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Governance quality and the labor market in the MENA region post-Arab Spring

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Abstract

Purpose – This paper aims to investigate the impact of governance quality on total unemployment in general and female unemployment in particular in the Middle East and North Africa (MENA) region, comparing the post-Arab Spring period to the pre-Arab Spring era.

Design/methodology/approach – A fixed-effects model was used to analyze data from 15 MENA countries from 2002 to 2019.

Findings – Our results generally indicate that following the Arab Spring, an enhancement in governance quality is linked with a reduction in unemployment in the MENA region, specifically in the Levant and GCC regions, with this reducing effect being stronger for female unemployment compared to total unemployment. Yet, this trend does not hold in North Africa, where government improvements do not result in better employment.

Originality/value – This study uniquely uncovers the different effects of governance quality on unemployment across sub-regions and sheds light on its significant implications on female unemployment. The findings offer valuable insights for policymakers interested in the relationship between governance quality and economic outcomes in the region.

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Keywords Arab spring, Governance quality, Female unemployment, MENA region

Paper type Research paper

1. Introduction

The Arab Spring, a crucial event in the recent Middle East and North African (MENA) history, started with mass protests in Tunisia and rapidly spread across the region. The Arab Spring was triggered by the rising dissatisfaction with authoritarian regimes and high unemployment rates to put an end to more than three decades of autocracy in many Arab countries (QadirMushtaq and Afzal, 2017; Prince *et al.*, 2018). Despite the high hopes for a democratic transformation, the Arab Spring's outcomes were largely disappointing. Most MENA countries witnessed no change in their status quo, and unfortunately, some countries, such as Syria and Libya, descended into war and destruction (Fraihat and Yaseen, 2020). Even in countries where the presidency changed hands, like Egypt, the transition to democratic governance remained unfulfilled (Fraihat and Yaseen, 2020).

One of the main reasons the Arab Spring failed in achieving a democratic transition in many MENA countries was the absence of independent institutions and strong governance to protect against counterrevolutions by extremist militant and rebellion groups that has caused chaos, violence, and anarchy following the Arab Spring uprisings (Asseburg and Wimmen, 2016). Another factor was that citizens in several countries faced intimidation tactics and war threats, so they prioritized peace and security over their democratic

JEL Classification — E24, J78, J82

In the interest of transparency, data sharing, and reproducibility, the author(s) of this article have made the data underlying their research openly available. It can be accessed by following the link here: https://databank.worldbank.org/source/world-development-indicators

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aspirations. Indeed, Tunisia has emerged as the only country in the MENA region that successfully transitioned into a democracy due to its robust institutions, strong labor unions, active civil society, and a military that protected citizens without siding with any political figure (Zoubir, 2015). Nevertheless, Tunisia's democracy did not last as long as anticipated, as it turned into a hybrid regime by 2021 following constitutional changes made by President Kais Saied that centralized government power and restricted freedom of expression (Marzouki, 2022).

According to the World Bank (1992), governance is the exercise of power in managing a country's economic and social resources for development. The MENA region has a significantly low governance quality and is often characterized by high levels of corruption. In almost all MENA countries, corruption is embedded in the political systems, with "wasta" or cronyism being one of its prevalent forms across the region (Arampatzi *et al.*, 2018). For the fourth consecutive year, the MENA region maintained an average score of 39 out of 100 in the 2021 Corruption Perceptions Index (CPI), which reflects the ongoing corruption issue; unfortunately, not much progress has been made in tackling it [1]. One of the main factors enabling corruption in the region is the leniency of authoritarian regimes, where government officials are not closely monitored or held accountable (Zaloznaya, 2015).

Besides the poor governance in this region, the MENA countries have always been characterized by high unemployment rates that were further exacerbated during the period after the Arab Spring. For instance, the unemployment rate in the MENA region reached 12% in 2022, marking the highest rate globally (ESCWA, 2022). Furthermore, the region's female labor force participation continues to be the lowest in the world, standing at 19.9% in 2022, significantly lower than the world's average of 46.6% (ESCWA, 2022). Despite the reforms set in place after the Arab Spring, wages remained unchanged, and employment opportunities were not sufficient to meet the growing demand for employment, leading to an increase in migration and a loss of human capital (QadirMushtaq and Afzal, 2017; Prince *et al.*, 2018).

Understanding the role of governance quality in exacerbating unemployment is of utmost importance, especially in the post-Arab Spring era, given the significant political and economic changes this event has caused. High unemployment in the region points to a lack of socioeconomic development characterized by a saturated public sector and a stifled private sector that is unable to expand due to political instability and corruption that lower investment prospects and job creation (O'Sullivan *et al.*, 2011). This lack of investment and job creation in MENA countries perpetuates a cycle of economic stagnation and social unrest, hindering sustainable development and growth. Thus, this paper aims to examine the impact of governance quality on total unemployment in general and female unemployment in particular in the MENA region, post-Arab Spring, compared to pre-Arab Spring.

Despite the extensive research on this relationship, there is a notable gap in the literature focusing on the correlation between governance quality and female unemployment. This paper aims to fill this gap by examining this relationship in the MENA region, an area characterized by the highest female unemployment rates and widespread gender discrimination. Also, this paper adds a unique insight into unemployment in the MENA region since it closely examines the three different subregions, namely, the Gulf Cooperation Council (GCC) region (Kuwait, Bahrain, UAE, Saudi Arabia, Oman, Qatar), the Levant region (Iraq, Lebanon, Syria, Jordan), and the North Africa region (Egypt, Tunisia, Morocco, Libya, Algeria). This investigation is crucial due to the apparent heterogeneity among the subregions. For instance, the Levant struggles with political instability, refugee crisis, and high unemployment, while the GCC benefits from oil wealth and lower unemployment rates. North Africa faces diverse challenges marked by governance issues and exceptionally high

youth unemployment. Hence, this study accounts for the unique socio-economic conditions of each area and provides a more nuanced understanding of the underlying dynamics.

