Economic Systems 47 (2023) 101056

Contents lists available at ScienceDirect

Economic Systems

journal homepage: www.elsevier.com/locate/ecosys

Political environment and bank performance: Does bank size matter?

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ARTICLE INFO

JEL Classification:
G21
G3
D7

Keywords:
Bank performance
Bank size
Political environment

ABSTRACT

In this study, we investigate the relationship between the political environment and bank performance and whether this relationship is contingent on bank size. We use a sample comprising more than 1600 banks in 58 countries and a set of multidimensional measures collected by the Economist Intelligence Unit to proxy for the political environment. Overall, our findings indicate that political uncertainty is associated with a significant decrease in bank performance. A deeper analysis shows that bank size matters when analyzing the relationship between political risk and bank performance. Precisely, large banks are less vulnerable and more resilient under political distress than other banks. Our findings shed light on the importance of bank size as a determinant of bank performance in countries with high political risk, particularly for investment decision makers. The results are robust to a variety of alternative measurements, and different estimation techniques to deal with endogeneity.

1. Introduction

Factors such as globalization, technological changes, and deregulation have fundamentally transformed the banking system structure during the past three decades. Characterized by an optimistic outlook about the growth of liquidity and strong bank competition, financial liberalization has given rise to a massive increase in the number of mergers and acquisitions in the banking sector, thus increasing the number of large banking organizations in many countries (Brealey et al., 2019; Fraisse et al., 2018; Goddard et al., 2007). Such trends have attracted the attention of scholars and policymakers exploring large banks (Avramidis et al., 2018; Fina Kamani, 2019; Jondeau and Khalilzadeh, 2022; Laeven et al., 2016). One strand of this literature examines if large banks have a better performance than other banks (Allen and Liu, 2007; Biswas et al., 2017; Carter and McNulty, 2005; Elyasiani and Jia, 2019).

Given the growing political interference in some countries in recent years, the impact of the political environment on the banking sector has attracted the interest of both banking regulators and scholars. Political risk is considered among the main sources of uncertainty and is deemed a growing concern for banks. Annual reports detailing the supervision and financial stability of many central banks articulated concerns about the critical influence of political risk on banking institutions. For instance, in its 2020 annual report, the European Central Bank identified political risk as one of the main underlying risks for the banking system. Similarly, the Federal Reserve's financial stability report published in 2021 indicates that political uncertainty is one of the most cited potential

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https://doi.org/10.1016/j.ecosys.2022.101056
Received 20 November 2021; Received in revised form 23 September 2022; Accepted 29 September 2022
Available online 17 October 2022
0939-3625/

shocks for the banking sector. For scholars, a new strand of the literature, pioneered by Dinç (2005), has stressed the importance of investigating the influence of the political environment on bank performance (Eichler and Sobański, 2016; Ghosh, 2016; Gropper et al., 2015; Infante and Piazza, 2014).

In this study, we build on these two strands of the literature and investigate if the impact of the political environment on bank performance differs with bank size. Political uncertainty has significant negative consequences on bank performance, such as lowering bank profitability (Gropper et al., 2015; Şanlısoy et al., 2017), increasing bank risk (Ashraf, 2017; Ghosh, 2016), reducing access to capital markets (Alraheb et al., 2019; Bitar et al., 2018), among others. Despite the growing number of studies on the influence of the political environment on bank performance, its impact on the performance of large banks has not been examined so far. Understanding such a channel is important because large banks could have different behaviors and outcomes due to their distinct commitments vis-à-vis their borrowers and lenders (Allen and Liu, 2007; Berger and Bouwman, 2013; Hughes et al., 2001). In addition, uncovering this channel contributes to the growing literature on the factors influencing investment decisions during periods of political distress (Buch, 2003; Hagendorff et al., 2008; Sun et al., 2013).

Defining political variables to proxy for the political environment can be difficult because factors such as local or foreign conflicts, upcoming elections, unanticipated changes in taxation laws, and institutional fragility imply changes in the national political environment (Tarkhani, 2021). Since this study focuses on bank performance, we use a set of political variables that have predictive power on return expectations. Accordingly, to quantify the political risk. we consider the business operations risk model proposed by the Economist Intelligence Unit (EIU). We then examined the effect of the political environment on the performance of more than 1600 banks according to their size in 58 countries during the 2006–2018 period.

The study findings contribute to the existing literature in two important ways: First, our results highlight the undeniable role of the political environment in the banking system and show that improvements in the political system, allowing businesses to operate effectively and supporting fair and competitive environments, improve bank performance. Importantly, our findings show that bank size matters when analyzing the relationship between political risk and bank performance. Indeed, even if the results of this study indicate a negative relationship between political risk and bank performance, large banks are less vulnerable and more resilient than other banks under politically distressed circumstances. Thus, our findings elucidate the importance of bank size as a determinant of bank performance in countries with high political risk, particularly for investment decision makers. Second, we address possible endogeneity issues by considering an instrumental variable (IV) approach using three alternative estimation techniques: two-stage least squares (2SLS), generalized method of moments (GMM), and limited information maximum likelihood (LIML).

The remainder of this paper is organized as follows. Section 2 reviews the theoretical framework regarding the impact of a country's political environment on its banking system, and Section 3 presents the sample, dependent variables, and explanatory variables. Section 4 reports the empirical analysis, and Section 5 presents the complementary analysis and robustness tests, followed by the conclusion.

2. Related literature and hypothesis development

2.1. Banking system and political environment

Growing political interference seems to be weighing heavily on the banking sector in several countries. Over the past few years, the impact of a given country's political environment on its banking system has attracted the interest of scholars. Most studies show that a country's political environment determines bank profitability and banks' risk-taking behavior. According to Ashraf (2017), sound political institutions may reduce banks' risk by reducing government expropriation risk and information asymmetries between banks and borrowers. In a related study, Infante and Piazza (2014) show that preferential lending to firms with strong political links in the Italian market increases with the degree of autonomy of local loan officers. They also show that the occurrence of preferential lending is evident when corruption is relatively widespread. Similarly, Bitar et al. (2018) posit that reducing political instability and corruption encourages access to capital markets. When examining banks with politically connected CEOs, Chen et al. (2018) show that, during the crisis, public banks with politically connected CEOs are associated with higher loan default rates and lower operating revenue than their counterparts without politically connected CEOs. This study's findings are consistent with Carvalho (2014) for the Brazilian market and Dinç's (2005) observation regarding politically motivated bank lending in emerging markets. Examining the Middle East and North Africa region, Alraheb et al. (2019) show that when stock markets are less developed, political stability significantly affects risk-weighted regulatory capital ratios. The results of this study are consistent with Micco et al. (2007), who show that banks' operating performance in developing countries is influenced by the political environment during election years. Considering Eurozone banks, Eichler and Sobański (2016) investigated the impact of national politics on bank default risks during the 1999–2007 period, and show that bank default risk is particularly strong for weakly capitalized banks.

Examining the link between the current political environment and bank profitability, Gropper et al. (2015) show that state economic freedom correlates strongly with bank performance, as measured by return on assets (ROA). They also show that banks generate significantly higher ROA when their headquarters are located in states where a U.S. Senator or Representative serves as the chair of the respective banking committee in Congress. In an interesting study, Ghosh (2016) examines the impact of the Arab Spring on bank performance during the 2000–2012 period and finds that political instability due to the Arab Spring is associated with an overall reduction in bank profitability of nearly 0.2% and a significant increase in bank risk.

From the discussion above, the impact of political environment on the banking sector has been widely investigated in recent years. Nevertheless, contributions to this field still focus on if the political environment negatively impacts bank performance in some countries/regions. Our study is the first to consider a sample comprising more than 1600 banks operating in 58 countries.

