Agency theory, 112–113	hypotheses development,
AQR. See Asset quality review (AQR)	259-262
ARMA model, 95	net income and administrative
Asian financial crisis, 214	expenses, 273
Asian firms, 214	nonperforming loans,
Asian markets, 64, 66, 68–69, 75, 84	269-270
monthly stock returns for, 69	Bank's leverage behavior
Asset pricing model	following a SCR/UCR change,
capital asset pricing model	242-243
(CAPM), 89–90	near a SCR or UCR change,
intertemporal, 66	239-242, 245-246
Sharpe-Lintner CAPM, 89–90	Bank-specific factors, 205
five-factor, 105–106	Barclays Bond Index, 21–22
intertemporal capital, 66	BBVA. See Banco Bilbao Vizcaya
Asset quality review (AQR), 202	Argentaria (BBVA)
Asymmetric capital gain taxes, 29, 44,	BCI. See Banco de Crédito e
55-56	Inversiones (BCI)
Asymmetric taxation, 29	Bond
Autoregressive conditional	bondholder, 34–35
duration (ACD) model,	investors, 32
164-165	pricing, tax effects on defaultable,
Autoregressive conditional	28
heteroskedasticity (ARCH)	See also specific types of bonds
model, 163	Bond market
	catastrophe, $1-2$
Banco Bilbao Vizcaya Argentaria	treasury, 157–158
(BBVA), 257	Bond market, cat, 5–7
Banco de Crédito e Inversiones (BCI),	and consumption growth rates, 3
256	performance of, 3
Bank leverage decisions, 232–233	quantitative evaluation
Bank of Mongolia (BoM), 110	calibration, 13–17
Bank performance (Chile, Colombia,	cat bond returns, 17-18, 19
and Mexico)	habit sensitivity, 24-25
commercial loans, consumer loans,	market price of cat risks, 18–21
and housing loans, 271	Bond prices, effects of microstructural
data and methodological study,	factors on government,
262-268	157-158
in emerging markets, 258	Bond spreads, 2–4

Book-to-market ratio (B/M),	Chile
90-91	economy, 256
Breusch-Godfrey test,	GDP of, 256
95–96	macroeconomic indicators, 263
Buy-and-hold trading strategy,	worldwide business indicators,
29-30, 33-34	265
,	worldwide governance indicators,
Capital asset pricing model (CAPM),	266
89–90	CO-AR
intertemporal, 66	estimation, 91–95
Sharpe-Lintner CAPM,	estimator, 91, 92, 96-99, 101,
89–90	103-105
Capital gain, 28, 30–31, 55, 56	method, 98-99, 101-103, 105
long-term, 31, 32	Cobb-Douglas technology, 225
and losses, 31	Cochrane-Orcutt transformation, 91
short-term, 31, 32	Colombia
tax penalty on, 44–45	Central Bank, 256-257
	economy, 256-257, 264
Capital gain tax, 31	International Monetary Fund
asymmetric, 29, 44, 55–56	(IMF), 256–257
rate, 30	macroeconomic indicators, 263
CAPM. See Capital asset pricing	worldwide business indicators, 265
model (CAPM)	worldwide governance indicators,
Catastrophe bond market, $1-2$, 9	266
Catastrophic risks, market price of, 20	Commercial banks, non-performing
Cat bond, 16	assets (NPAs) of, 201–202
feature of, 5	Conflict of interest argument,
individual, 2–4	232–233, 234
origination, 5	Constant relative risk aversion (CRRA)
portfolio using, 2	preferences, 4, 9, 18
quantitative evaluation of, 2	Corporate bonds, 28, 32
returns, 17–18, 19	coupon payments on, 30
vs. corporate bonds, 21–24	investors, income tax rate, 46
Cat bond market, 5–7	returns, 28
and consumption growth rates, 3	vs. cat bonds, 21-24
performance of, 3	Corporate financial performance
quantitative evaluation	(CFP), 109–110, 111
calibration, 13–17	measurement, 115–116
cat bond returns, 17-18, 19	vs. Corporate social responsibility
habit sensitivity, 24-25	(CSR), 116, 117
market price of cat risks,	Corporate governance, 214
18-21	Corporate social responsibility (CSR),
Cat risk, market price of,	109–110, 111
18–21	altruistic, 116
CFP. See Corporate financial	correlation tests, 131–134
performance (CFP)	descriptive statistics 128–131

