ON THE DETERMINANTS OF ENTREPRENEURSHIP IN MIDDLE EAST AND NORTH AFRICA

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Summary
The purpose of this study is to examine empirically the short- and long-run determinants of entrepreneurial activity in a sample of 15 the Middle East and North African economies between 2006 and 2018. More specifically, four groups of determinants are considered in the analysis, namely economic, demographic, business environment, and institutional. Given the autoregressive feature of the entrepreneurial activity process, a dynamic panel data model is estimated using the system GMM estimator. Findings reveal that unemployment, trade openness, population density, and economic freedom are the main drivers of new business creation in the short-run, while the cost and number of procedures to start a new business negatively affect entrepreneurship. In the long-run, the same findings hold true. Moreover, education and political stability and the absence of violence/terrorism positively affect entrepreneurial activity. Policy recommendations are accordingly designed.

Keywords:
Entrepreneurship; Middle East and North African; GMM.

1. Introduction

A growing literature reveals the importance of entrepreneurship as a fundamental driver of economic growth [1]. [2] claim that the gap in entrepreneurial activity could explain the differences between developed and less developed countries in economic growth rates. Some other studies examined the effects of entrepreneurship on employment [3]. [4] state that the youngest companies and start-ups have higher employment growth rates than large ones. [5] conclude that entrepreneurial activity plays a vital role in economic dynamics through its well-being gains. Overall, the different theoretical and empirical studies dealing with the effects of entrepreneurship highlight the importance of entrepreneurship as a principal factor in developing economies and societies. The importance of entrepreneurship has attracted scholars' attention to study the different factors that could promote the entrepreneurial activity.

The current study contributes to this debate by analyzing the different factors that promote entrepreneurial activity in Middle East and North African (MENA) countries over the period 2006-2018. Indeed, there are several ways to examine this issue because entrepreneurship is related to many fields. As far as we are concerned, we conduct a global approach analysis to identify the main factors that could influence entrepreneurial activity at the country-level. We are particularly interested in analyzing the effects of economic, demographic, business environment, and institutional factors on business creation dynamics.

The choice of the MENA region is attractive for at least two reasons. The first reason is that the different strategies pursued by many MENA countries to promote entrepreneurship need to be examined. Indeed, it is essential to underline that, given the fundamental role of business creation in economic growth and unemployment, most MENA countries have been striving to adopt a set of measures aiming to improve the business environment and consequently influence individuals' decisions to create new businesses. It would be therefore interesting to assess the impact of the various measures on entrepreneurial activity. Second, the choice of the MENA region is motivated by the lack of empirical studies on the determinants of entrepreneurship. Indeed, considerable attention has been paid to entrepreneurship dynamics in developed countries. On the contrary, empirical studies targeting developing countries, particularly the MENA region, are relatively scarce. It is worth noting that the outcomes of studies carried out on developed countries cannot be used to formulate policy recommendations for developing ones. It is important to note that factors affecting entrepreneurial activity are not similar in developed and developing countries. On the one hand, the creation of new businesses in developed countries results from opportunity entrepreneurship. Therefore, the influence of factors, such as economic growth, education, and innovation, is more important in those countries. On the other hand, new business creation in developing countries is instead the result of entrepreneurship of necessity. Other factors, such as unemployment, business environment, and institutions, further explain the entrepreneurial dynamics in these countries.

The current study presents three main novelties. First, most previous works have generally focused on particular factors affecting entrepreneurship, such as demographic or institutional factors. Contrary to those studies, the current paper examines the effects of a large set of factors that may affect entrepreneurship dynamics. More specifically, the empirical analysis considers 13 potential determinants of entrepreneurship structured into four dimensions (economic,

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demographic, business environment, and institutional). Such an analysis is of great interest since it allows detecting the key factors promoting the new business creation in the MENA region and designing suitable policy recommendations. Second, this study conducts a panel data analysis of the determinants of entrepreneurial activity in a sample of MENA countries. As discussed earlier, there is a need to investigate the main drivers of new business creation in the MENA region. Finally, unlike prior works examining the determinants of entrepreneurship, this research examines the short- and long-run effects of the various factors discussed above. This distinction between short- and long-run determinants is crucial since it allows checking if there are significant differences between them. The effects of some factors on entrepreneurship may be insignificant in the short-run but may become significant in the long-run. Likewise, short- and long-run analyses of entrepreneurship determinants allow designing short- and long-run policy recommendations. Overall, the interest in this study emerges from the fact that a better understanding of the short-run and long-run determinants of entrepreneurship improves the capacity of decision-makers to create the required conditions for the success of new businesses in the MENA region.

