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THE MODERATING ROLE OF INSTITUTIONAL QUALITY IN THE RELATIONSHIP BETWEEN FOREIGN CAPITAL INFLOWS AND STOCK MARKET DEVELOPMENT: A PANEL DATA ANALYSIS

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ABSTRACT

The study examines the impact of foreign capital inflows (FCI) on stock market development (SMD), with a specific focus on the moderating role of institutional quality (IQ). The study uses a panel dataset of 28 emerging economies for the period of 1998 to 2022. The findings reveal that both international remittances (REM) and foreign portfolio investment (FPI) have a significant positive impact on SMD. These findings imply that REM inflows enhance the availability of financial resources in the economy, promoting stock market growth and stability. Similarly, FPI increases market liquidity and fills the saving-investment gap in the host country, thereby increasing SMD. However, the results show that foreign direct investment (FDI) has a significant negative impact on SMD. This finding implies that FDI could negatively affect SMD in the host country due to the diversion of investments from the stock market to other business ventures, profit repatriation, and crowding-out effects on domestic investment by creating strong competition in the input market, making it difficult for listed domestic firms to operate. Moreover, the study reveals two unique and interesting findings. First, official development assistance (ODA) has a significant negative impact on SMD, suggesting that ODA reduces SMD due to the misallocation of resources due to aid conditions and economic instability, and the crowding-out effect on private investments. Second, IQ positively moderates the relationship between all forms of FCI and SMD in the sampled countries, implying that host countries with a good institutional framework and high IQ tend to experience high SMD.

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INTRODUCTION

Stock markets increase the economic development of emerging economies by raising capital, market liquidity, corporate governance, and allocative efficiency (Agbloyor et al., 2014; Bayar, 2017; Sajid et al., 2021). However, emerging economies face two serious challenges: a large saving-investment gap and poor institutional quality (IQ) (Azam et al., 2021; Baharumshah and Thanoon, 2006; Kim, 2000). Foreign capital inflows (FCI) including international remittances (REM), foreign direct investment (FDI), foreign portfolio investment (FPI), and official development assistance (ODA) are crucial sources for emerging economies to meet their financial needs (Baharumshah and Thanoon, 2006; Kim, 2000). Similarly, emerging economies often adopt strategies from developed economies to improve their IQ (Azam et al., 2021; Haldar and Sethi, 2021). Several studies have examined the relationship between FCI and SMD (Billmeier and Massa, 2009; Fritz et al., 2005; Kamguia et al., 2022; Khattak and Khan, 2024; Topaloglu et al., 2019), but they provide mixed and inconsistent results. These inconsistencies can be attributed to variations in institutional framework across host economies (Hasan et al., 2023a). To our knowledge, no study has explored how IQ moderates the relationship between FCI and SMD, indicating the rationale and necessity for re-examining these relationships for better policies aimed at promoting SMD in emerging economies.

The primary goal of this study is to examine the impact of FCIs on SMD in emerging economies, considering the moderating role of

IQ. Specifically, the study seeks to achieve two objectives. First, to estimate the effect of REM, FDI, FPI, and ODA on SMD. Second, to estimate the moderating effect of IQ on the relationship between FCI and SMD.

This study contributes to the existing empirical literature in a few ways. First, the study examines the effects of various forms of FCI on SMD in emerging economies. Second, to the best of our knowledge, this study is the first to estimate the moderating effects of IQ on the relationship between FCI and SMD. Lastly, the study examines the aforementioned relationships in the context of emerging economies providing a better understanding of the FCI and SMD dynamics. The study uses a balanced panel dataset of 28 emerging economies from four different continents for the period from 1998 to 2022. The data were collected from three sources: the World Bank, the United Nations Conference on Trade and Development, and the World Governance Indicators. Furthermore, the study employs panel corrected standard error (PCSE) regression approach to estimate the relationships.

The study offers valuable implications to both policymakers and scholars. First, it provides an estimation of the impact of various forms of FCI on SMD within the context of emerging economies. Second, the findings highlight the interplay between IQ and FCI on SMD, offering guidelines for improving institutional frameworks and economic policies to achieve sustainable SMD in emerging economies.

