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Development of MENA SMEs: Constraints and Success Factors

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Abstract

Small and medium-sized enterprises (SMEs) play a critical role in socioeconomic development globally, especially in emerging markets. However, in the MENA region, despite efforts by both the public and private sectors, SMEs face persistent challenges, particularly in countries affected by economic instability and political crises. Policymakers typically rely on governmental data to assess SMEs ecosystems, highlighting the need to identify and understand the key factors influencing the Ease of Doing Business Index in the region. This study aims to identify the key determinants of the Ease of Doing Business Index in three selected countries from the MENA region: Lebanon, Jordan, and Turkey. Using panel data spanning 2004 to 2022, the empirical analysis reveals that factors such as firm investment in R&D, e-government development, the use of bank financing by firms, gender-inclusive policies, commercial and professional infrastructure, and the simplification of business registration procedures, positively influence the Ease of Doing Business Index. Conversely, GDP growth, taxation, and bureaucratic hurdles exert a significant negative impact on the index. Additionally, variables such as startup costs, physical and service infrastructure, and governance show varying degrees of significance across models, highlighting their context-dependent effects. These findings underscore the complex interplay of economic, social, and regulatory factors that shape the business environment in the MENA region.

Keywords: Ease of Doing Business, ecosystem, MENA, SMEs, Startups

1. Introduction

Several reasons motivate the study of SMEs. The first is their significant socioeconomic role in any country. SMEs have become a primary focus for many studies and researchers due to their pivotal role in socio-economic development. Over the past few decades, substantial progress has been made in advancing theoretical knowledge about SMEs.

Given the critical importance of SMEs in the economic development of emerging economies, the available literature suggests that most academic research on business environments relies on the Ease of Doing Business Index provided by the World Bank. This index is regarded as a crucial predictor and a proxy for the health and development of the SMEs ecosystem.

The concept of an ecosystem for SMEs is a subject of extensive debate among scholars, with varying perspectives on what constitutes the ideal ecosystem. Despite these differences, there is broad consensus on the importance of a robust ecosystem for the success of SMEs in any country. These enterprises embed within local ecosystems that provide essential knowledge, skills, financial support, business opportunities, and networks. Such ecosystems foster a supportive environment that enables SMEs to thrive and grow, facilitating access to resources, expertise, and collaborative opportunities that enhance their development and competitiveness (Mason & Brown, 2014; Stam, 2015).

Numerous studies have shown that favorable business environments significantly impact the growth and sustainability of SMEs. For instance, the World Bank (2020) emphasizes that Ease of Doing Business reforms particularly those related to starting a business, paying taxes, and obtaining credit contribute to a more robust SMEs ecosystem. Furthermore, research by Van Stel, Storey, and Thurik (2007) highlights the role of the Ease of Doing Business in fostering entrepreneurial activity. Their findings suggest that regions with fewer barriers to entry and more efficient legal institutions are more likely to see a vibrant SMEs sector, which, in turn, contributes to job creation, innovation, and economic resilience.

In the MENA region, despite advancements and initiatives by the public and private sectors, SMEs remain relatively underdeveloped and face several challenges, especially in countries experiencing economic crises and political instability.

The ecosystem for SMEs in the MENA region is evolving; nevertheless, the legal and regulatory framework, along with financial support, remains nascent and inconsistent.

Consequently, policymakers in these countries usually rely on governmental data as the main source of information to assess SMEs ecosystems. While the literature consistently underscores the importance of the Ease of Doing Business Index as a predictor and proxy for SMEs ecosystem vitality, continued reforms aimed at enhancing business conditions can have a profound impact on the development of SMEs, particularly in emerging economies. By facilitating easier market entry, reducing operational hurdles, and improving access to finance, business-friendly environments play a pivotal role in fostering SMEs growth and sustainability.

As a result, understanding the players in the SMEs ecosystem of any country requires recognizing the key determinants that influence the Ease of Doing Business Index.

This paper aims to identify the key determinants of the Ease of Doing Business Index, focusing on the most influential factors in three selected MENA countries (Lebanon, Jordan, and Turkey). Using a set of explanatory variables, it also seeks to develop evidence-based policy recommendations.

We analyzed time-series and cross-sectional panel data covering the period from 2004 to 2022. To determine the appropriate model specification, we tested for random versus fixed effects. Using the Random Effects method, we identified the key factors influencing the Ease of Doing Business Index and the development of SMEs ecosystems in the three selected countries. These factors include: GDP growth (negative effect), taxes and bureaucracy (negative effect), e-government development (positive effect), finance for entrepreneurs (positive effect), firm investment in R&D (positive effect), women’s policies (positive effect), commercial infrastructure (positive effect), simplification of startup procedures to register a business (positive effect). As for the other adopted variables, such as startup costs, physical and service infrastructure, and governance, they displayed varying degrees of significance across models, suggesting that their effects are context-dependent.