The remainder of the paper is organized as follows. An overview of the literature on the determinants of entrepreneurship is provided in the second section. In the third section, we present the empirical methodology and data. The fourth section presents the empirical results. Finally, the fifth section concludes the paper and suggests some policy recommendations and limitations.

2. Literature review

The analysis of the previous literature on the determinants of entrepreneurship allows identifying different factors that could affect new business creation. Studies suggest that the drivers of entrepreneurial activity may be grouped into four main categories, namely economic factors, demographic factors, business environment factors, and institutional factors.

2.1 Economic factors

Previous studies indicate that economic growth could have positive or negative effects on entrepreneurship. [6] note that the relationship between entrepreneurial activity and GDP growth in developing countries is negative, whereas the relationship is positive in developed countries. The detrimental effect of economic growth on entrepreneurial activity witnessed in many developing countries illustrates the pattern of entrepreneurship that forces individuals to set up their businesses to escape unemployment [7]. Unemployment is also seen as an economic factor that could explain the new business creation. On the one hand, unemployment may positively impact entrepreneurship by motivating job seekers to start their businesses. On the other hand, Unemployment may also harm entrepreneurship, as it is associated with the economic recession, decreasing demand, and consequently, low gross domestic product. Finally, economic globalization, explicitly marked by the liberalization of international trade and foreign capital flows, could generate entrepreneurial opportunities and is thus seen as a booster of new business creation [8].

2.2 Demographic factors

The characteristics of the population may drive the creation of new businesses. Many prior empirical studies have examined the effects of demographic variables on entrepreneurial activity. [9] highlight the importance of population density as a driver of entrepreneurship. According to [10], the population density in a given territory has a positive impact on entrepreneurship by increasing the exchange of information and ideas or establishing a mimicry of business creation. [11] examine the role of the population age structure on entrepreneurship. [12] indicates that while the probability of becoming an entrepreneur is higher for older people, the probability of being a nascent entrepreneur is higher for young individuals. Finally, [13] focus on the effect of education in boosting self-employment. Education represents a stimulating factor for entrepreneurship because it provides the entrepreneur with the skills and knowledge required to start new businesses.

2.3 Business environment factors

Particular attention was drawn by the impact of the business climate on new business creation. The Doing Business report of the World Bank distinguishes several dimensions that could affect business creation, such as the time to start a business, the number of procedures, the ease of hiring/firing, registering a business, obtaining financing, and protecting investors. In this context, [14] explore the barriers facing the private sector and concludes that taxation, labor regulation, and access to finance are the most frequently reported obstacles for entrepreneurs. [15] also suggest that higher start-up costs will discourage low-quality entrepreneurship and encourage innovative entrepreneurial activities. Furthermore, higher corporate taxes reduce opportunities to launch innovative projects. Likewise, [16] focus on 119 countries during the period 2001-2012 and reveal that entrepreneurial activity is strongly influenced by the business environment. The authors show that increasing the procedural requirements for business start-ups by one unit reduces the entrepreneurial activity by 3-7%.

2.4 Institutional factors

The institutions-as-rules approach confirms that the rules of the game in the economy are defined by institutions, whereas entrepreneurs are considered players. If the game rules are such that profits are made possible by unproductive entrepreneurial activities, entrepreneurs would be less likely to start productive entrepreneurial activities. The lack of transparent rules regulating the business environment is considered a source of corruption, bribes, fraud, and economic uncertainty, hindering entrepreneurship and private sector development. Several works have been devoted to analyzing how institutional quality affects entrepreneurship. For example, [17] conclude that institutions, as measured by the economic freedom index and control of corruption, are the main factors influencing entrepreneurship in African countries between 2001 and 2016. [18] examine the effects of different institutional indicators on self-employment and reveal that the Doing of Business indices, the corruption perception index, and government quality significantly impact self-employment. [19] study the effects of several institutional dimensions on entrepreneurial dynamics in 70 developed and developing countries between 2005 and 2015 and show that institutions exert a significant impact on the quantity and quality of entrepreneurship. The authors also conclude that the impact of institutions on entrepreneurship depends upon the level of development.