Furthermore, in this study, we attempt to provide a better understanding of the impact of political environment on bank performance by using, on the one hand, a set of variables to cover various dimensions of bank performance and, on the other hand, various political measures to proxy political environment. Considered together, these arguments lead to our first hypothesis:

H1. . There is a negative relation between political risk and bank performance.

2.2. Why does bank size matter when analyzing performance?

As a determinant of performance, bank size has gained importance in the banking literature. Many of these studies confirm the stronger performance of large banks compared with other banks (Allen and Liu, 2007; Gandhi and Lustig, 2015; Rhoades, 1998). Two main reasons are used to explain this trend. First, large banks enjoy more favorable funding conditions and better diversification of credit and liquidity risks than other credit institutions (Allen and Liu, 2007; Berger and Bouwman, 2013; Hughes et al., 2001). For instance, Diamond (1984) shows that if all risks are diversifiable and monitoring costs are fixed, then financial intermediation is viable only for a sufficiently diversified portfolio of obligor concentrations, and the larger the intermediary, the more efficient it is. Hughes and Mester (2013) argue that aside from diversification, lowering the relative cost of risks, the spread of overhead costs, especially those associated with information technology, represents another form of economies of scale. Goetz et al. (2016) show that banks growing larger (i.e., geographic expansion) lowers risk by reducing their exposure to idiosyncratic local risks.

Second, large banks outperform other banks as they have a claim on public resources that others do not (Sakawa et al., 2020). Under a stronger regulatory safety net, large banks gain from expanding their business and are deemed “too big to fail.” From a macroeconomic perspective, the failures of large banks must be prevented so that they do not lead to runs on other banks and a significant reduction in the money supply (Farhi and Tirole, 2012). At the same time, political concerns can play a significant role in delaying government interventions into failing banks, except for large banks. For example, politicians postpone implementing government interventions to support failing banks during election years because they fear a backlash from the electorate (Brown and Dinç, 2005), and regulators are reluctant to close or disencumber large banks. The latter may then adopt the “moral-hazard” behavior for achieving better performance.

In this analytical framework, large banks seem more resilient to external shocks and can maintain their stability. Given the importance of size as a determinant of bank performance, we examine the impact of political environment on bank performance according to size, leading us to our second hypothesis:

H2. . Large banks are more resilient to political distress than other banks.

3. Data and variable construction

To construct our sample, we collected data from several sources. The Osiris Bureau van Dijk database was used as the primary data source. Macroeconomic data, such as inflation and GDP growth rates, were obtained from the World Development Indicators, the World Bank's primary collection of development indicators. Political control variables were obtained from the Economist Intelligence Unit’s (EIU) Market Indicators & Forecasts database and Worldwide Governance Indicators (WGI). Argentina was excluded from the sample because of the peso collapse and instability of its banking sector. In addition, Bahrain, Bangladesh, Bolivia, Bosnia and Herzegovina, Costa Rica, Cyprus, Croatia, El Salvador, Estonia, Ghana, Greece, Guatemala, Honduras, Iraq, Jamaica, Jordan, Latvia, Liechtenstein, Lithuania, Montenegro, Nepal, Uzbekistan, Zambia, and Zimbabwe were excluded from the sample because no data were available for political control variables. All the variables were winsorized to mitigate the effect of outliers. The final sample comprised more than 1600 banks operating across 58 countries, with annual data from 2006 to 2018. Table 1 presents the sample distribution by country. The following countries had more than half of the observations: the Russian Federation (2.26%), the United Kingdom (UK) (2.68%), India (2.8%), Japan (12.10%), and the United States (U.S.) (37.72%).

To study bank performance, we opted for a straightforward approach that is largely used in the banking literature. Consistent with Saghi-Zedek (2016), Chen et al. (2018), and Elyasiani and Jia (2019), we used the return on assets ratio (*ROA*) as our main dependent variable to proxy bank performance. To ensure the reliability of our findings, we followed Claessens and Van Horen (2012) and used the ratio of pre-tax profits to total assets (*BTP*). This ratio is proposed as an alternative measure of bank performance. To extend our investigation, we considered the cost-to-income ratio to account for bank efficiency and the ratio of non-performing loans to gross loans to capture the credit portfolio quality.

Three categories of variables were considered as the explanatory variables. First, we define a set of control variables relative to the bank’s characteristics. Following Bitar et al. (2018), the first variable characterizes the business model adopted by the bank and corresponds to the ratio of other operating income to total assets (*OINC*). Consistent with Pasiouras and Kosmidou (2007), the second variable refers to the ratio of liquid assets to short-term funding plus total deposits (*LIQUIDITY*). Liquid assets include cash and money due from banks, trading securities at fair value through income, loans and advances to banks, reverse repos, and cash collaterals. Deposits and short-term funding include total customer deposits (current, savings, and term) and short-term borrowing. The third indicator was the ratio of equity to total assets (*EQUITY*). This ratio is defined in the literature as an indicator of the debt level and the risk of insolvency, and it reflects the internal bank capital holding decisions (Alraheb et al., 2019). Previous studies have shown a positive relationship between this ratio and bank performance (Demirgüç-Kunt and Huizinga, 2001). To control the quality of assets of each bank, the fourth indicator is the ratio of loan loss provisions to gross loans (*LLP*). Bouzzgarou et al. (2018) found a negative relationship between profitability and this ratio. Finally, we estimate the effect of bank size using the logarithm of total assets.

Table 1
Sample distribution by country.

Country	Freq.	Percent	Country	Freq.	Percent
Australia	145	0.90	Mexico	86	0.53
Austria	112	0.69	Netherlands	99	0.61
Azerbaijan	21	0.13	New Zealand	13	0.08
Belgium	53	0.33	Nigeria	155	0.96
Brazil	78	0.48	Norway	129	0.80
Bulgaria	40	0.25	Peru	176	1.09
Canada	64	0.40	Philippines	152	0.94
Chile	33	0.20	Poland	110	0.68
China	364	2.25	Portugal	53	0.33
Colombia	50	0.31	Republic of Korea	245	1.52
Czech Republic	24	0.15	Romania	37	0.23
Denmark	191	1.18	Russian Federation	366	2.26
Ecuador	25	0.15	Saudi Arabia	73	0.45
Egypt	301	1.86	Singapore	58	0.36
Finland	42	0.26	Slovakia	34	0.21
France	315	1.95	South Africa	106	0.66
Germany	299	1.85	Spain	70	0.43
Greece	36	0.22	Sri Lanka	212	1.31
Hong Kong	146	0.90	Sudan	11	0.07
Hungary	14	0.09	Sweden	46	0.28
India	452	2.80	Switzerland	256	1.58
Indonesia	376	2.33	Thailand	215	1.33
Ireland	34	0.21	Turkey	318	1.97
Islamic Republic of Iran	73	0.45	Ukraine	342	2.12
Israel	62	0.38	United Arab Emirates	195	1.21
Italy	268	1.66	United Kingdom	433	2.68
Japan	1955	12.10	United States of America	6097	37.72
Kazakhstan	168	1.04	Venezuela	78	0.48
Malaysia	136	0.84	Vietnam	120	0.74
			Total	16,162	100

Second, to capture the effects related to economic conditions, two indicators that are largely used in the banking literature were retained, namely, the country's growth rate (*GDP*) and inflation rate (*INF*). In addition, we define a dummy variable (*CRISIS*) that takes a value of 1 during a crisis period. For this, we considered the Laeven and Valencia (2018) dataset,[1] which provides information on the banking crisis dates at the country level. In addition, to address a plausible omitted variables bias, we consider other control variables that appear to be important macroeconomic determinants of bank performance, such as the private credit by deposit money banks to GDP *(PC)* to account for the size of the financial sector, the stock market total value traded to GDP (*SM*) to proxy the financial development level, and the central bank assets to GDP (*CBA*) to consider its exposure level to market developments.