disclosure, 118–120	CSRD. See Corporate social
content analysis, 114–115	responsibility disclosure
effect of CSR on profitability, 112	(CSRD)
indicators, 121	
measurement, 117-122	Defaultable bond pricing, tax effects
of CSR index, 114–115	on, 28
in Mongolian banking sector, 112	Default-free bonds
multiple regression analysis result,	tax-timing option values of
135-140	equilibrium prices and, 41–45
regression models, 124-128	prices and, 38–41
reputation ratings, 115	Default risk, 28, 41
robustness tests, 140	effect of, 28-29
testable hypotheses, 122–124	impact of, 59
themes, 113–114	sensitivity of tax-timing option
theories, 112–113	values to, 47–51
vs. corporate financial performance	"de minimis" OID, 30–31
(CFP), 116, 117	Discount bond, 34, 44-45
Corporate social responsibility	Domestic market, empirical
disclosure (CSRD),	estimations, 73–76
120-121	Downside risk, 64, 67, 68, 73-74, 75
content analysis, 114-115	Dynamics of returns, volatility, and
Corporate social responsibility	trades, 159–163
qualitative disclosure	
(CSRQD), 112, 121–122	Economic policy uncertainty (EPU),
Corporate social responsibility	63-64, 65, 67, 69, 75
reporting disclosure	evidence of international EPU
(CSRRD), 112, 120-121	influence, 77
CRAs. See Credit rating agencies	indexes, 69
(CRAs)	for markets, 71–72, 73
Credit-constrained entry, 227–228	time effects of, 81–84
Credit constraint, 224	Economic primitives, exogenous risk
Credit rating, 231–232	and, 7–9
Credit rating agencies (CRAs), 232,	Efficient market, 91–92
233-234, 235, 241-242,	EGSF. See Employment Generation
248-249	Support Fund (EGSF)
CRHIGH (CRLOW), 241–242	Emerging markets, bank performance
CRHOL, 243	in, 258
CRIG, 242, 244	Empirical estimation, implications
CRRA preferences. See Constant	for, 56–59
relative risk aversion	Employment Generation Support
(CRRA) preferences	Fund (EGSF), 123
CRSG, 242, 244	Endogenous firm entry, 223
CSR. See Corporate social	as propagation mechanism,
responsibility (CSR)	226-228

E. 4	Ei4-1-2- D1- I dii d1 D-4i
Endogenous risk premia and	Fitch's Bank Individual Ratings
sensitivity parameters,	(FBRs), 233, 237, 238,
9–13	241–242
Environmental, social, and	Fixed-income markets, 156
governance (ESG) ratings,	Fixed income, Merrill Lynch fixed
113-114	income database, 24
Equilibrium prices and tax-timing	Flexible-price model, 223
option value, of default-free	Forced liquidation, 28–29
bonds, 41–45	Foreign banks, 255-256, 257,
Equity price, 156	258-259, 260-261, 270
Ethical Investment Research	Foreign ownership of banks,
Service (EIRIS),	hypotheses development,
113-114	262
Exogenous risk and economic	French Financial Security Law, 215
primitives, 7–9	FTSE. See Financial Times Stock
Extent of Disclosure Index, 258	Exchange (FTSE)
External habit, formation	
preferences, 8	GARCH. See Generalized
preferences, o	autoregressive conditional
Fama and French (FF) three factor	heteroscedasticity
model, 90–92	(GARCH)
asset pricing model, 105–106	GAR tests. See Gradation among
FBRs. See Fitch's Bank Individual	rating (GAR) tests
	GDP, 29, 202, 203, 256, 262–264
Ratings (FBRs)	GEDGARCH- M process, 84
Federal Reserve System, 157	Generalized autoregressive
Federal taxes, 32	conditional
Fed's policy, 157	heteroscedasticity
Financial assets, transaction data for,	(GARCH)
156	effect, 159
Financial crisis, Asia, 214	model, 64-65, 73-74, 75
Financial Industry Regulatory	Generalized error distribution (GED)
Authority (FINRA), 2	68
Financial Regulatory Commission,	Gifted rating scales (GRS) test,
110	90-91
Financial sector, hypotheses	Gradation among rating (GAR) tests
development, 262	244
Financial Times Stock Exchange	Growth rate of the economy (GR),
(FTSE), 64	210
FINRA. See Financial Industry	GRS test. See Gifted rating scales
Regulatory Authority	(GRS) test
(FINRA)	
Firm entry, endogenous, 223	Illiquidity problem, 242
as propagation mechanism,	IMF. See International Monetary
226-228	Fund (IMF)

