

The Empirical Determinants Of Stock Market Development – Analysis Of Developed And Developing Economies

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Introduction

The Financial System Of A Country Consists Of:

- Money Market
- Capital Market

Capital Markets Consists Of Two Markets:

- Stock Market
- Bond Market

Stock Market

- Integral Part Of An Economy
- Promotes Capital Accumulation And Capital Formation
- Assists In Economic Growth
- Importance Of Stock Market – Conflict Exist
- Notwithstanding With The Disagreement Regarding The Benefits Of Stock Market, It Is An Integral / Essential Part Of Financial System

Area Of Consideration

- Vulnerability Of Market With Regard To Macro Economic And Institutional Variables
- Theory States That Mostly Macro Economic Variables And Institutional Variables Have A Substantial Effect On The Stock Market
- Is Functioning Of Stock Market In Emerging Economies Is Different With The Developed Economies?

Objectives

- To Analyze The Impact Of Macroeconomic And Institutional Variables On The Stock Market Development Of Developed And Emerging Economies
- The Present Study Contributes To Distinguish The Stock Market Development Behavior Across Developed And Emerging Markets Separately To Find Out The Similarities And Dissimilarities Among These Economies

Literature Review

Author (s)	Article Title	Year	Perceived / Observed
Anson Wong And Zianbo Zhou	Development Of Financial Markets And Economic Growth: Review Of Hong Kong, China, Japan, The United States And The United Kingdom	2011	Authors Have Shown That Stock Market Development Is Positively Correlated With The Economic Growth By Using The Fixed And Random Effect Approach Of Five Countries From The Period 1988 To 2008.

Author (s)	Article Title	Year	Perceived / Observed
Monther Cherif And Kaothar Gazdar	Macroeconomic And Institutional Determinants Of Stock Market Development In MENA Region: New Results From A Panel Data Analysis	2010	Authors Through Instrumental Variable Technique Found That Income Level, Market Liquidity And Saving Rate Positively Affect The Market Where As Interest Rate Has Negative Effect On The Stock Market Development. Besides That, Authors Have Found The Impact Of Political Risk Index Insignificant

Author (s)	Article Title	Year	Perceived / Observed
Charles Amo Yartey	The Determinants Of Stock Market Development In Emerging Economies: Is South Africa Different?	2008	<p>Author Using GMM Approach Found Investment, Income, Liquidity, Private Capital Flow And Banking Sector Development Are Important Determinants Of Stock Market While Inflation And Real Interest Rate Have Insignificant Effect.</p> <p>Besides That, Law And Order, Bureaucratic Quality And Demo. Accountability Have Significant Effect Whereas Corruption Has Insignificant Effect On Stock Market Development.</p> <p>Author Has Also Stated That Above Factors Also Explain The Development Of South African Stock Market.</p>

Author (S)	Article Title	Year	Perceived / Observed
Valeriano F. Garcia And Lin Liu	Macroeconomic Determinants Of Stock Market Development - Journal Of Applied Economics	1999	Authors Have Shown That Income, Saving, Market Liquidity And Development Of Financial Intermediary Are Important Determinants Of Stock Market Development Whereas Macroeconomic Volatility Has Insignificant Effect On The Development Of Stock Market By Using The Pooled Data Of Fifteen Developing And Industrial Countries From The Period 1980 To 1995.

Methodology

Cadeleron-Rossell (1990, 1991) And Yartey (2008)

Basic Model States: Economic Growth And Liquidity Are The Main Determinants Of Stock Market

The Basic Model Is Described As:

$$\log MC = \alpha_1 \log Y + \alpha_2 \log T$$

Where:

MC = Market Capitalization

T = Turnover Ratio, Measured As Liquidity In The Market

Y = Output Per Year Measured As GDP

$$\text{Model : } MC_{it} = \alpha MC_{it-1} + \beta M_{it} + \theta G_{it} + v_{it}$$

Where:

MC_{it} = Market Capitalization Of Listed Firms (% Of GDP)

v = Error Term

M is a Matrix of Macroeconomic variables:

DC_{it} = Private Sector Domestic Credit (% Of GDP)

ST_{it} = Total Value Traded (% Of GDP)

$LGPC_{it}$ = Log Of GDP Per Capita

$DC2_{it}$ = Square Of Private Sector Domestic Credit (% Of GDP)

$FDIN_{it}$ = Foreign Direct Investment (% Of GDP)

INF_{it} = Inflation

INT_{it} = Real Interest Rate

SAV_{it} = Gross Domestic Savings (% Of GDP)

INV_{it} = Gross Domestic Investment (% Of GDP)

$PENI_{it}$ = Portfolio Equity (% Of GDP)

G is a Matrix of Institutional variables:

VA_{it} = Voice And Accountability

PS_{it} = Political Stability And Absence Of Violence/ Terrorism

RQ_{it} = Regulatory Quality

GE_{it} = Government Effectiveness

RL_{it} = Rule Of Law

CC_{it} = Control Of Corruption

Sources of Data:

- This Study Employs Dynamic Panel GMM Method Over The Period Of Twenty Years Ranging From 1996 To 2015
- WGI (World Governance Indicators)- Institutional Variables
- WDI - Macroeconomic Variables
- MSCI (Morgan Stanley Capital International) Index Based Criteria For Classification Among Developed And Emerging Economies