Finally, this study is important as it provides a comprehensive analysis of the key elements of Ease of Doing Business that contribute to the development of a successful and business-friendly ecosystem. It proposes a new approach to strengthening the development of dynamic SMEs in the region, despite existing limitations and restrictions. The findings and recommendations can serve as a clear call to action, specifically for governmental authorities in the region and particularly during this period of easing the pressing economic crisis faced by MENA countries today.

The remaining of the paper is as follows: Section 2 sheds light on the relevant literature, Section 3 illustrates the empirical methodology, and Section 4 presents the dataset. The empirical part, including the results and interpretation, is presented in Section 5. Finally, the conclusion and recommendations are presented in Section 6.

2. Literature Review

A considerable body of literature has identified various factors influencing the Ease of Doing Business Index, with findings varying based on the sample and the time period analyzed. For instance, Smith (2020) highlighted that rapid GDP growth can strain regulatory systems, complicating the maintenance of an efficient business environment. Johnson and Lee (2018) observed that while GDP growth can be beneficial, it may also lead to increased bureaucracy and inefficiency in business regulations. Clark, Martin, and Wang (2016) found that the relationship between GDP growth and improvements in the business environment is not straightforward, with some high-growth economies experiencing deteriorations in the Ease of Doing Business scores. Another study by Khader et al. (2014) highlighted that GDP reflects the overall economic conditions that directly influence business activities. These studies collectively suggest that economic growth does not always translate into a more favorable business environment and that careful management is required to align growth with improvements in regulatory quality.

The impact of startup costs, taxes, and bureaucratic procedures on business creation is well-documented in the literature. Previous studies have demonstrated that high taxes and excessive bureaucratic procedures negatively impact the Ease of Doing Business Index, particularly in the MENA region. Lee and Gordon (2005) found that higher tax rates lead to lower economic growth, adversely affecting business conditions. Similarly, Djankov et al. (2010) highlighted the negative effects of high taxes and bureaucratic hurdles on business performance and economic outcomes. The World Bank (2019a) emphasized that reducing tax rates and regulatory hurdles significantly enhances the business climate, which is crucial for attracting foreign direct investment. Additionally, the World Bank (2019) report highlights the critical role of tax incentives in attracting foreign direct investment (FDI) and improving the Ease of Doing Business Index. The International Monetary Fund (2018) reported that complex tax procedures in the MENA region deter investment and economic activities. Finally, OECD (2016) found that excessive bureaucracy and high taxes impede business growth in the MENA region, advocating for reforms to improve the business environment.

Many studies emphasize the critical role of e-government in improving the Ease of Doing Business Index. For instance, Abdallah et al. (2021) examined the case of Jordan and highlighted that the adoption of digital platforms has significantly streamlined processes for starting a business and obtaining construction permits, reducing both time and cost. Similarly, Kallal and Mady (2019) noted that Lebanon's gradual digitization of public services, although still in progress, has shown potential in enhancing business regulatory frameworks by lowering corruption and increasing transparency. In Turkey, the work of Ozkan and Bayram (2020) demonstrated that the expansion of e-government services, particularly in tax filings and business registration, has led to improvements in the country's Ease of Doing Business score by simplifying complex administrative procedures. These studies indicate that the adoption of digital governance solutions in MENA countries is crucial for improving the regulatory environment, reducing administrative barriers, and supporting more efficient business practices.

Previous studies have emphasized the critical role of bank financing in shaping firm performance and economic development. Ayadi, Naceur, and De Groen (2015) found that improved access to bank financing is strongly associated with positive business outcomes in the MENA region, where financial intermediation facilitates business expansion and boosts economic growth. Likewise, Melati (2024) highlighted that fintech innovation positively influences business growth, suggesting that firms with improved access to modern banking services can leverage these advancements to achieve better business outcomes and improved Ease of Doing Business rankings. This is particularly relevant in developing regions, where financial inclusion through banking access plays a significant role in economic development. Additionally, Mohammadi et al. (2024) explored how fintech-driven services help businesses that traditionally lacked access to finance. The study underlined that such financial solutions support firm innovation and expansion, which are essential factors in enhancing Ease of Doing Business rankings. These insights align with the findings of Roe et al. (2021), who emphasized the importance of bank financing for SMEs and entrepreneurs. Their research showed that access to bank credit is essential for firm innovation and expansion, directly contributing to improving the Ease of Doing Business Index. This evidence above confirms that access to financing is pivotal in improving Ease of Doing Business rankings, particularly by supporting regulatory environments conducive to business activity.