REVIEW OF LITERATURE

This section discusses a brief theoretical and empirical literature on the association between FCI and SMD, taking into account the moderating effects of IQ on the relationship between various forms of FCI and SMD.

Theoretical Background

This study adopted two theories that lay the theoretical foundation: capital market theory (CMT) given by Jensen (1972), and institutional theory (INT) by Scott (1987). The CMT implies that investors' expectations regarding risk and return affect the stock prices (Fama, 1970; Markowitz, 1952; Sharpe, 1964), and higher FCI may raise the demand for equities and stocks causing an increase in their prices and enhancing SMD. Further, the theory argues that the effects of FCI largely depend on the IQ, financial and economic development of the economy. For example, economies with high IQ, efficient financial systems along with high level of economic development tend to experience higher beneficial effects of FCI on SMD (Law and Azman-Saini, 2012; Yartey, 2010). Many empirical studies argue that better IQ is important because it improves transparency and establishes investors' confidence making investments lucrative to foreign investors and attracting more FCI which in turn enhances SMD (Law and Azman-Saini, 2012; Kwabi et al., 2023; Manasseh et al., 2017). Furthermore, the INT which is a socio-political theory argues that institutions significantly affect and shape the organizations and their conduct (Scott, 1987). Further, Scott defines institutions as social structures consisting of normative, regulative, and cognitive elements which help societies maintain stability and growth. The primary focus of INT is that institutional and regulatory environment shape and affect individuals' actions which ultimately establishes individuals' interests and incentives to act accordingly (Clemens and Cook, 1999; Thelen, 2009). The INT is highly relevant for this study because stock market needs a regulatory and institutional environment to perform efficiently. The investors' confidence is influenced by these governance factors and ultimately affect their participation in the stock market (Modugu and Dempere, 2020).

Empirical Literature

Foreign Direct Investment and Stock Market Development

Empirical literature provides evidence of two distinct types of impact that FDI has on SMD: firstly, it complements domestic investment in the production processes of firms, thereby improving SMD and creating a positive impact (Fritz et al., 2005). On the other hand, sometimes FDI acts as a substitute for domestic investment reducing SMD and resulting in a negative effect (Sajid et al., 2021; Topaloglu et al., 2019). Several studies emphasize the positive effects of FDI on SMD, increasing liquidity and flexibility for domestic firms (Adam and Tweneboah, 2009; Asravor and Fonu, 2021; Claessens et al., 2001). In contrast, this scenario is not universally consistent and the correlation between FDI and SMD is also found to be negative, revealing FDI as a substitute for domestic investment (Sajid et al., 2021; Topaloglu et al., 2019). Furthermore, Tsagkanos et al. (2019) found a varying relationship in Greece, where the FDI and SMD connection was strong in the short-run but not significant in the long-run. Similarly, Chettri et al. (2023) reported a negative impact of FDI on SMD, while indicating a positive effect in the long run for Nepal. Thus, the literature on the relationship between FDI and SMD provides mixed results suggesting that the underlying relationship can vary greatly depending on the economic and non-economic factors. Thus, the study proposes the following hypothesis:

H₁: FDI has a significant impact on SMD.

Foreign Portfolio Investment and Stock Market Development

FPI is an indirect investment made by a foreign investor in the securities and financial assets of a country. These investments are comparatively liquid and do not provide direct asset ownership or investor involvement in the affairs of the company (Brennan and Cao, 1997). FPI is identified as a significant source of FCI, which increases liquidity, and risk-sharing and attracts more capital investment (El-Wassal, 2005; Errunza, 2001; Kim and Singal, 2000). A few recent studies reported a positive and statistically significant relationship between FPI and SMD (Iriobe, 2018; Khattak and Khan, 2024; Oyerinde, 2019). However, some studies reported no connection between FPI and SMD (Sajid et al., 2021; Pal, 1998). Several studies argue that the relationship between FPI and SMD may vary depending on the financial and economic development of the country (Dhingra and Kapil, 2021; Ho and Odhiambo, 2020; Yartey, 2010). Thus, the study proposes the following hypothesis:

H₂: FPI has a significant impact on SMD.