The paper is organized as follows: Section 2 describes a literature review. Section 3 defines the data used for conducting this research. Section 4 outlines the methodology used to carry out the study. Section 5 discusses the results. Section 6 wraps up with the concluding remarks.

2. Literature review

2.1 The effect of Arab Spring on governance and unemployment

The overall effect of the Arab Spring has been multifaceted and varied. First, Khondker (2019) asserts that the effect of the Arab Spring on governance has been largely disappointing despite its promises and global expectations. He argues that most countries participating in the Arab Spring continue to suffer from authoritarian regimes, and some countries have descended into devastating civil wars, making the pursuit of enhanced governance, freedom, and peace increasingly elusive. Authors such as Malik and Awadallah (2013) argue that disruptions can increase corruption instead of diminishing it. Farasin and Battaloglu (2017) and Becheikh (2021) claim that political inefficiencies in the MENA region have intensified post-Arab Spring. Additionally, Salamey (2015) suggests that the Arab Spring's call for public sector privatization in closed authoritarian economies such as Egypt, Iraq, Libya, Syria, and Yemen reduced government credibility and exacerbated corruption.

The influence of the Arab Spring on unemployment is another critical dimension. O'Sullivan *et al.* (2011) highlight that the Arab Spring has exacerbated unemployment due to economic slowdowns marked by decreased investment and growth. Supporting this, studies by Hraiba *et al.* (2019) and Al-Shammari *et al.* (2023) demonstrate a detrimental effect of the Arab Spring on foreign direct investment, which in turn has adversely influenced employment. Interestingly, the literature offers diverse perspectives on the effect of the Arab Spring on women's labor outcomes. El-Mallakh *et al.* (2018) discovered that the Arab Spring had little effect on improving employment prospects for women, hindered by dominant patriarchal systems and social norms. Haghighat (2014) highlights that women in the MENA region are particularly disadvantaged during political instability, encountering increased employment barriers and traditional domestic roles. However, Ghazalian (2022) and Hussain and Haj-Salem (2023) present an opposing perspective, arguing that the Arab Spring had a positive influence on female employment in its aftermath. Specifically, Hussein and Haj-Salem (2023) assert that after women's participation in the Arab Spring, societal stereotypes about their roles witnessed a modest reduction.

Generally, women in the MENA region are treated like second-class citizens (Sapsford *et al.*, 2019). Asaad *et al.*'s (2020) results validate the "MENA paradox", where women in the region achieve high levels of education yet face low employment rates, a situation aggravated by diminishing job opportunities in the public sector.

2.2 The effect of governance on unemployment

Institutional theory provides the theoretical framework for analyzing the impact of governance quality on unemployment in the MENA region based on the perspectives offered by North (1990) and Scott (1995) concerning the effect of institutions on economic performance. North (1990) emphasizes the significance of institutions in reducing transaction costs and facilitating investment through reliable and transparent business operations. Moreover, Scott (1995) suggests three institutional pillars -regulative, normative, and cognitive-that shape the structure of organizations and influence economic outcomes. Within the scope of our study, the regulative pillar is represented by the imposed labor market laws, rules, regulations, and

employment policies enforced in the MENA region. Due to the absence of effective and equitable labor market regulations, the laws in the MENA region are often described as biased and rigid, contributing to unfair competition and a large informal sector (O'Sullivan *et al.*, 2011). The normative pillar consists of the societal beliefs and norms that underline the standard for employment within institutions. For instance, the negative perceptions of women's involvement in the labor market in the MENA region results in a labor market that lacks inclusivity and representation (Bastian *et al.*, 2019). Conversely, the cognitive pillar includes the adhered perceptions of organizations and individuals towards governmental practices. Organizations and individuals in the MENA region lack trust in governmental institutions and accept corruption as part of the system; hence, they may resort to bribery and connections for personal gains, creating a cycle of corruption (Sapsford *et al.*, 2019). Other theoretical approaches have attempted to explain how effective governance might reduce unemployment directly or indirectly through different channels. One of the channels is the effect of governance on labor productivity. Kaufmann *et al.* (1999) argue that improving governance quality increases education, output per capita, and labor productivity. Similarly, Hall and Jones (1999) contend that strong institutions improve labor productivity by managing output and ensuring government integrity. Benigno *et al.* (2015) claim that enhanced productivity boosts output and reduces unemployment. On the other hand, Mauro (1995) discusses another channel in which good governance enhances employment, where he associated weak governance quality with low investment. He explained that government inefficiencies, such as a lack of definition of property rights and slow, complicated processes to get business licenses and patents, discourage investment and hinder innovation, leading to higher unemployment. Political systems also play a role. Barro (1996) argues that democracies restrict government officials from accumulating personal wealth since they are less likely to enforce policies against the public's interest. Corruption has been identified as a major impediment to economic growth and employment. It acts like an output tax, reducing the rewards from production (Hall and Jones, 1999). Lemke (2014) also claims that corruption increases production costs and reduces profits, leading to a lack of job creation in the economy. In an environment with a weak rule of law and lenient punishments for corruption, government officials seek a financial incentive to offer a public good (Abé Ndjié *et al.*, 2019). Mauro (1998) asserts that in countries where corruption is embedded in their systems, business owners often pay bribes to government officials to start a business, which creates additional costs and discourages private investors. Moreover, Bouzid (2016) emphasizes that the absence of regulations encourages job seekers to pay bribes to rent-seeking officials, leading to a mismatch between a person's qualifications and the skills required, which results in a poor allocation of resources, a reduction in output per worker, and high unemployment among the skilled youth. Similarly, Gupta *et al.* (2002) states that corruption, such as tax exemptions and tax evasions by the wealthy, lowers government revenues, lowering social spending on health, education, and employment benefits and curtailing human capital accumulation.

