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The effect of political risk and corporate governance on bank stability in the MENA region: Did the Arab Spring uprisings matter?

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Abstract: This study examines the impact of political risk and corporate governance mechanisms (CGM) on bank stability. The research problem was addressed using a sample of 954 bank-year observations from 14 Middle East and North Africa (MENA) countries during the period 2010–2018 to take into account the effect of the recent uprisings that broke out in the MENA region (i.e., Arab Spring events). This study uses the three-Stage Least-Squares (3SLS) regression method for data analysis. It is found that political stability enhances banks' financial stability. Regarding the impact of CGM, it is found that board size, board independence, managerial ownership, and audit committee size and meetings significantly and positively affect bank stability. In contrast, board meetings, board gender diversity, CEO duality, and institutional ownership significantly and negatively affect bank financial stability. By dividing the sample into two subsamples (Arab Spring countries and Non-Arab Spring countries), the results revealed that the Arab uprising events significantly affect the relationship between political stability, CGM, and bank stability.

Subjects: Banking; Business, Management and Accounting; Accounting; Corporate Governance

Keywords: bank stability; political risk; corporate governance; MENA; Arab Spring

1. Introduction

The wave of bank collapses and scandals in the wake of the recent global financial crisis has fuelled the drive for improved corporate governance (CG; Farag & Mallin, 2017). Notably, many collapses have been attributed to poor corporate governance practices that failed to manage bank risk-taking. Boards of directors have contributed to this crisis due to the inability of directors to assess their institutions' risks, evaluate banks' vulnerability to economic shocks, and act with prudence (Abou-El-Sood, 2017). In contrast, effective boards are expected to constrain excessive

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risk-taking activities, leading to severe banking instability and enormous losses. Therefore, a growing strand of the literature has emerged, examining the effectiveness of corporate governance in ensuring bank stability during the financial crisis (Abou-El-Sood, 2017; Beltratti & Stulz, 2012; Erkens et al., 2012; Farag & Mallin, 2017; Tarchouna et al., 2017; Zeineb & Mensi, 2018). These studies investigated if well-governed banks are more likely to allocate capital efficiently and less likely to fail than banks with weaker governance systems (Mullineux, 2006). Similarly, some studies addressed the impact of CG on financial institutions' performance and stability during the financial crisis period (Abou-El-Sood, 2017; Farag & Mallin, 2017; Zagorchev & Gao, 2015). However, few studies examined the effect of CG on banks' financial stability during the political crisis (e.g., Al-Shboul et al., 2020; Belkhir et al., 2019; Ghosh, 2016). The present work examines the impacts of political risk and CG mechanisms on bank stability by bringing evidence from the Middle East and North Africa (MENA) region to fill this gap.

We observed that the literature mainly focuses on examining Western developed and stabilized contexts such as the USA and Europe (e.g., De Andres & Vallelado, 2008; Cornett et al., 2009; Minton et al., 2014; Salim et al., 2016; Wang et al., 2012). However, developing countries, including MENA countries, which represent a significant portion of the world's economy and face a higher level of political risk, are worthy of special investigation (Bokpin, 2013). MENA countries are characterized by some features which distinguish them from Western developed countries. They have a solid hierarchical social structure with more focus on informal relationships, such as a higher level of family loyalty, norms, and tribalism, rather than formal governance and accountability mechanisms (Al-Bassam et al., 2018; Sarhan et al., 2019). Besides, the MENA region is characterized by lower levels of institutional ownership, which can affect the present formal accountability, governance, and controls (Al-Janadi et al., 2016). Moreover, MENA countries, like many other developing countries worldwide, have higher levels of less-developed and illiquid stock markets, economic uncertainties, political uncertainty, and frequent government intervention.

As used in this study, political risk arises from the possible occurrence of a political event such as war, revolution, expropriation, or import restrictions that may cause a loss of profit and assets in an international business operation (Root, 1972). Regarding the context of this study, political risk was intensified by the breakout of Arab Spring events in MENA countries. In particular, since late 2010, large pro-democracy demonstrations have broken out in the MENA region against corruption, poverty, and political repression. Specifically, the uprisings began in Tunisia and then reached Egypt, Libya, and several other countries, including Yemen and Syria, leading to political instability in the entire MENA region. The attempts of the regimes to quell revolutionary acts had failed. The effects of these revolutions have spread to other countries in the same region, including the wealthy countries in the Gulf Cooperation Council (GCC), which are less affected by Arab Spring. Then, there was a civil war in Libya and Syria as a result of the revolutions (Bhardwaj, 2012). This region also witnessed other events, such as the war waged by Saudi Arabia (and other allied countries) over some Yemen groups linked with Iran in 2015 and the imposed siege by some MENA countries over Qatar in 2017.

Our results show that political stability enhances banks' financial stability. Besides, some CGM (namely, the board size, board independence, managerial ownership, and audit committee size and meetings) are found to significantly and positively affect bank stability. It is also observed that the Arab spring events greatly matter in interpreting the present findings. This indicates that the CGM-bank stability relationship can't be understood apart from the mega political events at the macro level. This study contributes to the literature by bringing evidence from developing countries —the MENA region—that is less investigated in the literature. Moreover, it examines the relationship between CGM and bank stability during the political crisis; rather than financial crises like the majority of the literature. Our findings present valuable insights for researchers, bank managers, and regulators on how political risks can affect banks' behaviors in the MENA region.

Here is how the rest of the paper is structured. Section 2 summarizes the available research and develops the research hypotheses. Methods of data collection and variable measurement are presented in Section 3. Data analysis, empirical findings, and robustness checks are presented and discussed in Section 4. Lastly, the study's final thoughts and conclusion are presented in Section 5.

2. Literature review and hypotheses development

2.1. The effect of political risk on bank stability

The financial channel of political instability is under-researched despite its crucial value considering the widespread of today's politically volatile contexts (Aboud & Diab, 2019; Herrala & Turk-Ariss, 2016). It is essential to understand if extreme political events in a particular region can influence bank risk and signal a potential shift in policy (Diab & Aboud, 2019; Diab & Metwally, 2019, 2020; Karolyi, 2006; Önder & Özyıldırım, 2013). In this regard, Ozili (2018) found that political stability is among the determinants of banking stability in Africa. Additionally, Hasanov and Bhattacharya (2019) showed that higher government stability decreases the bank crisis's probability in developed countries. By examining the political determinants of the banking crisis in OECD countries, Hasanov and Bhattacharya (2019) found that higher government stability can reduce the likelihood of a banking crisis.

In this context, it is interesting to examine if the recent Arab Spring events and the concomitant political changes can inhibit or improve bank stability (Chau et al., 2014). A few researchers have addressed the implications of the emerging intense and rapid political changes in the MENA region for bank risk (e.g., Bitar et al., 2016; Ghosh, 2016; Hemrit, 2018). For instance, Bitar et al. (2016) observed that the recent political revolutions had a different effect on conventional banks' risk in Gulf Cooperation Council countries than in other MENA countries. Focusing on the period from 2000 to 2012, Ghosh (2016) found that the political instability arising from the revolutionary events in the MENA region increased conventional banks' risk by 0.4%. Al-Shboul et al. (2020) found that Islamic banks working in (GCC) countries are less susceptible to political risk compared to banks operating in non-GCC countries (i.e., countries with more political stability or lower political risk).