The impact of firm investments in R&D on the Ease of Doing Business Index has been analyzed by many studies and reports. For instance, OECD (2013) report "Innovation in the MENA Region" found that higher R&D investments lead to increased innovation and better Ease of Doing Business rankings due to improved technological capabilities. Similarly, another report developed by the World Bank (2020) found that firms investing in R&D are more likely to experience growth and contribute to a more dynamic business sector, positively impacting the business climate. Additionally, UNESCO's Science Report (2015) highlighted that R&D investment is essential for economic diversification and promoting a culture of innovation and entrepreneurship, which ultimately improves the Ease of Doing Business Index. These studies collectively provide strong evidence that firm expenditures on R&D positively affect the Ease of Doing Business Index in the MENA region.

The World Bank report (2021) showed that well-established infrastructure is considered a determinant of higher Ease of Doing Business rankings, reflecting a supportive regulatory environment for business activities. Tran, Shioji, Le, and Hayashi (2024) in their book Knowledge Transformation and Innovation in Global Society highlighted how Public-Private Partnerships (PPPs) in infrastructure significantly contribute to the improvement of Ease of Doing Business rankings, particularly in Asia. Their analysis draws on data from the Global Innovation Index (GII), showing how infrastructure investment is closely linked to business-friendly regulatory environments, supporting innovation and economic growth.

Recent studies highlight the critical role of removing barriers for women in business to enhance economic outcomes and create a more equitable business environment, particularly in the MENA region. For instance, Nasr and Pearce (2012) discussed how the Ease of Doing Business Index is impacted by gender-specific challenges, emphasizing that addressing these barriers can significantly boost women's entrepreneurial participation. Additionally, the World Bank (2020) pointed out that regulatory reforms targeting women's access to finance and property rights are essential for improving the business environment in the region. Similarly, Htun et al. (2021) highlighted that reforms tailored to women's economic participation positively influence both the Ease of Doing Business scores and overall economic development in MENA countries.

Finally, effective governance structures are fundamental to creating a conducive business environment. Groşanu et al. (2015) and Doshi, Kelley, and Simmons (2019) demonstrate that countries with strong governance tend to have higher Ease of Doing Business rankings, reflecting their ability to implement regulatory frameworks that support business activities.

Recent research by Onderi, Nyangau, and Wafula (2024) highlights the impact of governance on revenue growth and its indirect influence on Ease of Doing Business rankings through effective regulatory practices, particularly in local governments (Onderi et al., 2024). This aligns with the findings of Barazideh, Taghvaeeyazdi, and Niazazari (2024), who explored the role of governance transparency in improving the operational efficiency of organizations, which, in turn, strengthens business performance and regulatory compliance.

Based on the above, we established our hypotheses to test the relationship between the Ease of Doing Business Index and several key factors. These hypotheses include propositions regarding GDP growth, the cost of business start-up procedures, taxes and bureaucracy, e-government development, firms utilizing banks for financing, commercial and professional infrastructure, physical and service infrastructure, governance, and start-up procedures for registering a business.

The hypotheses to be examined were developed as follows:

H01: GDP growth has a negative impact on the Ease of Doing Business Index, suggesting that economic downturns affect the formation of new enterprises.

H02: The cost of starting a business has a significant positive impact on the Ease of Doing Business Index.

H03: Taxes and bureaucracy have a negative impact on the Ease of Doing Business Index.

H04: E-government development has a positive impact on the Ease of Doing Business Index.

H05: Access to finance by firms positively impacts the Ease of Doing Business Index.

H06: Firm expenditures in R&D have a positive impact on the Ease of Doing Business Index.

H07: Gender policy (procedures for women) has a positive impact on the Ease of Doing Business Index.

H08: Well-developed infrastructure has a positive impact on the Ease of Doing Business Index.

H09: Quality of physical and service infrastructure has a positive impact on the Ease of Doing Business Index.

H10: The country's level of governance has a significant positive impact on the Ease of Doing Business Index.

3. Methodology

As cited above, the empirical literature shows that the Ease of Doing Business Index score is affected by several explanatory variables. These variables reflect the economic environment and developments, as well as the policies implemented by governments. They include GDP growth, the cost of startup procedures, taxes and bureaucracy, e-government development, firms' and entrepreneurs' access to finance, firm investment in R&D, gender policies (procedures for women), physical and commercial infrastructure, and governance.

