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Political uncertainty and stock market liquidity, size, and transaction cost: The role of institutional quality

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Abstract

Using panel data of 42 countries from 2001 to 2019, we examine whether political uncertainty (caused by uncertainty about national elections) explains variations in cross-country liquidity, market size, and transaction cost. We also investigate whether institutional quality moderates the negative effects of political uncertainty on stock market development. We show that political uncertainty reduces stock market size, liquidity, and increases transaction costs. Our results indicate that institutional quality moderates the negative effects of political uncertainty on stock market development. However, we find no effects in emerging markets arising from the high prevalence of weak institutions. We confirm the robustness of our findings using alternative financial development measures and endogeneity. This study enhances our understanding of the salient role of political uncertainty in the development of the stock market, with important implications for market regulators, corporations, and investors.

KEYWORDS

institutional quality, political uncertainty, stock market development

1 | INTRODUCTION

Existing studies provide empirical evidence and theoretical argument on the salient role stock markets play in national savings rates, efficient allocation of those savings to the most productive sectors of the economy, corporate financial decisions, and economic growth (see Beck et al., 2000; King & Levine, 1993; La Porta et al., 1998; Levine & Zervos, 1998; Wurgler, 2000). Other threads of the literature have investigated how corporate financial decisions are impacted by the extent of the country's financial stability and development (see Erickson & Whited, 2000; Fazzari et al., 2000; Houston & James, 2001; Kaplan & Zingales, 2000). As a consequence of these, several countries have made efforts to develop their domestic stock markets to increase risk-sharing between foreign and local investors which improves capital allocation efficiency (Laeven, 2014).

In this article, we test two important but less investigated issues that are linked to the functioning of the stock market and its development. First, what are the varying impact of political uncertainty on stock market liquidity, size, and transaction cost? Second, we examine the moderating role of institutional quality in the

relationship between the development of the stock market and political uncertainty. The scarcity of empirical evidence on the effects of political uncertainty is remarkable given their potential impact on the development of the stock market. This is consistent with the argument that any adverse impact on the stability of future corporate earnings will deter investors from participating in the domestic stock market. Brav et al. (2005, 2008) surveyed chief executives and finds that economic policy uncertainty is a key determinant of dividend payout. Gulen and Ion (2015) document that the limited research on this relationship relates to the difficulties involved in measuring economic policy uncertainty.

Stock markets thrive on the greater participation of investors who depend on the predictability of future events. However, political uncertainty will reduce the ability of economic agents to predict future events (Bloom, 2014; Jurado et al., 2015). In this context, investors will be less able to predict the future movement of stock prices which has implications for stock market liquidity, size, and transaction cost. A recent theoretical argument following this line was Pástor and Veronesi (2012, 2013) who developed a channel by which stock prices are impacted by political uncertainty. They predict that political uncertainty increases risk premia and the magnitude varies in line with different economic conditions. Given this context, we examine whether cross-country variations in institutional quality influence the relationship between political uncertainty and stock market development.

This study follows two main thrusts. First, we investigate the impacts of political uncertainty caused by the uncertainty of national election outcomes on stock market development. This is within the context of uncertainty driven by uncertainty about national election outcomes which is mainly beyond corporate managers' control. Examining the impact of political uncertainty on stock market development is important because uncertainty varies over time (see Baker et al., 2016) and may influence investors' and companies' time-varying participation in the stock market as a result of risk preferences. The stream of research demonstrates that risk, as manifested in uncertainty, increases the volatility of stock market returns (see Chay & Suh, 2009) negatively impacting stock market returns. Investors participate in the stock market for capital gains and dividend payments. Existing studies provide empirical evidence that uncertainty increases the total risk of the equity portfolio. For instance, Hoberg and Prabhala (2009) show that idiosyncratic and systematic risk drive the propensity for a firm to pay dividends which could have implications for stock market participation and development.

The development of political uncertainty data has led to the increased momentum of the new stream of research. We contribute to the ongoing debates on the effects of political uncertainty. The study extends the literature by first, testing whether political uncertainty impacts stock market development, we thus contribute to the line of research which emphasize the relevance of uncertainty in reducing firm-level capital investment (Gulen & Ion, 2015), bank liquidity creation (Berger et al., 2018), increasing risk premium (Brogaard & Detzel, 2015; Pástor & Veronesi, 2013), increasing cost of capital (Julio & Yook, 2012), merger and acquisitions at both the macro and firm levels (Bonaime et al., 2018), cross-border acquisitions (Cao et al., 2019).

Second, we focus our research on the interactive effect of institutional quality in moderating the negative effects of political uncertainty on stock market liquidity, size, and transaction cost. A stream of research provides international evidence that uncertainty impacts firms' dividend payout policy which may inhibit stock market development (see Huang et al., 2015). Recent studies show that the 2008–2009 global financial crisis, was exacerbated by the negative effects that economic policy uncertainty had on dividend payout (see Attig et al., 2016; Bliss et al., 2015).

Third, contrary to the evidence that institutional quality reduces the effects of political uncertainty, as documented in prior studies (Cao et al., 2019), we show that weak institutional quality in emerging countries has no effect on moderating the negative impacts of political uncertainty on stock market development. Thus, we contribute from a policy perspective by highlighting that, there should be a reform to build strong institutions in emerging countries to alleviate the negative effects of political uncertainty on stock market development.

Using a panel dataset of 42 countries from 2001 to 2019, we investigate the impact of political uncertainty on stock market development. We also test whether institutional quality interacts with political uncertainty to impact stock market liquidity, size, and transaction cost.

We find evidence that political uncertainty reduces stock market liquidity, size, and transaction cost. Further analysis shows that political uncertainty interacts with institutional quality to prompt stock market liquidity, size, and reduce transaction costs. Finally, we find evidence that developed markets experience stable stock market liquidity, size, and lower transaction cost relative to emerging countries during the political uncertainty period. We show that institutions do not reduce the negative effects of political uncertainty in emerging countries. Our result collaborates with the view that emerging countries have weak institutions and is related to the work of Wisniewski (2016). Chowdhury et al. (2021)

investigated how global uncertainties and pandemics impact stock markets, energy, and food stability.

We organize the rest of the article as follows. Section 2 reviews related literature and developed the study's hypotheses. Section 3 presents the study's methodology and data. Section 4 reports the empirical results, while Section 5 concludes the article.

2 | RELATED LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

We extend previous studies on the impact of political uncertainty on several economic and investment outcomes. Several studies documents a negative relationship between uncertainty and corporate investment (see An et al., 2016; Baker et al., 2016; Hill et al., 2019; Jens, 2017; Julio & Yook, 2012; Nguyen et al., 2018). Other studies found that economic policy uncertainty reduces domestic merger and acquisition activities (Nguyen & Phan, 2017).

Drobetz et al. (2018) document that the relationship between investment and cost of capital is sensitive to economic policy uncertainty. A recent study by Cao et al. (2019) highlights that national election-driven political uncertainty increases the acquisition of foreign targets by domestic firms as well as the reduction in the rate at which foreign firms acquire targeted domestic firms. This study contributes to the existing literature by investigating whether political uncertainty has a varying impact on stock market development. We extend and complement existing studies (Bloom, 2009; Vavra, 2014). Our study is important because prior studies have focussed on whether uncertainty influences real and financial investment (Brogaard & Detzel, 2015). These studies do not show the implications for stock market liquidity, size, and transaction cost.

