

Index

- Accidental sampling, 97
- Accommodating as conflict, 242
- Accommodation industry, 324–325
- Adashi dashi*, 157
- ADF-Fisher Chi-square test, 253
- Advisory Committee on Community Policing (ACCP), 50
- Advocacy
 - communication, 118
 - public, 118
- Afrexim Bank, 142
- Africa
 - debt, 248–250
 - smart city initiatives in, 281–282
- Africa Gas Pipeline, 317
- African agenda, 310
- African Continental Free Trade Agreement (AfCFTA), 29, 34, 41, 352–354
- African Continental Free Trade Area (AfCFTA), 37–38, 40–41, 61–62, 313
 - agreement, 316–317
- African Development Bank, 34
- African economies, 61–62
 - conceptualising FDI, Trade and COVID-19 scenario for, 63–67
 - methodology, 69–72
 - neural network analysis for FDI, Trade and COVID-19 scenario, 72–74
 - neural network feedforward structure, 72
 - review of literature, 68–69
- African geopolitical socioeconomy, 354
- African green deal
 - economic issues, 317–318
 - financing AUGD, 318
 - governance issues, 319
 - legal/regulatory issues, 316–317
 - towards post-COVID-19 recovery, 316–319
 - technological issues, 318–319
- African Nationally Determined Contributions Hub (NDCs Hub), 310, 316–317, 319
- African Renewable Energy Initiative (AREI), 313, 318
- African Union (AU), 6, 310, 318
- African Union Green Deal (AUGD), 310
- Age, 343
- Agrarian, 156
- Agree (A), 341
- Agricultural commodities, 82
- Agricultural risks, 164
- Agricultural shocks, 82–83
- Agriculture, 156, 164, 169–170
- Agro-processors, 83–84
- AidData dataset, 185
- Alternative Dispute Resolution (ADR), 37–38, 41
- Analysis of Variance (ANOVA), 269–270
- Analytical procedure, 124–125
- Angola, socio-economic shocks in, 35–37
- Anthropocentrism, 311
- Anti-Dumping measures (ADP), 2, 74
- Antithesis of security, 52
- Anxiety, 52, 102
- Artificial intelligence (AI), 354
- Artisans
 - knowledge of coronavirus disease, 98–99

- positions on existence of
 - coronavirus disease, 99
- in socio-economic development, 97–98
- Aspirations, 138
- Asset
 - appropriate documentation of, 163–164
 - ownership, 129
- Attitudes, 138
- Augmented Dickey-Fuller model (ADF model), 172
 - ADF unit root test, 174
- Augmented-Solow model, 189
- Automated Teller Machine (ATM), 337, 342–343
- Automobile Services, 97
- Autoregressive distributed lag (ARDL), 170–172, 252
 - diagnostic test analysis, 177
 - results of ARDL estimation, 174
- Auxiliary workers, 296–297, 299–300
- Avoidance, 242

- Balance of trade (BOT), 203–204
- Behaviour change, 111–112
- Behavioural Immune System, 296
- Big-data, 354
- Bill of Rights, 37
- Bioeconomy Cross-sectoral National Action Agenda, 355–356
- ‘Bioregionalism’, 311
- Bivariate extreme regression methods, 171
- Bleeding, 355
 - trade, 355–356
- Bound test, 172
- Brazil, Russia, India, China and South Africa (BRICS), 250–251
- Breast milk, non-infectious COVID-19 viral RNA in, 110
- Breastfeeding, 109, 111
- Budget deficits, 122–123
- Bus rapid transit systems (BRT systems), 283–284
- Business development, 1, 156
 - advance financing systems for, 159–160
 - in Rural Nigeria, 158–159
- Capitalism, 238
- Capitalist economies, 138
- Cash-less Nigeria policy, 338–339
- Cashless
 - economy, 338
 - instrument function, 339
 - payment system, 336
- Cashless policy, 338, 346
 - instruments, 338, 346
 - in Nigeria, 337
- Central Bank of Nigeria (CBN), 142, 172, 336
- Ceteris paribus*, 176–177
- China Africa Research Initiative (CARI), 4, 185
- Chinese debt repayments, 184–185
- Chinese loans
 - in Africa, 184–185
 - composition in African countries, 185–188
- Citizen Social Accountability
 - Engagement Forums, 17–18
- City of Johannesburg (CoJ), 282–283, 285
 - CoJ Smart City Office, 283
- Class demarcations, 238
- Climate change, 164, 264
- Cluster analysis (CA), 125
- Code of Social Security, 15–16
- Cognitive process, 97
- Collaborating, 242
- Communication
 - advocacy, 118
 - inadequate, 113–114
 - structural, 115
- Community-centred tourism, 327
- Companies and Allied Matters Act (2020), 33
- Companies Income Tax (Amendment) Act Cap, 33
- Company and Allied Matters Act, 223
- Competing, 242