Considering the above, it was anticipated that contexts with higher levels of political risk would be more vulnerable to more financial under-development and hence more bank risk (Al-Shboul et al., 2020; Roe & Siegel, 2011). Conversely, banks working in more politically stable contexts can be more financially stable (Al-Shboul et al., 2020). Thus, the first hypothesis is formulated as follows:

H1: There is a significant positive relationship between political stability and bank stability.

2.2. The effect of CGM on bank stability

A relatively recent trend in the literature has emerged, suggesting that CG structures can play a significant role concerning bank risk-taking (e.g., Adams & Mehran, 2012; Andries et al., 2020; Koirala et al., 2020; Marie et al., 2021; Raouf & Ahmed, 2020; Zeineb & Mensi, 2018). Examining this issue can help us understand if well-governed banks are less likely to fail and enjoy more stability than banks with ineffective CG (Mullineux, 2006). The present work draws upon a broad category of CG elements—as represented by board, ownership, and audit committee characteristics—to examine the relationship between CG and bank stability, as explained below.

2.2.1. Board characteristics and bank stability

To protect banks from various crises and achieve a high-efficiency level, bank boards should effectively discharge their multiple responsibilities, including their role in preventing excessive risk-taking by management (Blejer, 2006). This study examines the impact of board characteristics—

namely, board size, board independence, board meetings, board gender diversity, and CEO duality —on bank stability versus risk-taking.

Mixed results are reported in the literature regarding the relation between board size and bank risk-taking (Bokpin, 2013). Some studies indicated that smaller boards are more likely to contribute to effective monitoring and corporate transparency (e.g., Elamer et al., 2020; Staikouras et al., 2007; Wang et al., 2012). For instance, Elamer et al. (2020) found that board size is negatively related to operational risk disclosures in MENA countries' Islamic banks. This view is based on the argument that larger boards can make coordination and communication difficult, triggering the agency conflict and reducing organizational performance in the long run (Eisenberg et al., 1998).

In contrast, some studies argued that banks with larger boards are in a better position to have more specialists from different fields, which can contribute to high-quality decision-making and less risk exposure (Kiel & Nicholson, 2003; Salim et al., 2016; Tanna et al., 2011). It is believed that banks with larger boards would be more restrictive regarding risk-taking activities, ultimately enhancing bank stability (Pathan, 2009; see also, Abou-El-Sood, 2017). Marie et al. (2021) found that Egyptian banks' financial stability is positively related to board size (see also, Sarkar & Sarkar, 2018). In line with these studies, H2 is formulated as follows:

H2: There is a positive relationship between board size and bank stability.

Regarding the impact of independent directors, some studies argued that they have negative effect on the board, because their presence would decrease the CEO's inclination to share information with board members. In turn, this would increase the uncertainty level in decision-making and the financial instability of banks (Berger et al., 2016; Li & Song, 2013; Pathan & Faff, 2013; Sarkar & Sarkar, 2018).

Other studies argued that non-executive (independent) board members could better present effective monitoring, disciplining, advising, and valuable information to managers (De Andres & Vallelado, 2008; Boateng et al., 2019; Fama & Jensen, 1983). For example, Fama and Jensen (1983) argued that outside board members strive to protect their reputation as diligent monitors of managers. This suggests that independent boards can be associated with more stability and less risk-taking. In this context, Elamer et al. (2020) found that board independence is positively related to operational risk disclosures in the MENA countries' Islamic banks. Other studies indicated that independent directors are associated with fewer risky decisions in the banking sector (see Pathan, 2009; Adams & Mehran, 2012; Dong et al., 2017). Thus, it is anticipated that board independence would reduce bank risk, and accordingly H3 can be formulated as follows:

H3: There is a positive relationship between independent directors and bank stability.

As with board size, board meetings' frequency can affect bank stability. On the negative side, few studies suggested that frequent board meetings would not leave much time for outside board members to exert sufficient control over management. This could result in a time shortage for directors to exchange meaningful ideas among the board members (Jensen, 1993; Vafeas, 1999). On the positive side, frequent board meetings could help directors to carry out their responsibilities in line with shareholders' expectations and interests, and to monitor management effectively (Conger et al., 1998; Lipton & Lorsch, 1992; Marie et al., 2021; Salim et al., 2016). For instance, Marie et al. (2021) found that Egyptian banks' financial stability is positively associated with board meetings. It is anticipated that more board activity could yield more bank stability. Thus, H4 is formulated as follows:

H4: There is a positive relationship between the number of board meetings and bank stability.

Several recent studies suggested positive impact of board gender diversity on bank stability (see, Conyon & He, 2017; Farag & Mallin, 2017; Gul et al., 2011; Tejedo-Romero et al., 2017; Upadhyay & Zeng, 2014). For instance, Gul et al. (2011) emphasized that gender-diverse boards can play a monitoring role, especially in emerging economies. Ahmed and Ali (2017) indicated that gender-diverse boards could lead to higher stock liquidity with their efficient monitoring functions. Farag and Mallin (2017) showed that greater representation of female members on the board leads to lower banks' vulnerability to the financial crisis. Marie et al. (2021) found that the Egyptian banks' financial stability is positively related to board gender. The positive effect of board gender diversity is based on the view that female directors are more risk-averse than their male counterparts. For instance, they are likely to rely on less leverage or less long-term debt (Graham et al., 2013). Thus, the presence of more female directors on boards is believed to be associated with less risk taking and more bank stability (see, Saeed et al., 2016). Thus, H5 is formulated as follows:

H5: There is a positive relationship between board gender diversity and bank stability.

Finally, mixed results are reported in the literature regarding the effect of CEO duality on bank stability. Some studies (e.g., Dey et al., 2011; Elyasiani & Zhang, 2015; Pham et al., 2015) suggested positive effect of CEO duality, providing that CEO duality is related to lower risk levels. For instance, Pathan (2009) found that CEO power (i.e., CEO's ability to control board decisions) is negatively associated with bank risk-taking. Likewise, Elyasiani and Zhang (2015) found that directors' busyness positively affects bank risk-reduction. Marie et al. (2021) found that Egyptian banks' financial stability is positively related to CEO duality.

In contrast, other studies suggested that CEO duality could negatively affect bank stability (e.g., Cooper & Uzun, 2012; Kutubi et al., 2018; Wang et al., 2012). For example, Cooper and Uzun (2012) found that bank risk is positively related to CEO duality. Lewellyn and Muller-Kahle (2012) argued that CEOs' power is positively associated with risk-taking. Kutubi et al. (2018) found that inside directors' busyness significantly affects bank risk-taking. Sheikh (2019) found a positive relationship between CEO power and corporate risk. The mixed evidence of CEO duality on bank stability suggests that further research is needed (Yang & Zhao, 2014). Thus, H6 is formulated as follows:

H6: There is a negative relationship between CEO duality and bank stability.