Therefore, we propose the following equation that links the Ease of Doing Business Index to a set of explanatory variables.

$$EDBit=\beta 0+\beta 1GDP+\beta 2COST+\beta 3TB+\beta 4EGOV+\beta 5FBANK+\beta 6FRD+\beta 7PW+\beta 8CPIN+\beta 9PHS+\beta 10GOV+\mathcal{E}i \quad (1)$$

Where (Note 1):

EDB is the Ease of Doing Business Index,

GDP is the GDP growth rate,

COST is the Cost of Business Start-Up Procedures,

TB is the Taxes and Bureaucracy,

EGOV is the E-Government,

FBANK is the Firm using Bank financing,

FRD is the Firm Expenditure on R&D,

PW is the Procedures for Women,

CPIN is the Commercial and Professional Infrastructure,

PHS is the Physical Infrastructure,

GOV is the Governance Level.

4. Data

To estimate the general equation and run the regression models, we use a panel dataset related to Lebanon, Jordan, and Turkey for the period 2004-2022. The primary source of the data is the World Bank Enterprise Survey.

Table 1. Descriptive statistics

	EDB	STARTUP	FRD	GDP	GOST	FBANK	EGOV	PW	CPIN	PHS	TB	GOV
	2004-2022											
Mean	3.105	3.350	5.052	29	21.105	16.105	0.534	9.117	5.124	6.094	3.867	0.354
SD	4.198	1.631	6.512	16.598	15.238	13.897	0.827	1.570	5.784	5.608	4.851	0.344
Max	16	6	22	57	48	42	0.79	15	6.28	7.18	4.92	0.039
Min	1	1	1	1	1	1	0.41	7	3.73	5.02	3.02	-1.15

Analysis: When the mean is greater than the standard deviation, the data is clustered around the mean. However, if the mean is less than the standard deviation, the data is more dispersed or spread out.

Table 2. Variables correlation matrix

Variables	EDB	STARTUP	FRD	GDP	Cost	FBANK	EGOV	PW	CPIN	TB	GOV
EDB	1										
Startup	0.0802	1									
FRD	0.4413*	0.3042*	1								
GDP	-0.1291	-0.0119	-0.2196	1							
COST	0.0009	0.6215*	0.9245*	0.1234	1						
FBANK	0.0760	0.2666*	0.2503*	-0.1484	0.0479*	1					
EGOV	0.4247*	-0.0048*	0.0017*	-0.1586	-0.0056*	0.1056	1				
PW	-0.0760	-0.4407*	-0.3202*	0.6015*	-0.1658	-0.1900	-0.2337	1			
CPIN	0.0573	-0.0206	-0.2003	-0.0584	0.5541*	-0.6670*	-0.1692*	0.3505*	1		
TB	-0.3943*	0.0991	-0.2810	0.2629	0.2371	-0.3829*	-0.1902*	0.1066	-0.5299*	1	
GOV	-0.0410	-0.2070	-0.0727	0.4124*	-0.2160	-0.1712	-0.1240	0.4022*	0.5542*	0.3409*	1

5. Empirical Results

To detect the impact of explanatory variables on the Ease of Doing Business Index in the selected countries, we run several regression models to: (1) avoid including highly correlated independent variables in a single model, and (2) test the impact of different combinations of independent variables. The estimated results are presented in Table 3.

We note that the dataset under study is panel data with a cross-sectional component. The first possible regression method in this case is the Ordinary Least Squares (OLS) method.

Furthermore, another possible method is the Random Effects model (RE), which accounts for two types of unobserved effects influencing the dependent variable: (1) an idiosyncratic (firm-specific) time-constant effect, assumed to be random, and (2) an idiosyncratic time-varying random error. Unlike the Fixed Effects model (FE), the Random Effects model assumes that variations across entities are random and uncorrelated with the independent variables.

The Random Effects model has the advantage of allowing the inclusion of time-invariant variables, which are absorbed into the intercept in the Fixed Effects model. Additionally, the Random Effects model assumes that the cross-sections are drawn from a larger population and share a common mean value for the ko0-intercept. Individual differences in intercept values across cross-sections are reflected in the error term.

To choose between the Fixed Effects and Random Effects models, we perform the Hausman test, which has a null hypothesis favoring the Random Effects model. The Chi-square statistics reported in the last row of Table 3 indicate that the Random Effects model is appropriate, except for Model 5, where the Fixed Effects model is recommended.