Lists Of Countries / Economies

S. No.	MSCI Developed	S. No.	MSCI Emerging
1	Canada	1	Brazil
2	United States	2	Chile
3	France	3	Colombia
4	Germany	4	Mexico
5	Israel	5	Czech Republic
6	Italy	6	Egypt
7	Netherlands	7	Greece
8	Norway	8	Hungary
9	Spain	9	Poland
10	Switzerland	10	Russia
11	United Kingdom	11	South Africa
12	Australia	12	China
13	Hong Kong	13	India
14	Japan	14	Indonesia
15	Singapore	15	Korea
-	-	16	Pakistan
-	-	17	Thailand

Estimation Method

GMM (Generalized Method Of Moments)

- GMM Corrects For A Potential Presence Of Country Specific Unobserved Effect, And Provides A Consistent Estimates
- Orthogonally Condition Among The Regressors And Error Term Is Expected To Be Met In GMM Not In Fixed Effects Estimator Or Generalized Least Square
- GMM Does Not Require Complete Shape Of Distribution

- GMM Controls The Endogeneity Problem By Utilizing Variables Lag As Instruments

GMM

- Controls Panel-specific Effect
- Contains Lag Of Dependent Variable As Regressors
- Utilizes Instrumental Variable For Regressors
- Controls The Problem Of Endogeneity

Discussion Of Results

Table 1: Macro Economic Determinants of MSCI Developed Economies

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
MC(-1)	0.359	0.364	0.397	0.378	0.407
	(4.542)***	(4.850)***	(5.646)***	(5.836)***	(6.410)***
DC	-2.929	-2.743	-2.329	-2.020	-2.044
	(-0.905)	(-0.851)	(-2.067)**	(-2.607)***	(-2.401)**
ST	0.558	0.543	0.511	0.532	0.489
	(6.938)***	(13.066)***	(20.335)***	(9.807)***	(14.922)***
LGDPCC	142.169	151.768	145.392	116.590	151.686
	(2.031)**	(1.971)**	(1.898)*	(2.009)**	(3.253)**
DC2	0.009	0.009	0.007	0.007	0.006
	(0.862)	(0.803)	(1.814)*	(2.273)**	(2.221)**
FDIN	3.803	3.713	-	-	-
	(1.800)*	(1.759)*	-	-	-
INF	-2.196	-	-	-	-
	(0.520)	-	-	-	-
INT	-	1.725	0.975	1.666	0.941
	-	(0.687)	(0.448)	(1.419)	(0.527)
SAV	-	-	-3.725	-	-
	-	-	(-0.891)	-	-
INV	-	-	-	-3.906	-
	-	-	-	(-3.493)***	-
PENI	-	-	-	-	2.134
	-	-	-	-	(4.853)***

Table 2: Macro Economic Determinants of MSCI Emerging Economies

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
MC(-1)	0.261	0.262	0.234	0.242	0.275
	(5.346)***	(5.507)***	(5.071)***	(3.717)***	(4.044)***
DC	-0.183	-0.129	-0.114	-0.115	-0.095
	(-1.637)	(-1.391)	(-0.554)	(-0.871)	(-0.533)
ST	0.336	0.353	0.327	0.327	0.354
	(9.677)***	(10.867)***	(12.709)***	(13.027)***	(9.317)***
LGDPCC	22.804	11.820	8.344	8.816	3.772
	(1.575)	(1.878)*	(0.941)	(1.182)	(0.323)
DC2	0.001	0.001	0.001	0.001	0.001
	(1.311)	(1.870)*	(1.122)	(1.346)	(1.095)
FDIN	-0.026	-0.241	-	-	-
	(-0.049)	(-0.412)	-	-	-
INF	-0.027	-	-	-	-
	(-0.195)	-	-	-	-
INT	-	-0.273	-0.262	-0.297	-0.497
	-	(-1.692)*	(-1.285)	(-1.310)	(-2.115)**
SAV	-	-	0.908	-	-
	-	-	(1.733)*	-	-
INV	-	-	-	0.426	-
	-	-	-	(1.282)	-
PENI	-	-	-	-	4.529
	-	-	-	-	(7.427)***

Findings

MSCI Developed

Significant Macroeconomic Determinants

- Liquidity
- Income Level
- Banking Sector Development
- Foreign Direct Investments
- Portfolio Equity

Significant Institutional Determinants

- Government Effectiveness
- Rule Of Law
- Control Of Corruption

MSCI Emerging Economies

Significant Macroeconomic Determinants

- Liquidity
- Interest Rate
- Portfolio Equity
- Savings

Significant Institutional Determinants

- Regulatory Quality

Policy Implications

MSCI Economies Can Be Encouraged To Attract Foreign Direct Investment, Domestic Investment, Portfolio Equity, And Savings Through Appropriate Policies

In MSCI Developed Economies, Further Strengthening And Development Of Institutions Can Increase Investor's Confidence Which Is Crucial For Stock Market Development

MSCI Emerging Countries Are Largely Insensitive To Most Institutional Variables Perhaps Due To Inadequate Rules Of Law And Mainly Due To Their Stage Of Economic Development

MSCI Emerging Countries Are Supposed To Strengthen Their Institutions For Sustainable Stock Market Development

Scope And Limitations

The Scope Of The Proposed Study Is Quite Large As The Importance Of Capital Market Can't Be Ruled Out In Today's World As The Stock Market Is Supposed To Be A Barometer Of An Economy

Effect Of The Following Has Not Been Considered

- Fluctuating International Oil Prices
- Political Conflict Among Countries
- International Trade War

Further Studies Can Be Conducted By Considering The Above And Other Factors That Might Influence The Stock Market

Thanks

Questions And Answers