In the context of the effects of uncertainty, a growing body of studies have examined the financial market reaction to political uncertainty (see Brogaard & Detzel, 2015; Jens, 2017; Kelly et al., 2016; Liu et al., 2017). In addition to theoretical advances in this area, prior studies have emphasized the negative effects of uncertainty on corporate investment decisions due to the irreversibility of investment (see Bernanke, 1983; Bloom et al., 2007; Caballero, 1991; Stokey, 2016). Other studies document that the negative impact of uncertainty on real investment is greater in corporations with a higher proportion of investment irreversibility (Gulen & Ion, 2015). Biswas and Zhai (2021) find a positive relationship between cross-border lending and uncertainty. Matousek et al. (2020) find that during market downturns, economic policy uncertainty exposes financial firms to a high level of vulnerability. Berger et al. (2018) find that banks respond to economic policy uncertainty by increasing liquidity hoarding.

Other studies have examined how uncertainty influences various organizational outcomes (see Huang et al., 2015; Im et al., 2020; Pham, 2019). The literature shows that uncertainty impacts loan pricing and increases borrowing costs (see Ashraf & Shen, 2019; Kim, 2018; Waisman et al., 2015). Datta et al. (2019) document that uncertainty reduces debt maturity. Whilst Ben-Nasr et al. (2020) find that political uncertainty increases firms' use of bank debt. Chau et al. (2014) show that the Arab World civil uprising-induced political uncertainty increased the volatility of the Middle East and North African countries' stock markets. We contribute to the literature by examining whether economic policy uncertainty and political uncertainty interact with institutional quality to impact stock market development.

2.1 | Theoretical framework

Our empirical analysis is guided by the theoretical framework developed by Campello et al. (2018). They show that uncertainty preserves the mean but increases the noise outcome in their real-options approach. Uncertainty will compel companies to adopt the wait-and-see attitude due to the irreversibility of investment which is mainly fixed costs (see Bernanke, 1983). This will have a significant adverse effect on investment and corporate real investment for firms that have a greater proportion of investment irreversibility (see Gulen & Ion, 2015). A recent study by De Bruin et al. (2020) find that political inclinations predicted policy preferences in the US during the COVID-19 pandemic. These can have implications for stock market returns and participation.

How does political uncertainty impact stock market development? Prior studies argue that uncertainty influences real investment and banks' willingness to lend. We conjecture that even though uncertainty could be priced by investors, it will influence the participation of investors in the stock market which has implications for stock market size, liquidity, and transaction cost.

This section provides the theoretical mechanism through which political uncertainty impacts stock market development through information asymmetry. We contend that uncertainty increases asymmetric information and risk-sharing which adversely affects investor participation in the stock market. The law and finance literature provides empirical evidence of high transaction and information costs in less developed financial markets (North, 1994). To this end, we explore and provide uncertainty—political as the fundamental cause for stock

market development. The uncertainty will inhibit the process by which the stock market overcomes information frictions and eventually ameliorate enforcement frictions to enhance trade, savings mobilizations, management, and diversification of risk.

We identify two channels through which political uncertainty matter for the process of stock market development and their main causes. It is conceivable that the stock market thrives in a stable macroeconomic environment. However, political uncertainty will not foster monetary, financial, and fiscal policies which are prerequisites for the healthy pace of a well-developed stock market. These will influence investors' attitudes and trust towards the use of financial instruments and their relative participation in the stock markets. Consistent with the existing literature, we have identified information asymmetry via uncertainty to be the main channel by which political uncertainty impacts stock market development.

First, asymmetric information reduces the risk-sharing opportunities between domestic and foreign investors. This is in line with the view contrary to the benefits of international equity portfolio diversification as suggested by the international capital asset pricing model, investors are reluctant to construct internationally diversified equity portfolios when there is a high prevalence of information asymmetry. This is largely due to the view that economic agents, particularly, risk-averse investors prefer to smooth consumption across states of nature and time. Earlier studies suggest that asymmetric information arising from political and economic uncertainty leads to incomplete risk-sharing. It causes financial markets incompleteness and therefore negatively impacts investors' optimal stock market participation (Castro et al., 2004, 2009; Khan & Ravikumar, 2001; King & Levine, 1993).

Furthermore, political uncertainty may constrain corporate investment decisions arising from moral hazards and adverse selection. Ennis and Keister (2003) and Aghion et al. (2010) contend that it can lead to liquidity shortages and risk. Uncertainty impacts institutions which can lead to regulatory failures and macroeconomic instability and inhibits stock market development (see Boyd & De Nicolo, 2005; Caballero & Krishnamurthy, 2004). The literature offers evidence that economic policy impacts financial development through institutions. For instance, the extent of central independence and accountability, and the budgeting process of government shape macroeconomic, financial, competition, regulation policies, and financial openness which may prompt or inhibit financial market development (see Alesina & Tabellini, 2007; Quintyn et al., 2007). Earlier studies by Boyd et al. (2001) and La Porta et al. (2002) show that macroeconomic policy affects the level of financial development through inflation. Therefore, as economic policy uncertainty negatively impacts macroeconomic policies and fundamentals, we argue that political uncertainty will hurt stock market development. We develop the following hypotheses:

> **H1.** *Political uncertainty is associated with lower stock market development.*

Strong institutions via property rights and enforcement reduce asymmetric information and costly enforcement. This will alleviate the adverse impact of political uncertainty on investor participation in the stock market. Property rights protection through an efficient judicial system can enforce contracts to have the potential of reducing financial instability. Institutional quality determines macroeconomic and financial policies to reduce adverse selection and moral hazards. This will subsequently exacerbate investors' participation in the stock market. We identify this interaction to prompt stock market development and also highlight the channels.

Investors cannot anticipate the state of the world economy arising from economic policy uncertainty and political uncertainty, and the varying types of opportunistic behaviour controlling shareholders may engage in. We argue that within this context, strong institutions that provide property rights to investors and enforce contracts can serve as unbiased arbitrators and increase investor participation in the stock market. Glaeser et al. (2001) argue that contract enforcement and regulation of property rights are complements in the process of institutional development.

The law and finance literature shows the salient role of institutions in shaping financial markets. However, there are no studies on how institutions interact with political uncertainty to impact stock market development. The institutional framework enhances stock market development across time. North (1989) contends that institutions prevent shirking, cheating, and opportunistic behaviour. Acemoglu et al. (2005) made the initial attempt to show the mechanism by which institutions influence financial development. In periods of economic policy uncertainty and political uncertainty, strong institutions will protect disadvantaged and minority investors against powerful corporate insiders and the elites. This will foster greater participation in the stock market.