2.2.2. Ownership characteristics and bank stability

This section discusses the relationship between institutional and managerial ownership structure and bank stability. Few studies have examined the effect of institutional ownership on bank stability (e.g., Ellul & Yerramilli, 2013; Laeven & Levine, 2009). These studies found that institutional investors are more likely to protect their interests due to their increased knowledge about the entity (Ellul & Yerramilli, 2013; Laeven & Levine, 2009). This suggests a negative impact of institutional ownership on bank stability. In this regard, Erkens et al. (2012), for instance, observed that entities with higher institutional ownership took more risk before the financial crisis period, which resulted in more considerable shareholder losses during the crisis period. Further, Cao and Petrasek (2014) provided evidence that institutional ownership affects stock returns' sensitivity to changes in market liquidity (i.e., liquidity risk). Thus, it is believed that the presence of institutional investors can increase bank risk and decrease bank stability. This leads us to H7 as follows:

H7: There is a negative relationship between institutional ownership and bank stability.

Many studies suggested positive effect of managerial ownership on bank stability. This is based on the argument that when managers have an ownership stake in banks, they become less tolerant toward risks (Heinrich, 2000) and less willing to invest in risky positions (e.g., John et al., 2008; Chen & Lin, 2016; Nurleni et al., 2018; cf., Marie et al., 2021). For instance, John et al. (2008) found that managers with ownership control invest in sub-optimally conservative positions. In addition, Chen and Lin (2016) found that management-controlled banks are associated with lower levels of liquidity and credit risks. This perspective is based on the argument that inside directors can best oversee senior management's actions, having better insights into the business (Donaldson & Davis, 1991). This kind of monitoring is likely to minimize risk-taking, indicating that banks with higher managerial ownership levels might be more stable than banks with lower managerial ownership levels. Thus, H8 is formulated as follows:

H8: There is a positive relationship between managerial ownership and bank stability.

2.2.3. Audit committee and bank stability

A limited number of studies examined the impact of the audit committee (AC) on bank risk-taking (e.g., Choi et al., 2004; Klein, 2002; Marie et al., 2021; Sun & Liu, 2014). These studies support the idea that AC characteristics could positively affect bank stability. For instance, Choi et al. (2004) reported that the independence of the AC members would direct managerial decisions for the entity's interests. Sun and Liu (2014) suggested that AC effectiveness increases banks' risk management effectiveness. Thus, It is expected that the banks' audit committees' and the level of activity of meetings are positively associated with bank stability. Thus, H9 and H10 are formulated as follows:

H9: There is a positive relationship between audit committee size and bank stability.

H10: There is a positive relationship between the number of meeting audit committees and bank stability.

3. Research methodology

3.1. Data and sample

The initial sample includes all commercial banks operating in 14 MENA countries during the period 2010–2018, based on those countries' central bank websites. These data were collected manually from banks' annual reports, the Bankscope database, and the World Bank.[1] The final sample comprises 106 conventional commercial banks with a total of 954 observations, as clarified in Table 1.

3.2. Model specification

Traditional estimation methods like ordinary least squares (OLS) cannot control potential endogeneity problems. However, endogeneity is a common issue in corporate governance studies that makes interpreting results difficult (Abdallah & Ismail, 2017). We use the endogenous-treatment method using instrumental variables (IVs), comprising three-Stage Least-Square (3SLS) estimation to mitigate potential endogeneity between corporate governance, political stability, and bank stability. We leverage the 3SLS estimation approach because it is ideally suited to test relationships simultaneously (Abdelsalam et al., 2020; V. Trinh et al., 2020, Trinh et al., 2021). We also use instrumental variables following Mollah and Zaman (2015) and V. Trinh et al. (2020). Our applied methodology controls for three types of endogeneity: dynamic endogeneity, heteroscedasticity, and autocorrelation. This helps us get more consistent and reliable results (Sissy et al., 2017).

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Table 1. Sample distribution by countries

N	Country	Number of banks	Observations	Relative %
1.	Bahrain	11	99	10.38%
2.	Egypt	22	198	20.75%
3.	Israel	8	72	7.55 %
4.	Jordan	8	72	7.55%
5.	Kuwait	6	54	5.66%
6.	Lebanon	6	54	5.66 %
7.	Oman	6	54	5.66%
8.	Palestine	2	18	1.89 %
9.	Qatar	6	54	5.66%
10.	Saudi Arabia	8	72	7.55%
11.	Syria	6	54	5.66 %
12.	Tunisia	4	36	3.77 %
13.	United Arab Emirates	12	108	11.32%
14.	Yemen	1	9	0.94%
Total		106	954	100%

We select three main instrumental variables (IVs) for corporate governance and political stability. Our first IV is controlling the corruption country index (as reported by the World Bank). This IV reflects the perceptions of petty/grand forms of corruption. It ranges from approximately −2.5 (weak governance performance) to 2.5 (strong governance performance)—that is, higher values indicate a better control of corruption. Our second IV is the country-level income-generating category (as reported by World Bank). This is measured as a dummy variable taking the value of one when the "home" bank is in a country classified as a middle or high-income generating nation and zero otherwise. Our last IV is the rule of law, which reflects how agents have confidence in and abide by the rules of society. In particular, it concerns agents' perceptions of the quality of contract enforcement, property rights, the police, and the courts, and the likelihood of crime or violence. Its value range from −2.5 (weak governance performance) to +2.5 (strong governance performance), as reported by the World Bank—that is, higher values indicate a better rule of law.

We treat corporate governance, political stability, and bank stability as endogenous variables for our study hypotheses. We specify equation (1) to estimate the impact of corporate governance and political stability on bank financial stability (measured by NPL, LLR/GR, and Z-score) as follows:

$$BankStability_{it} = \beta_{0it} + \beta_1 PStability_{it} + \beta_2 CGM_{it} + + \phi Controls + \mu Countryeffects + \alpha Yeareffects + \varepsilon_{it} \quad (1)$$

Where *Bank Stability*$_{it}$ represents NPL, LLR/GR, and Z-score; *PStability*$_{it}$ represents the political stability index (*PSI*); *CGM* represents corporate governance mechanisms, including board characteristics; *Controls* represent the vector of control variables, including bank-level and country-level characteristics, and ε_{it} represents the error term.

3.3. Variables and measurement

We use three bank stability measures: (i) liquidly risk, (ii) credit risk, and (iii) insolvency risk. According to the Basel Committee on Banking Supervision, a bank liquidity ratio is defined as its ability to use high-quality liquid assets to offset the net cash outflows in a short period (e.g., 30 days; Basel Committee on Banking Supervision, 2015). This is measured using the non-performing loan (NPL) ratio, which is calculated as the ratio of non-performing loans to total loans (Dong et al., 2017). A higher non-performing loan ratio is associated with lower levels of

financial stability in banks (Chen et al., 2017). Following Bitar et al. (2017), we measure credit risk using the ratio of loan loss reserves to gross loans (*LLR/GR*). A higher value of *LLR/GR* indicates a higher credit risk for a bank. Finally, we measure insolvency risk by the bank's "*Z-score*" which suggests the bank's probability to default (Arnaboldi et al., 2018). *Z-score* has been calculated as the sum of the return on assets and capital assets ratio, scaled by the standard deviation of return on assets (Alraheb & Tarazi, 2018). A high Z-score implies a good solvency position and higher bank stability. We use the natural logarithm of Z-score to control for outliers (Anginer et al., 2016).

Political stability and absence of violence/terrorism measure the likelihood of political instability and politically motivated violence, including terrorism. We measure political risk utilizing the political stability Index (PSI), a comprehensive measure that analyses the impact of political stability for 163 countries and covers 99.7 percent of the world's population. Its value range between −2.5 (weak governance performance) to +2.5 (strong governance performance) (as reported by the World Bank).