Third, to proxy the political environment, we used several control variables in our analysis, mostly obtained from the EIU dataset used in previous studies (e.g., Kouzez, 2021). The EIU model evaluates a range of political factors related to political stability and effectiveness, such as external conflict, electoral cycle, event risk, sovereignty risk, institutional effectiveness, commitment to pay, corruption in the banking sector, governability, and social unrest, all scored on the basis of regularly updated macroeconomic and financial data drawn from various sources, including the International Monetary Fund (IMF), the World Bank, the OECD, and national statistical agencies. This model enables to quantify political risks on a scale of 0–100, with 0 indicating very little risk and 100 indicating very high risk. The first variable "*POLITICAL RISK*" which is our variable of interest, evaluates a range of political factors that relate to political stability and also informs the ratings for sovereign risk, currency risk, and banking sector risk. The second variable "*POLITICAL INSTABILITY RISK*' examines if political institutions are sufficiently stable so that business operating conditions are not disrupted. The third variable "*POLITICAL INEFFICACY RISK*' examines if political culture fosters the ability of businesses to operate effectively. Table 2 presents the definitions of all the variables used in this study and the data source.

4. Empirical analysis

Table 3 presents summary statistics for the full sample (Panel A), banks operating in emerging markets and developing economies (Panel B), and banks operating in advanced economies (Panel C).

Our main dependent variable is *ROA*, with a mean of 1.41 and a standard deviation of 6.03, suggesting that there is considerable variation in *ROA* intensity across the whole sample. For a deeper insight, we conduced univariate tests of differences in the mean between Panels B and C. We observe that the mean value of return on equity (ROE) ratio for banks operating in developed economies

[1] https://www.imf.org/en/Publications/WP/Issues/2018/09/14/Systemic-Banking-Crises-Revisited-46232

Table 2
Definition of variables and data source.

Variable	Definition	Data source
Panel A: Banking variables		
ROA	Ratio of net profit to total assets	OSIRIS BVD
BTP	Ratio of before-tax profits to total assets	OSIRIS BVD
EFFICIENCY	Cost-to-income ratio	OSIRIS BVD
NPL	Ratio of impaired loans to gross loan	OSIRIS BVD
LLP	Ratio of loan loss provision to gross loans	OSIRIS BVD
EQUITY	Ratio of equity to total assets	OSIRIS BVD
OINC	Ratio of revenue from all other operating activities to total assets	OSIRIS BVD
LIQUIDITY	Ratio of liquid assets to deposits and short-term funding	OSIRIS BVD
SIZE	Natural logarithm of total assets	OSIRIS BVD
Panel B: Country control variables		
GDP	Lagged value of GDP growth rate of the country	World Bank's World Development
CRISIS	A dummy variable that takes the value of 1 during a crisis period	Laeven and Valencia (2018) dataset
INF	Inflation rate of the country	World Bank's World Development
PC	Private credit by deposit money banks to GDP	Global Financial Development
SM	Stock market total value traded to GDP	Global Financial Development
CBA	Central bank assets to GDP	Global Financial Development
Panel C: Political control variables		
POLITICAL RISK	It evaluates a range of political factors relating to political stability and effectiveness (0–100)	EIU Market Indicators & Forecasts
POLITICAL INSTABILITY RISK	It examines if political institutions are sufficiently stable so as avoid disrupting business operating conditions (1–100)	EIU Market Indicators & Forecasts
POLITICAL INEFFICACY RISK	It examines if the political culture fosters the ability of businesses to operate effectively (1–100)	EIU Market Indicators & Forecasts

is 3.16 compared to 8.49 for banks operating in emerging and developing economies, with a significant difference at the 1% level. Similarly, the mean value of the cost-to-income ratio for banks operating in developed economies is 71.41 compared with 58.66 for banks operating in emerging and developing economies, with a significant difference at the 1% level. However, with a significant mean difference of 4.21 at the 1% level, banks operating in developed economies seem to have a better performance in terms of credit portfolios than banks operating in emerging and developing economies.

In addition, banks operating in emerging and developing economies face significantly higher political risk than banks operating in developed economies, regardless of whether this risk is measured by political instability, political inefficacy, or political risk. For instance, the mean value of political risk for banks operating in developed economies is 16.55 compared with 52.37 for banks operating in emerging markets and developing economies, with a significant difference at the 1% level. This analysis does not control for other variables that may simultaneously affect bank performance. Next, we investigated these effects using a multivariate analysis.

Table 4 shows correlation coefficients between exogenous variables and indicates strong correlations among all the implied political control variables. To test if it is viable to include all political risk measures simultaneously in the regression, we ran the Variance Inflation Factor (VIF) test proposed by Belsley, Kuh and Welsch (1980). The VIF test shows values higher than 5, which suggests that it is not viable to simultaneously include all political risk variables.

Based on the extant banking literature (Mollah et al., 2015; Avramidis et al., 2018; Bitar et al., 2019; Belasri et al., 2020), we conducted our estimations using both the random-effects generalized least square (GLS) estimator and fixed effects estimator. We deferred the ordinary least-squares estimator because it does not account for the panel dimensions of the data. We used the following empirical model in our baseline estimations to investigate the effect of political environment on bank performance:

$$\text{Performance}_{ijt} = \alpha + \beta_1 \text{ x Banking}_{ijt} + \beta_2 \text{ x MacroEco}_{jt} + \beta_3 \text{ x PolEnv}_{t} + \beta_{t\ +} \Epsilon \quad (1)$$

where *Performance* is the ROA ratio for bank *i* in country *j* at time *t*. *Banking* includes the determinants of bank performance, as suggested by the traditional banking literature, that is, the ratio of loan loss provision to gross loans (*LLP*), the ratio of equity to total assets (*Equity*), the ratio of revenue from all other operating activities to total assets (*OInc*), the ratio of liquid assets to deposits and short-term funding (*Liquidity*), and bank size. *MacroEco* includes the *GDP* growth rate for each country in the sample, a dummy variable (*CRISIS*), inflation rate *(INF)*, private credit by deposit money banks to GDP *(PC)*, stock market total value traded to GDP *(SM)*, and central bank assets to GDP *(CBA)*. These variables control for the differences among country economies and investigate the impact of macroeconomic factors on bank performance. All country control variables are lagged by one year to mitigate potential reverse causality concerns and

Table 3
Descriptive statistics for the study sample.