As political uncertainty increases information asymmetry, minority investors will be disadvantaged if corporate insiders are not constrained via strong institutions. Uncertainty exacerbates the risk of investor expectations of firms' values and will reduce investor participation in the stock market unless they receive an extra premium

(Ewert & Wagenhofer, 2009). This is because corporate insiders will expropriate minority investors and divert funds towards private benefits. In situations where private benefits are large, corporate insiders will seek to maintain greater control by reducing shares available to minority investors which will, in turn, lower the liquidity of the stock market.

Consistent with the above explanations, we posit that political uncertainty via information friction interacts with institutional quality to prompt stock market development. Institutions define and shape the structure and workings of well-functioning stock markets. Existing studies focus on the role of institutions in determining participation in the stock market. No study has examined the joint role of political uncertainty and institutions on stock market development. Empirical evidence provided in the literature suggests that moral hazard arising from uncertainty reduces risk-sharing (see Castro et al., 2004; Khan & Ravikumar, 2001). Imperfect risk-sharing will lead to inefficient allocation of resources and will therefore impact stock market development. Diamond and Dybvig (1983) and Holmstrom and Tirole (1998) show that moral hazard increases liquidity risk. We state the hypotheses below:

> **H2.** *Political uncertainty interacts with institutional quality to enhance stock market development.*

3 | DATA SOURCES AND ESTIMATION STRATEGY

3.1 | Dependent variables

We use three variables to proxy for stock market development. This is to address problems associated with each indicator of stock market development and also to reduce the sensitivity of our analysis to a particular stock market development measure.

3.1.1 | Market capitalization to GDP

Following Levine and Zervos (1998), we use market capitalization to GDP (*MCGDP*) as an indicator of stock market development. This measure captures the stock market size and also correlates with its liquidity and risk diversification. However, taxes deter companies from listing on the stock exchange and large stock markets are not necessarily efficient. We sourced data from World Development Indicators (WDI).

3.1.2 | Turnover ratio

We measure turnover ratio (*TURN*) as the value of total shares traded scaled by GDP. *TURN* captures the theoretical liquidity of the stock market and it also reflects the level of the stock market transaction cost. Levine and Zervos (1998) postulate that the turnover ratio complements market capitalization. We obtained data from WDI.

3.1.3 | Transaction cost

Consistent with Chan et al. (2005), we employ a direct measure of stock market transaction cost (*TRCOST*). The measure reflects how costly to undertake trade stocks in a particular stock market. This measure also captures the depth of stock market liquidity. *TRCOST* is a composite measure of three different sub-components of transaction cost (fees, commissions, and market impact) measured in basis points. We sourced data on the stock market transaction cost from the Standard and Poor's yearly global stock market fact book provided and maintained by Elkins/McSherry.

3.2 | Independent variables

3.2.1 | Political uncertainty

In keeping with the prior literature (see Cao et al., 2019), we use election data sourced from the World Bank Database of Political Institutions to proxy for political uncertainty (*PU*). This is consistent with existing studies that have extensively used national elections as a measure of political uncertainty (Boutchkova et al., 2012; Julio & Yook, 2012). PU offers us an exogenous model to examine the impact of political uncertainty on cross-country variations in financial development. This is in line with the pre-determined nature of national elections and the randomness of national election outcomes. We use a dummy variable that takes a value of one when year t is the year just before an election year, otherwise zero to proxy for political uncertainty.

3.2.2 | Institutional quality

Following the existing literature, we proxy for institutional quality using the financial institution's efficiency (*FIE*). The variable is a sub-component of financial development. *FIE* captures the financial institutions' ability to provide financial services at a lower cost at sustainable revenue and the level of capital markets' activity. We sourced data from the International Monetary Fund. *FIE* ranges from 0 to 1.

TABLE 1 Summary statistics

Variables	Number of observations	Mean	Max	Min	Std
MGDP	798	72.17	299.25	3.64	52.17
Turn	798	82.34	404.07	0.91	59.63
TRCOST	351	41.93	141.29	13.81	18.72
FIE	792	0.62	0.84	0.22	0.10
PU	798	0.09	1.00	0.00	0.29
Infl	720	4.24	54.41	−4.48	4.82
GovStab	74	8.14	11.53	4.04	1.53
InvPro	720	8.49	12.00	4.00	2.01
EconRisk	714	36.83	48.42	4.42	7.58
RGDPG	798	3.22	11.91	−14.73	3.2
FinRisk	714	33.61	48.46	4.00	9.54
SITL	742	3.73	4.00	1.00	5.87
Tobinq	728	4.39	9.79	−2.07	2.06
Momentum	724	0.06	0.21	0.02	0.04
Beta	710	1.10	2.78	0.37	0.38
Unemp	798	7.11	27.47	0.65	3.68

Note: This table reports the summary statistics for the variables employed in the regression estimations. The variables' details are described in the appendix.

3.3 | Control variables

Following the existing literature, we control the effects of several variables that have been shown to explain stock market development. We considered the effects of macroeconomic variables such as inflation (*Infl*) and unemployment (*Unemp*) on investors' participation in the stock market. We, therefore, control the effects of *Infl* and *Unemp* on stock market development. We expect inflation to reduce stock market development. Next, we include economic risk (*EconRisk*), financial risk (*FinRisk*), and Beta to control the exposure of the stock market to country-specific and firm-level risk measures. Levine and Zervos (1998) show that better investor protection standards enhance stock market development. We, therefore, control the effects of investor protection (*InvPro*). Furthermore, we consider the effects of economic growth and firm-level growth, and economics on stock market development. In line with the literature, we expect return momentum (*Momentum*), real GDP growth rate (*RGDPGR*), and *Tobinq* to enhance the stock market development. We also control the effects of government development (GovStab). Consistent with existing literature, we control the effects of restrictive stock market regulations. Following Beny (2007), we use stringent insider trading laws to capture the effects of regulatory quality on stock market development.

4 | EMPIRICAL ANALYSIS

In this section, we present and discuss the empirical results examining whether political uncertainty has an impact on cross-country variations in stock market size, liquidity, and transaction cost. We also analyse whether the relationship between political uncertainty and stock market development is sensitive to institutional quality. We start with brief descriptive statistics of the variables and a cross-country summary analysis. We then proceed with the analysis of the multivariate regressions.

4.1 | Descriptive statistics

Table 1 reports the summary statistics of all the variables used in the regression analysis. Notably, the means of stock market development measures are lower than their standard deviations which suggests that they are less volatile (Table 2).