Regarding the empirical literature, several studies have examined the relationship between governance and unemployment across different regions. Starting with Africa, Abé Ndjié *et al.* (2019) indicate that governance indicators such as control of corruption and political stability inversely affect unemployment. Roe and Siegel (2011) indicate that political instability, specifically in countries with weak democracies, hinders economic development. Also, political instability results in frequent policy changes that are detrimental to the economy and empirically signify lower economic growth (Aisen and Veiga, 2013). Furthermore, Al-Shammari and Willoughby (2019) find a negative correlation between political instability and youth unemployment in countries impacted by the Arab Spring. Additionally, in South Asia, Shabbir *et al.* (2019) report a significant negative relationship between foundational governance and unemployment rates, suggesting that solid governance frameworks can mitigate unemployment. When it comes to the MENA region,

there exist a limited number of studies that explore this relationship. Mohammadi *et al.* (2017) examines the impact of good governance on economic measures like income per capita, investment, and employment in the MENA region. Their findings show a significant positive effect of good governance on these economic indicators. Moreover, an empirical study by Alabed *et al.* (2022) on the determinants of unemployment in the MENA region identifies that an increase in institutional quality leads to a decrease in unemployment. Cooray and Dzhumashev (2018) stress that corruption negatively affects employment, suggesting that it is essential for governments to combat corruption to increase labor force participation.

Given the changes in governance quality and employment prospects due to the Arab Spring, different studies have emerged investigating the correlation between governance quality and unemployment during and after this period. Fakih *et al.* (2020) report that corruption adversely affects youth employment in the MENA region post-Arab Spring, asserting that bolstering public confidence in governments through enhanced transparency and inclusivity could increase youth employment opportunities. Post-Arab Spring, Abbott and Teti's (2017) research in Egypt, Jordan, and Tunisia shows that poor government effectiveness increases unemployment, particularly in Egypt.

3. Data

To examine the relationship between unemployment and several government indicators, we gathered data from three primary sources, namely, the World Bank's Worldwide Governance Indicators (WGI) (Kaufmann and Kraay, 2023), the World Bank's Worldwide Development Indicators (World Bank, 2022), and the Quality of Government (QoG) Institute database by the University of Gothenburg (Teorell *et al.*, 2023). We collected data from these resources for 15 MENA countries, spanning the period from 2002 until 2019, covering both pre- and post-Arab Spring. This resulted in a panel dataset with 270 observations and 15 countries multiplied by 18 years. It is important to note that we chose data from 2002 onwards, as the governance indicators utilized in this study have some missing variables in the years before. Also, the focus on only 15 countries in this study is due to two main reasons: firstly, the availability of comprehensive data, as some remaining countries were missing data for certain variables, and secondly, classification issues, where certain countries could not be confidently categorized into GCC, Levant, or North Africa, leading to their exclusion.

3.1 Dependent variables

This study employs two primary labor market variables as dependent variables. The first one is total unemployment, referring to the percentage of individuals in the labor force who are currently unemployed but actively seeking work [2]. Our second dependent variable is female unemployment, which indicates the percentage of the female labor force without employment but actively seeking work [3]. Our dependent variable data is extracted from the World Bank, which sources these figures from the International Labor Organization (ILO).

Our collected data shows that in the MENA region, the Levant and North African countries had persistently high unemployment rates pre and post-Arab Spring. In contrast, GCC countries generally had low and stable unemployment rates, with Qatar having the lowest at less than 1%. Overall, North African countries record the highest unemployment rates relative to GCC and Levant countries. On average, female unemployment in the MENA region is 14.12%, nearly double the total employment average of 8.3%.

3.2 Independent variables

Table 1 includes a summary of our independent variables. The "Arab Spring" variable is a time dummy variable, taking the value of 1 for the years following the Arab Spring, from 2011

Variable	Mean	Standard deviation	Min	Max
Dependent variables				
Total unemployment	8.311	5.726	0.1	25.9
Female unemployment	14.117	8.187	0.273	30.738
Independent variables				
Arab spring	0.5	0.501	0	1
GDP-per-capita	3.498	17.961	−133.622	70.573
Population growth	2.986	3.353	−6.852	19.36
Economic globalization	60.69	15.251	27.901	86.613
Urbanization rate	76.038	15.833	42.704	100
Political stability	35.704	26.452	0	92.462
Government effectiveness	47.171	23.286	0.51	90.865
Regularity quality	44.517	24.027	0.481	83.163
Rule of law	46.125	22.904	0.478	80.282
Control of corruption	45.806	25.455	0.948	91.388
Governance index	0.514	0.106	0.139	0.694

Note(s): The first column reports the dependent and independent variables. The second column reports the mean and the third column reports the standard deviation
Source(s): Authors' calculations

Table 1. Descriptive statistics - dependent and independent variables

until 2019, and 0 for the years before the Arab Spring, from 2002 until 2010. Moving to the governance indicators, we incorporated five WGI indicators: political stability, government effectiveness, regulatory quality, the rule of law, and control of corruption [4]. According to Kaufmann *et al.* (2011), those factors depend on how the people in a certain country view the strength and quality of governmental policies, ranking them from 0 to 100, where 0 indicates a negative perception of how a country is governed, and 100 indicates high regard for the quality of institutions. Political stability refers to the absence of violence, government effectiveness specifically tackles how well public services are perceived, and regularity quality shows how well the government manages and promotes the development of the private sector. The rule of law measures how people view and trust the justice system. Control for corruption measures the perception of the extent to which people in power exploit their position for personal interests.