3. Methodology

3.1 Model and data

According to [20], new business creation in previous periods affects the creation of entrepreneurial networks and, therefore, acts positively on new business creation dynamics in periods that follow. The entrepreneurship dynamics for country *i* at year *t* can be represented as follows:

$$NBD_{it} = \alpha + \beta NBD_{it-1} + \gamma X_{it} + \delta' Y_{it} + \mu_i + \varphi_t + \varepsilon_{it} \quad (1)$$

where NBD represents the entrepreneurship dynamics. X stands for control variables, while Y is a matrix of the different factors affecting entrepreneurship (economic, demographic, business environment, and institutional). μ_i, φ_t and ε_{it} are the country-specific effects, the time-specific effects, and the error term, respectively. i ($i = 1, \ldots, 15$) and t ($t = 2006, \ldots, 2018$) denote countries and years, respectively. The empirical investigation is conducted for 15 MENA countries, namely, Algeria, Bahrain, Iran, Iraq, Jordan, Kuwait, Malta, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey, and the United Arab Emirates. Data used in this study covers the period from 2006 to 2018. Table 1 presents variables used in the estimation.

Table 1. Definition and sources of data

Variable	Definition and abbreviation	Source
Dependent variable	New business density (NBD)	WDI
Economic variables	GDP per capita (GDPC)	WDI
	Unemployment rate (UR)	
	Trade openness (TO)	
	Foreign direct investment (FDI)	
Demographic variables	Population density (PD)	WDI
	Population aged 65 and above (P65)	
	Education (ED)	
Business environments variables	Starting a Business – Number of procedures (SBNP)	DB
	Starting a Business – Time (SBT)	
	Starting a Business – Cost (SBC)	
Institutional variables	Political stability and absence of violence/Terrorism (PS)	WGI
	Control of corruption (CC)	
	Economic freedom (EF)	HF

Notes: WDI: World Development Indicators; DB: Doing Business; WGI: Worldwide Governance Indicators; HF: Heritage Foundation.

3.2. Estimation method

The analysis is based on the estimation of Equation 1 using the GMM estimator. The literature suggests two GMM variants, namely the difference GMM developed by [21] and the system GMM developed by [22]. However, Blundell and Bond (1998) employ Monte-Carlo simulations to confirm that the system GMM system is superior to the difference GMM. This research therefore relies on the system GMM estimator to assess the drivers of entrepreneurship in MENA countries. It is worth noting that the validity of results is conditioned by two important issues: the validity of instruments and the absence of second-order serial correlation in disturbances. The Hansen test of over-identification restrictions and the AR(2) test are accordingly implemented.

It is essential to mention that the above-discussed estimator provides the short-run effects of the discussed factors on entrepreneurship dynamics. However, it is also crucial to estimate the long-run determinants of entrepreneurship. As in [23], the long-run coefficient of the independent variable X in Equation 1 on the dependent variable NBD may be obtained as follows: $\frac{\hat{\gamma}}{1-\hat{\beta}}$.

Where $\hat{\gamma}$ is the estimated coefficient of the independent variable X and $\hat{\beta}$ is the estimated coefficient of the lagged dependent variable.

4. Results

4.1. Short-run determinants

Table 2 reports the estimation results of Equation 1 using the system GMM estimator.

Table 2. Short-run determinants

Variables	(1)	(2)	(3)	(4)
Lagged NBD	0.454*** (0.051)	0.425*** (0.128)	0.610*** (0.101)	0.668*** (0.045)
GDPC	0.091 (0.073)	0.370** (0.154)	0.114** (0.051)	0.074 (0.084)
UR	0.068** (0.031)	-	-	-
TO	0.563*** (0.185)	-	-	-
FDI	-0.007 (0.123)	-	-	-
PD	-	0.182*** (0.036)	-	-
P65	-	0.287 (0.274)	-	-
ED	-	0.155 (0.099)	-	-
SBNP	-	-	-0.425* (0.218)	-
SBT	-	-	0.067 (0.116)	-
SBC	-	-	-0.121** (0.045)	-
PS	-	-	-	0.241 (0.138)
CC	-	-	-	-0.137 (0.422)
EF	-	-	-	0.594** (0.230)
constant	-3.189*** (1.032)	-5.499** (2.220)	0.101 (0.502)	-3.066*** (0.814)
AR(2) test	0.079	0.475	0.117	0.103
Hansen test	0.795	0.810	0.671	0.625

Notes: Abbreviations are defined in Table 1. Standard errors are in parenthesis. For the Second-order serial correlation test and the Hansen test, *p*-values are reported. *** p<0.01, ** p<0.05, * p<0.1.