In addition to political stability, CGMs are used as explanatory variables, where the details of measurements are clarified in Table 2.

3.4. Control variables

In line with previous research, in order to avoid the effects of omitted variables' bias and account for additional factors that could affect bank risk, we control for firm and country-specific characteristics (e.g., Calomiris & Carlson, 2016; Adhikari & Agrawal, 2016; Elnahass et al., 2018; Mollah & Zaman, 2015; Mollah et al., 2017; V. Trinh et al., 2020; Elnahass et al., 2021; Marie et al., 2021). Thus, we control for a set of bank-level characteristics that are commonly related to bank stability, namely bank size, computed by the natural logarithm of total assets of a bank at the end of the year, which may be negatively related to bank risk (Hakenes & Schnabel, 2011; Rahman et al., 2015). We also account for other firm-specific factors, such as return on assets (ROA), which is the ratio of net income to total assets and may be inversely related to bank risk. This ratio is calculated annually for each bank (Bhagat et al., 2015). We also control for impaired loans to gross loans; This is a measure of the amount of total loans that are doubtful. The lower this figure is, the better the quality of the asset, which is expected to be linked to lower bank risk (Shehzad et al., 2010).

Furthermore, we control for bank age, which is the natural logarithm of the difference between the sample year and the year of a bank's first appearance and is expected to be linked to lower bank risk. We also control for cost inefficiency that is measured by cost to income ratio, as well as bank listing on the stock exchange that is measured by dummy variable one if the bank is listed in a stock market, 0 otherwise, which is expected to be linked to lower bank risk. Furthermore, to account for country-specific group heterogeneity, it is necessary to employ either country-fixed effects or country-specific variables as control variables because they are linked to the financial stability of the banks (Mollah et al., 2017; De Vita & Luo, 2018; Trinh et al., 2021).

This study also controls for GDP per capita (LogGDP/capita), as measured by the natural logarithm of gross domestic products per capita, which may be inversely related to bank risk (Delis & Kouretas, 2011), and inflation, as measured by inflation rate within countries, which is expected to be linked to higher bank risk. We have also winsorized all variables used in our models. See, Table 2 for the variables' definitions and measurements.

4. Empirical results

4.1. Descriptive statistics

Table 3 presents the descriptive statistics of all variables included in the analysis. The financial stability indicators that were used as dependent variables include Z-score, NPL, and LLR/GR. The mean of Z-score is 4.11, which is relatively low compared to what Raouf and Ahmed (2020) found in a sample of banks in GCC countries (20.91), implying a higher probability of failure or insolvency

Table 2. Variables definitions

Variables	Measures	Definitions
Financial stability indicators		
Liquidity risk	NPL	The ratio of non-performing loans to total loans
Credit risk	LLR/GR	The ratio of loan loss reserves to gross loans
Insolvency risk	Z-score	The sum of ROA plus capital assets ratio (CAR) scaled by the standard deviation of ROA (We proxy for insolvency risk by using the natural logarithm of Z-score)
Explanatory variables		
Political stability	PStability	The perceptions of political instability and politically motivated violence, including terrorism
Board size	BSIZE	The natural logarithm of the total number of board of directors' members (Arnaboldi et al., 2018)
Board meeting	BMEET	The number of board of directors' meetings within the year (Dong et al., 2017)
Board independence	%INDEP	Percentage of independent non-executive directors on the board of directors (Faleye & Krishnan, 2017)
CEO duality	DUAL	A dummy variable that equals 1 if the CEO is also the Chairman of the board of directors; 0 otherwise (Faleye & Krishnan, 2017)
Gender diversity	GDiversity	A dummy variable that equals 1 if there is one woman at least on the board, and 0 otherwise
Audit committee size	ACSIZE	The number of audit committee members (Sun & Liu, 2014)
Audit committee meetings	ACMEET	The number of audit committee meetings within the year
Institutional ownership	INSTITOWNER	The total number of shares owned by institutions divided by the total number of shares of the bank
Managerial ownership	MANAGEOWNER	The total number of shares owned by managers divided by the total number of shares of the bank
Controls (bank-level)		
Bank size	LogTA	Natural logarithm of total assets of a bank at the end of the year
Impaired loans/gross loans	IL_GL	This is a measure of the amount of total loans that are doubtful. The lower this figure is, the better the quality of the asset
Listed bank	LISTED	Dummy variable: 1 if the bank is listed in a stock market, 0 otherwise.
Bank age	LogAge	Natural logarithm of the difference between the sample year and the year of a bank's first appearance

(*Continued*)

Table 2. (*Continued*)

Variables	Measures	Definitions
Return on average assets	ROAA	Performance for each bank year is calculated based on (ROA, which is net income divided by total assets
Cost inefficiency	COST/INCOME	Cost to income ratio
Controls (country level)		
GDP growth rate	GDP	Annual gross domestic products (GDP) growth rate.
Inflation rate	INFLA	Inflation rate within countries

risk for banks and less financial stability. The mean of NPL is 3.3, which is relatively high compared to what Al-Shboul et al. (2020) found in the MENA region (1.76), indicating high liquidity risk in banks and less financial stability. The mean of LLR/GR, which is used as a proxy for poor asset quality, is 6.53. This indicates a relatively higher credit risk and less financial stability than in GCC countries (3.51; Raouf & Ahmed, 2020).

Regarding explanatory variables, the mean of the political stability index is −0.72 reflecting a low level of political stability. It ranges from +2.5 to −2.5 because of the Arab Spring events that adversely affected MENA countries. This result is close to what Al-Shboul et al. (2020) found in the MENA region (−0.79). The average board size is 9, ranging from 5 to 15. The mean of board independence is 60.1, which is lower than the mean of independent directors in the Egyptian banks (0.74) that Marie et al. (2021) found. The mean of board meetings is 7, ranging from 3 to 16. On average, 15.3% of boards allow CEOs to take over the chairman position, which is not high compared to what Marie et al. (2021) found in Egypt (36%). The institutional owners own most of the stocks in the sampled banks (80.6%), indicating a high degree of institutional ownership. Managerial ownership in the sampled banks equals 31.4%, almost double what was found in the Egyptian banks (15.7%) by Marie et al. (2021). The mean AC size is 4, and the number of AC meetings is 5.

Furthermore, the mean of bank size is 5.47. The average of ROA is 0.14, which is close to what was found in the MENA region (0.15) by Al-Shboul et al. (2020). The cost-to-income ratio averaged 1.609. The mean of bank age is 22. The average of impaired loans over gross loans is very high (0.74), indicating low-quality assets. Most banks in the sample are listed on stock exchanges (0.61). Finally, on average, the GDP growth rate is 3.4%, and the inflation rate is 2.9%.

4.2. Correlation

Table 4 shows the Pearson correlation matrix. The correlation coefficients of the risk measures demonstrate a significant and negative correlation between the political stability index and NPL and LLRGR, indicating that the higher the political stability, the lower the liquidity and credit risk. However, there is a significant and positive correlation between the political stability index and Z-score, indicating that the higher the political stability, the lower the insolvency risk. In addition, the majority of independent and control variables are significantly correlated with risk measures (i.e., proxies of bank stability).