International Remittances and Stock Market Development

REM is considered an important source of FCI for emerging economies (Billmeier and Massa, 2009; Issahaku et al., 2017). These inflows not only increase household income in the recipient countries but also fill the saving-investment gap by providing capital. Thus, added capital improves the profitability of firms, the value of their stocks and enhances SMD in the host country (Billmeier and Massa, 2009; Sajid et al., 2021). However, the impact of REM on SMD varies greatly across countries depending on financial and socio-economic development, as well as IQ in the recipient economy (Arintoko et al., 2023; Hasan et al., 2023b; Issahaku et al., 2017; Opperman and Adjasi, 2019). Therefore, the study proposes the following hypothesis:

H₃: REM have a significant impact of SMD.

Official Development Assistance and Stock Market Development

ODA provides financial resources to economies struggling with financial constraints such as fiscal and trade deficits. Aigheyisi and Edore (2013) reported a significant and positive impact of ODA on the SMD in Ghana. However, Kamguia et al. (2022) argue that the effects of ODA largely depend on the nature and type of ODA. Moreover, ODA tends to be growth-elastic in the economies where financial system are well-developed (Appiah-Otoo et al., 2022). To our knowledge, little research has been done regarding the correlation between ODA and SMD. Thus, the study proposes the following hypothesis:

H₄: ODA has a significant impact on SMD.

Institutional Quality and Stock Market Development

In economics, sustainable development largely depends on three factors: economic, social and environmental dimensions. Beck (2006) argued that these aforementioned dimensions are interconnected and complementary, leading to high economic growth. Furthermore, high IQ not only increases FCI in the country but also affects the connection between FCI and SMD (Chinn and Ito, 2006; La Porta et al., 1997). Therefore, the study proposes the following hypothesis:

H₅: IQ moderates the impact of FDI on the SMD.

H₆: IQ moderates the impact of FPI on the SMD.

H₇: IQ moderates the impact of REM on the SMD.

H₈: IQ moderates the impact of ODA on the SMD.

Financial Development, Exchange Rate, Economic Growth and Stock Market Development

The study has used few control variables that are theoretically and empirically significant for SMD. These variables include financial

development (FD), real exchange rate (RER), and economic growth (EG). FD is proxied by the financial resources provided to the private sector in the economy (Billmeier and Massa, 2009). Several studies have reported a significant positive association between FD and SMD (Ali, 2015; Omar et al., 2022), often highlighting their complementary nature. RER shows the rate at which goods and services of one country can be exchanged for those of another (adjusted for price differences). It is an important factor affecting SMD, though the literature provides mixed and inconsistent findings regarding the relationship between RER and SMD (Hajilee and Al Nasser, 2014; Huy et al., 2021; Sajid et al., 2023; Sichoongwe, 2016). Furthermore, EG is often measured by the real GDP per capita, indicating market size of an economy (Hasan et al., 2022). Empirical literature suggests a significant positive association between EG and SMD (Ali, 2015; Chen et al., 1986; Omar et al., 2022). These results imply that higher EG is necessary for higher aggregate demand, leading to a greater demand for stocks in the economy.

METHODOLOGY

Sample, Data and Method

The study examines how SMD is affected by FCI and IQ in emerging economies. The sample of our study consists of 28 developing economies for the period of 1998 to 2022. In particular, panel corrected standard error (PCSE) regression approach is used to estimate the relationships. Furthermore, the selection of sample and data were primarily influenced by the availability of data and literature. The sample data were extracted from three main sources: the World's Bank World Development Indicators, the World's Bank Worldwide Governance Indicators, and the United Nations Conference on Trade and Development. The list of sample emerging economies is reported in Table 1.

Table 1. Sample emerging economies.

Continent	Sample Economies
Africa	Algeria, Cote d'Ivoire, Egypt, Mauritius, Nigeria, South Africa
Asia	Bangladesh, China, India, Indonesia, Iran, Jordan, Korean Republic, Malaysia, Oman, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand, Turkey
North America	Costa Rica, Mexico, Panama
South America	Brazil, Chile, Colombia, Peru

Note: Adopted from United Nations Department of Economic and Social Affairs (UN DESA), (2021).