	ROA	BTP	ROE	EFF.	NPL	LLP	EQUITY	OInc	LIQUID.	SIZE	GDP	CRISIS	INF	PC	SM	CBA	POLITICAL RISK	POLITICAL INSTABILITY RISK	POLITICAL INEFFICACY RISK
	Panel A- All Banks																		
Mean	1.41	1.95	4.574	66.75	5.52	5.19	35.15	5.09	44.3	14.35	2.19	0.04	3.18	71.67	146.43	9.93	26.44	24.23	38.4
P_{25}	0.26	0.34	2.53	50.46	0.94	1.11	8.45	0.5	7.56	11.07	1.5	0	0.98	50.07	38.13	2.25	14	10	29
P_{50}	0.98	1.23	6.84	65.85	2.53	1.97	13.92	1.56	16.59	14.03	2.22	0	2.07	54.01	145.86	5.64	18	15	29
P_{75}	3.17	3.39	11.69	80.59	5.76	4.31	72.7	6.1	34.8	16.92	2.88	0	3.23	95.08	226.99	13.17	38	35	54
SD	6.03	4.49	36.48	26.13	8.28	15.18	39.41	20.23	98.15	3.62	2.5	0.2	7.93	37.75	111.23	13.37	18.5	19.33	19.87
N	13,271	13,297	13,262	9915	7842	8916	13,280	13,217	9221	13,297	13,276	13,297	13,267	13,178	12,378	12,891	13,285	13,193	13,297
	Panel B- Banks operating in Emerging Market and Developing Economies (WEO classification)																		
Mean	1.3	1.71	8.49	58.66	8.22	8.92	20.81	5.61	46.08	17.43	3.84	0.01	7.4	57.41	31.51	5.18	52.37	49.99	66.97
P_{25}	0.52	0.63	3.55	40.89	1.71	2.21	8.93	0.94	12.7	15.3	2.21	0	2.62	33.13	2.75	0.64	42	40	61
P_{50}	1.28	1.52	10.53	55.54	3.88	3.95	13.17	1.78	23.01	17.57	4.3	0	5.07	50.29	10.83	2.37	54	50	64
P_{75}	2.32	2.66	16.36	71.57	9.08	8.66	23.03	4.12	40.16	19.76	6.17	0	8.06	64.23	39.38	5.15	61	65	75
SD	8.17	3.67	34.98	25.84	10.46	22.24	30.89	27.34	85.14	3.06	3.47	0.12	14.14	34.93	52.19	7.17	13.67	14.84	12.18
N	3666	3681	3507	3620	2810	3244	3665	3649	3377	3681	3660	3681	3651	3652	3494	3464	3669	3681	3681
	Panel C- Banks operating in Advanced Economies (WEO classification)																		
Mean	1.45	2.04	3.16	71.41	4.01	3.06	40.62	4.89	43.27	13.18	1.56	0.05	1.58	77.14	191.63	11.67	16.55	14.27	27.46
P_{25}	0.22	0.28	2.27	58.31	0.65	0.94	8.25	0.4	6.06	10.56	1.34	0	0.47	51	120.36	5.12	13	10	25
P_{50}	0.85	1.07	6.12	70.37	2.02	1.43	14.61	1.42	12.62	12.66	1.88	0	1.62	57.18	221.37	10.26	15	10	29
P_{75}	4.17	4.2	10.06	83.5	4.16	2.5	85.92	6.94	29.38	15.11	2.45	0	2.56	99.14	237.43	13.19	18	20	29
SD	5.67	4.76	36.91	25.14	6.27	8.16	40.91	16.73	104.93	3.09	1.63	0.23	1.28	37.36	94.49	14.64	6.88	8.78	7.55
N	9605	9616	9755	6295	5032	5672	9615	9568	5844	9616	9616	9616	9616	9526	8884	9427	9616	9512	9616
t-statistics of mean differences	0.15	0.14	-5.35***	12.74***	-4.21***	-5.86***	19.80***	-0.71**	-2.805*	-4.25***	-2.197***	0.04***	-5.82***	19.72***	160.1***	6.49***	-35.82***	-35.72***	-39.50***

Table 4
Correlation Matrix.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1) LLP	1												
2) EQUITY	0.076***												
3) OInc	0.055***	0.180***											
4) LIQUIDITY	0.15***	0.413***	0.155***										
5) SIZE	-0.0002	-0.140***	-0.014	0.012									
6) GDP	-0.048***	0.087***	0.026**	0.017	0.360***								
7) CRISIS	-0.068***	-0.061***	-0.043***	-0.075***	-0.28***	-0.380***							
8) INF	0.160***	0.066***	0.062***	0.006	0.155***	-0.099***	0.0137						
9) PC	-0.047***	-0.154***	0.038***	0.152***	0.239***	-0.029***	-0.06***	-0.29***					
10) SM	-0.172***	0.329***	-0.072***	-0.028***	-0.53***	-0.188***	0.239***	-0.30***	0.056***				
11) CBA	-0.026	-0.052***	-0.015***	-0.002	-0.03***	-0.180***	-0.05***	-0.04***	0.03***	0.038***			
12) POLITICAL RISK	0.232***	0.141***	0.074***	0.059***	0.469***	0.258***	0.593***	-0.28***	-0.22***	-0.60***	-0.14***		
13) POLITICAL INSTABILITY RISK	0.239***	0.156***	0.090***	0.084***	0.451***	0.239***	0.525***	-0.32***	-0.06***	-0.59***	-0.19***	0.926***	
14) POLITICAL INEFFICACY RISK	0.208***	0.114***	0.060***	0.029**	0.443***	0.291***	0.523***	-0.15***	-0.36***	-0.57***	-0.16***	0.906***	0.831***

*, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 5
Impact of political risk on bank performance.

	(1) GLS	(2) FE	(3) GLS	(4) FE	(5) GLS/without USA	(6) FE/without USA
POLITICAL RISK	-0.040***	-0.055***	-0.037***	-0.064***	-0.028***	-0.060***
	(0.006)	(0.010)	(0.008)	(0.013)	(0.010)	(0.016)
LIQUIDITY	-0.010***	-0.005***	-0.011***	-0.004***	-0.010***	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
LLP	-0.032***	-0.030***	-0.026***	-0.026***	-0.026***	-0.025***
	(0.004)	(0.003)	(0.005)	(0.003)	(0.006)	(0.004)
EQUITY	0.144***	0.132***	0.149***	0.119***	0.175***	0.156***
	(0.006)	(0.006)	(0.007)	(0.006)	(0.009)	(0.008)
OInc	0.238***	0.737***	0.242***	0.767***	0.239***	0.766***
	(0.005)	(0.006)	(0.005)	(0.006)	(0.006)	(0.007)
Size	0.348***	1.219***	0.401***	1.421***	0.485***	1.352***
	(0.039)	(0.101)	(0.047)	(0.116)	(0.064)	(0.164)
GDP			0.001	0.078***	-0.026	0.051
			(0.035)	(0.029)	(0.046)	(0.037)
INF			-0.060***	-0.029**	-0.073***	-0.037***
			(0.016)	(0.012)	(0.020)	(0.014)
CRISIS			-1.380***	-1.056***	-3.591***	-2.843***
			(0.466)	(0.323)	(0.899)	(0.591)
PC			-0.005	-0.011	0.001	-0.002
			(0.004)	(0.008)	(0.006)	(0.010)
SM			0.003*	-0.000	-0.000	0.000
			(0.001)	(0.002)	(0.003)	(0.002)
CBA			-0.000	0.005	0.011	0.017**
			(0.006)	(0.005)	(0.008)	(0.007)
Observations	8916	8916	7691	7691	4984	4984
R2	0.134	0.711	0.138	0.744	0.142	0.777
Year FE	YES	YES	YES	YES	YES	YES

This table reports the main regression results for the bank performance determinants. In Columns 1 and 2, we use the random-effects generalized least squares estimator (GLS) and the fixed effects estimator (FE), respectively. In Columns 3 and 4, we use the random-effects generalized least squares estimator (GLS) and the fixed-effects estimator (FE), respectively, and introduce our macroeconomic control variables defined above. In Columns 5 and 6, we drop all observations related to the U.S. market and use the random-effects generalized least squares estimator (GLS) and the fixed effects estimator (FE), respectively. Standard errors are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

consider the lagged responses of banks. *PolEnv* is measured by *the political risk* variable lagged by one year because it may take more than one year to impact bank performance. Finally, β stands for time-fixed effects and $\mathcal{E}$ indicates the error terms.

Table 5 presents our main evidence on the relationship between political risk and intensity of bank performance, measured by *ROA*. In Columns 1, 3, and 5, we use the GLS estimator, whereas in Columns 2, 4, and 6, we use the fixed effects estimator. In Columns 1 and 2, we conduct regressions without country level control variables. The latter are introduced in the regressions presented in Columns 3 and 4. Finally, in Columns 5 and 6, we drop all observations for banks operating in the U.S. market to ensure that our results are not driven by the higher number of observations in this country. In all the regressions, the coefficient of political risk is negative and significant at the 1% level, which is consistent with Hypothesis 1 that banks operating in countries with low levels of political risk outperform banks operating in countries with high political risk.