The econometric analysis of the impact of the various economic factors on business creation dynamics shows that the GDP per capita exerts a positive and significant short-run effect in two of the four specifications (specifications 2 and 4). This result means that the increase of GDP per capita induces higher demand for goods and services in the short-run, boosting new business creation. The same table shows that the second economic factor (unemployment rate) exerts a significant positive impact on entrepreneurship in the short-run. Indeed, an increase in the unemployment rate by 1%, all other things being equal, induces an increase of new business creation by 0.068%. These findings confirm that entrepreneurship may be a solution for some young people to escape unemployment, especially in developing countries. However, it is essential to note that the positive effect of the unemployment rate on entrepreneurial dynamics is relatively weak. Furthermore, results show that the coefficient associated with trade openness is positive and statistically significant at the 1% level. These findings confirm the theoretical analysis according to which trade liberalization is expected to impact positively new business creation. On the one hand, it expands the global demand for goods of newly-created businesses, and on the other hand, enables the access to external equipment and technology needed for the launch of new domestic enterprises. Contrarily to trade liberalization, foreign direct investments do not significantly affect business creation in the short-run. This result may be explained by the nature of FDI flows in the MENA region, mainly concentrated in the oil sector. FDI flows are generally in the form of exporting firms and generally have weak connections with other domestic firms in the host country.

Regarding the different demographic factors, the various estimates reveal that only the population density represents a driver of new business creation in the short-run. Indeed, the population density is likely to capture agglomeration or network effects and may facilitate the presence and exchange of information and the presence of a mimicry behavior. Findings also reveal no empirical evidence on the presence of statistically significant effects of the other two demographic factors (age structure of the population and education) on entrepreneurship in the short-run. Moving to the business environment, the econometric analysis of the three factors related to starting a new business (cost, time, and procedures) shows that two of them have negative and statistically significant coefficients. Indeed, only the time to start a business does not affect new business density, while the cost and procedures are important for entrepreneurship. More specifically, an increase in the number of procedures required to start a business by 1% induces a decrease of new business creation by about 0.425% in the short-run. Similarly, an increase of the cost to start a business by 1% induces a decrease of new business creation by about 0.121%. As mentioned earlier, the coefficient associated with the time to start a business is not statistically significant, confirming that entrepreneurs in the MENA region do not consider time as an important factor in their decision to set up businesses. Finally, results reported in column 4, dealing with the effects of institutional variables on new business creation, show that only economic freedom has a positive and statistically significant coefficient in the short-run. Accordingly, economic freedom is a fundamental catalyst for entrepreneurship in the MENA region. Moreover, the coefficient associated with the Economic Freedom index is the highest coefficient compared to all other factors

(economic, demographic, business environment, institutional), which proves its importance in the business creation process. Another important result is that the control of corruption and political stability and absence of violence/terrorism have no effects on the MENA region's business creation dynamics in the short-run.

To summarize, it emerges from the econometric analysis that in the short-run, entrepreneurial activity is particularly affected by GDP per capita, unemployment rate, population density, economic openness, the cost and number of procedures to start a business, and economic freedom.

4.2 Long-run determinants

The system GMM-based long-run coefficients associated with the different determinants of new business density are summarized in Table 3.