4.2 | Correlation analysis

Table 3 presents the cross-correlation coefficients amongst the variables employed in the analysis. Between the three stock market development indicators, *MCGDP* is positively correlated with *TURN*. However, *TRCOST* is

TABLE 2 Summary statistics of the control variables

Variable	MCGDP	TURN	TRCOST	FIE	PU	Infl	GovStab	InvPro	EconRisk	RGDPG	FinRisk	SITL	Tobinq	Momentum	Beta	Unemp
Argentina	36.32	11.11	65.02	0.51	0.25	9.76	7.58	5.51	33.80	5.01	32.17	3	5.77	0.07	1.26	11.20
Australia	117.37	87.97	30.73	0.61	0	2.93	8.97	8.57	28.50	3.10	36.14	3	5.80	0.01	0.99	6.09
Austria	29.99	43.68	30.03	0.54	0.08	2.091	7.99	9.50	33.85	1.51	38.85	2	5.48	0.02	0.84	5.34
Belgium	64.61	49.10	28.19	0.62	0.08	2.26	8.08	8.18	43.03	1.65	26.43	3	5.07	0.01	1.03	5.17
Brazil	55.72	46.90	43.64	0.50	0.25	6.57	8.10	9.82	35.37	3.13	33.36	2	5.03	0.19	1.93	7.51
Bulgaria	18.65	20.07		0.59	0.08	5.59	7.40	7.61	31.84	4.2	31.50	2	5.45	0.10	1.25	8.65
Canada	113.74	79.16	29.58	0.69	0	2.05	8.38	8.47	41.97	2.016	30.62	4	5.64	0.04	1.08	10.58
Chile	107.80	15.58	65.08	0.65	0.25	3.11	7.97	8.39	40.46	3.92	26.10	3	0.20	0.13	0.96	9.44
China	67.89	117.48	46.50	0.76	0.08	2.46	10.34	10.86	35.57	9.33	46.53	3	4.25	0.09	1.17	7.18
Czech Rep.	27.23	62.84		0.68	0	2.56	6.56	8.55	37.13	3.60	29.22	3	3.41	0.10	0.89	6.31
Denmark	63.37	84.39	31.51	0.58	0	2.13	8.39	6.65	43.64	0.95	42.07	3	3.69	0.01	0.97	4.33
Egypt	61.04	38.36		0.69	0.16	8.42	8.97	8.03	34.45	4.93	31.89	3	5.37	0.13	0.74	12.38
Finland	98.90	118.55	38.84	0.63	0.25	1.80	9.09	9.29	45.12	2.11	37.20	3	6.75	0.06	1.65	7.49
France	80.55	108.06	23.82	0.53	0.16	1.76	8.32	8.43	35.62	1.15	31.84	4	5.57	0.01	1.12	5.73
Germany	48.07	147.59	24.81	0.54	0	1.63	8.43	8.32	37.23	1.34	23.98	3	5.41	0.03	1.38	5.87
Greece	52.69	48.48	53.42	0.57	0.08	3.16	7.95	5.91	35.02	2.57	32.51	2	5.78	0.10	1.12	10.42
Hungary	24.36	80.96	48.63	0.60	0.25	5.49	7.25	8.84	34.75	1.85	35.51	3	0.90	0.07	1.30	10.21
India	73.39	110.61	58.57	0.58	0	6.81	7.52	9.36	33.40	7.75	37.66	3	4.25	0.11	1.08	8.47
Indonesia	30.72	55.60	63.74	0.65	0.16	7.96	7.63	8.07	37.02	5.19	21.99	2	−1.81	0.08	1.22	9.01
Ireland	49.74	53.13		0.55	0.16	2.44	8.54	9.75	41.90	3.25	36.05	3	6.08	0.07	0.96	8.36
Israel	87.94	60.79		0.67	0	2.23	7.25	8.71	37.25	3.65	29.62	4	4.49	0.06	1.02	7.86
Italy	38.45	128.13	29.49	0.53	0	2.29	7.91	7.71	35.67	0.42	33.48	3	5.20	0.03	0.95	15.82
Japan	79.03	117.63	19.46	0.73	0	−0.24	7.86	6.86	37.22	1.05	43.31	3	1.27	0.01	0.71	8.58
Korea	77.74	220.56	54.18	0.70	0	3.17	8.55	8.45	41.79	4.58	35.75	4	−0.71	0.03	1.50	4.06
Malaysia	134.96	33.36	49.42	0.73	0	2.24	7.54	7.02	36.86	4.6	36.36	2	4.96	0.09	0.62	5.79
Mexico	29.01	27.60	35.98	0.56	0.16	4.52	7.74	8.94	38.32	2.1	39.15	1	4.07	0.05	1.23	4.60
Netherlands	90.01	154.29		0.72	0	2.08	7.96	9.62	42.41	1.5	27.81	3	6.04	0.01	1.13	9.71
New Zealand	36.69	45.65	34.06	0.75	0	2.58	7.54	9.22	26.36	2.27	26.80	3	6.22	0.10	0.88	10.19
Norway	56.27	120.69	29.75	0.72	0	1.84	7.61	10.10	44.024	2.36	44.28	1	4.33	0.04	1.33	7.08
Peru	48.45	7.15	71.66	0.52	0.16	2.56	7.27	10.89	39.23	5.85	29.38	4	5.25	0.06	0.91	4.13
Philippines	48.48	20.10	85.79	0.64	0.16	4.51	7.36	5.44	27.52	4.88	35.44	2	2.61	0.09	1.07	3.51

(Continues)

TABLE 2 (Continued)

Variable	MCGDP	TURN	TRCOST	FIE	PU	Infl	GovStab	InvPro	EconRisk	RGDPG	FinRisk	SITL	Tobinq	Momentum	Beta	Unemp
Poland	30.01	38.09	39.03	0.53	0.25	3.01	7.79	7.82	36.17	4.22	36.58	3	4.92	0.04	0.66	3.46
Portugal	41.88	69.89	31.20	0.54	0.08	2.58	7.44	9.87	34.79	0.71	34.87	3	5.11	0.03	0.96	3.13
Romania	16.63	13.49		0.54	0.	11.10	10.50	9.23	31.34	4.32	34.89	3	3.81	0.07	0.67	4.46
Russia	69.86	59.36	31.49	0.44	0.25	11.61	10.81	9.26	38.69	5.18	44.072	3	2.71	0.06	1.47	3.84
Spain	87.60	167.56		0.60	0	2.80	8.13	6.29	38.15	2.05	36.47	3	6.02	0.05	1.08	5.33
Sweden	109.73	126.66	27.98	0.72	0	1.57	8.02	7.40	44.90	2.41	26.88	3	3.41	0.03	1.46	4.26
Switzerland	228.31	106.90	26.71	0.61	0	0.68	9.19	8.22	45.04	1.58	44.92	3	5.24	0.03	0.78	3.43
Thailand	64.01	89.99	52.52	0.69	0	2.75	8.18	6.15	34.87	4.27	34.88	3	2.88	0.09	1.16	3.53
Turkey	29.15	148.43	49.07	0.55	0	17.03	8.57	9.10	33.04	4.61	31.98	4	5.26	0.14	2.06	13.55
United States	126.82	202.93	21.09	0.56	0.25	2.43	8.98	7.43	29.62	2.19	28.93	4	6.46	0.03	0.89	6.75
United Kingdom	131.33	151.72	48.91	0.64	0	2.36	8.32	7.39	34.97	1.72	22.50	3	5.97	0.03	0.83	10.94

Note: This table shows the summary statistics for all the variables across countries in the tests. The variable definitions are detailed in appendix.

negatively correlated with *MCGDP* and *TURN*. As theoretically predicted, political uncertainty is negatively correlated with *MCGDP* and *TURN* but positively correlated with *TRCOST*. These provide early indications that political uncertainty reduces the size of the stock market and liquidity but increases stock market transaction costs. *FIE* is positively correlated with *MCGDP* and *TURN* but negatively correlated with *TRCOST*. Most of the control variables have the expected signs.