These results are economically significant. For instance, in Column 1, an increase of one point in political risk implies a decrease of 4% in the ROA ratio on average. The banking control variables, namely *EQUITY*, *SIZE*, and *OInc* have a positive and significant impact on the ROA ratio, which is consistent with previous studies. As expected, a negative and significant relationship exists between the ratio of loan loss provisions and bank performance.

For gaining deeper insights and to understand if the effect of the political risk measure is conditional on bank size, we define five categories of bank size. For very large banks (VLB), we consider a dummy variable that takes the value of 1 if the bank's total assets are above the 80th percentile of the total assets of the banks operating in country *j*, and otherwise. For large banks (LB), we define a dummy variable that takes the value of one if the total assets of the bank are above the 60th centile and lower than the 80th centile of total assets of banks operating in country *j*. For medium banks (MB), small banks (SB), and very small banks (VSB), we apply the same reasoning and define three dummy variables that take the value of 1 if the total assets of the bank are between the 40th and 60th centiles, between the 20th and 40th centiles, and lower than the 20th centile, respectively. Later, we run our regressions using the subsamples according to bank size, as defined above.

Using subsamples, Table 6 reports the results of the impact of political risk on the ROA ratio. We conduct the estimations by using the random-effects generalized least squares (GLS) estimator in Columns 1, 3, 5, 7, and 9, and the fixed effects estimator in Columns 2, 4, 6, 8, and 10. The results show that very small banks, small banks, and medium banks operating in countries with low levels of political risk outperform their homologues operating in countries with high political risk. These results are then consistent with the results found in our main regressions. However, this negative effect on large banks is no longer significant. Turning to "very large" banks, the results show no significant impact on bank performance when using the fixed effects estimator and a significant positive impact at the 10% level when using the GLS regression. These heterogeneous effects of political risk on bank performance possibly are

Table 6
Impact of political risk on bank performance using subsamples.

	VSB		SB		MB		LB		VLB	
	(1) GLS	(2) FE	(3) GLS	(4) FE	(5) GLS	(6) FE	(7) GLS	(8) FE	(9) GLS	(10) FE
POLITICAL RISK	-0.127***	-0.179**	-0.041***	-0.035*	-0.072***	-0.104***	0.007	-0.049	0.011*	0.012
	(0.036)	(0.075)	(0.012)	(0.019)	(0.011)	(0.022)	(0.0174)	(0.031)	(0.006)	(0.020)
LIQUIDITY	-0.003*	-0.002	-0.002	0.013***	-0.004**	-0.000	-0.005	-0.002	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.001)	(0.002)
LLP	-0.036	-0.011	-0.022***	-0.014**	-0.022***	-0.013***	-0.258***	-0.302***	-0.121***	-0.154***
	(0.025)	(0.034)	(0.006)	(0.006)	(0.004)	(0.004)	(0.023)	(0.023)	(0.009)	(0.017)
EQUITY	0.035***	0.032*	0.015	-0.000	0.191***	0.250***	-0.164***	0.442***	0.099***	0.100***
	(0.013)	(0.017)	(0.011)	(0.016)	(0.011)	(0.016)	(0.028)	(0.022)	(0.006)	(0.010)
OInc	0.216***	0.614***	0.400***	0.611***	0.021***	0.282***	0.843***	0.211***	0.052***	0.340***
	(0.022)	(0.041)	(0.019)	(0.020)	(0.005)	(0.021)	(0.007)	(0.03)	(0.013)	(0.036)
Size	2.341***	4.054***	0.069	0.472*	0.819***	3.220***	-0.019	1.003***	-0.037	-0.075
	(0.335)	(0.441)	(0.048)	(0.247)	(0.183)	(0.346)	(0.435)	(0.319)	(0.049)	(0.320)
GDP	-0.143	-0.276*	0.109***	0.028	0.149***	0.162***	0.060	-0.067	0.047	0.013
	(0.150)	(0.163)	(0.027)	(0.058)	(0.042)	(0.047)	(0.054)	(0.06)	(0.030)	(0.043)
INF	0.117	-0.032	0.001	-0.030	-0.017	-0.021	-0.013	0.034	0.020	0.008
	(0.074)	(0.082)	(0.024)	(0.032)	(0.020)	(0.021)	(1.137)	(0.025)	(0.021)	(0.020)
CRISIS	-0.320	-2.037**	0.597***	0.087	-1.046**	-0.288	-6.229***	-3.814***	-0.662	0.900
	(0.927)	(0.928)	(0.199)	(0.448)	(0.501)	(0.515)	(0.024)	(0.927)	(4.078)	(3.386)
PC	-0.025	0.067*	-0.014**	0.003	-0.006	0.003	-0.003	-0.005	0.000	0.008
	(0.016)	(0.040)	(0.006)	(0.018)	(0.006)	(0.017)	(0.009)	(0.02)	(0.003)	(0.011)
SM	0.005	0.028***	-0.002	-0.006	-0.003	0.002	-0.006	0.004	0.002	0.001
	(0.005)	(0.008)	(0.001)	(0.004)	(0.002)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)
CBA	0.039**	-0.015	0.013**	0.004	0.012*	0.009	0.008	0.004	-0.005	0.008
	(0.017)	(0.022)	(0.006)	(0.011)	(0.007)	(0.009)	(0.017)	(0.026)	(0.006)	(0.012)
Observations	708	708	1928	1928	2329	2329	1060	1060	1666	1666
R2	0.255	0.494	0.150	0.426	0.212	0.264	0.181	0.175	0.297	0.231
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Using subsamples, this table reports the results of bank performance determinants by focusing on the impact of political risk on performance according to bank size. The control variables are defined in the main regression. In Columns 1 and 2, we use the GLS estimator and FE estimator, respectively, and consider all observations related to "VSB," as defined above. In Columns 3 and 4, we use the GLS estimator and FE estimator, respectively, and consider all observations related to "SB," as defined above. We apply the same reasoning in Columns 5 and 6 and consider all observations related to "MB," as defined above; in Column 7, we consider all observations related to "LB," as defined above. Finally, in Columns 9 and 10, we use the GLS estimator and FE estimator and consider all observations related to "VLB," as defined above. Standard errors are reported in parentheses. * , **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

based on the fact that large banks are known to have advantages in terms of economies of scale and from possible government bailouts (Allen and Liu, 2007; Sakawa et al., 2020).

5. Further analysis and robustness tests

We conducted several tests to check the robustness of our results. First, to account for potential endogeneity, we re-estimated our regressions applying the instrumental variable (IV) approach, two-stage least squares estimator (2SLS), limited information maximum likelihood (LIML) estimator, and generalized method of moments (GMM) estimator. Second, we examine the impact of the political environment on bank performance using alternative political variables as proxies for the political environment. Third, we examine if our variable of interest (*POLITICAL RISK)* persists when we use an alternative measure of bank performance.

5.1. IV approach and other estimation techniques

The use of panel data models does not eliminate the possibility of endogeneity. Although we use a wide range of banking and country control variables, endogeneity may be an issue because some omitted variables could affect both political risk and bank performance. At the same time, bank failures caused by lower performance may increase the political risk. To ensure the reliability of the obtained results, we conducted additional tests to detect possible endogeneity bias. For this, we used the instrumental variables (IV) approach to mitigate endogeneity concerns (Table 7).

According to the *IV* approach, we regress political risk on instruments and other control variables. The predicted values of the political risk measure replace the initial values. In this study, we use two instrument variables extracted from the WGI for each country. First, we

Table 7
Additional analysis: IV approach and other estimation techniques.