Measurement of Variables

Stock Market Development

SMD is measured through various proxies i.e., stock market size, volatility, liquidity, concentration, the legal rule, and its integration with international capital markets (Garcia and Liu, 1999; Ho, 2019; Naceur et al., 2007). In this study, SMD is proxied by the market capitalization of listed domestic companies as a share of GDP, as it is considered a reliable proxy and less arbitrary than other measures (Bayar, 2017; Sajid et al., 2021).

Explanatory, Moderating and Control Variables

The study uses four major attributes of FCI: FDI, REM, FPI, and ODA. Specifically, FDI is measured as the net real FDI inflows per capita in US dollars. REM is measured as total real personal remittances received as a percent of GDP. Similarly, FPI is measured as the net value of real FPI inflows in billions of US

dollars. ODA is measured as the total net official development assistance and aid received in billions of US dollars. All variables (except REM) are converted into real balances using the 2015 price level. Furthermore, IQ is computed using six institutional factors such as PS, GE, RL, RQ, VA, and CC. Lastly, the study uses three control variables FD, EG and RER, to ward off panel heterogeneity and obtain robust results. In particular, EG is proxied by the real GDP per capita in 2015 US dollars, RER is measured as nominal exchange rate multiplied by the ratio of domestic to foreign prices, and FD is proxied by domestic credit to the private sector as a percent of GDP.

Econometric Modeling

This section discusses the specific models used to test the hypotheses developed in Section 2. The first four (Models 1 to 4) were statistically estimated through PCSE regression to test the first four hypotheses (H₁, H₂, H₃, H₄). These models broadly measure the impact of FCI on SMD in the sampled economies.

$$SMD = \beta_0 + \beta_1 FDI + \beta_2 EG + \beta_3 RER + \beta_4 FD + \beta_5 YDUM + \beta_6 CDUM + \mu \quad \text{Model 1}$$

$$SMD = \beta_0 + \beta_1 FPI + \beta_2 EG + \beta_3 RER + \beta_4 FD + \beta_5 YDUM + \beta_6 CDUM + \mu \quad \text{Model 2}$$

$$SMD = \beta_0 + \beta_1 REM + \beta_2 EG + \beta_3 RER + \beta_4 FD + \beta_5 YDUM + \beta_6 CDUM + \mu \quad \text{Model 3}$$

$$SMD = \beta_0 + \beta_1 ODA + \beta_2 EG + \beta_3 RER + \beta_4 FD + \beta_5 YDUM + \beta_6 CDUM + \mu \quad \text{Model 4}$$

Furthermore, the moderating effects of IQ on FDI, FPI, REM, and ODA are measured through Models 5 to 8. These models test the remaining four hypotheses (H₇, H₈, H₉, H₁₀). YDUM and CDUM represent year dummies and country dummies, respectively.

$$SMD = \beta_0 + \beta_1 FDI + \beta_2 IQ + \beta_3 FDI * IQ + \beta_4 EG + \beta_5 RER + \beta_6 FD + \beta_7 YDUM + \beta_8 CDUM + \mu \quad \text{Model 5}$$

$$SMD = \beta_0 + \beta_1 FPI + \beta_2 IQ + \beta_3 FPI * IQ + \beta_4 EG + \beta_5 RER + \beta_6 FD + \beta_7 YDUM + \beta_8 CDUM + \mu \quad \text{Model 6}$$

$$SMD = \beta_0 + \beta_1 REM + \beta_2 IQ + \beta_3 REM * IQ + \beta_4 EG + \beta_5 RER + \beta_6 FD + \beta_7 YDUM + \beta_8 CDUM + \mu \quad \text{Model 7}$$

$$SMD = \beta_0 + \beta_1 ODA + \beta_2 IQ + \beta_3 ODA * IQ + \beta_4 EG + \beta_5 RER + \beta_6 FD + \beta_7 YDUM + \beta_8 CDUM + \mu \quad \text{Model 8}$$

Statistical Analyses

The study has performed several statistical analyses to estimate the aforementioned relationships. First, a composite index of IQ was developed using principal component analysis (PCA). Second, cross-sectional dependence (CD) test is performed developed by Pesaran (2004). Lastly, the PCSE regression method is used to estimate the above regression models. PCSE is adopted to overcome the issues of heteroscedasticity, autocorrelation and cross-dependence (Greene, 2003; Hashmi et al., 2022; Hasan et al., 2022).