- Compromise management style, 242
- Computational techniques, 62
- Computational techniques, 69
- 'Computer Village', 283–284
- Conference of the Parties (COP), 312
- Conflict, 237
 - management styles, 242
- Constrained assistance programmes, 17
- Contingency theory, 222
- Cooperative societies, 158–159
- Coping strategies, 83–84, 299–300
- Coronavirus (COVID-19), 1, 28, 33–34, 48, 61–62, 96, 202, 219–220, 236–237, 241–242, 250, 264, 296–298, 310, 324, 326, 352
 - adherence to preventive measures of, 100–101
 - in Africa, 247–248
 - Africa's debt, 248–250
 - artisans' knowledge of, 98–99
 - artisans' positions on existence of, 99
 - challenges experienced by tomato stakeholders during, 88–90
 - challenges faced in workplace environment, 298–299
 - challenges in fighting against, 105
 - coping strategies, 299–300
 - crisis in South Africa, 296
 - disease outbreak, 83
 - disposition to and adoption of preventive measures against, 100
 - empirical literature review, 252
 - empirical literature review, 297–300
 - and entrepreneurship, 140–143
 - factors influencing adherence to existing preventive measures of, 101–102
 - household conflict and, 237–238
 - loan implications from IMF and World Bank, 250–251
 - lockdown strategy, 325
 - management strategies, economic well-being and perceived vulnerability, 103–105
 - methodology, 13, 300–301
 - model specification and estimation of results, 252–253
 - and Nigeria experience, 49–50
 - Nigeria in, 83–84
 - opportunities and challenges of achieving smart cities amid COVID-19 pandemic, 285–286
 - opportunities created by, 145, 148, 150
 - owners/managers actions to mitigate impacts of COVID-19 on enterprises, 226–227
 - pandemic, 144
 - pandemic impact on smart cities, 280
 - pandemic mitigatory strategies, 13
 - performance of Africa's Health and Educational Sectors in 'new normal', 3
 - post-COVID economic resilience and development in Africa, 5–6
 - rapid urbanisation affecting achievement of smart cities amid, 286–287
 - relationship between economic activities of tomato stakeholders before and during, 85–88
 - results presentation and analysis, 253–259
 - roles of social workers and social auxiliary workers, 298
 - sectoral development and trade in post-COVID-19 Africa, 4–5
 - services and sustainable development in post-COVID-19 Africa, 6
 - shocks during pandemics, 14–15

- small and medium scale enterprises
 - and, 220–221
 - social protection in SADC region, 15–16
 - socio-economic impact of, 202–203
 - socio-economic shocks owing to
 - outbreak of, 28
 - socio-psychological effects of
 - perceived vulnerability, 102–103
 - socioeconomic shocks and
 - development in Africa, 1–2
 - South Africa, 18–19
 - sustainable strategies to mitigate
 - challenges, 20–21
 - theoretical background, 251
 - unintended consequences on
 - achievement of smart cities, 284–287
 - working environment, 297
 - Zimbabwe, 16
- Correlation matrix, 191
- ‘Covid-19 social relief of distress grant’, 18–19
- Credit
- constraints, 129
 - schemes in Nigeria, 162
- Critical Discourse Analysis (CDA), 300
- Critical junctures, 144
- Cronbach’s Alpha unwavering quality test, 341
- Cross-tabulation analysis, 128–129
- Crowding-out effect, 188
- Cumulative sum of recursive residuals (CUSUM), 174
- Cumulative sum of squares of recursive residuals (CUSUMq), 174
- ‘Cybernetically planned cities’, 280
- Data
- analysis, 330–331
 - collection process, 327
 - description, 123
- Debt, 252–253
- Debt Laffer curve theory, 188, 251
- Debt overhang theory, 188, 251
- Democratic party, 309–310
- Department of State Services (DSS), 55–56
- Descriptive statistics, 206–208
- Desert-to-Power project, 317
- Digital economy, bioeconomy, science, technology and innovation strategy (DEBSTI strategy), 355–356
- Digital economy and society index (DESI), 354
- Digital technologies, 38
- Digital trade tools, 353–354
- Digitalisation, 38–39, 352, 354
 - in Africa’s agri-food space, 355
- Disagree (D), 341
- Distributed ledger technologies (DLT), 281
- Divisional Police Officer (DPO), 53
- Dynamic panel data model, 189
- ‘E-services’, 281
- Ecocentrism, 311
- Economic Community of West African States (ECOWAS), 41
- Economic crises, 82–83
- Economic development, 203–204, 325
- Economic growth, 138, 142–143
 - composition of Chinese loans in African countries, 185–188
 - estimation technique, 189–191
 - findings, 195–196
 - results, 191–196
 - theoretical underpinning, 188–191
 - transmission channels of external debt to growth of recipient economy, 188
- Economic shocks, 14, 138
 - in Africa, 30
- Economic well-being, 103–105
- Economics ramification of pandemic, 222
- Edible backyard
 - factors affected production during lockdown, 270