Explanatory variables such as %INDEP, BMEET, ACSIZE, and ACMeet are significantly and negatively correlated with NPL (liquidity risk), while DUAL and MANAGEOWNER are significantly and positively correlated with NPL (liquidity risk). In addition, BSIZE, BMEET, BGender, DUAL, INSTITOWNER, ACSIZE, and ACMeet are significantly and negatively correlated with LLRGR (credit risk), while MANAGEOWNER is significantly and positively correlated with LLRGR (credit risk). Further, BSIZE, BMEET, BGender, MANAGEOWNER, ACSIZE, and ACMeet are significantly and

Table 3. Descriptive statistics for variables in the main tests

Full sample

Variables/ ratios	N	Mean	Median	Std.	Min	0.25	0.75	Max
NPL	954	0.033	0.029	0.043	0.002	0.019	0.044	0.083
LLR/GR		6.528	8.286	4.296	0.211	2.395	7.116	10.000
Z-score		4.113	4.195	1.342	0 .445	3.130	5.084	7.918
PStability		−.720	−.898	0.986	−2.974	−1.437	−0.040	1.224
BSIZE		9	9	0.096	5	8	11	15
%INDEP		0.610	0.625	0 .212	0 .083	0.444	0 .778	1
BMEET		7	6	0.147	3	5	8	16
BGender		0 .336	0.327	0.473	0	0	1	1
DUAL		0.153	0.151	0.359	0	0	1	1
INSTITOWNER		0.806	0.862	0.197	0.252	0.640	0.9874	1
MANAGEOWNER		0.314	0.307	0.464	0	0	1	1
ACSIZE		4	3	0.091	2	3	4	6
ACMeet		5	4	0.133	2	4	6	11
LogTA		5.485	5.478	.281	5.001	5.238	5.708	6.375
ROAA		0.014	0.0137	0.006	0.002	0.010	0.018	0.0306
CostIncome		1.609	1.601	0.174	0.965	1.513	1.710	2.668
LogAge		22	35	0.416	4	7	47	92
IL_GL		0.714	0 .771	.396	−0.474	0.436	1.016	1.632
LISTED		0.610	0.658	.488	0	1	0	1
GDP		0.034	0.030	0.016	−0.002	0.022	0.044	0.076
INFLA		0.029	0.033	0.075	−0.134	−0.015	0.077	0.213

positively correlated with Z-score (negatively associated with insolvency risk), while %INDEP, INSTITOWNER are significantly and negatively correlated with Z-score (positively correlated with insolvency risk).

Control variables such as CostIncome, LogAge, IL_GL, and INFLA are significantly and positively correlated with NPL (liquidity risk), while GDP are significantly and negatively correlated with NPL (liquidity risk). In addition, CostIncome and INFLA are significantly and positively correlated with LLRGR (credit risk), while LogAge and GDP are significantly and negatively correlated with LLRGR (credit risk). Finally, LogTA, ROAA, LISTED, CostIncome, INFLA are significantly and negatively correlated with Z-score (positively correlated with insolvency risk), while LogAge and GDP are significantly and positively correlated with Z-score (negatively correlated with insolvency risk).

However, the correlation matrix does not show a high correlation between the explanatory variables (correlation coefficients less than 0.8). Further, the variance inflation factors (VIFs) are less than 10, suggesting no multicollinearity issue in the regression model.

4.3. Multivariate analysis

Table 5 presents the results of the three models' three-stage least squares regression analysis (NPL, LLRGR, and Zscore) for the total sample. The results of all regression models, including the statistics of Wald Chi2, LM, and Sargan tests, are statistically significant at the level of 1%. This suggests that all models are statistically fit to predict banks' financial stability, with R^2 ranging from 0.18 to 0.35. The results indicate that political stability has a significant and negative association with NPL and LLRGR at the levels of 5% and 1%, respectively. This implies that political stability enhances banks' financial stability by reducing liquidity and credit risks. The results also indicate a significant and positive association between political stability and Z-score at the level of 1%, suggesting that political stability contributes to banks' financial stability by reducing the insolvency risk. Hence, H1 is accepted. This finding is consistent with the literature supporting the relationship between government stability and banking stability (e.g., Al-Shboul et al., 2020; Hasanov & Bhattacharya, 2019; Ozili, 2018).

The coefficients of explanatory variables in the three models show mixed results regarding the relationships between corporate governance mechanisms and bank stability measures. However, they mainly support our hypotheses. BSIZE is significantly and positively associated with Z_score, NPL at the level of 1% and 5%, respectively, whereas it is significantly and negatively associated with LLRGR at the level of 1%. This result indicates that larger boards are associated with less insolvency and credit risks but more liquidity risk. The result, in general, is aligned with previous studies (e.g., Pathan, 2009; Abou-El-Sood, 2017; Marie et al., 2021; Sarkar & Sarkar, 2018). This suggests a positive association between board size and bank stability, supporting H2 with some concern over liquidity. However, this finding is inconsistent with other studies reporting a negative relationship between board size and bank stability (e.g., Abou-El-Sood, 2017; Salim et al., 2016).

The coefficients of board independence also indicate a significant and positive association with Z-score. This suggests that board independence is associated with less insolvency risk and more financial stability. Thus, H3 is accepted. This finding supports the literature reporting that board independence leads to fewer risky decisions (e.g., Pathan, 2009; Adams & Mehran, 2012; Dong et al., 2017). In contrast, this finding is different from other studies reporting a negative impact of board independence on bank stability (e.g., Li & song, 2013; Pathan & Faff, 2013; Sarkar & Sarkar, 2018). However, we found that board independence is not significantly associated with NPL or LLRGR, consistent with Bhagat and Black (2002) and De Jong et al. (2005).

Unexpectedly, the coefficients of board meetings are significantly and negatively associated with Z_score and positively associated with NPL but not significantly associated with LLRGR. This result suggests that more board meetings lead to higher insolvency and liquidity risks and hence, less financial stability. Thus, H4 is rejected. This finding is different from recent studies such as