RESULTS AND DISCUSSION

Descriptive Statistics and Correlational Analysis

Descriptive statistics are reported in Table 2. The results show great variation of SMD across countries (indicated by high SD). Furthermore, the distribution of FCI (FDI, FPI, REM, and ODA) is also no symmetrical and indicating skewed distribution. Similarly, the findings reveal substantial differences in IQ across the sampled countries.

Table 2. Descriptive statistics

Variable	SMD	FDI	FPI	REM	ODA	EG	FD	RER	IQ
Mean	57.121	407.965	-2.331	2.718	0.765	6325.82	56.288	1036.486	-0.004
SD	90.968	1236.729	13.745	3.893	1.23	5501.98	39.511	3068.277	12.106
Skewness	0.723	5.291	-0.482	2.313	1.139	2.03	0.937	1.962	0.512
Kurtosis	3.156	11.169	5.171	5.132	8.586	3.655	2.769	9.146	2.744
S-Wilk	12.797 ^a	13.523 ^a	11.592 ^a	11.547 ^a	11.707 ^a	10.747 ^a	9.273 ^a	13.62 ^a	6.693 ^a

^{a, b, c} indicates significance at 1%, 5%, & 10% levels, respectively. SD= standard deviation S-Wilk = Shapiro Wilk Statistics.

Table 3. Pearson's coefficient of correlation.

Variable	SMD	FDI	FPI	REM	ODA	EG	FD	RER	IQ
SMD	1								
FDI	0.1275	1							
FPI	0.4532 ^a	0.0282	1						
REM	0.3889 ^a	-0.0795 ^b	0.0520	1					
ODA	-0.2609 ^b	0.0086	-0.0127	0.2458 ^a	1				
EG	0.0454 ^a	0.7603 ^b	0.4988 ^b	0.5362 ^a	-0.4033 ^a	1			
FD	0.4819 ^a	0.2311 ^a	0.0060	-0.1797 ^a	-0.2567 ^a	0.4510 ^a	1		
RER	-0.2714 ^c	-0.3886 ^b	-0.0250	-0.1216 ^a	0.0540	-0.0917 ^b	-0.1105 ^a	1	
IQ	0.5342 ^a	0.1304 ^a	0.4508 ^a	0.2615 ^a	-0.3169 ^a	0.6582 ^a	0.5084 ^a	-0.2025 ^a	1

^{a, b, c} indicates significance at 1%, 5%, & 10% levels, respectively. SD= standard deviation S-Wilk = Shapiro Wilk Statistics,

Furthermore, the correlational matrix, reported in Table 3, shows that FPI and REM have a statistically significant and positive correlation with SMD, while ODA has a significant negative correlation. However, the results show that FDI has an insignificant correlation with SMD. Moreover, the variables of IQ and SMD have a strong positive and statistically significant correlation. These results imply that higher REM and FPI inflows are associated with higher SMD in emerging economies. However, economies that are dependent on ODA tend to have lower SMD. Lastly, economies with high IQ may have higher SMD according to the results.

Principal Component Analysis and Cross-Dependence Test

A composite index of IQ was developed using a principal component analysis (PCA) approach from six institutional

indicators (PS, GE, RQ, RL, VA, CC) developed by Kaufmann et al. (2010). The results of PCA are reported in Table 4, suggesting that the first principal component better accounts for the variances (69%) and hence serves as a more accurate proxy for IQ.

Furthermore, the study performed the cross-sectional dependence (CD) test developed by Pesaran (2004), with the results reported in Table 5. The CD test checks whether the error terms of different cross-sectional units (countries) are correlated (Greene, 2003). The results indicate that our panel data suffers from a CD problem. Therefore, the study has employed the PCSE regression approach (Thomas et al., 2014) to produce reliable and valid estimates.

Table 4. Principal component analysis for institutional quality index.