The data illustrates that Levant countries, including Lebanon, Iraq, and Syria, had low political stability, mainly less than 10% in 2019. Control of corruption, government effectiveness, regularity quality, and the rule of law deteriorated notably in Lebanon and Syria. In contrast, Jordan maintained high levels of corruption control and government effectiveness. GCC countries exhibit consistently strong institutional quality, indicating minimal impact from the Arab Spring. Although North African countries like Algeria, Morocco, and Tunisia demonstrate well-controlled governance, they have low rankings of political stability. On the other hand, views on government effectiveness in Egypt and Libya worsened post-Arab Spring, especially in Libya, where political stability dropped drastically.

We also integrated the International Country Risk Guide (ICRG) Indicator of Quality of Government, obtained from the QoG Institute database by the University of Gothenburg [5]. This indicator represents the average score of ICRG's corruption, law and order, and bureaucracy quality variables, ranging from 0 to 1, where higher scores correspond to better government quality. Our decision to incorporate this indicator into our analysis is based on its extensive utilization in governance literature (e.g. Bigsten, 2013), reinforcing the robustness of our approach. Looking at Table 1, we can observe that the mean value of the indicator in the region is nearly 0.5, which suggests a moderate level of governance quality across the region.

Furthermore, we have integrated several control variables commonly used in research to account for other factors affecting unemployment rates. Our first control variable is GDP-per-capita growth. We used the World Bank's GDP per capita in the current US dollar, which refers to the gross domestic product divided by midyear population. Then we calculated its growth by taking the logarithmic difference between the values for consecutive years. Numerous research papers show that GDP per capita significantly impacts unemployment rates (e.g. Chowdhury and Hossain, 2014).

From the QoG Institute database, we incorporated population growth, economic globalization, and the urbanization rate as control variables [6]. Population growth measures the annual population growth rate for year t. This rate refers to the exponential growth of the midyear population from year t-1 to t as a percentage. A substantial body of research has asserted that population growth significantly affects unemployment rates (e.g. Sadikova *et al.*, 2017). Economic globalization encompasses both trade and financial flows. Different research papers, including those conducted by Lòpez-Villavicencio and Ortiz (2018), claim that economic globalization substantially affects unemployment rates. Lastly, the urbanization rate represents the proportion of people residing in urban areas as defined by national statistical offices. Various research papers have examined the impact of this variable on unemployment rates, such as the study conducted by Tan *et al.* (2021).

4. Methodology

To detect the impact of the quality of governance on unemployment in the MENA region, we use a fixed-effects model with a time dummy variable as a treatment that captures this relationship after the Arab Spring relative to before [7]. Formally, our model can be represented as:

$$y_{it} = \beta_1 X_{it} + \beta_2 Z_{it} + \beta_3 W_{it} + \omega_t + \eta_t + u_{it} \quad (1)$$

where y_{it} is the dependent variable representing the total unemployment or the female unemployment rate of country i at specific time t. Moreover, X_{it} indicates the dummy variable Arab Spring, while Z_{it} comprises the set of control independent variables. W_{it} represents teach political indicator's vector of interaction variables ith the "Arab Spring" variable. This enables us to assess the influence of these variables on unemployment after Arab Spring as opposed to before. We have six distinct regressions for each dependent variable each incorporating the control variables and one of the interaction variables of the six governance quality measures. Additionally, ω_t is introduced to adjust for global shocks, like the 2008 financial crisis, while η_t focuses on individual country-specific fixed effects. The term u_{it} captures the model's error. Finally, we run our model on GCC, Levant, and NA countries individually to assess the specific impact of government quality on unemployment in each subregion within the broader MENA region.

Concerning the governance quality indicators, namely the WGI indicators and the ICRG indicator, we employ equation (1), with each of these indicators being used, in turn, as a measure of the quality of governance. That is because these measures of governance quality exhibit a high degree of correlation. Furthermore, including highly correlated variables in a single model creates a multicollinearity problem and increases the variance of the regression coefficients, which can reduce the precision of the statistical significance of the results.

In order to limit any unobserved heterogeneity, this paper employs panel data to account for unobservable time and country-specific effects. Notably, despite the geographical proximity of MENA countries, they exhibit distinct cultural, historical, and socio-economic features. In this regard, using the fixed-effects model is instrumental in distinguishing these unique characteristics from the broader effects of political challenges. Furthermore, our inclination towards the fixed-effects approach is rooted in its capacity to control for

unobservable characteristics that might be correlated with the chosen independent variables, reducing the risk of omitted variable bias (Frondel and Vance, 2010).

Also, the decision to choose fixed effects over random effects is supported by the Hausman test (Hausman, 1978), a statistical method employed to choose between those two models. The test reveals the effectiveness of the fixed effects model through the statistically significant correlation between individual-specific effects and the independent variables, which is likely given the cultural and historical context of the MENA countries. Moreover, finding suitable time-variant instrumental variables (IV) for the political indicators is challenging, so the fixed-effects model is chosen to capture unobserved individual differences effectively and provide robust results.

