

Foreign direct investment inflow: The drivers and motivations in MENA Region

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Abstract

Purpose — Reasons why Multinational Enterprise (MNEs) engage in foreign direct investment (hereafter referred to as FDI) abroad have been of great interest to policy markets, academia and international portfolio investors. This examines FDI inflow motives to the Middle East and North Africa (MENA) region for the period 2005 to 2019.

Design/methodology/approach — This research paper applies both the static and dynamic panel methodologies such as SYS-GMM, fixed effects, and pooled OLS estimators to investigate the motivational factors of MNEs FDI inflows to MENA countries.

Findings — Although specificity applies to countries, estimated results suggest that MNEs in the MENA region are predominantly interested in serving both home and host markets. Other motives such as efficiency-seeking FDI vary across countries, indicating that FDI motives are not homogeneous among region members. This paper provides useful insight for both firms and host countries in the region.

Originality/value — This research paper investigates the factors that motivate MNEs to consider FDI decisions in MENA countries. Rather than investigate the individual countries within the region as done in existing literature, this research paper simultaneously examines MNEs' investment motivations in the MENA region. The findings are significant, plausible and in line with the economic development of most countries in the region.

Keywords — FDI motivation, marketing-seeking, resources-seeking, efficiency-seeking, MENA

Introduction

Foreign direct investments (hereafter referred to as FDI) play an important role in the economic prosperity of both the host and home economies. This has led to accelerated growth in FDI flows across the globe, with approximately an annual average of US\$142 billion from 1985 to 1990 to about US\$385 billion in 1996 and US\$1.39 trillion in 2019 (UNCTAD, 2020). For this reason, the study on FDI has received much attention from academia, particularly students of international economics, investors, and policymakers in the past four decades. Figure 1 shows the percentage of the country's investments in the region, with Saudi Arabia and UAE controlling the largest investments in the region, respectively. However, due to the frequent social unrest, land/boundary disputes and tense political situation between countries in the region, many small business owners have lost their sustainable livelihood. Several foreign investors have diversified their investment to safer locations, stunted the region's economic growth. This corroborates with Figure 2 plots which

show the investment inflow and outflow from the MENA region. The investments inflow (US\$ million) has maintained a downward trend for more than a decade, whilst the outflow investments continue to fluctuate with recent values more than the inflow in the region. Thus, numerous research papers have argued that mineral deposit in the MENA region has been a curse rather than a blessing. To this end, economic scholars, private investors, and policymakers in the region are much concerned about the economic determinants or policies that encourage investment inflow to the MENA region. The relationship between FDI flows and its determinants has generated a plethora of empirical papers. Whilst most of these research papers explore the host country's quality of institutions as determinants to be studied for FDI inflow (Sabir, Rafique, & Abbas, 2019; Tomelin, Amal, Hein, & Carpes Dani, 2018), other studies focused on determinants associated with political risk indicators of the host country (Arel-Bundock, 2017). However, these research papers' model specifications and empirical results are mixed and vary from one country to the other.

Besides these various studies not considering the motives of MNEs investing in the MENA region, most of these papers have used static models such as OLS regression, pooled OLS regression, panel regression model, fixed model, gravity models etc. to examine FDI inflow in the region. Abonazel and Shalaby (2020) have documented their findings using the generalized methods of moments (GMM) to examine inward FDI in the region. Al-Khoury (2015) reveals that political risk factors such as law and order, ethnic tension and internal conflict significantly affect FDI, while the economic risk factor negatively affects FDI inflow substantially into the region. To this end, we used both the static and dynamic panel data econometric framework to examine the market seeking, resource seeking, and the efficiency-seeking motives of FDI inflow to the MENA region.

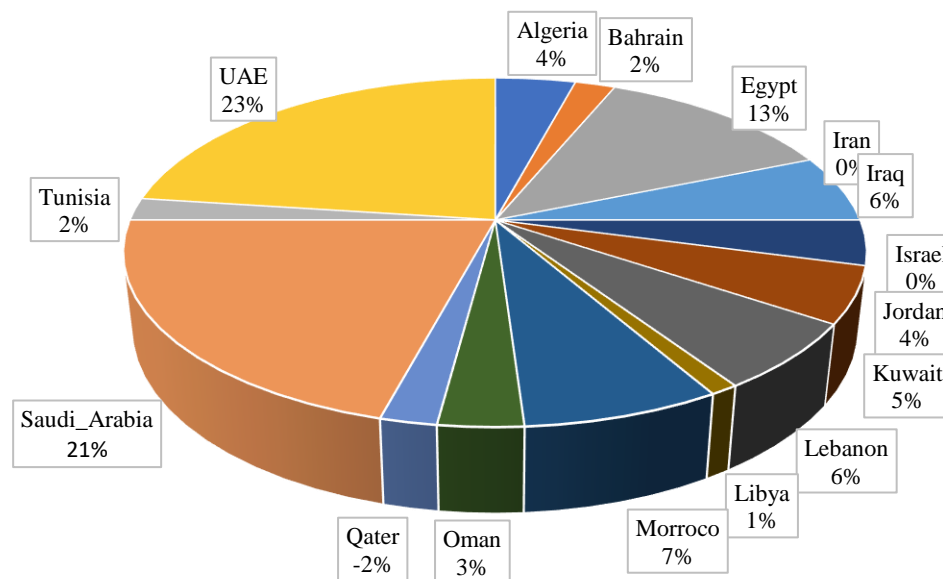


Figure 1. FDI inflows by MENA country destination (% of the total)