- household food security, 267–269
- literature review, 265–266
- methodology, 269–270
- reasons for not considering farming
 - as major occupation, 271
- results, 270–273
- sustainable livelihood, 266–267
- theoretical framework, 266–269
- Eko Atlantic City south of Lagos, 283–284
- Electricity price (ELECTP), 203–204
- Electronic instalments, 338
- Electronic system, 336
- Electronic-based exchanges, 338
- Embedded opportunities in Nigeria, 144–149
- Emissions Trading Scheme (ETS), 315
- Emotions, 54
- Employees, 324
- Employment, 122–123
- Employment in Nigeria, 83–84
- Energy sector performance
 - data sources and measurement of variables, 203–204
 - descriptive statistics, 206–208
 - estimation technique, 204–206
 - impulse response functions and forecast error variance decomposition, 212–214
- Kao residual co-integration result, 208–212
- lag length selection criteria, 208
- methodology, 203–206
- results, 206–214
- socio-economic shocks on, 203
- variance decomposition, 214
- Enterprises
 - characteristics of, 223–226
 - owners/managers actions to mitigate impacts of COVID-19 on, 226–227
- Entrepreneurship, 138, 156
 - COVID-19 and, 140–143
 - embedded opportunities in Nigeria, 144–149
 - insights from literature, 139–140
 - policy implications, 149–150
- ERIC database, 13
- Error correction model, 173–174
- Estimation technique, 189–191
- Estimation technique, 204–206
- Esusu* practice, 157
- EU Green Deal (EUGD), 309–310, 313–314
- Euro Area countries (EA countries), 252
- European Commission's strategy, 314
- European Investment Bank (EIB), 315
- European Union (EU), 309–310, 314
- European Union Green Deal (EUGD), 314
- EUGD Investment Plan, 314–315
- Exchange rate (ER), 172
 - and employment in Nigeria, 83–84
- Exclusive breastfeeding, 109
- Exogenous growth model, 188
- Exogenous variable, 205
- Expectancy theory, 238
- Explanatory variables, 124
- External Debt-Augmented version of Solow growth model, 189
- External debt-GDP ratio, 184
- F*-test, 172, 177
- Face masks, 148–149
- Fear, 102
 - of stigmatisation, 99
- Federal Capital Territory (FCT), 53–54
- Federal Republic of Nigeria (FRN), 51–52
- Female-headed households (FHHs), 122–123
 - socio-economic and institutional drivers of, 129–132
 - socio-economic shocks occasioned by COVID-19 pandemic for, 125–127
 - vulnerability indices of, 128–129
- Finance in rural Nigeria and small business development, 157–158

- Financial crises, 324
- Financial dualism, 157
- Financial effect of COVID-19, 324
- Financial transaction, 341–342
- Financial transactions, 336–337, 343
- Financing AUGD, 318
- Fintech innovation, 354
- First-time mothers, 117
- Fiscal policy, 248
- Fisher-type tests, 253
- Fixed effects model (FE model), 140, 252–253, 256
- Food, 264
 - food and beverage industry, 324–325
 - insecurity, 264
 - research community, 264
 - security, 1, 265
- Food, Health and Trade Systems, 352–354
- Forecast error variance decomposition, 212–214
- Foreign direct investment (FDI), 2, 318
 - and COVID-19 Scenario for African economies, 63–67
- Foreign Direct Investment Inflows (FDII), 74
- Foreign Direct Investment Outflows (FDIO), 2, 74
- Foreign Direct Investment Stock (FDIS), 74
- Formal finance, 158
- Formal financial system, 156
- Formal financing. *See also* Informal financing, 159
- Fourth Industrial Revolution (4IR), 282, 284
 - case Lagos, Nigeria, 283–284
 - case of Accra, Ghana, 283
 - case of Johannesburg, South Africa, 282–283
- Free Trade Zones (FTZs), 353
- Fundamental human rights of citizens, 29
- Gauteng City-Region Observatory (GCRO), 283
- Gender, 343
 - analytical procedure, 124–125
 - and COVID-19 response strategy, 132–133
 - data description and sampling technique, 123
 - explanatory variables, 124
 - inequality, 13
 - methodology, 123–125
 - results, 125–132
 - socio-economic and institutional drivers of MHHs and FHHs vulnerability, 129–132
 - socio-economic shocks occasioned by COVID-19 pandemic for MHHs and FHHs, 125–127
 - vulnerability indicators, 124
 - vulnerability indices of FHHs and MHHs, 128–129
- General Household Survey (GHS), 123
- Ghana, socio-economic shocks in, 35–37
- Global Chinese Official Finance Database of Aid-Data, 185
- Global economic indicators, 122–123
- Global economic shutdown, 67
- Global financial crises, 324
- Global food crisis, 265–266
- Global health pandemic, 248–249
- Global poverty, 122–123
- Globalisation for African economies, 67
- GMM panel VAR estimation, 191–192, 194
- Google Scholar, 13
- Governance issues, 319
- Government debt (GOVTD), 203–204
- Government expenditures, 122–123
- Granger causality tests, 191
- Grecian tourism, 327
- Greece economy, 330–331
- Green deal arrangements, 313–315
 - green deal funding plan and COVID-19 rethink, 314–315