Table 4. Pearson correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) NPL	1.000										
(2) LLRGR	0.151*	1.000									
(3) Z-score	−0.089*	−0.161*	1.000								
(4) PStability	−0.107*	−0.351*	0.077*	1.000							
(5) BSIZE	0.005	−0.219*	0.212*	−0.079*	1.000						
(6) %INDEP	−0.094 *	−0.001	−0.142*	0.134*	−0.147*	1.000					
(7) BMEET	−0.141*	−0.095*	0.108*	0.029	0.248*	0.083*	1.000				
(8) BGender	0.011	−0.179*	0.082*	−0.122*	0.378*	−0.141*	0.250*	1.000			
(9) DUAL	0.064*	−0.086*	−0.031	−0.255*	0.052	−0.031	−0.023	0.125*	1.000		
(10) INSTITOWNER	0.021	−0.105*	−0.074*	−0.049	−0.118*	−0.145*	−0.237*	0.060*	0.029	1.000	
(11) MANAGEOWNER	0.161*	0.160*	0.097*	−0.053	0.165*	−0.083*	−0.146*	−0.102*	−0.106*	−0.326*	1.000
(12) ACSIZE	−0.093*	−0.198*	0.149*	0.082*	0.315*	−0.046	0.264*	0.111*	0.106*	0.067	−0.058
(13) ACMeet	−0.225*	−0.197*	0.164*	0.208*	0.217*	−0.014	0.495*	0.263*	−0.200*	−0.079*	−0.156*
(14) LogTA	−0.008	−0.010	−0.192*	0.021	0.116*	−0.069*	0.039	0.003	0.024	−0.016	−0.039
(15) ROAA	0.046	0.003	−0.147*	0.208*	−0.160*	0.075*	−0.206*	−0.134*	0.046	0.092*	−0.006
(16) LISTED	−0.058	−0.054	−0.066*	0.219*	−0.103*	0.157*	0.093*	−0.057	−0.094*	−0.059	−0.078*
(17) CostIncome	0.109*	0.138*	−0.268*	−0.308*	−0.024	0.020	−0.017	0.013	0.093*	−0.016	0.044
(18) LogAge	0.069*	−0.045	0.090*	0.213*	0.265*	−0.041	0.011	−0.085*	−0.091*	−0.216*	0.279*
(19) IL_GL	0.061*	0.016	0.013	−0.157*	0.000	−0.084*	0.025	0.173*	0.002	0.123*	−0.045
(20) GDP	−0.206*	−0.345*	0.408*	0.400*	0.143*	−0.015	0.165*	0.043	−0.067*	−0.086*	−0.026
(21) INFLA	0.171*	0.442*	−0.283*	−0.491*	−0.152*	−0.018	−0.085*	−0.042	0.041	−0.017	0.085*

(*Continued*)

Table 4. (*Continued*)

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
(12) ACSIZE	1.000										
(13) ACMeet	0.190*	1.000									
(14) LogTA	0.153*	0.023*	1.000								
(15) ROAA	0.010	0.021	0.244	1.000							
(16) LISTED	0.022	0.027	0.107*	0.183*	1.000						
(17) CostIncome	−0.075*	0.008	0.003	0.192*	0.043	1.000					
(18) LogAge	0.187*	0.058	−0.046	−0.080*	0.175	0.042*	1.000				
(19) IL_GL	0.039	0.023	−0.111*	−0.008	−0.087*	0.153	0.425	1.000			
(20) GDP	0.203*	−0.028	−0.146*	−0.432*	0.122*	−0.051	0.195*	0.274*	1.000		
(21) INFLA	−0.255*	0.003	0.035	0.410*	−0.114*	−0.019	−0.787*	0.052*	0.362*	1.000	

Note: The table presents descriptive statistics of all variables used in the regression models of the study. The sample period is between 2010 and 2018. Std. is the standard deviation. Min and Max are each variable's minimum and maximum values, respectively. N is the number of bank-year observations. We also report on the paired sample mean test (T-test). The ***, **, * represent p-values of 0.01, 0.05, and 0.10. See, Table 2 for variable definitions.

Abou-El-Sood (2017), Salim et al. (2016), and Marie et al. (2021), which reported a positive relationship between board meetings' frequency and bank stability. However, it confirms other studies, such as Pathan (2009) and Wang et al. (2012).

Interestingly, we found that gender diversity has no significant association with LLRGR, consistent with Sila et al. (2016) and Farag and Mallin (2017). However, the results revealed that gender diversity has a significant and negative association with Z_score and a significant and positive association with NPL. Overall, this result suggests that more female board members are associated with lower banks' financial stability by increasing insolvency and liquidity risks. Thus, H5 is not being supported. This finding is different from the literature supporting the positive effects of gender diversity on bank stability (e.g., Abad et al., 2017; Ahmed & Ali, 2017; Farag & Mallin, 2017; Marie et al., 2021; Saeed et al., 2016). This finding supports the unique nature of Arab countries attributed to higher male domination levels (Farah, 2009; Labib, 2012). In this context, male directors primarily influence decision-making and implement significant organizational policies (see, Issa & Fang, 2019).

Furthermore, CEO duality is found to have no significant association with LLRGR (Carty & Weiss, 2012). However, CEO duality has a significant and negative association with Z_score and a significant and positive association with NPL. This result suggests that CEO duality decreases financial stability by increasing insolvency and liquidity risks. Hence, H6 is supported. This finding supports the majority of the literature reporting a positive relationship between CEO duality and bank risks, such as Lewellyn and Muller-Kahle (2012), Kutubi et al. (2018), and Sheikh (2019). However, it differs from some studies reporting positive effects of CEO duality (e.g., Elyasiani & Zhang, 2015; Marie et al., 2021).

Similarly, institutional ownership has a significant negative association with Z_score, a significant and positive association with LLRGR, and no significant association with NPL. The result indicates that institutional ownership increases insolvency and credit risks and consequently decreases financial stability. Hence H7 is accepted. This finding confirms the previous studies, which generally support the negative effects of institutional ownership (Cao & Petrasek, 2014; Ellul & Yerramilli, 2013; Erkens et al., 2012). Conversely, managerial ownership is significantly and positively associated with Z_score and has no significant association with NPL and LLRGR. This indicates that managerial ownership decreases insolvency risk and consequently increases financial stability. Thus, H8 is accepted. This finding confirms most of the literature, reporting positive effects of managerial ownership (e.g., Abou-El-Sood, 2017; Aebi et al., 2012; Chen & Lin, 2016; Nurleni et al., 2018). Overall, our findings concerning ownership attributes confirm the significant relationship between shareholder type and bank risk-taking (Boateng et al., 2019).

Finally, audit committee size has a significant and positive association with Z_score. However, it has a significant and negative association with NPL and LLRGR. This result indicates that audit committee size decreases insolvency, liquidity, and credit risks and consequently increases financial stability. Hence H9 is accepted (Sun & Liu, 2014). Audit committee meetings have no significant association with Z_score and LLRGR, but are significantly and negatively associated with NPL. This result indicates that audit committee meetings decrease liquidity risk and increase stability. Hence, H10 is accepted. These findings generally support the role that audit committees can play regarding bank stability (Choi et al., 2004; Marie et al., 2021).

Overall, the previously mentioned findings confirm the idea that effective governance structures can positively affect bank stability by minimizing risk exposure (Adams & Mehran, 2012; Basel Committee on Banking Supervision, 2006; Marie et al., 2021; Mullineux, 2006; Raouf & Ahmed, 2020; Zeineb & Mensi, 2018).