Regarding the effects of individual independent variables, we observe the following results. Firstly, GDP growth has a significant negative impact (at the 10% level) on the Ease of Doing Business Index in 6 out of 7 models. This finding aligns with previous research, including Smith (2020), Johnson and Lee (2018), and Clark, Martin, and Wang (2016), who have examined the complex relationship between economic growth and business environment indicators. This result reflects the context of the selected countries, whose economies face challenges such as instability and crises, particularly in the MENA region.

Taxes and bureaucracy have a significant negative impact on the Ease of Doing Business Index across all seven models. This finding is supported by previous studies, which demonstrate that high taxes and excessive bureaucratic procedures adversely affect the Ease of Doing Business Index, particularly in the MENA region. For example, the World Bank (2019a) emphasized that reducing tax rates and regulatory hurdles significantly enhances the business climate, which is crucial for attracting foreign direct investment. Similarly, the International Monetary Fund (2018) reported that complex tax procedures in the MENA region deter investment and economic activities. Furthermore, OECD (2016) found that excessive bureaucracy and high taxes impede business growth in the MENA region, advocating for reforms to improve the business environment.

E-Government development consistently exhibits a significant positive impact on the Ease of Doing Business Index across all models (at the 1% level), aligning with the findings of previous studies by Azmi and Bee (2010), Zhang (2017), and Lupu and Asandului (2021). These studies collectively emphasize the positive influence of E-Government on the business environment.

Furthermore, E-Government demonstrates a strong positive relationship with the Ease of Doing Business score, confirming its role as a significant predictor. This finding is consistent with research conducted in Lebanon, Jordan, and Turkey, as highlighted by Springer (2021), the United Nations (2022), and various assessments by international organizations.

Finance for entrepreneurs has a significant positive impact on the Ease of Doing Business Index in 5 out of 6 models. This finding aligns with the literature, including a study by Ayadi, Naceur, and De Groen (2015) on financial development in the MENA region. Their study found that improved access to bank financing is associated with better business outcomes and economic growth. It emphasizes the importance of financial intermediation in facilitating business expansion and improving the Ease of Doing Business Index in the MENA region.

As for firm investment in R&D, firm R&D expenditures were found to have a significant positive impact on the Ease of Doing Business Index in 6 out of 7 models. This result is consistent with OECD (2013) report Innovation in the MENA Region, which highlights that higher R&D investments lead to increased innovation and improved Ease of Doing Business rankings due to enhanced technological capabilities. Similarly, a World Bank (2020) report found that firms investing in R&D are more likely to experience growth and contribute to a more dynamic business sector, positively influencing the business climate. Additionally, UNESCO's Science Report (2015) underscored the importance of firm investment in R&D for economic diversification and fostering a culture of innovation and entrepreneurship, which further enhances the Ease of Doing Business.

These studies collectively provide robust evidence that firm expenditures in R&D positively affect the Ease of Doing Business Index in the MENA region. There is a clear positive relationship between firm R&D expenditures and Ease of Doing Business performance, indicating that increased R&D spending is associated with higher performance. The correlation between the Ease of Doing Business Index and firm expenditures in R&D is positive and significant, with the coefficient significantly different from zero. This suggests that as firm expenditures in R&D increase, the Ease of Doing Business Index also improves. The results align with previous studies by Zhu and Luo (2023), Alpdündar and Alp (2021), Karahasan and Bilgel (2018), Ayadi et al. (2017), and Dzenopoljac et al. (2017), all of which confirm a positive relationship between firm R&D expenditures and business performance in the MENA region.

The implementation of gender-inclusive policies, such as facilitating women's participation in business, has been shown to have a significant positive impact on the Ease of Doing Business Index in 6 out of 7 models (at the 5% significance level). This result is consistent with previous studies. For instance, Al-Sadi et al. (2021) found that gender-inclusive reforms, including policies that support women's entrepreneurship, have contributed to improved Ease of Doing Business scores across several MENA countries. Additionally, Chakravarty and Tavneet (2022) emphasized that reforms targeting gender equity, particularly in access to finance and legal frameworks, have a measurable positive effect on economic performance and the overall business climate. The World Bank (2021) also confirmed that economies with higher levels of gender inclusiveness tend to experience improved regulatory environments, further strengthening their Ease of Doing Business rankings.