Component	PCA1	PCA2	PCA3	PCA4	PCA5	PCA6
Eigenvalue	4.1447	0.7470	0.5033	0.3068	0.1892	0.1089
Proportion of variance	0.6908	0.1245	0.0839	0.0511	0.0315	0.0182
Cumulative Percentage	0.6908	0.8153	0.8992	0.9503	0.9818	1
Variable	Vector 1	Vector 2	Vector 3	Vector 4	Vector 5	Vector 6
PS	0.4177	-0.2463	-0.0536	0.856	0.167	0.0369
GE	0.3506	0.5433	-0.7121	-0.1087	0.232	0.0958
VA	0.3335	0.6843	0.5861	0.1198	-0.2502	-0.0028
RQ	0.4312	-0.1863	0.3538	-0.3789	0.713	-0.048
RL	0.4543	-0.2173	-0.1442	-0.1827	-0.4059	-0.7263
CC	0.4462	-0.3065	-0.0235	-0.2533	-0.4273	0.678

Table 5. Pesaran (2004) cross dependence test.

Variable	SMD	FDI	FPI	REM	ODA	EG	FD	RER	IQ
CD test Statistics	20.341 ^a	19.359 ^a	9.269 ^a	0.974	6.248 ^a	64.434 ^a	21.200 ^a	41.821 ^a	1.955

^{a, b} indicate significance at 1% and 5% level of significance, respectively. The null hypothesis of CD test is cross sectional independence.

Regression Results and Discussion

The results of regression models (1-8) are reported in Table 6. The results show that REM inflows have a significant and positive impact on SMD in the sampled countries. This finding implies that higher REM inflows increase the disposable income of households in recipient countries, leading to higher demand for goods as well as stocks (Billmeier and Massa, 2009; Sajid et al., 2021; Uddin et al., 2023). Thus, the finding clearly supports our first hypothesis (H1). Similarly, the findings show that FPI has a significant and positive impact on SMD. This result suggests that FPI provides funds and fills the saving-investment gap for domestic firms in emerging economies, leading to higher SMD. The finding is consistent with the existing literature (Aigheyisi and Edore, 2013; El-Wassal,

2005; Oyerinde, 2019; Jensen, 1972). Therefore, this finding supports our second hypothesis (H2).

Furthermore, results reveal a significant and negative effect of FDI on SMD. The finding implies that FDI reduces SMD for several reasons. First, FDI diverts funds from stock markets to other business ventures providing higher returns to foreign investors (Asravor and Fonu, 2021). Second, foreign investors do not re-invest their profit known as profit repatriation (Vu and Pavelkova, 2023). Third, FDI crowds out private investment and creates strong competition in the input-market leading to higher input prices in the domestic market. Consequently, listed domestic firms find it difficult to operate profitably and stock prices fall, reducing SMD (Jan Misun, 2002). Therefore, the finding supports our third hypothesis (H3).

Table 6. Regression results of FCI and SMD in emerging economies.

Variable	Model 1	Model 2	Model 3	Model 4
REM	13.7610 ^a (3.8332)			
FPI		0.2276 ^a (0.0651)		
FDI			-0.0071 ^b (0.0029)	
ODA				-2.0792 ^a (0.8245)
FD	0.5312 ^b (0.2443)	0.3998 ^a (0.1524)	0.492 ^a (0.1510)	0.5085 ^a (0.1492)
RER	-0.0014 ^c (0.0007)	-0.0033 ^a (0.0008)	-0.0021 (0.0014)	-0.0018 (0.0013)
IQ	0.0054 ^a (0.0018)	0.0050 ^a (0.0012)	0.0040 ^a (0.0013)	0.0041 ^a (0.0012)
INTERCEPT	-16.2509 (10.1091)	-2.3429 (6.7254)	-3.9410 (6.5090)	-2.2240 (6.1269)
R ²	0.6375	0.5909	0.6810	0.5888
Wald- χ^2 Statistic	20464.69 ^a	6335224.72 ^a	4347013.07 ^a	2314706.38 ^a
rho	0.6410	0.6748	0.6660	0.6469

Note. ^a, ^b and ^c indicate significance at the 1, 5 and 10 percent level of significance, respectively; Time and Country dummies are included in all regression models; standard errors are shown in parenthesis.

Table 7. Regression Results of IQ, FCI and SMD in Emerging Economies.