Source: <https://unctad.org>

MENA FDI location attractiveness is based on a two-dimensional viewpoint: Firstly, the MENA region is crucial for MNEs to maintain its numerous facilities at different locations to ensure efficient production of goods and services, particularly as it relates to oil and gas. Therefore, understanding the key drivers that improve or hinders its business operation in the region will be useful to management in the pre-investment decision. Secondly, the government are desirous of paying its debts and achieving its policies goals. Therefore, home policies need to be adjusted to attract potential investors to complement revenue generated through natural resources exportation. Therefore, this paper empirically examines the motives and drivers of foreign investment decisions in the MENA region.

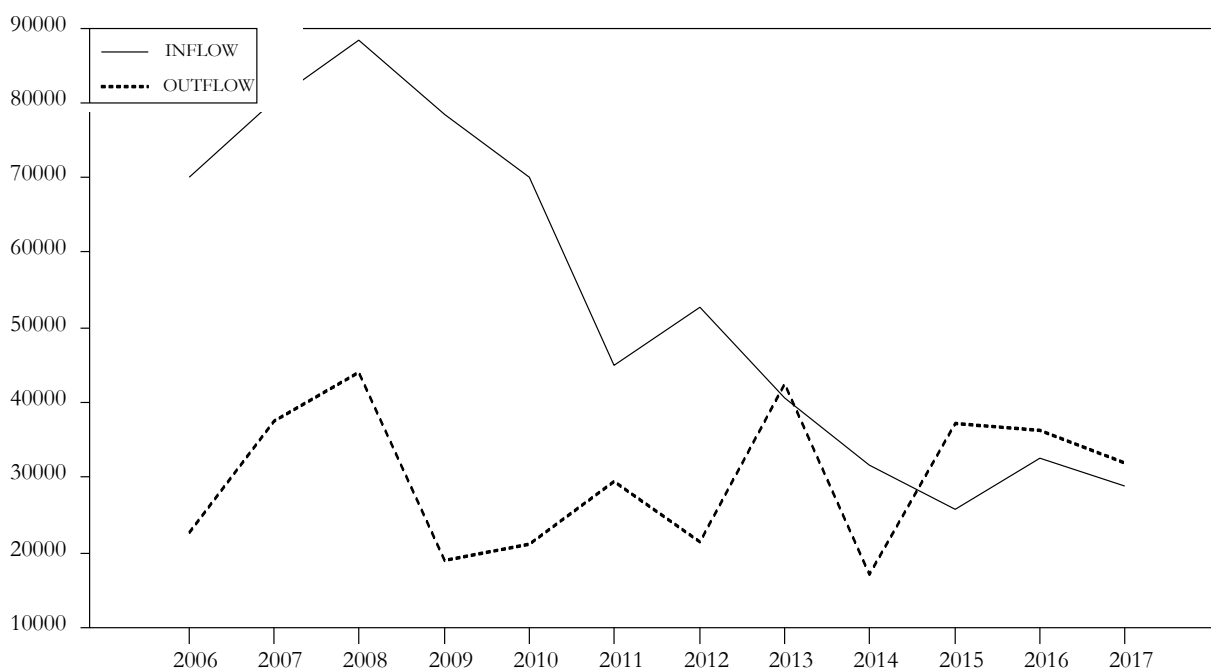


Figure 2. FDI inflows into and outflows from the MENA (US\$ million, 2006-2017)
Sources: OECD, Annual Investment Climate 2018 Report

Numerous studies on FDI determinants suggest that a plethora of factors can influence the decision of FDI location. Market size (GDP growth) is suggested as one of the most significant drivers determining FDI flow. For instance, using aggregate data with per capita GNP as a proxy for market size, empirical results reveal dominant variables that influence FDI in developing countries (Root & Ahmed, 1979). Factors such as availability, access to raw materials, cost, and labor supply strongly impacted FDI choice location (Dunning, 1988). However, another strand of studies has shown that a lower labour cost can also attract FDI inflow to a particular region or country. For example, Tsai (1994) study found that while higher labor costs discourage FDI inflow, lower labor costs attract more FDI to countries. Large numbers of studies have shown that political stability/instability can also influence the flow of investment (FDI) to location. Early studies such as Schneider and Frey (1985) and Bollen and Jones (1982) suggest that politically unstable countries are not attracted to foreign investments. In other words, their results suggest that political instability significantly reduces FDI inflow.

However, another strand of studies has also examined FDI locational flow to regions or groups of countries. For example, MNCs' motivations that significantly contribute to FDI inflow to invest in Vietnam service industries are marketing seeking, culture and government policies (Saleh, Anh Nguyen, Vinen, & Safari, 2017). Tax optimization, geographical distance and global production chain considerations are often one major motivation for firms entering Visegrad countries (Czech Republic, Hungary, Poland and Slovakia) to go through a country with a more favourable regulatory environment (Gubik, Sass, & Szunomár, 2020). Infrastructures such as roads, ports, and telecommunication predominantly contribute to FDI inflow across the Indian States. However, labor efficiency seems to motivate a firm more than other specific factors (Chakraborty, 2018). The motive for Chinese investment in the EU is market seeking. For most countries, technology integration and the consolidation of capacities across the supply chain were key motivations in most cases studied (Curran, Lv, & Spigarelli, 2017). However, Bartels, Alladina, and Lederer (2009) study showed that FDI location decision in ten (10) Sub-Saharan Africa (SSA) is influenced strongly by political economy considerations compared to labor and production input variables.