Furthermore, adequate commercial and professional infrastructure has a significant positive impact on the Ease of Doing Business Index in 3 out of 6 models (at the 1% level). This finding is consistent with the literature; in the MENA region, inadequate infrastructure is often cited as a barrier to private sector growth and competitiveness (World Bank, 2020). Research by Bouoiyour and Selmi (2018) found that improvements in infrastructure, especially in transportation and telecommunications, have a direct and positive impact on Ease of

Doing Business rankings in the region. Similarly, Ben Ali and Omri (2020) argue that enhanced infrastructure not only supports economic activities but also attracts foreign investment by creating a more conducive business environment. It is estimated that expenditures on infrastructure in the MENA region could reach around USD 2 trillion over the next 20 years. As countries in the MENA region aim to diversify their economies and reduce reliance on oil revenues, investing in infrastructure is seen as a critical strategy to improve Ease of Doing Business rankings.

The start-up procedures required to register a business have a significant positive impact on the Ease of Doing Business Index in only 2 models out of 7 (at the 5% level). As for the other adopted variables, such as the cost of startup, physical and service infrastructure, and governance, they show varying degrees of significance across models, suggesting their effects are context-dependent.

Table 3. Estimation of the impact of variables on the Ease of Doing Business Index

	1	2	3	4	5	6	7
C	-59.592	-62.930	-56.726	-46.163	-37.245	-3.639	-55.939
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.015)	(0.000)
FRD	0.283**	0.2169**	0.384***	0.328***	0.330***	0.265**	0.271*
	(0.006)	(0.023)	(0.000)	(0.000)	(0.001)	(0.024)	(0.06)
GDP	-1.804**	-0.106**	-0.094*	-0.092**	-0.866*	-0.069	-0.110**
	(0.025)	(0.027)	(0.071)	(0.047)	(0.079)	(0.195)	(0.013)
COST	0.062	0.110**	0.039	0.057	0.047	-0.005	0.093**
	(0.273)	(0.026)	(0.501)	(0.267)	(0.399)	(0.925)	(0.040)
PW	1.304**	1.532***	1.418**	1.183**	1.194**	0.409	1.396***
	(0.026)	(0.0026)	(0.014)	(0.021)	(0.029)	(0.424)	(0.003)
PHS	1.833	5.030***	-0.446		1.065	-0.875	2.398
	(0.504)	(0.002)	(0.857)		(0.673)	(0.975)	(0.329)
TB	3.807***	-3.898***		-3.065**	-3.829*	-3.578**	-3.649***
	(0.009)	(0.006)		(0.015)	(0.010)	(0.029)	(0.009)
CPIN	4.310***		3.555	4.481***	3.335	6.778***	2.515
	(0.007)		(0.127)	(0.001)	(0.133)	(0.001)	(0.201)
EGOV	38.720***	43.939***	34.313***	31,440***	38.917***		38.917***
	(0.001)	(0.000)	(0.006)	(0.003)	(0.000)		(0.000)
FBANK	2.150	2.904**	2.916*	2.337*		3.389**	2.771**
	(0.152)	(0.039)	(0.058)	(0.079)		(0.033)	(0.042)
GOV	-0.160	0.356	-1.627	-1.831	-2.352	-8.232***	
	(0.965)	(0.909)	(0.654)	(0.575)	(0.494)	(0.006)	
R-Squared	0.814	0.783	0.719	0.791	0.718	0.718	0.797
F-Statistic	8.07	10.07	8.34	10.57	7.08	7.08	10.91
Prob	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
	HAUSMAN TEST						
x2	16.79	7.14	11.96	6.48	6.90	21.86	0.48
Prob. x2	0.157	0.662	0.215	0.691	0.647	0.009	1.000
Model Type	RE	RE	RE	RE	RE	FE	RE

Note. S.E in parentheses. ***, **, * denotes significant at the1%, 5% level and 10%.

The effect of the cost of startup procedures on the Ease of Doing Business Index shows varying degrees of significance across different models, suggesting that its impact is context-dependent. The lack of a consistent impact of startup costs on the Ease of Doing Business Index can be attributed to several factors. Despite efforts to streamline startup procedures in recent years, especially in MENA countries like Lebanon, Turkey, and Jordan, other prevailing issues such as political instability, economic volatility, and inadequate support systems for entrepreneurs, can overshadow the benefits of lower startup costs. For instance, in Lebanon, high levels of corruption and bureaucratic inefficiencies may negate the advantages of reduced startup costs (World Bank, 2019). Similarly, in Jordan, while there have been improvements in regulatory procedures, ongoing economic challenges and limited access to finance for new businesses can dilute the positive effects (OECD, 2016). In Turkey, despite significant reforms to reduce startup costs, macroeconomic instability and frequent regulatory changes can create an unpredictable business environment, undermining the potential benefits (World Bank, 2020).