5. Results and discussion

After looking at the results of the regressions for the entire MENA region and each region by itself, we notice that the Arab Spring variable is consistently positive and significant for the MENA region and the GCC and Levant regions. This suggests that unemployment increased after the Arab Spring, which agrees with the literature that implies that the region experienced worse labor market outcomes after the Arab Spring (QadirMushtaq and Afzal, 2017; Prince *et al.*, 2018).

Furthermore, the results indicate that improvements in the governance index, public policy, private sector regulation, political stability, rule of law, and control for corruption all have a negative significant impact on the total rate of unemployment in the MENA region. This implies that employment is highly volatile to changes in a country's political environment, which is in parallel with the studies by Al-Shammari and Willoughby (2019) and Fakih *et al.* (2020), who report that enhancing stability and controlling corruption has a positive impact on employment outcomes. This implies that controlling corruption through increased government efficiency, enforcing the rule of law, and expanding the private sector can significantly reduce unemployment (QadirMushtaq and Afzal, 2017; Prince *et al.*, 2018; Cooray and Dzhumashev, 2018; Al-Shammari and Willoughby, 2019; Fakih *et al.*, 2020). Moreover, if there were more severe consequences for corruptive acts like bribery and more strict laws that protect against it, businesses and investors are more likely to expand the private sector in the region and increase employment opportunities (Mauro, 1995; Hraiba *et al.*, 2019; Al-Shammari *et al.*, 2023). In addition, improving institutional quality creates a more equal and just opportunity for skilled labor to find jobs in the economy which enhances innovation and productivity and leads to growth in output (Kaufmann *et al.*, 1999; Hall and Jones, 1999; Benigno *et al.*, 2015).

Looking at the results for female unemployment, it can be noticed that increasing governance quality can reduce female unemployment even more so than total unemployment, given the amplified coefficients in Table 2. This indicates that in a political environment that is inclusive, transparent, and fair, women are more likely to join the labor market (El-Mallakh *et al.*, 2018; Ghazalian, 2022; Hussain and Haj-Salem, 2023). Moreover, as asserted by Haghighat (2014), fighting discrimination against women in the labor market through an equitable legal system weakens traditional gender laws. It allows women the freedom to pursue different societal roles and be more integrated into the economy [8].

Examining the results across subregions, the GCC, as demonstrated in Table 3, has portrayed almost identical results to the benchmark results in Table 2, where improved perceptions of political stability, government effectiveness, regulatory quality, and the rule of law reduce unemployment.

Regarding Levant countries, there is an insignificant relationship between the political indicators and total unemployment after the Arab Spring except for the governance index

Table 2.
Fixed effect estimations for unemployment – MENA region

	(1) Total unemployment	(1) Female unemployment	(2) Total unemployment	(2) Female unemployment	(3) Total unemployment	(3) Female unemployment	(4) Total unemployment	(4) Female unemployment	(5) Total unemployment	(5) Female unemployment	(6) Total unemployment	(6) Female unemployment
Arab spring (AS)	0.840***	2.548***	1.124***	3.076***	0.870***	2.493***	0.974***	2.943***	0.899***	2.827***	1.826***	5.968***
	(0.211)	(0.573)	(0.270)	(0.736)	(0.261)	(0.708)	(0.264)	(0.716)	(0.255)	(0.692)	(0.663)	(1.787)
GDP- per- capita	−0.003	−0.005	−0.003	−0.006	−0.003	−0.006	−0.003	−0.006	−0.003	−0.005	−0.003	−0.006
	(0.004)	(0.010)	(0.004)	(0.010)	(0.004)	(0.010)	(0.004)	(0.010)	(0.004)	(0.010)	(0.004)	(0.010)
Population	−0.067***	−0.021	−0.068***	−0.024	−0.068***	−0.023	−0.071***	−0.029	−0.072***	−0.031	−0.081***	−0.060
growth	(0.023)	(0.064)	(0.023)	(0.063)	(0.024)	(0.064)	(0.023)	(0.064)	(0.024)	(0.064)	(0.024)	(0.065)
Economic	−0.075***	−0.076	−0.080***	−0.086*	−0.081***	−0.088*	−0.080***	−0.083*	−0.082***	−0.088*	−0.075***	−0.065
globalization	(0.018)	(0.050)	(0.018)	(0.049)	(0.018)	(0.049)	(0.018)	(0.049)	(0.018)	(0.049)	(0.019)	(0.050)
Urbanization rate	−0.062*	−0.056	−0.060*	−0.052	−0.071**	−0.076	−0.061*	−0.050	−0.060	−0.044	−0.064*	−0.042
	(0.036)	(0.097)	(0.036)	(0.097)	(0.036)	(0.097)	(0.036)	(0.098)	(0.037)	(0.099)	(0.036)	(0.097)
Political stability*AS	−0.013***	−0.025*										
	(0.005)	(0.013)										
Government effectiveness*AS			−0.015***	−0.028**								
			(0.005)	(0.014)								
Regularity quality* AS					−0.009*	−0.015						
					(0.005)	(0.013)						
Rule of law*AS							−0.012**	−0.026*				
							(0.005)	(0.014)				
Control of corruption*AS									−0.010**	−0.024*		
									(0.005)	(0.013)		
Governance index*AS											−2.660**	−8.122**
											(1.279)	(3.447)
Constant	16.732***	22.145***	16.912***	22.504***	17.777***	24.377***	17.010***	22.178***	17.054***	22.089***	16.961***	20.572***
	(2.810)	(7.650)	(2.772)	(7.560)	(2.777)	(7.539)	(2.815)	(7.637)	(2.837)	(7.685)	(2.853)	(7.691)
N	270	270	270	270	270	270	270	270	270	270	270	270