4.3 | Multivariate regression analysis

Following the univariate analysis, we provide empirical evidence using OLS regression. Even though panel OLS regressions are biased, it provides a useful benchmark for comparison with existing studies. We address the econometric concerns in subsequent analyses.

4.3.1 | Effects of political uncertainty on stock market development

This section examines whether political uncertainty across countries can explain international differences in stock market development. We specify the regression model using Equation (1).

$$\mathrm{SMD}_{jt} = \alpha + \beta_1.\mathrm{PU}_{jt} + \beta_2.Ctls_{jt} + \beta_3.\mathrm{TFE}_t + \beta_4.\mathrm{CFE}_j + \epsilon_{jt}. \quad (1)$$

In Equation (1) SMD_{jt} represents one of the three measures of SMD_{jt} (i.e. *MGDP*, *TURN*, and *TRCOST*), one at a time, of country j at time t. PU is political uncertainty, regressed one at a time. $Ctls_{jt}$ is a vector of the control variables of country j at time t. TFE and CFE are time (year) and country fixed effects, respectively.

Table 4 presents the panel regression estimates, together with their robust t-statistics in parentheses. In Models 1 and 2, as theoretically predicted, *PU* is negative and statistically significant at the conventional level. The estimated coefficients are −0.078 (t-statistics = −4.52), and −0.043 (t-statistics = −3.02) in Models 1 and 2, respectively. A one standard deviation increase in political uncertainty is associated with a decrease in *MCGDP* by 0.02 (0.078 × 0.29) and *TURN* by 0.01 (0.043 × 0.29).

We also find in Model 3 that there is a systematic relationship between political uncertainty and stock market transaction cost. The coefficient on *PU* is 0.055 (t-statistics = 2.50). This suggests that political uncertainty increases stock market transaction costs. This is

TABLE 3 Pearson's pairwise correlation coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MGDP (1)	1															
TURN (2)	0.22*	1														
TRCOST (3)	−0.22*	−0.34*	1													
FIE (4)	0.23*	0.19*	−0.10*	1												
PU (5)	−0.12*	−0.13*	0.15*	−0.13*	1											
Infl (6)	−0.21*	−0.13*	0.33*	−0.09	0.06	1										
GovStab (7)	0.02	0.05	−0.08	0.05	−0.02	0.02	1									
InvPro (8)	−0.05	−0.01	0.11*	0.08	0.04	0.13*	0.08*	1								
EconRisk (9)	−0.18*	−0.12*	0.19*	−0.16	−0.04	−0.18*	−0.03	0.04	1							
RGDPG (10)	0.03	0.10*	−0.37*	0.07	−0.01	0.23*	0.10*	0.05	−0.04	1						
FinRisk (11)	−0.01	−0.03	0.10	−0.08	−0.02	−0.03	0.19*	0.08	0.01	0.06	1					
SITL (12)	0.10*	0.34*	−0.09	0.14*	0.05	−0.04	0.05	0.16*	0.02	0.01	−0.13*	1				
Tobinq (13)	0.19*	0.02	−0.33*	0.05	−0.06	−0.12*	0.03	0.05	−0.07	−0.08	−0.02	0.01	1			
Momentum (14)	0.08	0.32*	−0.49*	0.11*	0.08	0.37*	−0.05	0.04	−0.18*	0.32*	−0.10*	−0.22*	−0.09*	1		
Beta (15)	−0.13*	−0.22*	0.10	−0.07	0.07	0.30*	0.01	0.13*	0.06	0.07	−0.09*	−0.01	−0.08	0.22*	1	
Unemp (16)	−0.13*	−0.09*	0.09	−0.06	−0.02	0.19*	−0.03	−0.11*	−0.06	−0.01	−0.18*	−0.07	0.13*	0.19*	0.12*	1

Note: *Statistical significance of at least the 5% level.

TABLE 4 Political uncertainty and stock market development

	MCGDP	TURN	TRCOST
PU	−0.078***	−0.043***	0.055***
	(−4.52)	(−3.02)	(2.50)
Infl	−0.015***	−0.016***	0.067***
	(−2.99)	(−2.99)	(3.36)
GovtStab	0.011	0.062	−0.012
	(0.72)	(0.40)	(−0.21)
InvPro	0.022*	0.015	−0.007*
	(1.78)	(0.91)	(−1.81)
EconRisk	−0.012***	−0.019	0.002**
	(−4.28)	(−0.65)	(2.34)
RGDPG	0.009	−0.004	0.012***
	(1.31)	(−0.62)	(4.37)
FinRisk	−0.002	−0.005	0.001
	(−0.96)	(−0.22)	(1.41)
SITL	0.074**	0.012***	−0.009**
	(2.34)	(6.59)	(−2.08)
Tobinq	0.004***	−0.001	−0.002***
	(4.49)	(−0.95)	(−5.71)
Momentum	0.084	0.044***	−0.014***
	(1.41)	(7.31)	(−6.58)
Beta	−0.016*	−0.042***	0.027**
	(−1.82)	(−8.75)	(2.48)
Unemp	−0.019***	−0.017***	−0.013
	(−3.14)	(−2.80)	(−0.61)
Constant	0.032	−0.043	0.067***
	(1.03)	(−0.62)	(7.83)
Number of observations	710	713	350
Adjusted *R*-square	0.34	0.36	0.49
Year fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes

Note: This table reports the multivariate test of political uncertainty's impact on stock market volatility, using the national election as a proxy for the political uncertainty. All variables employed in the regression are described in Table A1. The *t*-statistics, reported in parentheses, are based on standard errors double clustered at the country and year levels. For tractable interpretation, all the coefficients are reported as partial elasticity, and the statistical significance is reported against 10% (*), 5% (**), and 1% (***) significance levels.

consistent with the view that poorly developed stock markets will experience high illiquidity as the market will be dominated by few corporate insiders. A 1% increase in political uncertainty is associated with an increase in the stock market transaction cost by 0.02 (0.055 × 0.29).