The results of the control variables at the bank level indicate that bank size is significantly negatively associated with Z_score. This suggests a negative correlation between bank size and financial stability (Phan et al., 2020; Rashid et al., 2021). Contrarily, we found that a higher bank

Table 5. Multivariate analysis: 3SLS models for the associations between corporate governance and political stability on bank stability

	Financial stability		
	NPL	**LLRGR**	**Zscore**
PStability	−0.024**	−0.383***	1.163***
	(−2.15)	(−8.96)	(3.52)
BSIZE	0.003**	−2.277***	1.298***
	(0.56)	(−0.98)	(2.81)
%INDEP	−0.003	0.063	0.005***
	(−1.16)	(0.07)	(0.03)
BMEET	0.008*	−0.051	−0.108**
	(1.67)	(−0.03)	(−0.32)
BGender	0.003**	−0.375	−0.158*
	(2.15)	(−0.84)	(−1.79)
DUAL	0.003**	0.645	−0.039***
	(2.18)	(1.08)	(−0.33)
INSTITOWNER	0.001	0.662***	−0.017**
	(0.32)	(0.60)	(−0.08)
MANAGEOWNER	0.001	0.244	0.197**
	(0.68)	(0.53)	(2.16)
ACSIZE	−0.016***	−6.384***	0.280***
	(−2.63)	(−2.83)	(0.62)
ACMeet	−0.016***	−0.292	−0.252
	(−3.26)	(−0.16)	(−0.70)
LogTA	−0.001	0.408	−0.859***
	(−0.76)	(0.66)	(−6.99)
ROAA	−0.018	−3.547**	0.399***
	(−0.21)	(−1.40)	(0.06)
LISTED	0.002**	−0.488	0.052
	(2.01)	(−1.12)	(0.60)
CostIncome	−0.001	−1.727	0.567**
	(−0.08)	(−1.52)	(2.51)
LogAge	0.004	−0.661	0.151***
	(0.00)	(−0.62)	(0.71)
IL_GL	0.001	1.236**	0.159**
	(0.67)	(2.07)	(1.33)
GDP	0.060*	2.579**	−2.705**
	(1.68)	(2.00)	(−1.02)
INFLA	0.002**	−3.982	0.132***
	(0.19)	(−1.10)	(0.18)
Constant	0.040***	3.346	6.707***
	(2.93)	(0.66)	(6.64)
Observations	1060	1060	1060
Year Effects	Yes	Yes	Yes
Country Effects	Yes	Yes	Yes
R^2	0.23	0.35	0.32
Wald Chi2	443***	495***	522***
LM Statistics (p-value)	000	000	000
Sargan test (p-value)	752	619	536

ROA is associated with lower insolvency and credit risks. This confirms the positive link between profitability and bank stability (e.g., Cole & White, 2012). Unexpectedly, listing banks on the stock exchange are associated with increased liquidity risk and lower bank stability (López-Penabad et al., 2021; Phan et al., 2020).

Interestingly, the cost-to-income ratio, which measures efficiency, is significantly and positively associated with Z_score, suggesting that higher costs (i.e., fewer efficiencies) are associated with lower insolvency risk and higher financial stability. This result is different from studies conducted in developed European financial markets (e.g., Fiordelisi et al., 2011; Schaeck & Cihák, 2014), which indicates the unique influences of the MENA socio-political context on bank stability. Bank age is positively associated with Z_score, suggesting that older banks have lower solvency risk and higher bank stability (Duho et al., 2020). Finally, impaired loans to gross loans (as a measure of the quality of assets) are positively associated with credit risk (Rajan & Dhal, 2003) but negatively associated with insolvency risk.

The results of control variables at the country level indicated that the higher the GDP growth rate in a country, the higher the insolvency, liquidity, and credit risks, and consequently, the lower the financial stability. This is consistent with Tan and Floros (2012), while it is different from Kosmidou (2008). Finally, mixed results are observed regarding the impact of inflation rates, which are negatively related to insolvency risk but positively related to liquidity risk.

4.4. Robustness test: the effect of the Arab spring events

To assess the robustness of the findings, we tested the model for two subsamples: Arab Spring countries and Non-Arab Spring countries. This is beneficial to examine whether the relationship between political stability, CG mechanisms, and bank stability is affected by the Arab uprising events. As shown in Table 6, the results indicate that the positive effect of political stability on banks' financial stability is only applicable in Arab Spring countries, as it is associated with reduced insolvency, liquidity, and credit risks. However, political stability is positively associated with increased insolvency and credit risks but not significantly associated with liquidity risk in Non-Arab Spring countries. This result highlights the importance of political stability during political crises such as the Arab Spring. Banks can be more inclined to take more risks in stable political conditions than the situation during political crisis times.

Regarding the effect of CG mechanisms, we also found many differences between the two types of countries. While large board size decreases insolvency and credit risks in Non-Arab Spring countries, it decreases credit risk and increases insolvency risk in Non-Arab Spring countries. Further, the positive impact of board independence on bank stability is more evident in Arab Spring countries, reducing insolvency and liquidity risks. However, board independence increases credit risk in Non-Arab Spring countries. Similarly, the negative impact of board meetings on bank stability is more evident in Arab Spring countries, where it is associated with increased insolvency and credit risks.

In contrast, board meetings are associated with increased liquidity risk and decreased credit risk in Non-Arab Spring countries. In general, board gender diversity negatively affects bank stability in both countries, as it is positively associated with all kinds of risks, except for credit risk in Non-Arab Spring countries, where a negative association is reported. Interestingly, CEO and CEO duality positively impacts the stability of banks in Non-Arab Spring countries, as it decreases liquidity risk. However, it has a mixed effect on bank stability in Arab Spring countries, increasing credit risk but decreasing insolvency risk.

Regarding the impact of ownership attributes, we found that the negative effects of institutional ownership on bank stability are more evident in Arab Spring countries, as it increases insolvency and credit risk. However, it only increases liquidity risk in Non-Arab Spring countries. Interestingly, managerial ownership has a negative effect on bank stability in both types of countries. In Arab Spring countries, it increases insolvency and credit risk; in Non-Arab Spring countries, it increases liquidity risk. Finally, the effect of audit committee size on bank stability also varies between the two types of countries. In Arab Spring countries, it increases the insolvency risk and decreases the

Table 6. Robustness check: 3SLS models for the associations between corporate governance and political stability on bank stability

	Arab Spring countries			Non-Arab Spring countries		
	Panel A			Panel B		
	(1)	(2)	(3)	(4)	(5)	(6)
	NPL	LLRGR	Zscore	NPL	LLRGR	Zscore
PStability	−0.017**	−0.254***	1.231**	−0.380	3. 318***	−0. 032***
	(−0.50)	(−8.12)	(2.17)	(−0.58)	(2.82)	(−0.59)
BSIZE	−0.013	−0.662**	−0.621***	0.008	−2.291**	1.494***
	(−0.88)	(−2.12)	(−0.71)	(1.14)	(−0.68)	(3.07)
%INDEP	−0.018**	3.706	0.054***	−0.002	0.214***	−0.057
	(−2.04)	(1.35)	(0.10)	(−0.76)	(0.17)	(−0.33)
BMEET	−0.001	12.347*	−2.009**	0.009**	−4.184**	0.120
	(−0.07)	(1.93)	(−1.64)	(2.07)	(−2.05)	(0.41)
BGender	0.005*	0.986**	−0.252***	0.001*	−1.467**	−0.069**
	(1.84)	(1.15)	(−1.53)	(0.19)	(−2.25)	(−0.74)
DUAL	0.004	0.799**	0.127***	−0.001**	−0.070	0.089
	(1.49)	(0.89)	(0.73)	(−0.23)	(−0.07)	(0.61)
INSTITOWNER	−0.007	0.495***	−1.182**	0.004**	−0.632	0.138
	(−0.83)	(0.19)	(−2.33)	(1.12)	(−0.44)	(0.67)
MANAGEOWNER	0.003	1.483*	−0.114**	0.003**	−0.486	0.102
	(0.77)	(1.40)	(−0.56)	(2.03)	(−0.79)	(1.16)
ACSIZE	−0.019	−2.194***	−0.846**	−0.007	3.136**	−0.189
	(−0.94)	(−4.25)	(−0.71)	(−0.96)	(1.00)	(−0.42)
ACMeet	−0.058***	4.352	−0.887	−0.001	1.547	−0.296**
	(−4.01)	(0.99)	(−1.05)	(−0.28)	(0.64)	(−0.86)
LogTA	0.003	1.359	−0.915***	−0.003	−0.099	−0.566***