Note(s): Standard errors in parentheses. The columns show the results of unemployment for all MENA countries. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$
Source(s): Authors' calculations

Table 3.
Fixed effect estimations for unemployment – GCC region

	(1) Total unemployment	(1) Female unemployment	(2) Total unemployment	(2) Female unemployment	(3) Total unemployment	(3) Female unemployment	(4) Total unemployment	(4) Female unemployment	(5) Total unemployment	(5) Female unemployment	(6) Total unemployment	(6) Female unemployment
Arab spring (AS)	0.608***	3.953***	1.749***	9.447***	1.904***	11.987***	2.592***	18.514***	1.682***	9.080***	1.682*	10.942**
	(0.137)	(0.748)	(0.260)	(1.477)	(0.327)	(1.751)	(0.470)	(2.377)	(0.268)	(1.518)	(0.960)	(5.347)
GDP- per- capita	−0.000	−0.005	0.000	−0.005	−0.000	−0.006	−0.000	−0.006	0.000	−0.005	−0.001	−0.011
	(0.002)	(0.012)	(0.002)	(0.011)	(0.002)	(0.010)	(0.002)	(0.010)	(0.002)	(0.011)	(0.002)	(0.012)
Population growth	0.021*	0.145**	0.016	0.118**	0.013	0.099*	0.011	0.075	0.015	0.112**	0.019*	0.132**
	(0.011)	(0.058)	(0.010)	(0.054)	(0.010)	(0.053)	(0.010)	(0.051)	(0.010)	(0.055)	(0.011)	(0.062)
Economic globalization	0.016	−0.102*	0.002	−0.192***	0.008	−0.157***	0.014	−0.109**	0.006	−0.171***	0.004	−0.182***
	(0.011)	(0.058)	(0.009)	(0.052)	(0.009)	(0.050)	(0.010)	(0.048)	(0.009)	(0.052)	(0.010)	(0.058)
Urbanization rate	−0.173***	0.182*	−0.183***	0.103	−0.173***	0.170**	−0.172***	0.192**	−0.174***	0.149*	−0.179***	0.132
	(0.017)	(0.093)	(0.015)	(0.084)	(0.015)	(0.083)	(0.016)	(0.079)	(0.015)	(0.086)	(0.018)	(0.099)
Political stability*AS	−0.007***	−0.052***										
	(0.002)	(0.014)										
Government effectiveness*AS			−0.022***	−0.120***								
			(0.004)	(0.021)								
Regularity quality* AS					−0.026***	−0.163***						
					(0.005)	(0.027)						
Rule of law*AS							−0.036***	−0.259***				
							(0.007)	(0.036)				
Control of corruption*AS									−0.022***	−0.117***		
									(0.004)	(0.023)		
Governance Index*AS											−2.451	−16.297*
											(1.645)	(9.164)
Constant	16.060***	−2.453	17.859***	10.489	16.635***	2.536	16.111***	−2.522	16.854***	5.120	17.412***	7.351
	(1.647)	(8.956)	(1.355)	(7.702)	(1.426)	(7.640)	(1.458)	(7.370)	(1.397)	(7.923)	(1.612)	(8.979)
N	108	108	108	108	108	108	108	108	108	108	108	108

Note(s): Standard errors in parentheses. The columns show the results of unemployment for the GCC region. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$
Source(s): Authors' calculations

indicator, which negatively and significantly impacts unemployment post-Arab Spring, as shown in Table 4. However, female unemployment is significantly and negatively related to sound governance. To a certain extent, female unemployment in that region is more robust to changes in governance quality. Consequently, promoting the development of the private sector through regulatory quality and reducing the prejudices against women in the labor market, readily allows women to enter the workforce (Prince *et al.*, 2018). This agrees with Cooray and Dzhumashev (2018), who claim that just laws and strong regulations motivate people to enter the labor market. Correspondingly, improving the quality of governance in the Levent region can be an effective strategy in reducing gender inequality and shrinking the gap between men and women in the labor market.

On the other hand, the interaction of political stability, regularity quality, rule of law, control of corruption, and the governance index with the "Arab Spring" variable positively and significantly affects total unemployment in the North African region, as shown in Table 5. This demonstrates that the soundness of institutions and government policies is insufficient to improve labor market outcomes in North Africa after the unfolding of the Arab Spring. That region has suffered through several internal conflicts in search of democracy, but in the end, they landed where they started, with the same political leadership (Fraihat and Yaseen, 2020). Having an inefficient government, a neglected private sector, a volatile political climate, and an absent rule of law is a recipe for bad governance in North Africa, which requires structural political and economic reforms for positive economic change to be realized (QadirMushtaq and Afzal, 2017). Also, if the labor force in North Africa is growing at a faster rate than the jobs being created, unemployment will increase even if governance quality improves.