4.3.2 | Institutions and political uncertainty

We test whether the relation between political uncertainty and stock market development is sensitive to a country's institutional environment. We, therefore, interact institutional quality with political uncertainty to determine whether they have joint effects on stock market development. We estimate the results using Equation (2).

$$\mathrm{SMD}_{jt} = \alpha + \beta_1.\mathrm{PU}_{jt} + \beta_2.\mathrm{FIE}_{jt} + \beta_3 \mathrm{PU}x\mathrm{FIE}_{jt} + \beta_4.Ctls_{jt} + \beta_5.\mathrm{TFE}_t + \beta_6.\mathrm{CFE}_j + \epsilon_{jt}. \quad (2)$$

In Equation (2) SMD_{jt} represents one of the three measures of SMD_{jt} (i.e. *MGDP*, *TURN*, and *TRCOST*),

TABLE 5 The role of institutional quality

	MGDP	TURN	TRCOST
PU	−0.036**	−0.040**	0.047**
	(−2.33)	(−2.25)	(2.73)
FIE	0.347***	0.217***	−0.226***
	(4.41)	(3.05)	(−2.89)
FIE*PU	0.255***	0.124***	−0.211***
	(3.73)	(3.28)	(−3.08)
Infl	−0.018***	−0.015***	0.007***
	(−2.75)	(−2.63)	(2.67)
GovtStab	0.017	0.012	0.012
	(0.73)	(0.53)	(0.19)
InvPro	0.018*	0.014	−0.004
	(1.85)	(1.32)	(−1.26)
EconRisk	−0.016***	−0.010	0.005**
	(−4.21)	(−0.34)	(2.10)
RGDPGR	0.013	0.006	−0.013***
	(1.32)	(0.71)	(−4.16)
FinRisk	−0.005	0.004	0.007
	(−0.97)	(0.49)	(1.28)
SITL	0.064**	0.027***	−0.012***
	(2.06)	(6.32)	(−2.67)
Tobinq	0.049***	0.011	−0.015***
	(4.27)	(1.32)	(−5.11)
Momentum	0.003*	0.005***	−0.004***
	(1.88)	(5.78)	(−4.47)
Beta	−0.015*	−0.042***	0.043**
	(−1.90)	(−8.75)	(2.02)
Unemp	−0.024***	−0.016**	−0.007
	(−3.27)	(−2.23)	(−0.24)
Constant	0.055	−0.027	0.038***
	(0.68)	(−1.12)	(8.94)
Number of observations	710	710	350
Adjusted *R*-square	0.14	0.31	0.43
Year fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes

Note: This table reports the multivariate test of whether the relationship between political uncertainty's stock market volatility is sensitive to institutional quality proxy by financial institutions' efficiency. All variables employed in the regression are defined in Table A1. The *t*-statistics, reported in parentheses, are based on standard errors double clustered at the country and year levels. For tractable interpretation, all the coefficients are reported as partial elasticity, and the statistical significance is reported against 10% (*), 5% (**), and 1% (***) significance levels.

one at a time, of country *j* at time *t*. PU is political uncertainty, regressed one at a time. FIE_{jt} is financial institutions efficiency of country *j* at time *t*. $PUxFIE_{jt}$ is the interactive term between political uncertainty and financial institutions' efficiency of country *j* at time *t*. $Ctls_{jt}$ is a vector of the control variables of country *j* at time *t*. TFE and CFE are time (year) and country fixed effects, respectively.

Table 5 presents our estimates of the interaction between political uncertainty and financial institutions' efficiency. Consistent with our primary hypothesis, higher political uncertainty is associated with

TABLE 6 Developed and emerging the effect of political uncertainty on stock market development in developed vs. emerging countries

	Developed markets			Emerging markets		
	Model (1) MGDP	**Model (2) TURN**	**Model (3) TRCOST**	**Model (4) MGDP**	**Model (5) TURN**	**Model (6) TRCOST**
PU	−0.024**	−0.016**	0.028*	−0.084	−0.002	0.045
	(−2.05)	(−2.41)	(1.94)	(−0.92)	(−0.84)	(1.05)
Infl	−0.003***	−0.008	0.003***	0.087	−0.066	0.059
	(−3.42)	(−0.19)	(5.86)	(0.14)	(−0.45)	(0.21)
GovStab	0.021	0.007	0.021***	−0.003	−0.013	−0.022*
	(1.19)	(0.46)	(5.01)	(−0.17)	(−0.56)	(−1.98)
InvPro	0.028**	0.010	−0.007**	0.004	−0.025	−0.009
	(2.11)	(0.86)	(−2.13)	(0.30)	(−1.48)	(−1.35)
EconRisk	−0.012***	−0.001	0.005	0.008	−0.003	−0.008
	(−3.90)	(−0.36)	(2.79)	(1.62)	(−0.84)	(−0.44)
RGDPGR	0.052***	0.010**	−0.013***	0.009	0.006	0.008
	(4.78)	(2.40)	(−3.45)	(1.04)	(0.49)	(0.21)
FinRisk	−0.005**	−0.007**	0.003	−0.006*	−0.018	−0.002
	(−2.01)	(−2.46)	(0.60)	(−1.75)	(−0.51)	(−1.28)
SITL	0.029***	0.016***	−0.015*	−0.027**	0.015***	0.003***
	(5.35)	(4.23)	(−1.70)	(−2.10)	(3.16)	(2.65)
Tobinq	0.077***	0.045**	−0.016***	0.024	0.009**	−0.011*
	(4.96)	(2.31)	(−4.49)	(1.65)	(2.47)	(−1.70)
Momentum	−0.019*	0.015**	0.014***	0.005***	−0.005***	−0.007
	(−1.96)	(2.24)	(6.21)	(6.23)	(−3.97)	(−0.17)
Beta	−0.016	−0.024***	0.014	−0.020***	−0.038***	0.001
	(−1.13)	(−4.70)	(0.72)	(−3.17)	(−5.43)	(1.21)
Unemp	−0.016**	−0.007**	0.001	−0.035***	−0.015*	0.002
	(−2.45)	(2.03)	(1.08)	(−4.47)	(−1.78)	(0.04)
Constant	−0.045	−0.073***	0.011**	0.039**	0.047*	0.010***
	(−1.53)	(−3.39)	(2.31)	(2.08)	(1.82)	(7.93)
Number of observation	389	389	191	321	321	158
Adjusted *R*-square	0.28	0.27	0.46	0.23	0.21	0.24
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	209	Yes	Yes	Yes

Note: This table presents the results from the regression of impact political uncertainty on stock market development, separated into developed vs. emerging countries. All variables employed in the regression are as described in Table A1. The *t*-statistics, reported in parentheses, are based on standard errors double clustered at the country and year levels. For tractable interpretation, all the coefficients are reported as partial elasticity, and the statistical significance is reported against 10% (*), 5% (**), and 1% (***) significance levels.

stock market development, and the results hold for Models 1–3. We might reasonably expect political uncertainty to reflect financial institutions' efficiency. However, this might not be the case. A higher financial institutions efficiency (*FIE*) is associated with significant stock market development. The estimated coefficients on the interactive term between political uncertainty and financial institutions' efficiency *PUx FIE* in Models 1 and 2 are positive and statistically significant at the 1% level. The result is in line with Cao et al. (2019), who find that higher institutional quality through checks and balances mitigates the negative effects of political uncertainty on investment and cross-border mergers and acquisitions. In Model 3, the estimated coefficient on *PUx FIE* is −0.211 (*t*-statistics = −3.08).