Impulse response	Japanese markets
analysis, 196	listed subsidiaries in, 213, 214-215
function, 164-166, 179-187	data and sample selection,
Income tax rate, for corporate bond	216-218
investors, 46	hypothesis development,
India non-performing assets (NPAs),	215-216
trends in, 203	logistic regression analysis,
Inflation (INF), 210	219-221
Information-based trading, 158, 159	univariate analysis, 218-219
Informed trading, 158, 159, 161–162,	
166–167, 178, 179	Katrina (2005), 2-4, 6, 18-19, 21
differential effects of, 194	Kinder, Lydenberg, and Domini
impact of, 196	(KLD), 113
intensity of, 196	Kolmogorov-Smirnov test, 134
proportion of, 190, 196	
Informed volatility, 191	Labor supply, product variety and
Institutional development, hypotheses	extensive margin on, 227
development, 262	Laissez-faire approach, 256
Institutional investors, 242	Lehman Brothers, 5
Insurance-linked security, 5–6	Liquidation, forced, 28–29
Interdealer trading, 157	Listed subsidiaries in Japanese
Interest rate volatility, changes in,	markets, 213, 214-215
46-47	data and sample selection,
International Fund for Agricultural	216-218
Development (IFAD), 123	hypothesis development, 215-216
International Monetary Fund (IMF),	logistic regression analysis,
256-258	219-221
Intertemporal capital asset pricing	univariate analysis, 218-219
model, 66	LM test for serial correlation, 95
Intertrade arrival time, 164–166	
Investor, 9, 28	Macroeconomic determinants, 204
bond, 32	Macroeconomic factors, 204-205
buy-and-hold, 33, 34	Macroeconomic indicators, 263
corporate bond, income tax rate	Market microstructure models, 161
for, 46	Market microstructure theory,
with external habit formation	161–162, 192–194
preferences, 8	MDH. See Mixture of Distribution
institutional, 242	Hypothesis (MDH)
risk-aversion, 65	Mexico
uninformed, 231–232	banks in, 258
See also specific types of investor	macroeconomic indicators, 263
Investor-pay model, 234–235	worldwide business indicators, 265
IRS, 31	worldwide governance indicators,
Issuer-pay business model 234–235	266

Microstructure theory, 155–156, 161,	On-the-run issues
166, 194	estimation for return VAR of,
Mincer-Zarnowitz method, 192	171-175
Minority shareholders, 214	estimation for volatlity VAR of,
Mixture of Distribution	175–178
Hypothesis (MDH) model,	VAR estimation for, 178-179
162–163	Optimal cutoff level, in short-term
Monetary policy, 157	trading region,
Mongolia	55-56
bank performance from 2009 to	Optimal tax-timing model, 29
2012, 130	Optimal trading strategy,
CSR-CFP relationship, 111	34–36
CSR in Mongolian banking sector,	Ordinary interest income, 31
112	Ordinary least square (OLS)
domestic market shares of	estimation, 91
Mongolian banks, 111	Original issue discount (OID),
financial system, 110	30–31
stock market, 116	Over-the-counter (OTC)
Multiple trading dates,	dealers, 156–157
52–56	market, 156–157
32-30	market, 130–137
Natural disasters, 2–4,	PCA. See Prompt corrective action
15–16	(PCA)
Net interest margin (NIM), 126	Personal taxes, 59
Nonbank financial institutions	Pooled ordinary least square (POLS)
(NBFI), 110	model, 206–207, 209
Noncorporate taxpayers, 31	Premium bond, 34–35
Non-performing assets (NPAs),	Price
202–203, 204, 205,	
202–203, 204, 203, 207–210	contribution and efficiency, 193
of commercial banks, 201–202	dynamics, 155–156
	efficiency, 190–192
data, 205	and tax-timing option value of
hypotheses, 207	default-free bonds,
model and methodology, 206–207	38–45
policy implications, 210	Productivity-hours worked puzzle,
of public sector banks (PSBs), 202	224, 229
trends in India, 203	Product variety, 224
Non-performing loan (NPL), 112,	and extensive margin on labor
126	supply, 227
NPL. See Non-performing loan	Prompt corrective action (PCA),
(NPL)	232–233
NYSE stocks, 156	Public sector banks (PSBs),
	201-203
OID. See Original issue discount	non-performing assets (NPAs) of,
(OID)	202