- US Green New Deal and EU Green Deal, 313–314
- Green deal funding plan, 314–315
- ‘Green new deal’ concept, 309–310
- Green recovery
 - building blocks for African green deal towards post-COVID-19 recovery, 316–319
 - green deal arrangements, 313–315
 - green theory framework, 311–313
 - literature review, theoretical framework and methodological approach, 311–313
 - methodological approach, 313
 - perceptions of and responses to unprecedented climatic and health events, 311
- Green theory, 311, 313
 - of value, 311
- Greenhouse gases (GHGs), 314
- Gross Domestic Product (GDP), 2, 61–62, 169–170, 220
 - of African economies, 74
 - growth, 83–84, 122–123
- Gross Domestic Product per capita (GDPPC), 203–204
- Growth model, 188
- Growth nexus, 252
- Health crisis, 219–220
- High transaction costs, 163
- High-income countries (HICs), 14
- Highly Indebted Poor Countries (HIPC), 249–250
- Home gardening, 265
- Hospitalisations, 354
- Hospitality sector, 327
- Household conflict, 241–242
 - and COVID-19, 237–238
 - household challenges and conflict during COVID-19 lockdown in Nigeria, 238–240
 - management, 237
 - management styles, 242
 - methodology, 241
 - theoretical review, 238
- Violence against Persons (Prohibition) Act, 240–241
- Household food security, 267–269
- Housing Construction services, 97
- Human capital, 30
- Human Rights Violation (HRV), 52–53
- Human Rights-Based framework for social protection, 13
- Humanitarian crisis management, 1
- Hypotheses testing, 330–331
 - summary of test of hypotheses, 331
- ICT for Accelerated Development (IC4AD), 283
- Ida (Tropical cyclone), 309–310
- Im Pesaran Shin (IPS), 208
- Impulse response functions (IRF), 212–214
- In-depth interview (IDI), 97, 221
- In-kind transfers, 19
- Inadequate communication, 113–114
- Inadequate information, 117
- Income, 343
 - shocks, 83
- Inferential statistics, 85
- Inflation (INF), 83–84, 172, 203–204, 256–257
- Informal finance institutions, 158
- Informal financing
 - options, 158–159
 - systems, 157
- Informal groups, 158–161
- Information and Communication Technology (ICT), 336
- Innovation, 138
- Insecurity, 51–52
 - corona virus and Nigeria experience, 49–50
 - literature review, 49–50
 - materials and methods, 49
 - policy recommendations, 56
 - security and insecurity, 51–52
 - security situation in Nigeria, 47–48

