envp |   .0018026   .0029269     0.62   0.538    -.0039341    .0075392
  demeaned_bin_envp |  -.0047792   .0036967    -1.29   0.196    -.0120246    .0024661
  demeaned_bgd_envp |  -.0001785   .0007276    -0.25   0.806    -.0016045    .0012475
demeaned_bcsrc_envp |   .0782625   .0334117     2.34   0.019     .0127768    .1437481
               csze |   .0035736    .000543     6.58   0.000     .0025094    .0046379
                age |   .0237499   .0020822    11.41   0.000     .0196689    .0278308
                lev |   .0082476    .001226     6.73   0.000     .0058446    .0106505
              _cons |   .0032511   .0104569     0.31   0.756    -.0172441    .0237464
------------------------------------------------------------------------------------

 xtscc dvsi access_finance comp bsze boind bgd bcsrc envp demeaned_bsz_envp demeaned_bin_envp
demeaned_bgd_envp demeaned_bcsrc_envp csze age
>  lev
Regression with Driscoll-Kraay standard errors   Number of obs     =       504
Method: Pooled OLS                               Number of groups  =        84
Group variable (i): id                           F( 14,    5)      =   3555.27
maximum lag: 2                                   Prob > F          =    0.0000
```

R-squared	=	0.6793
Root MSE	=	0.0342

dvsi	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
access_finance	.0077456	.0071481	1.08	0.328	-.0106293	.0261204
comp	.0123885	.0025525	4.85	0.005	.0058272	.0189499
bsze	-.0014565	.0005005	-2.91	0.033	-.0027431	-.0001698
boind	.0029563	.0006008	4.92	0.004	.0014119	.0045007
bgd	.0004645	.0000229	20.27	0.000	.0004056	.0005234
bcsrc	-.0084514	.0063918	-1.32	0.243	-.024882	.0079793
envp	.2012467	.0050071	40.19	0.000	.1883755	.2141179
demeaned_bsz_envp	.0018026	.0050646	0.36	0.736	-.0112163	.0148214
demeaned_bin_envp	-.0047792	.0050141	-0.95	0.384	-.0176684	.0081099
demeaned_bgd_envp	-.0001785	.001071	-0.17	0.874	-.0029315	.0025745
demeaned_bcsrc_envp	.0782625	.0457419	1.71	0.148	-.0393209	.1958458
csze	.0035736	.0011128	3.21	0.024	.0007132	.0064341
age	.0237499	.0028051	8.47	0.000	.0165392	.0309606
lev	.0082476	.000973	8.48	0.000	.0057465	.0107487
_cons	.0032511	.0073731	0.44	0.678	-.015702	.0222043

CROSS SECTIONAL DEPENDENCY

```
linktest

      Source |       SS           df       MS      Number of obs   =       504
-------------+----------------------------------   F(2, 501)       =    542.36
       Model |  1.21651559         2  .608257796   Prob > F        =    0.0000
    Residual |  .561877187       501  .001121511   R-squared       =    0.6841
-------------+----------------------------------   Adj R-squared   =    0.6828
       Total |  1.77839278       503  .003535572   Root MSE        =    .03349


------------------------------------------------------------------------------
        dvsi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        _hat |   .9194506   .0874687    10.51   0.000     .7475999    1.091301
      _hatsq |   .1730037   .1761722     0.98   0.327    -.1731237    .5191311
       _cons |   .0073382   .0125814     0.58   0.560    -.0173807     .032057
------------------------------------------------------------------------------
```