Real business cycle (RBC) model, 224, 230	Sharpe-Lintner CAPM, 89–90 Short-term trading region, optimal
dynamics and mechanism,	cutoff level in, 55–56
228-229	Solicited credit ratings (SCRs),
frictionless RBC model with no	232-233, 234-237,
entry, 224–225	248-249
Real effective exchange rate (REER),	data and summary statistics,
210	237—238
Real GDP (RGDP), 204	hypotheses development, 234-237
Related party transaction (RPT), 214	method for examining a bank's
Return and trade process, 160–161	leverage behavior, 239-244
Return index (RI), 68	robustness tests, 246-248
Return on asset (ROA), 112,	Special purpose vehicle (SPV), 5
115–116, 126	Spread regressions, 192–194
Return on equity (ROE), 112,	Spurious regression, 91–92, 96,
115–116, 126	105-106
Risk aversion hypothesis, 73–74	CO-AR estimator in, 92–95
Risk-aversion investors, 65	SPV. See Special purpose vehicle
Risk-return relation, in stock	(SPV)
markets, 64	State-price density process, 9
ROA. See Return on asset (ROA)	STI. See Straits Times Index (STI)
Robustness tests, evidence of global	Stock market
EPU influence, 77–81	positive risk-return relation in, 64
ROE. See Return on equity (ROE)	risk, 65
RPT. See Related party transaction	Stock prices
(RPT)	impact of EPU on, 66
Rural Poverty Reduction Program,	index, 69
123	Stock returns
	for Asian markets, 69
Savings and credit cooperatives	excess, estimation of, 74, 76, 78,
(SCCs), 110	79, 80, 82
SBIF. See Superintendencia de Bancos	for markets, 70
e Instituciones Financieras	robustness test of excess, 83
(SBIF)	Straits Times Index (STI), 64 Structural break
SCCs. See Savings and credit	by conducting CO-AR
cooperatives (SCCs)	estimator, 96
SCRs. See Solicited credit ratings	in finance, 96
(SCRs)	25 Size-B/M Portfolio with, 99
Security	25 Size-Inv Portfolio with, 101
insurance-linked, 5–6	32 Size-OP-Inv Portfolio with, 106
zero-beta, 1–2	25 Size-OP Portfolio with, 103
Sensitivity, of tax-timing option	Subdebt spreads, 232–233
values to default risk,	Subsidiaries, listed. see Listed
47–51	subsidiaries in Japanese
Shareholders, minority, 214	markets

Superintendencia de Bancos e	Total factor productivity (TFP)
Instituciones Financieras	shock, 224, 228–229, 230
(SBIF), 256	
	Trading
Swiss Re Cat Bond Indices, 2, 6	dates, multiple, 52–56
T	information-based, 158, 159
Tax	intensity, 156, 159
capital gains, 31	interdealer, 157
effects on defaultable bond pricing,	of treasury securities, 157
28	Transaction costs, 168
penalty on capital gain, 44–45	effects of, 45–46
regime, 46–47	Transactions, for on-the-run
rules, 32	treasuries, 171
scenarios, 37–38	Treasury
Taxation, asymmetric, 29	bond market, 157-158
Tax environment, 30–32	bond returns, 166-167
Tax laws, 31–32, 34	intraday transactions for on-the-
US, 28, 46	run, 171
Taxpayers, noncorporate, 31	price adjustment, 158
Tax-timing model, optimal, 29	returns, 158
Tax-timing option	security, 157, 167, 168
effects of ignoring	Treasury market, 156, 157–158
on estimation of default	information-based trading in, 159
probability, 56–58	issues in. 158
on estimation of implied tax	25 value-weighted Size-B/M portfolio,
rates, 58–59	96–98
value, 29–30	25 value-weighted Size-Inv portfolio,
of default-free bonds,	98–101
38–45	25 value-weighted Size-OP portfolio,
to default risk, 47–51	101–103
	101–103
Tax treatments, 28	LICDs Cos Unsalisited and it notings
asymmetric, 60	UCRs. See Unsolicited credit ratings
TFP shock. See Total factor	(UCRs)
productivity (TFP) shock	Uninformed investors,
32 value-weighted Size-OP-Inv	231–232
Portfolio, 103–105	Unsolicited credit ratings (UCRs),
Three factor model, Fama	232-233, 248-249
and French (FF),	data and summary statistics,
90-91	237-238
Time duration, 164, 194–196	hypotheses development,
coefficients of, 179	234-237
effect of, 161–162, 174–175	method for examining a bank's
stochastic process of, 164	leverage behavior, 239-244
between trades, 163, 175	robustness tests, 246-248
VAR model with, 160	US tax laws, 28, 46

Value-at-risk (VaR), 68, 75, 81, 84 Wash sale, 31-32Vector autoregressive (VAR) model, Weibull autoregressive conditional 159, 160, 161-162, 163, duration (WACD) model, 164, 166–167 184 estimation Weibull distribution, for off-the-run issues, 178-179 164 - 165for return VAR of on-the-run Weighted price contribution (WPC), issues, 171-175 190 - 192for volatlity VAR of on-the-run Weighted price contribution per issues, 175–178 trade (WPCT), 190 - 192Volatility decomposition, 187–190 World Bank, 258, 259, 261-262 and spread regressions, WPC. See Weighted price 166 - 167contribution (WPC) informed, 191 WPCT. See Weighted price VAR model, 162 contribution per trade and volume process, 161–163 (WPCT)

WACD model, 165 Zero-beta securities, 1–2