- selected incident of security bridge during COVID-19 pandemic in Nigeria, 52–54
- socio-economic impact of COVID-19 pandemic lockdown policy in Nigeria, 54–56
- theoretical framework, 50–51
- Inspector General of Police (IGP), 48–49
- Institutional drivers of MHHs and FHHs vulnerability to COVID-19–related shocks, 129–132
- Institutional financing options, 158–159
- Institutional theory, 50, 341–342
- Insufficient ownership records, 163–164
- Intended NDCs (INDCs), 316–317
- Intending, 110
- International Air Transport Association (IATA), 325
- International Covenant on Civil and Political Rights, 39
- International Monetary Fund (IMF), 5, 34, 69, 142, 184, 248, 250
 - loan implications from, 250–251
- Islamic Development Bank, 142
- Jarque-Bera statistic, 206, 208
- Job losses, 222–223
- Johansen co-integration approach, 171, 252
- Jordan economy, 327
- Jordan tourism sector, 327
- K-means approach, 125
- Kano State, Nigeria, 84
- Kao residual co-integration result, 208, 210, 212
- Kenya, socio-economic shocks in, 35–37
- Kenyan Constitution, 37
- Key Informant Interview (KII), 97
- Knowledgeable audience, 110
- Kurtosis, 206, 208
- Lag length selection criteria, 208–209
- Lag order selection, 193
- Lagos, Nigeria
 - cash-less Nigeria policy, 338–339
 - definition of variables, 342–343
 - history of payment systems, 337–338
 - methodology, 340–343
 - model specification, 341–342
 - research design and sample, 340
 - research instrument and reliability, 340–341
 - results, 343–346
 - results from descriptive analysis, 343–344
 - results from regression analysis, 344, 346
 - review of literature, 337–339
- Legal strategies for addressing socio-economic shocks in Africa, 37–39
- Legal system, 28
 - effects in addressing socio-economic shocks in Africa, 32–34
 - hurdles against legal systems in addressing socio-economic shocks in Africa, 34
- Levin Lin Chu (LLC), 208
- Library-based doctrinal legal research technique, 29
- Likert scale, 341
- Liquidity constraint theory, 188
- Livelihood diversification, 131–132
- Living Standards Measurement Study–Integrated Surveys on Agriculture (LSMS-ISA), 123, 160
- Loan implications from IMF and World Bank, 250–251
- Local Government Areas, 273
- Lockdown, 222–223, 237–238, 264
 - conflict during, 237
 - defaulting against, 102

- household challenges and conflict
 - during COVID-19 lockdown in Nigeria, 238–240
- measures, 17
- process of implementing lockdown measures, 105
- travelling restriction during, 100
- Logit regression method, 342
- Long-run estimates analysis, 174–175
- Low economic activity, 163
- Low-middle income countries (LMCIs), 14
- Macroeconomic variables, 83–84
- MainOne's Lagos Digital Plan, 283–284
- Male-headed households (MHHs), 122–123
 - socio-economic and institutional drivers of, 129–132
 - socio-economic shocks occasioned by COVID-19 pandemic for, 125–127
 - vulnerability indices of, 128–129
- Market failures, 138
- Masked heroes, 301
- Mass media, 96
- MEDLINE database, 13
- Mental health hazards, 296
- Merchandise Exports (MEXP), 74
- Merchandise Imports (MIMP), 74
- Merchandise trade, 191
- Metropolitan municipalities, 282–283
- Micro, small and medium enterprises (MSMEs), 156, 159
- Migrant workers, 20
- Miscommunication, 115–116
- Mobile banking (MOBK), 337, 342–343
- Mobile payment system, 337
- Modus operandi, 29
- Motive behind entrepreneurship, 139
- Multi-stage sampling technique, 84
- Multiannual financial framework (MFF), 310, 315
- Multilateral Debt Relief Initiative (MDRI), 249–250
- Multiple case study design, 280
- Multiple component analysis (MCA), 125
- National Association of Small and Medium Scale Industries (NASSI), 221
- National economic indicators, 122–123
- National Human Rights Commission (NHRC), 48–49
- National Social Protection Policy Framework, 16–17
 - for Zimbabwe, 17
- Necessity entrepreneurship, 138–139
- Network information, 72–74
- Neural network, 69
 - analysis for FDI, Trade and COVID-19 scenario, 72–74
 - feedforward structure, 72
- New Partnership for Africa's Development (NEPAD), 316
- Next Generation EU (NGEU), 310
- Nigeria, 82, 169–170
 - corona virus and Nigeria experience, 49–50
 - COVID-19 in, 83–84
 - embedded opportunities in, 144–149
 - household challenges and conflict during COVID-19 lockdown in, 238–240
 - issues and prospects for sustainable finance and credit schemes in rural systems in, 162
 - security situation in, 47–48
 - selected incident of security bridge during COVID-19 pandemic in, 52–54
 - socio-economic impact of COVID-19 pandemic lockdown policy in, 54–56
 - socio-economic impact of lockdown in, 49