	(1) Instrumental Variables	(2) 2SLS	(3) LIML	(4) GMM
	First stage			
POLITICAL RISK		-0.027 * **	-0.014 * *	-0.021 * **
		(0.007)	(0.006)	(0.007)
LIQUIDITY	0.003 * *	-0.005 * **	-0.005 * **	-0.004 * **
	(0.001)	(0.001)	(0.001)	(0.002)
LLP	0.0383 * **	-0.024 * **	-0.025 * **	-0.051 *
	(0.006)	(0.004)	(0.004)	(0.027)
EQUITY	0.055 * **	0.064 * **	0.062 * **	0.108 * **
	(0.006)	(0.005)	(0.005)	(0.021)
OInc	-0.005	0.118 * **	0.117 * **	-0.069
	(0.005)	(0.004)	(0.004)	(0.066)
Size	0.433 * **	0.182 * **	0.156 * **	0.141 * **
	(0.035)	(0.028)	(0.028)	(0.027)
GDP	0.699 * **	0.141 * **	0.099 * **	0.173 * **
	(0.032)	(0.025)	(0.029)	(0.034)
INF	0.387 * **	-0.055 * **	-0.079 * **	0.003
	(0.021)	(0.018)	(0.018)	(0.032)
CRISIS	-3.459 * **	-0.536	-1.669 * **	-1.698 * *
	(0.426)	(0.328)	(0.530)	(0.837)
PC	-0.006 * *	-0.005 * *	-0.005 * *	0.000
	(0.003)	(0.002)	(0.002)	(0.002)
SM	0.015 * **	-0.001	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
CBA	-0.094 * **	-0.003	-0.005	0.002
	(0.005)	(0.004)	(0.004)	(0.002)
RL	-3.121 * **			
	(0.012)			
VA	1.018 * **			
	(0.979)			
Observations	7691	7691	7691	7691
R2	0.92	0.142	0.147	
Year FE	YES	YES	YES	YES
Durbin (score)		19.741 * **		
Wu-Hausman		19.756 * **		
Sargan		1.304		
Basmann		1.301	1.301	
GMM C				6.335
Hansen's J				6.018

This table reports an additional analysis on the impact of political risk on bank performance using the IV approach (Column 1), the 2SLS estimator (Column 2), the LIML estimator (Column 3), and the GMM estimator (Column 4). The Durbin, Wu-Hausman, Sargan, and Basmann tests are reported for the 2SLS and LIML models, while the Hansen's J test and the GMM C test are reported for the GMM model. The standard errors are reported in parentheses. * , * *, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 8
Additional analysis: Alternative political control variables.

	(1) without country control variables	(2) with country control variables	(3) without USA	(4) VSB	(5) SB	(6) MB	(7) LB	(8) VLB
POLITICAL INSTABILITY RISK	-0.049***	-0.032***	-0.031***	-0.081***	-0.025**	-0.046***	-0.003	0.005
	(0.007)	(0.007)	(0.009)	(0.026)	(0.011)	(0.010)	(0.014)	(0.009)
LIQUIDITY	-0.012***	-0.011***	-0.010***	-0.003*	-0.003*	-0.004**	-0.003	-0.002
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
LLP	-0.036***	-0.027***	-0.025***	-0.038	-0.022***	-0.022***	-0.243***	-0.169***
	(0.004)	(0.005)	(0.006)	(0.025)	(0.006)	(0.004)	(0.018)	(0.013)
EQUITY	0.261***	0.150***	0.177***	0.031**	0.023**	0.190***	0.205***	0.114***
	(0.006)	(0.007)	(0.009)	(0.013)	(0.011)	(0.011)	(0.015)	(0.008)
OInc	0.521***	0.243***	0.240***	0.211***	0.387***	0.021***	0.005	0.143***
	(0.006)	(0.005)	(0.006)	(0.022)	(0.016)	(0.005)	(0.006)	(0.022)
Size	0.905***	0.390***	0.484***	2.191***	0.343*	0.821***	0.278***	-0.001
	(0.062)	(0.047)	(0.065)	(0.331)	(0.175)	(0.187)	(0.100)	(0.136)
GDP		-0.017	-0.040	-0.269*	-0.047	0.102**	0.043	0.057
		(0.035)	(0.046)	(0.150)	(0.056)	(0.048)	(0.062)	(0.040)
INF		-0.073***	-0.080***	0.047	-0.037*	-0.044**	0.028	0.038
		(0.016)	(0.020)	(0.052)	(0.020)	(0.018)	(0.026)	(0.029)
CRISIS		-1.308***	-3.503***	0.052	-0.017	-1.239**	-5.722***	0.813
		(0.472)	(0.905)	(0.946)	(0.457)	(0.525)	(1.136)	(3.324)
PC		-0.003	0.001	-0.012	-0.006	0.003	-0.006	0.002
		(0.004)	(0.006)	(0.015)	(0.006)	(0.006)	(0.007)	(0.005)
SM		0.003*	-0.000	0.007	0.001	-0.000	0.001	0.002
		(0.001)	(0.003)	(0.004)	(0.002)	(0.002)	(0.004)	(0.002)
CBA		-0.001	0.009	0.034**	-0.001	0.012*	-0.004	-0.004
		(0.006)	(0.008)	(0.016)	(0.009)	(0.007)	(0.017)	(0.009)
Observations	8831	7423	4887	693	1894	2279	989	1568
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
R2	0.130	0.136	0.139	0.147	0.457	0.343	0.387	0.134

This table reports the main regression results of the determinants of bank performance using an alternative measure (Political Instability Risk) to proxy for the political environment. In Column 1, we regress our political and banking control variables on bank performance, whereas in Column 2, we add the macroeconomic control variables defined above. In Column 3, we exclude all observations related to the U.S. market. In Column 4, we consider all observations related to "VSB," as defined above. We apply the same reasoning in Columns 4, 5, 6, 7, and 8, and consider all observations related to "SB," MB", "LB, "and "VLB," respectively, as defined above. The standard errors are reported in parentheses. * , **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

consider the Rule of Law Index (RL) that captures perceptions of the extent to which agents have confidence in and abide by societal norms, specifically, the quality of contract enforcement, property rights, police, and courts, and the likelihood of crime and violence. Second, we used the Voice and Accountability Index (VA), which captures the perception of the extent to which a country's citizens are able to participate in choosing their government, and freedom of expression, freedom of association, and free media. These variables are considered exogenous in the banking literature, as they are less likely to have a direct effect on the performance of banking institutions (Bitar et al., 2016). Instead, they may affect bank performance by influencing the political environment. We use the Durbin (1954) and Wu-Hausman tests (Wu 1974; Hausman 1978) to detect the possible presence of an endogeneity problem. We also performed the Sargan (1958) and Basmann (1960) tests to verify overidentifying restrictions. According to the latter, the null hypothesis is that instrumental variables are valid. The results from the first-stage regression presented in Column 1 indicate that our instrument set is valid and that our models are specified correctly. In the second stage, we reproduce our main regression using three estimation techniques: the two-stage least squares regression model (2SLS), the limited information maximum likelihood (LIML) estimator, and the generalized method of moments (GMM) to mitigate concerns of endogeneity. The results from the second-stage regression presented in Column 2 using 2SLS consistently show that banks operating in countries with high political risk have lower performance than banks operating in countries with less political risk. The results reported in Columns 3 and 4 provide additional support for our findings and suggest that our results are not driven by endogeneity.