As for governance, the impact on the Ease of Doing Business Index is not consistently significant across different models, indicating that its effects are context-dependent. This can be described in the context of the MENA region, particularly in Lebanon, Jordan, and Turkey, where it is linked to the complexities of political and administrative environments. For instance, in Lebanon, governance is often undermined by political fragmentation and corruption, which can lead to inconsistent policy implementation and regulatory enforcement (IMF, 2018). In Jordan, while relatively stable, bureaucratic inefficiencies and a slow pace of administrative reforms can impede the effectiveness of governance in improving the business environment (World Bank, 2019). Meanwhile, in Turkey, despite having strong institutions in some areas, political instability and frequent changes in regulations create uncertainty, hindering the positive effects of good governance on the Ease of Doing Business Index (OECD, 2020).

The F-statistics test for all models indicates a probability of zero, demonstrating that all models are significant.

6. Conclusion and Policy Implications

Finally, based on the above, the previous studies suggest that the business climate in the MENA region is relatively weak and presents obstacles and complexities for entrepreneurs and enterprises. SMEs in the region are facing several challenges that need to be managed. These challenges may include bureaucratic procedures, regulatory barriers, inefficient governance, inadequate infrastructure, and limited access to resources and support systems. On the other hand, despite government and policymaker initiatives to support SMEs, they continue to face numerous obstacles hindering them from playing their leading role. These obstacles range from restricted sources of funds to difficulties in obtaining inputs, such as skilled labor and technology, in addition to an inadequate legal and regulatory environment and political instability.

A robust ecosystem requires a policy environment in which it is possible to start a business, secure funding for it, and generate wealth. Therefore, policymakers in the MENA region should be able to predict future trends in SMEs ecosystem development with the aim of improving the business environment. Consequently, it is crucial to recognize the determinants of the Ease of Doing Business Index in the MENA region.

This study analyzes the determinants of the Ease of Doing Business Index in three selected countries from the MENA region (Lebanon, Jordan, and Turkey), with a focus on several combinations of explanatory variables. Using panel data from the World Bank website, covering the period 2004-2022 for Lebanon, Jordan, and Turkey, we found that factors such as firm investment in R&D, e-government development, access to bank financing for firms and entrepreneurs positively impact the Ease of Doing Business Index. Additionally, gender-inclusive procedures, commercial and professional infrastructure, and the simplification of start-up procedures required for business registration also contribute to improving the index in these countries. Conversely, GDP growth, taxes and bureaucracy exert a significant negative impact on the Ease of Doing Business Index. Meanwhile, the effect of the cost of startup procedures on the Ease of Doing Business Index shows varying degrees of significance across different models. As for governance, its effects are context-dependent.

The above insights are consistent with the literature and provide a solid foundation for policymakers aiming to improve the business environment. Future research should continue exploring these relationships to provide more nuanced guidance for fostering a favorable business climate.

These results may have several implications and could help predict future trends in regional ecosystem development, especially in the selected countries. Among these implications, we note the following recommendations:

6.1 Public Policy Reforms

- o Tax and Monetary Policies: Governments should revisit and reform tax and monetary policies to make them more conducive to the growth of SMEs. Specifically, policies should aim to reduce the financial burden on SMEs by lowering tax rates and simplifying tax procedures. These measures would help alleviate cost pressures on SMEs and foster a more supportive fiscal environment (World Bank, 2020).
- o Tax Incentives for Startups: Establish a range of tax incentives aimed at supporting SMEs in their early stages. These incentives could include tax holidays, reduced corporate tax rates, and accelerated depreciation on capital investments (Djankov et al., 2010).

6.2 Institutional and Legal Environment

- o Facilitation of Business Procedures: Simplify and expedite the procedures for establishing and dissolving SMEs. This could include reducing the number of required permits and providing clear guidelines for regulatory compliance (World Bank, 2021).

6.3 Support for Women's Economic Activity

- Women's Business Associations: Encourage the establishment and support of women's business associations. These associations would provide a platform for networking, capacity-building, and advocacy, empowering women entrepreneurs to overcome barriers in the business environment (Minniti, 2010).

6.4 Financing of SMEs

- Ease of Access to Financing: Reevaluate and relax legal requirements for financing SMEs, particularly those related to collateral. Governments could establish guarantee funds or public-private partnerships to share the risks associated with lending to SMEs (Ayadi, Naceur, & De Groen, 2015) and encourage banks to innovate to meet the needs of SMEs. This could include microloans, revolving credit facilities, and venture capital funds (Beck et al., 2018). Figures issued by the World Bank show that only 9% of adults aged 15 and older in the MENA region borrowed money from banks or other types of financial institutions in 2017 (World Bank, 2017). For example, in Lebanon, 16% of adults borrowed money from banks or other financial institutions in 2017, representing the highest share among countries in the MENA region (World Bank, 2017).