Overall, given the negative relationship between the political terms and unemployment in the Levant and GCC countries post-Arab Spring, we can infer that total and female unemployment in those countries tends to be more responsive to improved quality of governance than in North African countries. In the Levent region, the magnitude by which governance quality affects unemployment is higher for female unemployment compared to total unemployment, suggesting that women will notably benefit from reformed institutions. On the other hand, the GCC, being the least affected by the Arab Spring due to better living standards, can further improve employment outcomes by increasing transparency to attract more investments and encourage entrepreneurship. Maintaining political stability and strict regulations in the GCC can make individuals and businesses more secure in investing in the region. Conversely, North African countries are no longer responsive to changes in governance after the Arab Spring. This goes back to the lack of reforms post-Arab Spring that could effectively improve the public and private sectors to absorb the high demand for employment. This agrees with several of the literature that signify how revolutions and uprisings often have little influence on a country's political structure when only slight improvements in public policy are detected (Malik and Awadallah, 2013; Farasin and Battaloglu, 2017; Becheikh, 2021).

Lastly, looking at the control variables, our results reveal that economic globalization can be an important tool to reduce unemployment across the MENA region, specifically in GCC and Levant countries, as it shows a positive and significant impact on total and female unemployment. Economic globalization, characterized by the integration of countries into the international economy, results in a constant flow of capital and the expansion of the export industry, which enhances output and creates new job opportunities (Shangquan, 2000).

6. Concluding remarks

This paper empirically tests how several quality of governance indicators could influence both total and female unemployment rates in the MENA region after the Arab Spring, from

Table 4.
Fixed effect estimations for unemployment – Levant region

	(1) Total unemployment	(1) Female unemployment	(2) Total unemployment	(2) Female unemployment	(3) Total unemployment	(3) Female unemployment	(4) Total unemployment	(4) Female unemployment	(5) Total unemployment	(5) Female unemployment	(6) Total unemployment	(6) Female unemployment
Arab spring (AS)	0.638	5.239***	1.007	7.172***	0.673	6.766***	0.940*	6.274***	0.872	6.005***	4.043**	28.208***
	(0.514)	(1.258)	(0.636)	(1.588)	(0.650)	(1.650)	(0.543)	(1.312)	(0.540)	(1.320)	(1.645)	(3.288)
GDP- per- capita	−0.003	−0.002	−0.005	−0.019	−0.003	−0.001	−0.005	−0.019	−0.004	−0.010	−0.004	−0.014
	(0.009)	(0.021)	(0.009)	(0.022)	(0.009)	(0.022)	(0.009)	(0.021)	(0.008)	(0.021)	(0.008)	(0.016)
Population growth	−0.120*	0.090	−0.097	0.300*	−0.113*	0.234	−0.106	0.219	−0.112*	0.174	−0.143**	−0.047
	(0.067)	(0.163)	(0.068)	(0.171)	(0.068)	(0.172)	(0.066)	(0.159)	(0.066)	(0.161)	(0.065)	(0.130)
Economic globalization	−0.178**	−0.399**	−0.176**	−0.323*	−0.173**	−0.321*	−0.173**	−0.297*	−0.181**	−0.364**	−0.141**	−0.070
	(0.070)	(0.172)	(0.069)	(0.172)	(0.069)	(0.176)	(0.068)	(0.165)	(0.069)	(0.169)	(0.068)	(0.136)
Urbanization rate	0.086	0.859**	0.104	0.433	0.046	0.303	0.164	0.811**	0.158	0.861**	0.132	0.546***
	(0.144)	(0.352)	(0.113)	(0.283)	(0.111)	(0.281)	(0.130)	(0.315)	(0.139)	(0.339)	(0.099)	(0.197)
Political stability*AS	−0.029	−0.498***										
	(0.052)	(0.128)										
Government effectiveness*AS			−0.025	−0.208***								
			(0.023)	(0.057)								
Regularity quality* AS					−0.007	−0.170***						
					(0.021)	(0.054)						
Rule of law*AS							−0.033	−0.244***				
							(0.023)	(0.055)				
Control of corruption*AS									−0.032	−0.257***		
									(0.025)	(0.062)		
Governance index*AS											−8.652**	−61.480***
											(3.885)	(7.764)
Constant	13.928	−24.172	12.488	2.209	16.522*	11.482	7.967	−26.621	8.825	−26.426	8.595	−19.308
	(11.121)	(27.243)	(9.519)	(23.767)	(9.380)	(23.797)	(10.644)	(25.724)	(10.936)	(26.745)	(8.945)	(17.879)
N	72	72	72	72	72	72	72	72	72	72	72	72

Note(s): Standard errors in parentheses. The columns show the results of unemployment for the Levent region. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$
Source(s): Authors' calculations