5.2. Alternative political control variables

In this section, we examine the impact of the political environment on bank performance using alternative measures as proxies for the political environment. To ensure the robustness of our results, we considered the variables *of POLITICAL INSTABILITY RISK* and *POLITICAL INEFFICACY RISK*. To test Hypothesis 1, we conducted baseline estimations using the random effects GLS estimator (Table 8).[2] In Columns 1 and 2, we display our regression results for the entire sample without/with considering the country control variables. Column 3 presents the results without considering banks operating in the U.S. market. In Columns 1, 2, and 3, the coefficient of our alternative

[2] The estimation results when using fixed effect estimator, which are not reported here but are available upon request, generally remain unchanged compared to the results obtained when using GLS estimator.

Table 9
Additional analysis: Alternative political control variables.

	(1) without country control variables	(2) with country control variables	(3) without USA	(4) VSB	(5) SB	(6) MB	(7) LB	(8) VLB
POLITICAL INEFFICACY RISK	-0.021***	-0.029***	-0.025***	-0.074***	-0.030**	-0.049***	0.008	0.017*
	(0.007)	(0.007)	(0.010)	(0.027)	(0.014)	(0.011)	(0.013)	(0.009)
LIQUIDITY	-0.012***	-0.011***	-0.010***	-0.002	-0.003**	-0.004**	-0.003	-0.002
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
LLP	-0.037***	-0.027***	-0.026***	-0.071***	-0.022***	-0.023***	-0.245***	-0.173***
	(0.004)	(0.005)	(0.006)	(0.024)	(0.006)	(0.004)	(0.018)	(0.013)
EQUITY	0.260***	0.148***	0.175***	0.032**	0.023**	0.188***	0.199***	0.114***
	(0.006)	(0.007)	(0.009)	(0.013)	(0.011)	(0.011)	(0.014)	(0.008)
OInc	0.521***	0.241***	0.238***	0.203***	0.389***	0.021***	0.005	0.148***
	(0.006)	(0.005)	(0.006)	(0.022)	(0.016)	(0.005)	(0.005)	(0.022)
Size	0.883***	0.405***	0.499***	2.395***	0.354**	0.804***	0.260***	-0.089
	(0.062)	(0.048)	(0.065)	(0.332)	(0.176)	(0.183)	(0.098)	(0.125)
GDP		-0.003	-0.025	0.211***	-0.064	0.093**	0.040	0.041
		(0.035)	(0.046)	(0.058)	(0.057)	(0.047)	(0.062)	(0.038)
INF		-0.078***	-0.083***	0.048	-0.052**	-0.060***	0.025	0.028
		(0.016)	(0.019)	(0.045)	(0.020)	(0.018)	(0.026)	(0.028)
CRISIS		-1.659***	-3.770***	0.376	-0.347	-1.790***	-5.855***	0.646
		(0.460)	(0.887)	(0.337)	(0.443)	(0.503)	(1.106)	(2.250)
PC		-0.006*	-0.000	-0.020	-0.013*	-0.003	-0.003	0.005
		(0.004)	(0.006)	(0.013)	(0.008)	(0.006)	(0.007)	(0.005)
SM		0.003*	-0.001	0.001	0.001	-0.001	0.001	0.002
		(0.001)	(0.003)	(0.003)	(0.002)	(0.002)	(0.004)	(0.001)
CBA		0.000	0.012	0.043***	-0.000	0.012*	-0.034**	-0.006
		(0.006)	(0.008)	(0.012)	(0.009)	(0.007)	(0.017)	(0.008)
Observations	8916	7691	4984	708	1928	2329	1060	1666
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
R2	0.13	0.137	0.141	0.208	0.146	0.205	0.388	0.295

This table reports the main regression results for the determinants of bank performance using an alternative measure (*POLITICAL EFFICACY RISK*) to proxy for the political environment. In Column 1, we regress our political and banking control variables on bank performance, whereas in Column 2, we introduce the macroeconomic control variables defined above. In Column 3, we exclude all observations related to the U.S. market. In Column 4, we consider all observations related to "VSB," as defined above. We apply the same reasoning in Columns 4, 5, 6, 7, 8 and consider all observations related to "SB," MB," "LB," and "VLB," respectively, as defined above. The standard errors are reported in parentheses. * , **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

political control variable (*POLITICAL INSTABILITY RISK*) is negative and significant at the 1% level, indicating that banks operating in countries with low levels of political instability risk outperform those operating in countries with high political risk.

These results are economically significant. For instance, in Column 1, an increase of one point in political instability risk implies an average decrease of 4.9% in the ROA ratio. In addition, Column 3 confirms that our results are not driven by a high number of observations in the U.S. market. To test our second hypothesis, we examine if the impact of political instability risk on bank performance varies across the different bank size classes defined above. The performance of very small banks, small banks, and medium banks presented in Columns 3, 4, and 5, respectively, are negatively affected in countries with a high level of political instability risk. However, the coefficients of political instability risk are insignificant for LB (Column 6) and for VLB (Column 7). Thus, large banks seem to be more resilient than other banks when business operating conditions are disrupted due to instability in political institutions.

Table 9 presents the results of our regressions when the political inefficacy risk is used. Consistent with Hypothesis 1, the coefficient value of our second alternative political measure is − 2.1% and is significant at the 1% level (Column 1). This result is also confirmed when considering the country level control variables (Column 2) and excluding banks operating in the U.S. market from our sample (Column 3). When we examine if the political inefficacy risk affects the ROA ratio according to bank size, our results provide additional support for our earlier findings and suggest that when the country's political culture weakly fosters the ability of businesses to operate effectively, large banks show greater resilience under such circumstances.

5.3. Alternative bank performance measures

In this section, we test if the impact of political risk on bank performance persists when we use alternative performance measures. Thus, instead of using the ROA ratio, we consider the ROE ratio, before-tax profits to total assets ratio, bank efficiency, and non-performing loans to total assets ratio.[3]

[3] In our regressions, bank efficiency was included as the dependent variable; however, the results indicate no significance for our political control variables in explaining bank performance for our sampled banks.

Table 10
Additional analysis: Alternative bank performance variables (ROE).

	(1) without country control variables	(2) with country control variables	(3) without USA	(4) VSB	(5) SB	(6) MB	(7) LB	(8) VLB
POLITICAL RISK	-0.106 * *	-0.102 * *	-0.051 *	-0.438 *	-0.401 * *	-0.185 * *	0.002	-0.118
	(0.044)	(0.052)	(0.031)	(0.246)	(0.167)	(0.087)	(0.080)	(0.101)
LIQUIDITY	0.004	0.003	0.011 *	-0.014	-0.044 * **	0.010	0.039 * **	0.018
	(0.007)	(0.008)	(0.006)	(0.012)	(0.016)	(0.016)	(0.012)	(0.016)
LLP	-0.150 * **	-0.147 * **	-0.198 * **	-0.099	-0.177 * **	-0.089 * *	-0.960 * **	-0.537 * **
	(0.028)	(0.029)	(0.026)	(0.164)	(0.059)	(0.035)	(0.109)	(0.151)
EQUITY	-0.039	-0.073	-0.088 * **	0.333 * **	0.491 * **	-0.076	-0.336	-0.267 * **
	(0.043)	(0.045)	(0.034)	(0.086)	(0.121)	(0.087)	(0.082)	(0.089)
OInc	-0.038	-0.041	-0.017	0.345 * *	0.697 * **	0.038	-0.000	0.594 * **
	(0.034)	(0.035)	(0.025)	(0.141)	(0.165)	(0.038)	(0.028)	(0.211)
Size	1.569 * **	1.173 * **	0.055	12.238 * **	0.558	1.612	0.709 * **	1.097
	(0.288)	(0.318)	(0.197)	(2.036)	(1.906)	(1.362)	(0.482)	(1.152)
Observations	8916	7691	4984	708	1928	2329	1060	1666
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Country control variables	NO	YES	YES	YES	YES	YES	YES	YES
R2	0.07	0.07	0.04	0.14	0.15	0.07	0.14	0.11

This table reports the main regression results for the determinants of bank performance using an alternative dependent variable (ROE) to proxy bank performance. In Column 1, we regress our political and banking control variables on bank performance, and introduce our macroeconomic control variables defined above in Column 2. In Column 3, we exclude all observations related to the U.S. market. In Column 4, we consider all observations related to "VSB," as defined above. We apply the same reasoning in Columns 4, 5, 6, 7, and 8 and, respectively, consider all observations related to "SB," MB", "LB, "and "VLB," as defined above. The standard errors are reported in parentheses. * , * *, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 10 reports the results of our regressions when using ROE as a dependent variable. In Column 1, we present our regressions results, without considering the country level control variables. We consider the latter in Column 2, while Column 3 reports the results without considering the U.S. market. Our results confirm the negative impact of political risk on bank performance, as measured by ROE, and again indicate that our results are not driven by the higher number of observations in the U.S. market.