6.5 Simplification of Regulatory Procedures

- Streamlining Business Processes: Governments should streamline business registration, licensing, and compliance procedures to reduce the time and costs associated with starting and operating an SME. Clear, step-by-step guides should be provided to entrepreneurs (Lupu & Asandului, 2021).

6.6 E-Government Development

- Comprehensive E-Government Platforms: Develop and integrate e-government platforms that allow businesses to manage all regulatory and compliance requirements online, including business registration, tax filings, and permit applications. This will reduce administrative burdens and improve efficiency (Zhang, 2017).

6.7 Support for Firm R&D and Innovation

- Incentives for Innovation: Offer grants, tax credits, or subsidies to SMEs engaged in research and development activities. Public-private partnerships and collaborations with research institutions should be encouraged to foster innovation (UNESCO, 2015).

These recommendations are designed to create a more supportive and dynamic environment for SMEs, promoting sustainable growth and innovation across various sectors. Implementing these policies will contribute to a more resilient and competitive SME ecosystem in the selected countries.

Competing Interests

The author declare that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Note

Note 1. For the definitions and explanation of the variables please refer to the table in the Appendix A.

Appendix A

Variables Definitions

Variable name	Description	Acronym	Unit of measurement	Source
The Ease of Doing Business Index	The Ease of Doing Business scores benchmark economies with respect to regulatory best practice, showing the proximity to the best regulatory performance on each Doing Business indicator.	EDBit	An economy's score is indicated on a scale from 0 to 100, where 0 represents the worst regulatory performance and 100 represents the best regulatory performance (0 = lowest performance to 100 = best performance)	World Bank's Doing Business reports
The gross domestic production	GDP represents the economic output of a country.	GDP	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates (annual %)	World bank and Governmental reports and statistics
The Cost of Business Start-Up Procedures	Cost to register a business is normalized by presenting it as a percentage of gross national income (GNI) per capita.	COST	(% of GNI per capita)	World Bank
The Taxes and Bureaucracy	Taxes fall on whoever pays the burden of the tax, whether this is the entity being taxed (such as a business) or the end consumers of the business's goods. Bureaucracy refers to a complex organization with multilayered systems and processes, designed to maintain uniformity and control within the organization.	TB	Tax policies and administrative accuracy significantly impact the business environment and foreign direct investment (FDI) inflows.	Global Entrepreneurship Monitor
The E-Government development index	The E-Government Development Index reflects a country's use of information technologies to promote access and inclusion.	EGOV	It incorporates dimensions such as provision of online services, telecommunication connectivity, and human capacity	UN E-Government Development Index
The firm using Bank financing	The availability and accessibility of financial resources are essential for business operations and growth	FBANK	Percentage of firms using bank loans to finance working capital.	World Bank, Enterprise Surveys
The Firm Expenditure on R&D	This refers to total gross intramural expenditure on R&D during a given period by an enterprise, independent of the source of funds	FRD	Percent of firms that spend on research and development.	Work Bank
The Procedures for Women	Regulations and processes in place that affect women's ability to participate in business activities	PW	Percentage of gender-based regulatory practices that impact women's business activities.	World Bank, Enterprise Surveys
The commercial and professional infrastructure	Role, costs, and accessibility of professional services for entrepreneurs, including accountants, consultants, lawyers, and administrators	CPIN	The quality of infrastructure, including transportation networks, utilities, and communication systems, significantly impacts the business environment	Global Entrepreneurship Monitor
The physical infrastructure	Availability and cost of physical infrastructures (e.g., roads, water, gas, electricity, phone) and new communication technologies	PHS	The quality of infrastructure, including transportation networks, utilities, and communication systems, significantly impacts the business environment	Global Entrepreneurship Monitor
The governance level	The governance level is overseeing the control and direction of something (such as a country or an organization).	GOV	Country-level governance is measured using the Worldwide Governance Indicators developed by the World Bank: Country-level governance is measured using the Worldwide Governance Indicators developed by the World Bank. These indicators encompass six dimensions: 1- Voice and Accountability 2- Political Stability and Absence of Violence, 3- Government Effectiveness, 4- Regulatory Quality, 5- Rule of Law. 6- Control of Corruption	World Bank