- socio-economic shocks in, 35–37
- Nigeria COVID-19 National Longitudinal Phone Survey, 123
- Nigeria Customs Service (NCS), 55–56
- Nigeria Police Force (NPF), 48–49
- Nigeria Security and Civil Defence Corps (NSCDC), 47–48
- Nigeria's Centre for Disease Control (NCDC), 48–49, 83
- Nigeria's Companies Allied Matters Act, 41–42
- Nigerian Agricultural Credit Banks (NACB), 225
- Nigerian Bureau of Statistics (NBS), 123, 221
- Nigerian Constitution, 37
- Nigerian economy, 236
- Nigerian Immigration Service (NIS), 55–56
- Nigerian Police Force (NPF), 49
- Nigerian Stock Exchange, 35–36
- Nigerian tourism industry, 324
 - business effect of COVID-19 pandemic in, 326
 - conceptual clarifications and linkages, 324–325
 - COVID-19 and, 330
 - data analysis and hypotheses testing, 330–331
 - empirical studies/perceived gaps, 326–327
 - empirics, 328–331
 - insight from literature, 324–327
 - methodological approaches, 327
 - respondents profile, 328
 - responses to research questions, 328–330
 - tourism sector affected most by, 331
- Non-agricultural shocks, 83
- Non-infectious COVID-19 viral RNA in breast milk, 110
- Nudge theory, 355
- 'Off-the-books' entrepreneurs, 139
- Oil palm. *See* Palm oil (*Elaeis guineensis*)
- Oil price shock, 33–34
- Oil production (OILP), 203–204
- Oil shocks, 82–83
- Online platforms, 298–299
- Operational credit, 273
- Opportunity entrepreneurship, 139
- Opportunity-driven entrepreneurships, 138–139
- Ordered logistic model, 125
- Ordinary Least Squares (OLS), 69, 252
 - estimator, 172
- Organisation for Economic Co-operation and Development (OECD), 34, 61–62, 138
- Orthogonalised Impulse Response Functions (OIRFs), 197
- Osun State, Nigeria, coronavirus disease in
 - adherence to preventive measures of COVID-19, 100–101
 - artisans in socio-economic development, 97–98
 - artisans' knowledge of coronavirus disease, 98–99
 - artisans' positions on existence of coronavirus disease, 99
 - challenges in fighting against COVID-19, 105
 - COVID-19 management strategies, economic well-being and perceived vulnerability, 103–105
 - disposition to and adoption of preventive measures against coronavirus disease, 100
 - factors influencing adherence to existing preventive measures of COVID-19, 101–102
 - findings, 105–106
 - methodology, 97
 - PMT, 97
 - research and socio-economic issue, 96

- socio-psychological effects of
perceived vulnerability to
COVID-19, 102–103
- Osusu*, 157
- Out-of-court settlements, 36
- Paired samples *t*-test, 85
- Palm oil (*Elaeis guineensis*), 169–170
 - analysis of ARDL diagnostic tests, 177
 - analytical procedure, 172
 - insights from literature, 171–172
 - long-run estimates analysis, 174–175
 - method of analysis, 172–174
 - model specification, 173–174
 - results of ARDL estimation, 174
 - short-run estimates analysis, 176–177
 - sources of data, 172
 - unit root test estimation, 174
- Pandemic preparedness, 352–354
- Pandemics, 138, 149, 156
 - measures during, 14–15
 - shocks during, 14–15
- Panel data model, 252
- Panel quantile process, 257–259
- Panel unit root test, 193
- Panel VAR model, 190
- Payment system, 336–338
- Pearson correlation analysis, 327
- Pearson's chi-squared test of
independence, 128–129
- Perceived vulnerability, 103–105
- Personal digital assistant (PDA),
342–343
- Personal protective equipment (PPE),
144, 301
- Physical health hazards, 296
- Point of Sale machine (POS machine),
342–343
- Point of Sale Terminal transaction
(POS transaction), 337
- Population density, 162
- Post-COVID-19 era, 313
- Poverty, 142–143
- PP-Fisher Chi-square test, 253
- Practicing, 110
- Pre-knowledgeable audience, 110
- Presupposition, 301
- Preventive measures, 96
 - disposition to and adoption of
preventive measures against
coronavirus disease, 100
- Price fluctuations of palm oil, 170
in Nigeria, 170–171
- Protection motivation theory (PMT),
97
- Public advocacy, 118
- Public Health Emergency of
International Concern, 96
- Public services, 282–283
- Public-private partnerships (PPPs), 283
- PubMed, 13
- Qualitative approach, 280
- Qualitative thematic analysis, 280
- Quantile regression models, 252
- Questionnaires, 340–341
- Rapid urbanisation affecting
achievement of smart cities,
286–287
- Recovery and Resilience Facility
(RRF), 315
- Recovery from socio-economic shocks
in Africa, 28
- Regional Economic Communities
(RECs), 310
- Regional economic cooperation and
integration, 40
- Regression models, 69
- Regulatory reforms, 36
- Reliability test, 341
- Reluctant entrepreneurs, 139
- Research
 - design and sample, 340
 - instrument, 340–341
 - questionnaire, 343
 - reliability, 340–341
- Resilience among breastfeeding
mothers