The plethora of empirical literatures on FDI has focused extensively on the determinants of FDI inflow to host countries. Most of these studies such as Minh (2019), Sabir et al. (2019), etc., explored these various determinants with a focus on the host institution. Minh (2019) paper

examines the effect of institutional quality on FDI inflows in Vietnam using different GMM estimations. Their results reveal that institutional quality is significant in explaining the FDI influx to Vietnam. An institution such as legal structure and strong property rights, freedom to trade, and civil liberty have a strong positive impact on inward FDI flows. Other studies on institutions and FDI relations Tomelin et al. (2018) etc.

In addition to examining how institutional factors, political risks, and microeconomics factors affect the influx of FDI to the region (Krajnakova, Pilinkiene, & Bulko, 2020; Mahmood, 2018), literature has examined some vital determinants as their effects on FDI inflow to countries. Hirsch, et al. (2020) used gravity analysis to examine the effect of water resources as a determinant for FDI on Land. Their experiment shows the importance of water resources in the production area and not only land abundance. Osei, Omar, and Joosub (2020) investigate the impact of colonial ties in attracting FDI to Ghana. Their experiment shows that colonial relations have limited influence on FDI inflow to Ghana. Radić (2018) study examines whether terrorism plays an important factor in the investment decisions of FDI in tourism. They employed the system GMM, and the results show that terrorism is insignificant to FDI inflow in the tourism industry.

Many methods have been used to examine the concept of Dunning's 1980 paradigm to explain FDI motivations in different economies. For instance, Okafor, Piesse, and Webster (2015) paper investigated four FDI motives for MNEs in sub-Sahara African (SSA) countries using panel data techniques such as OLS, FE, and GMM, Saleh et al. (2017) employed the structural equation modelling technique to show that the critical determinants of MNEs' incentives to invest in the service sector across Vietnam are market seeking government policies and culture. This research paper applies SYS-GMM, fixed effects, and pooled OLS estimators to investigate the motivational factors of MNEs FDI inflows to MENA countries. The dynamic panel equation has several econometric drawbacks: endogeneity, heterogeneity, simultaneity bias, omitted variable bias, reverse causality, etc. The empirical results from the regression model can yield inconsistent and biased estimates if Pooled OLS is applied. Although the Fixed effects models can address the issue of omitted variable bias, they still suffer numerous limitations such as low statistical power, time invariance, unobserved heterogeneity, measurement error, limited periods, etc. (Hill, Davis, Roos, & French, 2020). However, the SYS-GMM technique developed by Blundell and Bond (1998) accounts for the numerous econometric issues, reduces the finite sample bias, and has better precision of estimated coefficients due to its capacity to account for weakly exogenous instruments. Besides correcting heterogeneity and endogeneity problems in the panel, the SYS-GMM estimator also accounts for heteroskedasticity of unknown forms (Baiashvili & Gattini, 2020).

This paper uses the institutional factors as a proxy for efficiency-seeking indicators. Some of the institutional factors considered in this paper include the reliability of police, legal framework, intellectual property, the burden of government regulation and transparency of government policies. The motive of FDI inflow is examined in the context of the MENA region.

Methods

Preliminary Data Analysis

Table 1 shows the variables definition and data sources used in examining the drivers and motivations of FDI inflow in the MENA region were collated from different reliable sources. Nevertheless, due to the non-availability of data, this study dataset covers sixteen (16) countries in the MENA region from 2005 to 2019 with strongly balanced panel data, shown in Appendix Table A1. In Table 2, we showed the comparison of FDI inflow to the MENA region. The coefficient of variation confirms the uneven distribution of FDI inflows across MENA countries. Figure 3 shows the graph of FDI inflow for countries in the MENA region for the period 2005-2019. The trend of FDI inflow to Algeria, Egypt, Iraq, Kuwait, Oman, and Qatar confirms the results in Table 2 countries with more divestment economies. While some countries such as Jordan, Saudi Arabia, Qatar, Morocco, Lebanon, and Libya continue to experience a decline in inward FDI, few other countries (Tunisia, UAE, and Bahrain) have received almost predictable FDI inflow in recent years.