TABLE 7 Interaction with emerging country

	MCGDP	TURN	TRCOST
PU	−0.013*	−0.016**	0.031**
	(−1.72)	(−2.24)	(2.22)
EMERGE	0.002***	0.004***	−0.001***
	(3.98)	(7.35)	(−5.71)
PU*x*EMERGE	−0.043	−0.019	0.003
	(−0.31)	(−1.41)	(0.07)
Infl	−0.010*	−0.006	0.003
	(−1.95)	(−1.27)	(1.56)
GovtStab	0.007	0.004	−0.001
	(0.52)	(0.03)	(−0.19)
InvPro	0.020*	0.010	−0.007*
	(1.82)	(0.98)	(−1.84)
EconRisk	−0.011***	−0.005	0.002**
	(−3.95)	(−0.02)	(2.25)
RGDPGR	0.017**	0.008	−0.006***
	(2.29)	(1.19)	(−3.24)
FinRisk	−0.002	−0.001	0.001
	(−0.86)	(−0.45)	(1.62)
SITL	0.057*	0.084***	−0.004
	(1.80)	(5.94)	(−0.40)
Tobinq	0.035***	0.033***	−0.013***
	(3.19)	(3.02)	(−3.52)
Momentum	0.002***	0.001**	−0.005**
	(3.48)	(1.98)	(−2.33)
Beta	−0.015**	−0.047***	0.035
	(−2.46)	(−7.90)	(1.59)
Unemp	−0.023***	−0.009	0.007
	(−3.83)	(−1.57)	(0.35)
Constant	0.067	−0.043	0.024***
	(0.75)	(−1.20)	(8.78)
Number of observations	710	710	350
Adjusted *R*-squared	0.16	0.38	0.43
Year fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes

Note: This table presents the results from the regression of the interaction between emerging countries and political uncertainty on stock market development, separated into developed vs. emerging countries. All variables employed in the regression are as described in Table A1. The *t*-statistics, reported in parentheses, are based on standard errors double clustered at the country and year levels. For tractable interpretation, all the coefficients are reported as partial elasticity, and the statistical significance is reported against 10% (*), 5% (**), and 1% (***) significance levels.

4.4 | Robustness checks

In this section, we perform several checks to provide robustness to our baseline results reported in Table 4.

4.4.1 | Developed and emerging countries

We provide robustness to our results by splitting our sample based on the Morgan Stanley Capital International (MSCI) classification of developed and emerging

TABLE 8 GMM political uncertainty and stock market development

	MCGDP	TURN	TRCOST
L.MCGDP	−0.017***		
	(−4.52)		
L.TURN		−0.055	
		(−1.60)	
L.TRCOST			−0.035**
			(−2.59)
PU	−0.027**	−0.032**	0.014*
	(−2.22)	(−2.10)	(1.86)
Infl	−0.001	−0.005***	0.009***
	(−0.22)	(−5.14)	(4.04)
GovtStab	0.012***	0.030	−0.027**
	(3.63)	(0.81)	(−2.11)
InvPro	0.024**	0.078***	−0.010
	(2.51)	(3.65)	(−1.11)
EconRisk	−0.005	−0.006	0.002**
	(−0.27)	(−1.55)	(2.11)
RGDPG	0.031***	0.052***	−0.023***
	(3.56)	(3.20)	(−3.73)
FinRisk	−0.001	−0.002	0.005
	(−1.06)	(−0.53)	(0.44)
SITL	0.003***	0.001***	−0.002*
	(11.45)	(5.94)	(−1.70)
Tobinq	0.029***	−0.013	−0.028***
	(3.93)	(−0.87)	(−5.61)
Momentum	0.015***	0.009***	0.022
	(3.54)	(5.95)	(0.02)
Beta	−0.021***	−0.045***	0.033
	(−4.22)	(−6.22)	(0.60)
Unemp	−0.023***	−0.003	0.009
	(−4.30)	(−0.32)	(1.03)
Constant	0.076***	0.012	−0.065
	(5.42)	(1.60)	(−1.38)
Number of observations	668	668	318
AR1 (*p*-value)	0.005	0.002	0.003
AR2 (*p*-value)	0.471	0.001	0.235
Hansen J statistics	0.736	0.642	0.520

Note: The effect of political uncertainty on stock market development. All other variables are as described in Table A1. Regressions are estimated using dynamic GMM. All standard errors are clustered by the firm and all regressions include firm fixed effects. The *t*-statistics, reported in parentheses, are based on standard errors double clustered at the country and year levels. For tractable interpretation, all the coefficients are reported as partial elasticity, and the statistical significance is reported against 10% (*), 5% (**), and 1% (***) significance levels.

economies. This is to isolate the impact of political uncertainty in emerging developed country samples. We present the results in Table 6. As in Models 1 and 2, the coefficients on *PU* are negative and statistically significant at the 5% level. Whilst the coefficient on *PU* in Model 3 is positive and statistically significant at the 10% level.

TABLE 9 Financial development measures

	PSCGDP	DCPGDP	LLGDP
PU	0.018***	0.015***	−0.044***
	(3.36)	(2.63)	(−2.74)
Infl	−0.002***	−0.003***	0.024***
	(−6.94)	(−6.22)	(6.32)
GovtStab	0.016	0.013	−0.003
	(1.47)	(0.99)	(−0.31)
InvPro	0.002	0.014	−0.006
	(0.27)	(1.35)	(−0.77)
EconRisk	0.005***	0.010***	−0.002
	(2.66)	(3.80)	(−1.16)
RGDPGR	−0.028***	−0.031***	0.010**
	(−5.29)	(−4.69)	(2.07)
FinRisk	0.004**	0.002	0.006***
	(2.34)	(1.15)	(3.72)
SITL	0.065***	0.040***	−0.007***
	(2.80)	(4.82)	(−3.31)
Tobinq	0.028***	0.011	−0.016
	(3.58)	(1.13)	(−1.43)
Momentum	0.015***	0.003	−0.006
	(3.46)	(0.62)	(−1.61)
Beta	−0.025	−0.066	−0.062***
	(−0.56)	(−1.19)	(−3.88)
Unemp	−0.002	−0.007	0.012**
	(−0.59)	(−1.38)	(2.53)
Constant	0.054***	0.042***	−0.057***
	(3.42)	(2.59)	(−3.53)
Number of observations	697	697	697
Adjusted *R*-squared	0.34	0.27	0.44
Year fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes

Note: This table reports the multivariate test of political uncertainty's impact on stock market volatility, using financial development measures. All variables employed in the regression are described in Table A1. The *t*-statistics, reported in parentheses, are based on standard errors double clustered at the country and year levels. For tractable interpretation, all the coefficients are reported as partial elasticity, and the statistical significance is reported against 10% (*), 5% (**), and 1% (***) significance levels.

In Models 4–6, the coefficients on *PU* are statistically insignificant. Generally, the results in Table 6 suggest that political uncertainty has a severe impact in emerging countries. This is consistent with the view that emerging countries have weak institutions. Therefore, other things being equal, investors will move their investments to developed countries during periods of political uncertainty. Cao et al. (2019) show that political uncertainty increases outbound mergers and acquisitions into developed countries. Emerging countries are characterized by less degree of corporate board independence. Furthermore, emerging countries will struggle to attract foreign capital during periods of political uncertainty due to lower levels of investor protection for minority investors. This is consistent with La Porta et al. (1998) who find that protection for minority investors plays a role in the less development of domestic markets in emerging countries.