Table 3. Long-run determinants

Variables	(1)	(2)	(3)	(4)
GDPC	0.166 (0.127)	0.643*** (0.160)	0.292*** (0.104)	0.222 (0.259)
UR	0.124** (0.059)	-	-	-
TO	1.030*** (0.314)	-	-	-
FDI	-0.013 (0.224)	-	-	-
PD	-	0.317*** (0.110)	-	-
P65	-	0.499 (0.427)	-	-
ED	-	0.270** (0.127)	-	-
SBNP	-	-	-1.090*** (0.391)	-
SBT	-	-	0.170 (0.282)	-
SBC	-	-	-0.310*** (0.049)	-
PS	-	-	-	0.725** (0.370)
CC	-	-	-	-0.412 (1.280)
EF	-	-	-	1.790** (0.755)

Notes: Abbreviations are defined in Table 1. Standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

The effects of economic factors show that GDP per capita is significant in two of the four specifications in the long-run. These results indicate that a high level of income is an indicator of strong demand in the domestic market and consequently represents a stimulating factor in creating more firms. The coefficients associated with the unemployment rate and trade openness are positive and statistically significant at 5% and 1%, respectively. However, it is important to stress that the impact of the unemployment rate and trade openness are higher in the long-run than in the short-run. Indeed, it is observed that an increase in the unemployment rate by 1% increases the number of new businesses created by 0.124% in the long-run while it was around 0.068% in the short-run. Likewise, a 1% increase in trade openness leads to a 1.030% increase in entrepreneurial activity in the long-run and only 0.563% in the short-run (see short-run effects in Table 2). Findings relative to the effects of foreign direct investments in the long-run are similar to those of the short-run, as the associated coefficient is not statistically significant. These findings strongly support the idea that FDI flows have no impact on the MENA region's entrepreneurial activity. Moving to demographic factors, Table 3 reveals that the long-run coefficient associated with population density is positive and statistically significant, indicating a positive relationship between population density and new business creation. In addition, this coefficient is equal to 0.317 in the long-run, whereas it was only 0.182 in the short-run. The econometric analysis also reveals that the coefficient associated with education is positive and statistically significant at the 5% level in the long-run. It is worth noting that the short-run analysis revealed that education has no significant impact on entrepreneurship. The significant impact of education in the long-run indicates an improvement in human capital level by 1% induces a 0.270% increase in entrepreneurial activity. This is explained by the crucial role of human capital in improving the technical and managerial skills required for new business creation. Furthermore, the empirical analysis shows that the population's age structure is not significant in the long-run, similarly to what has been found in the short-run. Results of column 3 regarding the impact of business environment factors show that the most important factors of the business environment affecting the new business creation in the long-run are the number of procedures and the cost to start a new business. However, the effects of these factors are higher in the long-run than in the short-run. Finally, the results of the institutional factors show that economic freedom is the primary determinant of new business creation since the associated elasticity (1.790) is the highest among all considered factors. The analysis also shows that, unlike the short-run analysis, the coefficient associated with political stability and absence of violence/terrorism is positive and statistically significant at the 5% level in the long-run. The magnitude of the associated coefficient is higher than those of other factors, such as unemployment rate and population density. These findings show that political stability and the fight against violence and terrorism are a process of actions that require time and effort before affecting new business creation.

5. Conclusion

Given the vital role played by the private sector, considerable measures are usually carried out by governments to promote it. Special attention on behalf of policymakers and academics was paid to how to stimulate new business creation. However, understanding the key drivers of entrepreneurship is undeniably an initial and essential step in boosting new business creation. The purpose of this paper is to contribute to this strand of the literature by examining the short- and long-run determinants of entrepreneurship in a sample of 15 MENA countries during the period 2006-2018. More specifically, the study considers four groups of determinants, namely economic, demographic, business environment, and institutional. The system GMM estimator is employed since previous studies show that the entrepreneurial activity follows an autoregressive process.

The empirical analysis suggests that not all factors considered in the analysis affect entrepreneurship in the short-run. Indeed, only GDP per capita, trade openness, and unemployment rate play a significant role in boosting entrepreneurship. Regarding demographic factors, the new business density positively affects entrepreneurship. While we consider three different variables measuring institutions, our findings show that new business creation reacts only to economic freedom. The control of corruption and the political stability and absence of violence/terrorism seem not to be entrepreneurship drivers in the short-run. Finally, the cost and number of procedures needed to start a new business are the main obstacles confronting the new businesses' creation in MENA countries. When moving to long-run determinants of entrepreneurship, short-run results discussed above hold. However, two main issues are found to be different. First, long-run effects are higher than those of the short-run, which means that the considered factors have cumulative effects on entrepreneurial activity. Second, education and political stability and the absence of violence/terrorism become significant. Therefore, these two factors positively affect entrepreneurship only in the long-run.

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