Table 1. Definitions of variables and data sources

| Variables | Definitions of variables | Sources |
|----------------------------|--|---------|
| IFDI | Foreign direct investment, net inflows (% of GDP) | WDI |
| Market seeking motives | | |
| PO | Population growth of countries | WDI |
| EX | Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. Data are in constant 2010 U.S. dollars. | WDI |
| GD | GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in constant 2010 U.S. dollars. | WDI |
| Resource seeking motives | | |
| IM | Imports of goods and services indicate the value of all goods and services received from the rest of the world. Data are in constant 2010 U.S. dollars. | WDI |
| QI | This is the overall quality of infrastructure in the country. This includes the quality of roads, railways, airports etc. | WEF |
| HR | This is the Human Development Index (HDI), a composite index measuring three basic dimensions, a long and healthy life, knowledge and a decent standard of living. | UNDP |
| NR | This is the abundance of natural resources. It is the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, forest rents etc. | WDI |
| IU | Internet users are individuals who have used the internet (from any location) in the last three months. The internet can be used via a computer, mobile phone, etc. | WDI |
| MS | Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service that provides access to the PSTN using cellular technology. | WDI |
| Efficiency seeking motives | | |
| RP | Reliability of police services 1-7 (best) | WEF |
| LF | The efficiency of the legal framework in settling disputes 1-7 (best) | WEF |
| IP | Intellectual property protection 1-7 (best) | WEF |
| GR | The burden of government regulation 1-7 (best) | WEF |
| TG | Transparency of government policymaking, 1-7 (best) | WEF |
| Control variable | | |
| IF | This is the inflation, a GDP deflator (annual %). Inflation is measured by the annual growth rate of the GDP implicit deflator. It shows the rate of price change in the economy as a whole. | WDI |

Source: <http://wdi.worldbank.org>, <https://www.undp.org/>, <https://www.weforum.org>

Note: All the monetary measures are in US dollars, and the institutional factors are rated on a scale of 1 – 7

Table 2. Country Comparisons of FDI Inflows (\$US billion, 2005 – 2019)

| Variable | Mean | Std. Dev. | Coef. of var. | Min. | Max. |
|--------------|--------|-----------|---------------|--------|--------|
| Algeria | 1.032 | 0.539 | 0.290 | -0.323 | 2.002 |
| Bahrain | 4.534 | 4.566 | 20.845 | 0.209 | 15.751 |
| Egypt | 3.613 | 2.759 | 7.614 | -0.205 | 9.349 |
| Iran | 0.734 | 0.226 | 0.051 | 0.480 | 1.276 |
| Iraq | -0.666 | 2.214 | 4.900 | -4.337 | 1.561 |
| Israel | 4.225 | 1.760 | 3.098 | 1.954 | 9.346 |
| Jordan | 8.111 | 6.109 | 37.320 | 1.855 | 23.537 |
| Kuwait | 0.578 | 0.646 | 0.417 | -0.015 | 2.115 |
| Lebanon | 8.484 | 3.949 | 15.593 | 4.276 | 14.881 |
| Libya | 2.392 | 1.776 | 3.155 | 1.002 | 6.945 |
| Morocco | 2.651 | 0.703 | 0.494 | 1.331 | 3.585 |
| Oman | 3.429 | 2.636 | 6.949 | -3.176 | 7.918 |
| Qatar | 2.161 | 3.033 | 9.199 | -1.600 | 8.308 |
| Saudi Arabia | 3.070 | 2.739 | 7.503 | 0.206 | 8.496 |
| Tunisia | 3.137 | 2.088 | 4.359 | 0.944 | 9.424 |
| UAE | 3.049 | 1.556 | 2.422 | 0.447 | 6.035 |

Note: 1. Source: Authors' calculations.

2. Data Source: World Bank Development Indicators.

FDI inflow in MENA region (2005 - 2019)