In Columns 4, 5, 6, 7, and 8, we examine the impact of political risk on the ROE according to bank size. As expected, for very small, small, and medium banks, the coefficients of political risk are negative and significant, consistent with our previous findings (Columns 4, 5, and 6). However, there is no significant relationship between political risk and the performance of either large banks or very large banks in lending, which supports our previous findings (Columns 8 and 9).

To expand the investigation, we use the before-tax profit ratio as a performance measure and run all the previously used regressions. The results presented in Table 11 show nearly the same impact of political risk measures on bank performance, which confirms previous findings.

Finally, Table 12 reports the results of our regressions using the ratio of nonperforming loans (NPL) as a dependent variable. The results confirm that banks operating in counties with high political risk observe lower-quality credit portfolios (Columns 1, 2, and 3). We also examined the impact of political risk on the NPL ratio according to bank size. The results presented in Columns 4, 5, and 6 show that very small, small, and medium banks are negatively affected by political distress. However, there is no significant relationship between political risk and the non-performing loan ratio of large banks and very large banks confirming our previous findings (Columns 7 and 8).

Table 11
Impact of political control variables on bank performance (BTP).

	(1) without country control variables	(2) with country control variables	(3) without USA	(4) VSB	(5) SB	(6) MB	(7) LB	(8) VLB
POLITICAL RISK	-0.053***	-0.048***	-0.029*	-0.191***	-0.064***	-0.088***	-0.000	0.015
	(0.009)	(0.013)	(0.015)	(0.042)	(0.017)	(0.013)	(0.015)	(0.010)
LIQUIDITY	-0.014***	-0.015***	-0.014***	-0.002	-0.000	-0.005**	-0.004*	-0.001
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
LLP	-0.030***	-0.023***	-0.025***	-0.013	-0.020***	-0.028***	-0.289***	-0.167***
	(0.008)	(0.008)	(0.010)	(0.029)	(0.006)	(0.005)	(0.020)	(0.012)
EQUITY	0.169***	0.179***	0.197***	0.044***	0.004	0.211***	0.205***	0.115***
	(0.011)	(0.012)	(0.014)	(0.015)	(0.013)	(0.013)	(0.016)	(0.007)
OInc	0.383***	0.392***	0.373***	0.272***	0.435***	0.020***	0.005	0.144***
	(0.008)	(0.009)	(0.010)	(0.025)	(0.017)	(0.006)	(0.006)	(0.021)
Size	0.428***	0.529***	0.541***	2.645***	0.455**	0.888***	0.310***	0.053
	(0.061)	(0.076)	(0.090)	(0.385)	(0.203)	(0.218)	(0.106)	(0.131)
Observations	8916	7591	4984	708	1928	2329	1060	1666
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Country control variables	NO	YES	YES	YES	YES	YES	YES	YES
R2	0.123	0.125	0.126	0.285	0.109	0.194	0.407	0.313

This table reports the main regression results of the determinants of bank performance using an alternative dependent variable (BTP) to proxy bank performance. In Column 1, we regress our political and banking control variables on bank performance, whereas in Column 2, we introduce the macroeconomic control variables defined above. In Column 3, we exclude all observations related to the U.S. market. In Column 4, we consider all observations related to "VSB," as defined above. We apply the same reasoning in Columns 4, 5, 6, 7, and 8 and consider all observations related to "SB," MB," "LB," and "VLB," as defined above. The standard errors are reported in parentheses. * , **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 12
Impact of political control variables on bank performance (NPL).

	(1) without country control variables	(2) with country control variables	(3) Without USA	(4) VSB	(5) SB	(6) MB	(7) LB	(8) VLB
POLITICAL RISK	0.229***	0.177***	0.164***	1.108***	0.783***	0.334***	-0.037	-0.065
	(0.025)	(0.032)	(0.019)	(0.214)	(0.110)	(0.064)	(0.064)	(0.041)
LIQUIDITY	0.006**	0.007**	0.012***	0.011**	0.065***	0.004	-0.019***	0.000
	(0.003)	(0.003)	(0.003)	(0.005)	(0.008)	(0.008)	(0.006)	(0.004)
LLP	0.122***	0.108***	0.172***	1.291***	1.602***	0.044***	0.958***	1.083***
	(0.008)	(0.008)	(0.010)	(0.114)	(0.091)	(0.009)	(0.041)	(0.036)
EQUITY	-0.010	-0.002	0.068***	-0.071**	-0.149***	0.150***	0.282***	0.239***
	(0.017)	(0.018)	(0.018)	(0.032)	(0.051)	(0.046)	(0.039)	(0.031)
Oinc	0.032**	0.030**	0.001	-0.679***	0.224***	0.061	-0.167***	-0.620***
	(0.015)	(0.015)	(0.011)	(0.137)	(0.062)	(0.058)	(0.054)	(0.077)
Size	-1.107***	-1.208***	-0.889***	-1.920**	0.833	-1.550	4.518***	0.743
	(0.269)	(0.331)	(0.125)	(0.782)	(0.755)	(0.944)	(0.955)	(0.707)
Observations	7842	6761	4780	613	1795	2094	837	1422
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Country control variables	NO	YES	YES	YES	YES	YES	YES	YES
R2	0.070	0.194	0.104	0.512	0.298	0.108	0.208	0.482

This table reports the main regression results of the determinants of bank performance using an alternative dependent variable (NPL) to proxy bank performance. In Column 1, we regress our political and banking control variables on bank performance. In Column 2, we introduce the macroeconomic control variables defined above. In Column 3, we exclude all observations related to the U.S. market. In Column 4, we consider all observations related to "VSB," as defined above. We apply the same reasoning in Columns 4, 5, 6, 7, and 8 and, respectively, consider all observations related to "SB," MB," "LB," and "VLB," as defined above. The standard errors are reported in parentheses. * , **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

6. Conclusion

In this study, we investigate the relationship between the political environment and bank performance and if this relationship is contingent on bank size. To proxy for the political environment, we use a set of measures collected by the EIU database, which has predictive power for return expectations. We found that bank performance is significantly influenced by changes in the political environment. Specifically, a high level of political risk implies lower performance whether this performance is measured by the ROA ratio, ROE ratio, before-tax profit ratio, and non-performing loan ratio. Our results confirm the important role of the political environment in banking systems and show that improvements in the political system, allowing businesses to operate effectively and supporting fair and competitive environments, lead to better bank performance. More importantly, our findings indicate that the impact of political banks on bank performance is contingent on bank size. Specifically, our results show that large banks have the capacity to mitigate the consequences of political distress and show greater resilience than other banks. Our findings elucidate the importance of bank size as a determinant of bank performance in countries with high political risk, particularly for investment decision makers. Our findings are robust for using various measures of political environment and alternative performance measures and estimation techniques.

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