- behavioural issues, 116–117
- findings, 111–116
- inadequate communication, 113–114
- inadequate information, 117
- methodology, 111
- miscommunication, 115–116
- non-infectious COVID-19 viral RNA in breast milk, 110
- research approach, 111
- structural communication, 115
- structural issues, 117–118
- theoretical framework, 110
- unplanned pregnancies and need for behaviour change, 111–112
- Respondents profile, 328–330
- Response strategies for post-COVID, 121–122
- Return on assets (ROA), 339
- Return on equity (ROE), 339
- Rural areas
 - of developing countries, 156–157
 - entrepreneurship and business development in, 156
 - of higher population density, 162
- Rural dwellers, 156
- Rural Nigeria
 - finance in, 157–158
 - institutional financing options for socioeconomic shocks and business development in, 158–159
- SADC region, social protection in, 15–16
- Sage Journals Online, 13
- Sampling technique, 123
- SARS-CoV-2, 96
- Sasakawa Africa Association (SAA), 83–84
- Schwarz's Information Criterion (SIC), 172
- Secondary School Certificate (SSCE), 328
- Security, 51–52
 - sector, 55–56
- Self-actualisation entrepreneurs, 139
- Self-efficacy, 97
- Semi-formal finance, 158
- Services exports (SEMP), 2, 74
- Services imports (SIMP), 2, 74
- Shock(s), 82–83, 138
 - mitigation, 121–122
 - during pandemics, 14–15
- Short-run estimates analysis, 176–177
- Sine qua non*, 36
- Skewness, 206, 208
- Skype, 33
- Small and medium enterprises (SMEs), 219–220, 319
- Small and medium scale agro-allied manufacturing enterprises (SSAMEs), 220
 - characteristics of enterprises, 223–226
 - government, 229
 - literature and theoretical framework, 221–223
 - methodology, 221
 - owners/managers, 229
 - owners/managers actions to mitigate impacts of COVID-19 on enterprises, 226–227
 - small and medium scale enterprises and COVID-19 pandemic, 220–221
- Small business development, finance in, 157–158
- Smart City, 280–281
 - COVID-19 pandemic impact on, 280
 - Fourth Industrial Revolution, 282–284
 - initiatives in Africa, 281–282
 - methodology, 280
 - opportunities and challenges of achieving smart cities, 285–286
 - rapid urbanisation affecting achievement of smart cities, 286–287

- unintended consequences of
 - COVID-19 pandemic on achievement of, 284–287
- Smart City Growth and Development Strategy 2040, 282–283
- Social auxiliary workers, roles of, 298
- Social Behaviour Change
 - Communication (SBCC) model, 110
- Social distancing, 28–29, 35–36
- Social insurance, 12, 16–17, 239
- Social legislation, 12
- Social network financing, 159
- Social protection, 11–12
 - fundamentals in, 12
 - Human Rights-Based framework for, 13
 - interventions, 14
 - in SADC region, 15–16
 - transformation document, 16–17
- Social safety nets, 36–37
- Social Service Professions Amendment Act, 297–298
- Social services, 297
 - workers, 298, 300
- Social shocks, 14
- Social support networks, 158
- Social transfers, 12
- Social workers, 296–297, 299–300
 - roles of, 298
- SocINDEX, 13
- Socio-economic challenges, 11–12
- Socio-economic development, artisans in, 97–98
- Socio-economic impact, 54–55
 - of COVID-19 pandemic lockdown policy in Nigeria, 54–56
 - security sector, 55–56
- Socio-economic of MHHs and FHHs
 - vulnerability to COVID-19-related shocks, 129–132
- Socio-economic shocks, 122–123
 - in Africa, 28
 - comparison of legal and regulatory responses in Nigeria, Ghana, Angola, Kenya, South Africa in addressing, 35–37
- data sources and measurement of variables, 203–204
- descriptive statistics, 206–208
- on energy sector performance, 203
- estimation technique, 204–206
- hurdles against legal systems in addressing, 34
- impulse response functions and forecast error variance decomposition, 212–214
- Kao residual co-integration result, 208–212
- lag length selection criteria, 208
- legal strategies for addressing, 37–39
- legal system effects in addressing, 32–34
- literature review, 31–39
- methodology, 29
- methodology, 203–206
- occasioned by COVID-19 pandemic for MHHs and FHHs, 125–127
- results, 206–214
- results and findings, 40–41
- in Rural Nigeria, 158–159
- statement of problems, 30–31
- variance decomposition, 214
- Socio-psychological effects of
 - perceived vulnerability to COVID-19, 102–103
- Socioeconomic randomness, 354
- Socioeconomic sustainability tools, 354
- South Africa, 248
 - cash-based transfers, 18–19
 - challenges, 19–20
 - challenges faced in workplace environment, 298–299
 - coping strategies, 299–300
 - COVID-19 crisis in, 304
 - COVID-19 in, 18–19
 - empirical literature review, 297–300
 - in-kind transfers, 19