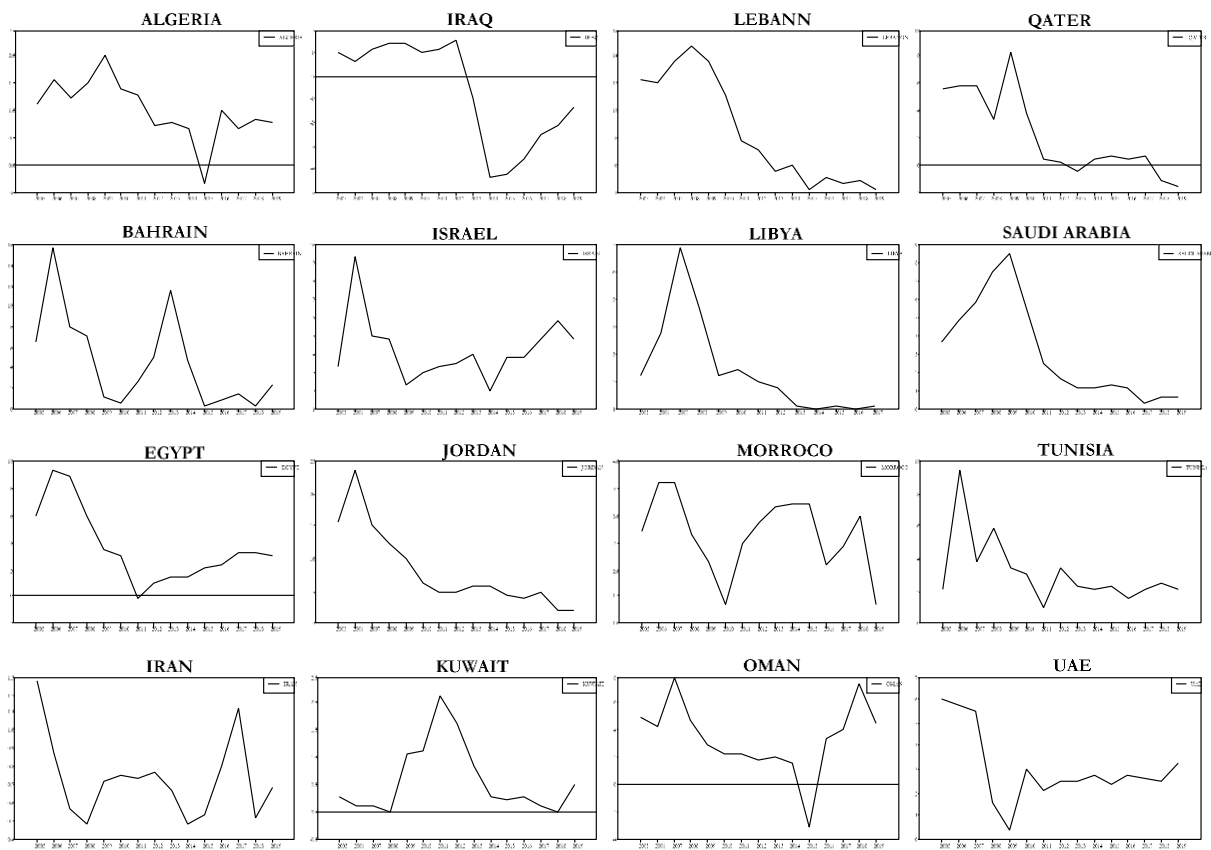


Figure 3. The yearly FDI inflow series plots of MENA countries (US\$ billion, 2015-2019)

Model Specification

However, when one MNEs invests in a particular location or region, there is a tendency that other MNEs may follow. In other words, the inflow of FDI may induce additional FDI. For this reason, lagged FDI is included in the model, but this may lead to potential endogeneity problems and other econometric problems such as simultaneity bias, omitted variables and violate the OLS assumptions (Nickell, 1981). To this end, we used the dynamic System General Methods of Moments (SGMM) technique proposed by Arellano and Bover (1995) and Blundell & Bond (1998) which account for several econometric problems to determine the motives behind FDI flow to the MENA region.

$$FDI = f(\text{Marketing seeking}, \text{Resources seeking}, \text{Efficiency seeking}) \quad (1)$$

$$FDI_{it} = \beta_0 + FDI_{t-1} + \beta_1 \text{Market seeking}_{it} + \beta_2 \text{Resource seeking}_{it} + \beta_3 \text{Efficiency seeking}_{it} + \beta_4 \text{Control variables}_{it} + \gamma_t + \eta_i \quad (2)$$

Where,

γ_t indicates the unobserved effect across countries in the region, η_i indicates the unobserved country effects, which are constant over time and the variables indicating motives (market, resource and efficiency have been listed in Table 1). Thus, we specific the baseline model,

$$FDI_{it} = \beta_0 + FDI_{t-1} + \beta_1 PO_{it} + \beta_2 EX_{it} + \beta_3 GD_{it} + \beta_4 IM_{it} + \beta_5 QI_{it} + \beta_6 HR_{it} + \beta_7 NR_{it} + \beta_8 IU_{it} + \beta_9 MS_{it} + \beta_{10} RP_{it} + \beta_{11} IP_{it} + \beta_{12} GR_{it} + \beta_{13} TG_{it} + \beta_{15} IF_{it} + \gamma_t + \eta_i \quad (3)$$

Where,

FDI_{it} indicates home country i investment inflow at time t in the region

PO_{it} indicates the population growth of home country i at time t in the MENA region,
 EX_{it} indicates home country exports i at time t in the region,
 GD_{it} indicates the GDP per capital of country i at time t in the region,
 IM_{it} indicates home country imports i at time t in the region,
 QI_{it} indicates the quality of infrastructure in country i at time t in the region,
 HR_{it} is the human development index in country i at time t in the region,
 NR_{it} indicates the natural resources in country i at time t in the region,
 IU_{it} indicates the numbers of internets users in country i at time t in the region,
 MS_{it} is the number of mobile telephone subscribers in country i at time t in the region,
 RP_{it} indicates the reliability of police services in country i at time t in the region,
 LF_{it} indicates the efficiency of the legal institution in country i at time t in the region,
 IP_{it} indicates the intellectual property right in country i at time t in the region,
 GR_{it} indicates government regulations in country i at time t in the region,
 TG_{it} indicates transparency in government in country i at time t in the region,
 γ_t indicates the unobserved effect across countries in the region,
 η_i indicates the unobserved country effects, which are constant over time.

Results and Discussion

The highest value in our pairwise correlation matrix is 0.547, see Table A3. According to the rule of thumb, severe multicollinearity may be present if the correlation > 0.55 . Hence, there is the absence of multicollinearity. However, some variables that were initially added to the group were expunged because the matrix values were more than the recommended rule of thumb. Table 3 reports the results of Im, Pesaran, and Shin (2003) and Levin, Lin, and James Chu (2002) panel unit root test at the level and first difference reject the null hypothesis of common unit root for almost all variables. The Hausman test result indicates the fixed effects as an appropriate model against the random effects estimations. According to Nickell (1981), the fixed and OLS estimators can be biased. To avoid potential econometric issues such as endogeneity, simultaneous bias, reverse causality, etc., this paper relies on the estimated results of the SYS-GMM technique to report firms' investment motivation in the MENA region.