Variable	Model 5	Model 6	Model 7	Model 8
REM	16.3178 ^a (4.1405)			
FPI		0.2387 ^a (0.0633)		
FDI			-0.0062 ^a (0.0014)	
ODA				-5.951 ^b (2.7886)
IQ	2.3965 ^b (0.9442)	0.1847 ^a (0.0521)	0.1956 ^b (0.0781)	0.6931 ^c (0.3971)
REM*IQ	0.6502 ^a (0.3031)			
FPI*IQ		0.0131 ^b (0.0058)		
FDI*IQ			0.0012 ^c (0.0007)	
ODA*IQ				0.8415 ^a (0.2388)
FD	0.5822 ^a (0.1914)	0.3934 ^a (0.1530)	0.4663 ^a (0.1587)	0.4685 ^a (0.1578)
RER	-0.0017 ^b (0.0009)	-0.0035 ^a (0.0008)	-0.0021 (0.0014)	-0.0020 (0.0014)
INTERCEPT	-84.4431 ^a (20.5251)	-70.9275 ^a (17.9866)	-59.1855 ^a (18.3200)	-94.7224 ^a (19.3099)
R ²	0.6752	0.5908	0.5824	0.6016
Wald- χ^2 Statistic	69157.14 ^a	2531289.2 ^b	11200000 ^a	53900000 ^a
rho	0.6393	0.6770	0.6630	0.6373

Note. ^a, ^b and ^c indicate significance at the 1, 5 and 10 percent level of significance, respectively; Time and Country dummies are included in all regression models; standard errors are shown in parenthesis.

Furthermore, the findings show that ODA has a significant and negative impact on SMD. Our finding is unique, providing an interesting insight into the dynamics of ODA and SMD in emerging economies. The result implies that economies that receive ODA tend to have lower SMD because of several reasons. First, they receive conditional ODA which cannot be invested freely. Second, economies that receive ODA are often economically weak and unstable, which results in underdeveloped stock markets. Thus, most of the funds are directed towards the provision of basic facilities rather than investment in the stock market. Lastly, ODA crowds-out private investment and leaves no space for private financing options for the government and consequently reduces SMD. Our finding contradicts with the findings of Aigheyisi and Edore (2013), however providing new insights into the context of emerging economies. Hence, the finding clearly supports our fourth hypothesis (H4).

Moreover, the moderating effects of IQ on the relationship between FCI and SMD are reported in Table 7. The results show that IQ significantly and positively moderates the effects of all forms of FCI (REM, FPI, FDI, and ODA) on SMD in the sampled emerging economies. This implies that economies with higher IQ tend to have higher SMD because IQ establishes investor confidence and increases SMD. Additionally, economies with high IQ tend to achieve stable equilibrium and sustainable economic growth, which help enhance SMD (Ahmed et al., 2022; Billmeier and Massa, 2009; Mehmood et al., 2023; Hasan et al., 2022). Thus, the findings support our last four hypotheses (H5 to H8).

CONCLUSIONS

The study has examined the impact of foreign capital inflows (FCI) on the stock market development (SMD) with a focus on the moderating role of institutional quality (IQ) in 28 emerging economies from 1998 to 2022. The findings show that international remittances (REM) and foreign portfolio investment (FPI) have a significant positive impact on SMD, while foreign direct investment (FDI) and official development assistance (ODA) have a significant negative impact on SMD in emerging economies. Furthermore, the results show that IQ significantly and positively moderates the effects of all forms of FCI on SMD. These findings imply that both REM and FPI improve SMD by enhancing the availability of funds. However, FDI reduces SMD due to the diversion of investments from the equity market to other projects, crowding-out effects on domestic investment, and profit repatriation. Similarly, ODA has a significant adverse effect on SMD because of the misallocation of resources and the crowding effect on private investment. Lastly, the results imply that economies with a strong IQ tend to have relatively high SMD. Moreover, this study has some limitations. It uses a sample of 28 selected emerging economies, so the findings may not be generalizable to developed economies. Additionally, the study focuses on macroeconomic and institutional factors; future research could explore other dimensions, such as e.g., environmental or social factors, that may affect SMD in emerging economies.

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