(*Continued*)

Table 6. (*Continued*)

	Arab Spring countries			Non-Arab Spring countries		
	Panel A			Panel B		
	(1)	(2)	(3)	(4)	(5)	(6)
	(0.74)	(1.14)	(−3.98)	(−1.51)	(−0.12)	(−4.55)
ROAA	0.206	2.560	1.851***	−0.195**	−5.642	−7.034
	(1.11)	(0.47)	(1.54)	(−2.00)	(−1.31)	(−1.11)
LISTED	0.003	0.144	0.192**	−0.002	−1.171*	0.012
	(1.08)	(0.16)	(1.08)	(−1.64)	(−1.91)	(0.14)
CostIncome	0.011**	0.456	0.027**	−0.003	1.351	−0.097
	(2.07)	(0.28)	(0.08)	(−0.68)	(0.76)	(−0.38)
LogAge	−0.007	1.202	0.724**	−0.002	−2.076	0.163
	(−1.22)	(0.65)	(2.05)	(−0.74)	(−1.57)	(0.87)
IL_GL	0.005**	0.637	0.071*	0.001	0.984	0.157
	(2.06)	(0.83)	(0.48)	(0.39)	(1.45)	(1.62)
GDP	0.103	1.453***	−1.011***	0.014	−47.038**	2.514
	(0.80)	(2.87)	(−2.62)	(0.28)	(−2.07)	(0.73)
INFLA	−0.007	22.905**	−1.496	−0.002	−1.030***	0.424
	(−0.21)	(2.33)	(−0.80)	(−0.15)	(−2.68)	(0.51)
Constant	0.077*	−3.604***	1.275***	0.031	3.368***	5.168***
	(1.75)	(−2.58)	(5.63)	(1.37)	(3.54)	(3.31)
Observations	341	341	341	719	719	719
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.14	0.49	0.35	0.30	0.19	0.15
Wald Chi2	430***	563***	444 ***	383***	564***	434***

(*Continued*)

Table 6. (*Continued*)

	Arab Spring countries			Non-Arab Spring countries		
	Panel A			Panel B		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
LM Statistics (p-value)	000	000	000	000	000	000
Sargan test (p-value)	583	734	410	458	437	676

credit risk. However, in Non-Arab Spring countries, it increases the credit risk. Similarly, audit committee meetings have a different impact on bank stability in both countries. While it decreases liquidity risk in Arab spring countries, it increases insolvency risk in Non-Arab Spring countries.

Overall, the previously mentioned findings confirm that the influence of CG mechanisms differs in the two contexts—politically stable and politically volatile. The results indicated that political issues (represented by the outbreak of the recent revolutions in the MENA region) could affect the relationship between CG and bank stability (see, Al-Shboul et al., 2020; Belkhir et al., 2019; Ghosh, 2016). This is consistent with Bitar et al. (2016), who suggest that the impact of capital requirements on banks is more pronounced for banks in periods of crisis. Besides, our findings confirm the idea that political events and issues such as Arab Spring events could bring significant vast economic and social implications (Chau et al., 2014; Hemrit, 2018; Karshenas et al., 2014). Hence, the impact of CG on organizational stability in emerging markets in general and MENA countries, in particular, can't be understood apart from the mega political events at the macro level.

Regarding the effect of control variables at the bank level, as shown in Table 6, a large bank size consistently has a negative impact on bank stability because of the increased insolvency risk across the two types of countries. Similarly, the positive effects of ROA on bank stability are consistent in both Arab Spring and Non-Arab Spring countries by reducing insolvency and liquidity risks, respectively. Further, listing banks in stock exchanges positively affects bank stability in the two countries. It decreases insolvency risk in Arab Spring countries and reduces credit risk in Non-Arab Spring countries. However, the effect of the cost-to-income ratio on bank stability is only limited to Arab Spring countries, where higher levels of cost-to-income ratio reduce insolvency risk but increase liquidity risk in these countries' banks.

Similarly, the impact of bank age on its financial stability is only limited to Arab Spring countries by reducing insolvency risk and increasing bank stability. Likewise, the impact of impaired loans on bank stability is only limited to Arab Spring countries by reducing insolvency risk and increasing liquidity risk. Finally, the effects of control variables at the country level, such as GDP, varied between the two types of countries. While GDP growth increases insolvency and credit risks in Arab Spring countries, it decreases credit risk in Non-Arab Spring countries. Likewise, while the inflation rate raises credit risk in Arab Spring countries, it reduces credit risk in Non-Arab Spring countries.

5. Conclusion

This study examined the relationship between political risk, corporate governance, and bank stability. In doing so, we focused on the impact of a broad set of governance mechanisms, such as board characteristics, ownership attributes, and audit committees' meetings and size. We found that political stability enhances banks' financial stability. Regarding the impact of CGM, the board size, board independence, managerial ownership and audit committee size, and meetings significantly and positively affect bank stability. In contrast, board meetings, board gender diversity, CEO duality, and institutional ownership significantly and negatively affect bank financial stability. These findings confirm that effective governance structures can positively affect bank stability by minimizing risk exposure (Marie et al., 2021; Raouf & Ahmed, 2020).

The current work contributes to the literature by brining evidence from a developing context, namely the MENA region, which is less investigated in the literature (Abou-El-Sood, 2017; Al-Bassam et al., 2018; Sarhan et al., 2019). Additionally, this research examines the effect of the political volatility context, represented by the Arab Spring events that occurred recently in the MENA region, on bank stability (Herrala & Turk-Ariss, 2016). We found that the Arab spring events significantly matter in interpreting the results of the effect of political stability and CGM on bank stability. For instance, the positive impact of political stability, board independence, audit committee size, and meetings on banks' financial stability was more evident in Arab Spring countries.

Similarly, the negative impact of CEO duality and institutional ownership on bank stability was more pronounced in Arab Spring countries. However, the positive effect of board size, board meetings, and gender on bank stability is more evident in Non-Arab Spring countries. These findings indicate that the impact of CG on bank stability in emerging markets in general and MENA countries, in particular, can't be understood apart from the mega political events at the macro level. Hence, this study adds to prior research on the effects of the MENA region's rapid and dramatic political transition on bank risk (e.g., Belkhir et al., 2019).

The present findings have important implications for regulators and policymakers in MENA countries. These findings are of direct interest to financial authorities and policymakers who wish to evaluate the role of major political events and changes on bank stability and investors who want to invest in emerging MENA stock markets. The data collection from 2010 to 2018 is a constraint of this study, despite the fact that doing so helped the researchers avoid the effects of the COVID-19 pandemic, which surfaced in late 2019. We suggest that future research can extend the data collection phase to stand on the effect of the recent health crisis on the CGM-bank stability relationship (Elnahass et al., 2021). The findings of this study can be contrasted with the results of our present work, and the findings of studies focused on the financial crisis (e.g., Abou-El-Sood, 2017) to understand how different socio-political contexts can affect CG and bank stability.

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Notes
1. https://info.worldbank.org/governance/wgi/

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