- methodology, 300–301
- roles of social workers and social auxiliary workers, 298
- socio-economic shocks in, 35–37
- wages labour markets, 19
- South African Council for Social Service Professions (SACSSP), 297–298
- Special Anti-Robbery Squad unit (SARS unit), 49, 54
- Special Economic Zones (SEZs), 353
- Stability test, 196, 211
- Stakeholders, 83–84
 - challenges experienced by, 88–90
 - characteristics, 85–86
 - re-alignment and commitment, 40–41
 - relationship between economic activities of tomato, 85–88
- Standard deviation (SD), 206–208
- STATA software, 269–270
- Stigmatisation, fear of, 99
- Stringency Index, 63
- Strongly Agree (SA), 341
- Strongly Disagree (SD), 341
- Structural adjustment programmes, 184
- Structural communication, 115
- Structural Panel Vector Autoregressive model (SPVAR model), 204–205, 210–211
- Sub-Saharan Africa (SSA), 68, 141–142, 156
- Survey research technique, 340
- Sustainable Development Goals (SDGs), 15, 264, 266, 314
 - SDGs 1, 13, 266
 - SDGs 1. 3, 11–12
 - SDGs 10, 13
 - SDGs 12, 266
 - SDGs 2, 266
 - SDGs 4, 266
- Sustainable energy, 203
- Sustainable Europe Investment Plan (SEIP), 314–315
- Sustainable finance in Nigeria, 162
- Sustainable food production, 264
- Sustainable Livelihoods (SLs), 266–267
- Sustainable strategies to mitigate challenges, 20–21
- Systemic Functional Linguistic theory, 300
- t*-test, 85, 87
- Tariff measures (TRFF), 2, 74
- Tax revenues, 14–15
- Technological issues in African green deal, 318–319
- Teleworking, 298–299
- Textual function, *n*, 300
- Theory of conflict, 238
- Tomato, 82
 - challenges experienced by tomato stakeholders during COVID-19 pandemic, 88–90
 - characteristics of tomato stakeholders, 85–86
 - literature review, 83–84
 - methodology, 84–85
 - relationship between economic activities of tomato stakeholders, 85–88
 - results, 85–90
 - value chain, 82
- Total cost of production (TCP), 172
- Total factor productivity (TFP), 253
- Tourism sector, 324
- Trade
 - and COVID-19 scenario for African economies, 63–67
 - facilitation technologies, 353
 - tech, 354
- ‘Traditional Urbanism’ approach, 285
- ‘Tragedy of commons’, 311
- Transformation document social protection, 16–17
- Transmission channels of external debt, 188
- Transportation
 - industry, 324–325
 - restrictions, 90
- Travel industry, 324–325

- U-shaped hypothesis, 142–143
- UN sustainable development goal 7 (SDG 7), 319
- Undecided (U), 341
- Unemployment, 203–204
- Unemployment Insurance Fund, 36
- Unified Management Model, 282–283
- Unintended consequences of
 - COVID-19 pandemic on smart cities achievement, 284–287
- Unit root test
 - estimation, 174
 - results, 254–255
- United Nations Conference on
 - Environment and Development, 266–267
- United Nations Conferences on Trade and Development (UNCTAD), 69
- United Nations Declaration on
 - Human Rights, 12–13
- United Nations Educational Scientific and Cultural Organization, 29
- United Nations Food Systems Summit, 355
- United States (US), 309–310
- United States Department of
 - Agriculture (USDA), 172
- University of Uyo Teaching Hospital (UUTH), 53
- Unplanned pregnancies, 111–112
- Unrestricted Error Correction Model (UECM), 173
- Urban agriculture (UA), 272
- Urban development plan, 280
- Urbanisation, 280
- US Green New Deal (USGND), 309–310, 313–314
- ‘Utopian’ style of city, 283–284
- Validity test, 341
- Variance decomposition, 214
- Veronica bucket, 148–149
- Violence against Persons (Prohibition) Act, 240–241
- Virtual technologies, 39
- Vulnerability, 12
 - of FHHs and MHHs, 128–129
 - index, 125
 - indicators, 124
- Vulnerable groups, 122
- Wages labour markets, 19
- Welfare, 174–175
 - influence of price mechanism and fluctuations on, 171
 - of palm oil producers, 170–171
 - of rural households, 171
- Well-being of social service workers, 297–298
- West African Power Pool, 317
- World Bank, 15, 34, 142
 - loan implications from, 250–251
- World Development Indicator and Trading Economics, 203–204
- World Development Indicators (WDI), 191
- World Economic Outlook, 61–62
- World Health Organisation (WHO), 29, 96, 110, 144
- World Trade Organization (WTO), 69, 220
- Zimbabwe, COVID-19 in, 16
 - challenges, 16–18
- Zoom app, 33