4.4.2 | Political uncertainty and emerging countries

In this section, we test for a differential response to political uncertainty across developed and emerging countries

consistent with variations in institutional quality by including interaction variables (*PUx EMERGE*). We estimate the results using Equation (3).

$$\mathrm{SMD}_{jt} = \alpha + \beta_1 \mathrm{PU}_{jt} + \beta_2 \mathrm{EMERGE}_{jt} + \beta_3 \mathrm{PU}_{jt} \times \mathrm{EMERGE}_{jt} + \beta_4 Ctls_{jt} + \beta_5.\mathrm{TFE}_t + \beta_6.\mathrm{CFE}_j + \epsilon_{jt}, \quad (3)$$

where *PUx EMERGE* is the interaction between political uncertainty and emerging country dummy (*EMERGE*). *EMERGE* takes a value of 1 if the country as defined by MSCI is an emerging country or 0 if otherwise.

Table 7 presents the results. The coefficients on *PU* in Models 1 and 2 are positive and statistically significant. Whilst the coefficient on *PU* in Model 3 is negative and also statistically significant at the 5% level. These results are consistent with those reported in the baseline regression in Table 4. In Models 1–3, the coefficients on the interaction variable *PUx EMERGE* ranging from −0.043 to 0.003 are not statistically significant. This is in line with existing studies that suggest emerging countries have weak institutions to mitigate the negative effects of political uncertainty.

4.4.3 | Generalized moments of methods

We check the robustness of our results by employing Arellano and Bond (1991) system GMM. This is to check whether our results vary according to the alternative estimation. We specify our regression model using Equation (4).

$$\mathrm{SMD}_{jt} = \alpha + \beta_1.\mathrm{SMD}_{jt-1} + \beta_2.\mathrm{PU}_{jt} + \beta_3.Ctls_{jt} + \beta_4.\mathrm{TFE}_t + \beta_5.\mathrm{CFE}_j + \epsilon_{jt}, \quad (4)$$

where SMD_{jt} represents one of the three measures of stock market development (*MCGDP*, *TURN*, and *TRCOST*). SMD_{jt-1} represents the lagged instrumented stock market development. PU_{jt} is political uncertainty. $Ctls_{jt}$ is a vector of the control variables of country j at time t. TFE_t and CFE_j are time and country fixed effects, respectively. The empirical results are reported together with their t-statistics in parentheses.

The results are presented in Table 8. As evident in Models 1–3, political uncertainty is statistically significant and has the same signals just as in our baseline regression in Table 4. The coefficients on *PU* are −0.027 (t-statistics = −2.22), −0.032 (t-statistics = −2.10), and 0.014 (t-statistics = 1.86) in Models 1, 2, and 3, respectively. The system GMM estimation for the result in Model 2 should be taken with care as the instrumented set employed in the specification did not pass the over-identification restrictions of the Hansen-test.

4.4.4 | Financial development measures

In this section, we discuss and provide robustness to our main results. We examine whether our results vary according to alternative measures of financial development. We introduce the following financial development measures private sector credit to GDP (*PSCGDP*), domestic credit to private enterprises by deposit money banks and other financial institutions divided by GDP (*DCPGDP*), and liquid liability to GDP (*LLGDP*). We present the results in Table 9. The results in Models 1–3 are negative and statistically significant at the 1% level. The results are qualitatively the same as those reported in our baseline results in Table 4. The coefficients of the control variables are not different from those reported earlier and are not sensitive to a particular measurement of financial development or estimation. We, therefore, conclude that our results are robust.

5 | EMPIRICAL ANALYSIS

The existing studies provide contrasting conceptual arguments and empirical evidence on the impact of uncertainty on stock market development. Several conceptual arguments highlight the potentially positive, negative, or perhaps neutral implications of uncertainty for stock market development. For instance, Mayer (1988) postulates that not much corporate investment is financed through the issuance of equity so the stock market may be unimportant. Another school of thought argues that most profitable investments need long-term financial commitment and thus highlight the salient role of the stock market. Furthermore, uncertainty does not deter investors from participating in the stock market as they are reluctant to relinquish control of their investment. These contrasting theoretical arguments are supported by empirical evidence.

We strive in this article to resolve these contrasting theoretical and empirical studies by linking them to political uncertainty. We use a sample dataset of 42 countries from 2001 to 2019 to examine whether political uncertainty has varying impacts on cross-country stock market liquidity, size, and transaction cost. We also test whether the relationship between political uncertainty and stock market development is sensitive to institutional quality.

The findings of this study are supported by several robustness checks that suggest that political uncertainty reduces stock market liquidity, and size but increases transaction cost. We further find that institutional quality mitigates the negative effects of political uncertainty on

stock market development. However, institutions play no role in emerging countries as a result of the high prevalence of weak institutions. These findings imply that countries, particularly, emerging countries aiming to maintain stock market development should strive to mitigate political-related uncertainties with strong institutions. Our findings are relevant to investors, corporations, and regulators. Investors seeking to construct an internationally diversified equity portfolio can incorporate information about political uncertainty in their portfolio selection.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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TABLE A1 Description of variables

Variable	Abbreviation	Description
Market capitalization to GDP	*MCGDP*	The ratio of market capitalization as a percentage of GDP. We obtained data from World Development Indicators (WDI).
Turnover ratio	*TURN*	The total value of equity traded is scaled by market capitalization. We sourced data from WDI.
Stock transaction cost	*TRCOST*	The investor protection measure was obtained from the International Country Risk Guide.
Political uncertainty	*PU*	Dummy variable that takes the value of 1 just 1 year before the country's election year, 0 otherwise. We sourced data from the World Bank Database of Political Institutions (DPI) to proxy for political uncertainty.
Financial Institution Efficiency	*FIE*	Financial institution efficiency measure which is a sub-component of financial development. We obtained data from the International Monetary Fund (IMF).
Inflation	*Infl*	The percentage change in the consumer price index. We sourced data from WDI.
Financial risk	*FinRisk*	Describes the financial risk rating index of a country obtained from the International Country Risk Guide (ICRG).
Economic risk	*EconRisk*	The measures of the government's attitude towards inward investment (ICRG).
Investor protection	*InvPro*	The investor protection measure was obtained from the ICRG.
Real GDP growth rate	*RGDPGR*	The economic growth rate using the real gross domestic product growth (*RGDPG*) sourced from *WDI*.
Return momentum	*Momentum*	The previous year's stock performance is measured as the average *MSCI* monthly index return over the past year.
Tobinq	*Tobinq*	The ratio of each country's constituent firms' total liabilities plus equity market value to the book values of the firms' assets.
Unemployment	*UNEMP*	Total percentage of labour force without work but available and looking for employment (ILOSTAT)
Government stability	*GovStab*	This is the measure of the government's propensity to manage its projects and programs effectively and in order to remain stable. The higher this index, the more effective and stronger the government will become. We sourced data from ICRG.
Stringent insider trading laws	*SITL*	An index that ranges between 1 (least stringent) and 4 (most stringent) and is the aggregate of four elements: Laws forbidding insiders from trading on price-sensitive private information, the country's regulations forbidding tippees from using the price-sensitive private information provided by corporate insiders, financial penalty suffered for violating insider trading laws if insider trading is considered as a criminal offence. We sourced data from Beny (2007).