Table 5.
Fixed effect estimations for unemployment – North Africa region

	(1) Total unemployment	(1) Female unemployment	(2) Total unemployment	(2) Female unemployment	(3) Total unemployment	(3) Female unemployment	(4) Total unemployment	(4) Female unemployment	(5) Total unemployment	(5) Female unemployment	(6) Total unemployment	(6) Female unemployment
Arab spring (AS)	0.917	−0.256	1.190	−0.738	0.481	−0.875	0.722	−1.067	0.756	−4.722**	−2.257**	−10.742***
	(0.784)	(0.894)	(0.897)	(0.994)	(0.814)	(0.921)	(0.935)	(1.041)	(0.866)	(2.240)	(1.074)	(2.325)
GDP- per- capita	−0.010	−0.018	−0.009	−0.017	−0.010	−0.019	−0.010	−0.019	−0.008	−0.008	−0.009	−0.016
	(0.012)	(0.014)	(0.012)	(0.014)	(0.012)	(0.013)	(0.012)	(0.013)	(0.012)	(0.012)	(0.006)	(0.012)
Population	−0.159**	−0.365***	−0.149*	−0.331***	−0.144*	−0.346***	−0.132	−0.316***	−0.122	−0.035	−0.097**	−0.139
growth	(0.077)	(0.087)	(0.080)	(0.089)	(0.076)	(0.086)	(0.080)	(0.090)	(0.081)	(0.087)	(0.042)	(0.090)
Economic	−0.042	−0.022	−0.022	−0.007	−0.052	−0.036	−0.031	−0.017	−0.019	−0.063	−0.110***	−0.077
globalization	(0.047)	(0.054)	(0.047)	(0.052)	(0.047)	(0.053)	(0.047)	(0.053)	(0.046)	(0.048)	(0.023)	(0.049)
Urbanization rate	−0.937***	−0.400***	−0.908***	−0.408**	−0.839***	−0.291*	−0.870***	−0.329**	−0.926***	−0.908***	−0.168***	−0.397***
	(0.136)	(0.155)	(0.140)	(0.155)	(0.131)	(0.148)	(0.134)	(0.149)	(0.136)	(0.130)	(0.062)	(0.135)
Political stability*AS	0.093** (0.038)	0.102** (0.044)										
Government effectiveness*AS			0.033 (0.024)	0.066** (0.026)								
Regularity quality* AS					0.065*** (0.022)	0.077*** (0.025)						
Rule of law*AS							0.044* (0.023)	0.068*** (0.025)				
Control of corruption*AS									0.049** (0.022)			
Governance index*AS										14.419*** (4.571)	6.454*** (2.191)	24.921*** (4.745)
Constant	77.250*** (8.404)	47.468*** (9.577)	74.163*** (8.505)	47.037*** (9.420)	71.390*** (7.840)	41.115*** (8.869)	72.130*** (8.096)	42.457*** (9.016)	75.081*** (8.251)	76.080*** (7.964)	28.183*** (3.817)	49.546*** (8.269)
N	90	90	90	90	90	90	90	90	90	90	90	90

Note(s): Standard errors in parentheses. The columns show the results of unemployment for the North African region. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Source(s): Authors' calculations

2011 to 2019, relative to the years before. This investigation is crucial given the upheavals that occurred in the region and their profound impact on governance and employment. To conduct this study, we used a fixed-effects model to analyze data from 15 MENA countries spanning 2002 to 2019. The results of this paper show that improved governance quality after the Arab Spring is generally associated with lower unemployment rates in the MENA region. However, this trend varies across different subregions. The analysis of GCC and Levant regions indicates that enhancing governance quality would reduce unemployment rates. However, in North Africa, better governance surprisingly correlates with higher unemployment rates post-Arab Spring. This implies that the effectiveness of government improvements in reducing unemployment varies across the MENA region. Additionally, our findings strikingly reveal that improving governance has a stronger impact on reducing female unemployment than total unemployment, highlighting the unique and profound impact of governance changes on women's employment in the MENA region.

The findings of our study offer valuable insights for policymakers. First, the results suggest that Arab countries should work more on a comprehensive plan to combat corruption and make jobs more accessible for everyone, especially females. They also propose that government reforms need to be tailored to the specific social and economic characteristics of each subregion in MENA. Based on the results of our study, policies that focus on enhancing governance quality could be an effective tool to reduce unemployment for both GCC and Levant regions. However, a more nuanced approach is needed in the North Africa region to combat unemployment as according to our findings, improved governance does not translate to lower unemployment rates. In this region, policymakers could explore the underlying causes of this trend that could be associated with structural economic and political challenges and design interventions to address these specific issues. Furthermore, the distinct effect of governance quality on female unemployment underscores the need for solid anti-corruption measures and governance frameworks, as this can effectively break down the systemic barriers and biases that limit opportunities for women.

This paper acknowledges a limitation related to the potential endogeneity issue arising from simultaneity since high levels of unemployment may exert pressure on the government for reforms and policy changes, thus affecting the quality of governance. Future research is encouraged to devise methods that meticulously address this critical issue. Moreover, integrating qualitative methods such as interviews or case studies with quantitative analysis in future studies could offer a more nuanced understanding of the relationships observed.

Notes

1. https://www.transparency.org/en/news/cpi-2021-middle-east-north-africa-systemic-corruption-endangers-democracy-human-rights
2. Data and information on this variable can be accessed through the following link: https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
3. Data for this variable can be accessed through the following link: https://data.worldbank.org/indicator/SL.UEM.TOTL.FE.ZS
4. Data as additional information on these five indicators can be accessed via the following link: www.govindicators.org
5. The data on this indicator can be downloaded from the following link: https://www.gu.se/en/quality-government/qog-data/data-downloads/standard-dataset
6. Data on these control variables can be downloaded from the following link: https://www.gu.se/en/quality-government/qog-data/data-downloads/standard-dataset

7. In our analysis, we use the statistical software STATA for all computations and modeling, mainly running regressions using the fixed effects model for our panel data.

8. Additional robustness checks were conducted to validate further the main findings of the MENA region presented in this study. These checks involved:

(1) the inclusion of two additional control variables—Foreign Direct Investment, net inflows (% of GDP) and General Government Final Consumption Expenditure (current US Dollars), both obtained from the World Bank. For the latter, growth rates were calculated using the logarithmic difference between consecutive years.

(2) the use of different dependent variables: the Labor Force Participation Rate (% of total population aged 15+) and the Labor Force Participation Rate (% of female population aged 15+), as modeled by the ILO and sourced from the World Bank.

These robustness checks reinforced the study's main findings, indicating that post-Arab Spring improvements in governance quality are significantly associated with reductions in unemployment rates in the MENA region, with a stronger effect on female unemployment. Detailed results of these analyses are available upon request.

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