Table 4 presents the results that explain the inward FDI flows into MENA countries using the One-step system GMM dynamic panel-data estimation. The Hansen test specification for override restrictions indicates that the chosen instruments for endogenous variables are valid. Besides the non-significance of the Hansen test, the autocorrelation of the first order is significant but insignificant in the second order. This strongly confirmed the consistency and reliability of the estimated coefficient, above all, justified the use of the SYS-GMM estimation technique. Expectedly, the GDP growth, population and export variables used for market seeking motivation of MNEs are positive and significant. The positive relationship of GDP growth with FDI inflow in the MENA region suggests that the market size of host countries significantly influences FDI location in the region. In order words, firms' investment decisions in MENA countries are partly driven by the host market's market size growth or GDP. Traditionally, the population of host countries is one of the motivations favouring a firm's location decision. Thus, the population's positive relationship with FDI inflow supports FDI inflows to countries in the MENA region. Export of goods and services from the region, probably exportation of oil and gas may be another reason for firm's relocation to MENA country. This indicates that firms consider these factors before deciding to invest in the MENA region. These results suggest that trade liberalization has improved, and governments of various countries and regions should continue to maintain and improve FDI policies in their countries. The fixed effect and Pooled OLS estimation results in Table 4 seem to be downward and upward biased of the estimated SYS-GMM coefficients. This appears to be within this Nickell (1981) assertion of lower and upper bound biases of estimates. This indicates the consistency of the estimated results.

Table 3. Panel unit root/stationarity test

| Variables | Unit root tests | At Level | | At first difference | |
|-----------|-----------------|-------------|-----------------|---------------------|-----------------|
| | | Intercept | Intercept+Trend | Intercept | Intercept+Trend |
| FDI | LLC | -4.214*** | -2.439*** | -4.659*** | -10.781*** |
| | IPS | -0.251** | -0.437* | -1.937* | -1.353** |
| PO | LLC | -14.027** | 7.184*** | -52.231** | -93.611*** |
| | IPS | -6.837* | -9.362** | -14.736 | -13.771* |
| EX | LLC | 91.835* | 32.212*** | -12.255*** | -18.355*** |
| | IPS | -22.425** | -26.718* | -17.236** | -16.283* |
| IM | LLC | -154.917*** | -307.622*** | -58.181*** | -216.578*** |
| | IPS | 31.226 | 27.539* | 19.357* | 20.092 |
| GD | LLC | -30.564*** | -122.385* | -67.630*** | -49.272*** |
| | IPS | -11.272* | -13.563* | -14.836* | -17.530** |
| QI | LLC | 12.765*** | -20.683*** | -4.210*** | -20.008*** |
| | IPS | 3.673 | 5.902* | 2.763* | 4.125 |
| IF | LLC | -1.918** | -0.816 | -17.563*** | -16.604*** |
| | IPS | -0.342* | -0.738* | -0.219** | -0.811* |
| HR | LLC | -2.616*** | -75.062*** | -11.612*** | -14.630*** |
| | IPS | 0.532* | 0.663*** | -0.362** | -0.183* |
| NR | LLC | 3.366* | 4.779* | -16.825*** | -20.171*** |
| | IPS | 0.263*** | 0.346*** | -9.452* | -7.185** |
| IU | LLC | -3.344*** | -1.338* | -43.724*** | -12.215*** |
| | IPS | -0.863* | -0.463 | -3.253* | -7.352** |
| MS | LLC | -9.321*** | -9.486*** | -11.470*** | -20.749*** |
| | IPS | -0.839** | -0.743** | -2.573** | -5.742** |
| RP | LLC | -267.372*** | -1.368* | -10.687*** | -9.296*** |
| | IPS | -27.673 | -21.509* | -4.252** | -2.647 |
| LF | LLC | 1.234* | -1.847*** | -8.302*** | -5.771*** |
| | IPS | 0.467 | 0.173* | -0.537 | -0.462* |
| IP | LLC | -1.924** | 0.997* | -4.340*** | -9.015*** |
| | IPS | 0.374* | -0.684** | -0.363* | -0.211 |
| GR | LLC | -6.904*** | -1.011* | -8.519*** | -9.752*** |
| | IPS | -0.219** | -0.138 | -7.282** | -5.273* |
| TG | LLC | -0.812* | -0.033** | -5.5987*** | -7.758*** |
| | IPS | -0.261** | -0.532* | -1.973* | -2.527** |

Note:

1. Source: Authors' calculations.
2. *, ** and *** indicates 10%, 5% and 1% significance respectively
3. LLC indicates Levin et al. (2002), IPS indicates Im et al. (2003)

The import, human resources, an abundance of natural resources and mobile subscription variables significantly use the SYS-GMM. Still, only imports and human resources factors are significant when the fixed effects technique is used. The relationship between FDI flow and imports is negative and significant, which implies that imports of goods and services for countries in the MENA region are not an attracting factor for firms. Perhaps, these imports are not needed in MNEs investments in the region. The quality of infrastructures in the MENA region is MNEs specifics as reported by the fixed effects estimator. While some MNEs are motivated by the quality of infrastructures, others simply don't consider the quality of infrastructure in MENA countries during investments planning. These estimated results imply a need for the government of countries in the region to address the infrastructural deficit and coordinate the import activities of local firms and foreign firms so that imported produces can complement or be useful to other firms. Regarding transparency, the government should ensure a flow of information about its policies and programs to the citizens and foreign investors, as this will help eradicate or reduce the fear of expropriation or nationalization by the government. Although specificity exists for various countries, the government should 'roll out' necessary incentives such as tax reductions to encourage more mobile telecom firm investment in the region.

Table 4. Estimation results for the motivation of MNEs in MENA countries

| Variables | SYS-GMM | Fixed Effect | Pooled OLS |
|---|-----------------|--------------|------------|
| Lagged FDI | 0.516*** | 0.484*** | 0.801*** |
| Market Seeking | | | |
| PO | 0.618* | 0.541**** | 0.639* |
| EX | 0.591**** | 0.502** | 0.734 |
| GD | 0.267** | -0.680* | 0.321** |
| Resource seeking | | | |
| IM | -0.284** | -0.484* | -0.313 |
| QI | -0.426 | -0.393 | -0.497 |
| HR | 0.626** | 1.003** | 1.101 |
| NR | 0.147*** | 0.058 | 0.193** |
| IU | -0.117 | -0.130 | -0.043 |
| MS | 0.204* | 0.141 | 0.233 |
| Efficiency seeking | | | |
| RP | 0.334*** | 0.297*** | 0.362** |
| LF | 0.159** | 0.143 | 0.279* |
| IP | 0.296 | 0.287* | 0.307 |
| GR | 0.403** | 0.324* | 0.523* |
| TG | -0.452 | -0.471 | 0.473 |
| Control Variables | | | |
| IF | -0.197 | -0.188 | 0.642 |
| Constant | 5.002*** | 4.277** | 5.714* |
| Numbers of Observation | 223 | 223 | 223 |
| Numbers of groups | 16 | 16 | 16 |
| R Squared | - | 0.571 | 0.826 |
| Wald χ^2 | 527.3 | - | - |
| Prob > χ^2 | 0.000 | - | - |
| Arellano-Bond AR (1) (<i>p</i> -value) | -11.341 (0.000) | - | - |
| Arellano-Bond AR (2) (<i>p</i> -value) | -10.872 (0.309) | - | - |
| Hansen test (<i>p</i> -value) | 7.306 (0.411) | - | - |

Note:

1. Source: Authors' calculations.
2. Lagged IFDI is for one year
3. *, ** and *** indicates 10%, 5% and 1% significance respectively

The human resources and the abundance of natural resources determinants are positive and significant. This indicates that one of the numerous reasons for FDI flow in the region is the availability of these factors. Besides motivation due to the abundance of natural resources, the presence of human resources (in the form of professional or expertise) is another motivation for MNEs investment. This research paper has shown that the importation of goods and services by host countries motivates MNEs' investments. However, efficiency motives such as RP, LF, IP, and GR are also positively significant. Therefore, the government should sustain and improve these determinants to ensure an effective and efficient working environment that motivates investors. Previous studies by Duanmu (2012), Kinoshita and Campos (2003), etc., showed that institutional factors play a big role in FDI flow. Therefore, we used the institutional factors as proxies for efficiency-seeking FDI motivations in the MENA region. We employed host countries' institutional factors such as reliability of police services, the efficiency of the legal framework in settling disputes, intellectual property protection, the burden of government regulation and transparency of government policymaking. Empirical results shown in Table 4 revealed that the reliability of police services, the efficiency of the legal framework and government regulations are positive and significant. However, most studies often use Inflation as a substitute variable to capture efficiency-seeking FDI motivation; expectedly, the result shows that the relationship

between inflation and FDI in the MENA region is negative, see Table 4. The negative relationship of inward FDI-inflation indicates that a low inflation rate increases the influx of FDI into the region. This research controlled for the inflation variable; nevertheless, this factor is insignificant in relation to the inflow of FDI in the region.

Robustness Checks

To verify the consistency of the results of this research paper, we examined the adequacy of our model estimations by conducting a robustness check. The estimation of the lagged FDI variable for both the static and dynamic panel approach is positive and significant. This suggests that the demonstration effect of the FDI inflow into the region supports the three categories of FDI motives examined in this research paper. In the static models, the R squared values in the fixed effects model are shown to be 0.571, see Table 4. This indicates that the model explains about fifty-seven per cent (%) variations of the MNE's motives regarding FDI inflow to the MENA region. The pooled regression model estimation also reveals the value of R squared as 0.826, suggesting that the model's inputs explained more than eighty per cent (%) of the observed variation. The dynamic SYS-GMM model showed that the econometric problems connected with reverse causality, endogeneity, omitted variables bias, and instrument proliferation are controlled. The values of Arellano-Bond tests 1 and 2 and the Hansen test of override restrictions suggest that the dynamic panel data estimation results are robust and empirical results are reliable.

Conclusion

This research paper examines the market-seeking, resource-seeking, and efficiency-seeking motives of FDI inflow to the MENA region from 2005 to 2019. Empirical results suggest that besides other motives, resources and market-seeking remain the primary objectives amongst investors in the MENA region. This means that the MNEs in the MENA region are interested in supplying their home markets and their foreign affiliates with relevant goods and services. Still, they are also fascinated with securing dominant positions in the local markets to provide specific local market requirements for expanded customers overseas. The policy implication implies that countries in the region should ensure transparency in government policies, such as sharing information with their citizens and partners to make an informed decision and reduce risk. Foreign investors need transparent policies and information to make a quick decisions, especially during a crisis. Governments of host countries in the MENA region also need to improve the overall quality of infrastructure in their countries, as insufficient infrastructure is a disincentive for foreign investment. One of the limitations of this research paper is the inability to use the full panel of eighteen countries in the MENA region due to the non-availability of data. Nevertheless, for future research, we suggest that the externalities effect of these FDI motivations on local export should be examined.

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Appendix

Table A1. List of countries in the MENA region

| S/No | Countries | S/No | Countries |
|------|----------------------------|------|---------------------|
| 1 | Algeria | 10 | Libya |
| 2 | Bahrain | 11 | Yemen* |
| 3 | Egypt | 12 | Morroco |
| 4 | Iran (Islamic Republic of) | 13 | Oman |
| 5 | Iraq | 14 | Qatar |
| 6 | Israel | 15 | Saudi Arabia |
| 7 | Jordan | 16 | Syria* |
| 8 | Kuwait | 17 | Tunisia |
| 9 | Lebanon | 18 | United Arab Emirate |

Note:

1. MENA countries listing according to USTR data
2. * Indicates countries not included in the final sample

Table A2. Descriptive statistics

| Variable | Obs. | Mean | Std.Dev. | P25 | P75 | Min. | Max. | Skewness | Kurtosis |
|----------|------|--------|----------|--------|--------|--------|--------|----------|----------|
| FDI | 223 | 0.346 | 0.446 | 0.039 | 0.684 | -1.029 | 1.372 | -0.445 | 3.117 |
| PO | 240 | 4.081 | 0.496 | 5.002 | 4.577 | 2.837 | 5.112 | 0.127 | 2.832 |
| EX | 232 | 10.713 | 0.418 | 10.429 | 10.959 | 9.966 | 11.618 | 0.227 | 2.401 |
| GD | 240 | 4.022 | 0.449 | 3.634 | 4.395 | 3.332 | 4.843 | 0.276 | 1.668 |
| IM | 232 | 10.652 | 0.343 | 10.381 | 10.842 | 10.008 | 11.496 | 0.578 | 2.722 |
| IF | 193 | 0.740 | 0.535 | 0.437 | 1.164 | -0.965 | 1.567 | -0.893 | 3.377 |
| IU | 239 | 1.552 | 0.395 | 1.328 | 1.845 | -0.046 | 2.000 | -1.471 | 5.781 |
| MS | 240 | 7.035 | 0.533 | 6.650 | 7.517 | 5.855 | 8.072 | -0.072 | 2.190 |
| QI | 230 | 0.616 | 0.126 | 0.552 | 0.701 | 0.184 | 0.811 | -0.904 | 3.344 |
| NR | 224 | 0.807 | 1.171 | 0.529 | 1.573 | -3.088 | 1.838 | -1.895 | 6.060 |
| HR | 240 | -0.120 | 0.044 | -0.144 | -0.089 | -0.237 | -0.037 | -0.340 | 2.577 |
| RP | 192 | 0.669 | 0.101 | 0.611 | 0.752 | 0.302 | 0.811 | -0.747 | 3.012 |
| LF | 159 | 0.599 | 0.089 | 0.535 | 0.664 | 0.383 | 0.765 | -0.219 | 2.391 |
| PR | 182 | 0.642 | 0.090 | 0.576 | 0.716 | 0.361 | 0.777 | -0.752 | 2.771 |
| IP | 170 | 0.588 | 0.117 | 0.494 | 0.686 | 0.250 | 0.777 | -0.464 | 2.461 |
| GR | 183 | 0.541 | 0.094 | 0.469 | 0.615 | 0.305 | 0.728 | 0.011 | 2.281 |
| TG | 183 | 0.614 | 0.083 | 0.555 | 0.677 | 0.383 | 0.765 | -0.426 | 2.556 |

Table A3. Correlation matrix coefficients for Inward FDI motive in MENA region

| | PO | EX | FDI | GD | IM | IF | IU | MS | QI | NR | HR | RP | LF | IP | GR | TG | |
|----|-----|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|-------|-------|-------|-------|-------|---|
| 1 | PO | 1 | | | | | | | | | | | | | | | |
| 2 | EX | 0.126 | 1 | | | | | | | | | | | | | | |
| 3 | FDI | -0.165 | 0.002 | 1 | | | | | | | | | | | | | |
| 4 | GD | 0.473 | -0.034 | -0.150 | 1 | | | | | | | | | | | | |
| 5 | IM | 0.146 | 0.295 | 0.039 | -0.079 | 1 | | | | | | | | | | | |
| 6 | IF | - | -0.025 | 0.002 | -0.057 | -0.045 | 1 | | | | | | | | | | |
| 7 | IU | -0.067 | 0.028 | -0.062 | 0.422 | 0.039 | -0.356 | 1 | | | | | | | | | |
| 8 | MS | 0.300 | 0.214 | -0.251 | -0.493 | 0.218 | -0.003 | -0.020 | 1 | | | | | | | | |
| 9 | QI | -0.025 | 0.022 | -0.028 | 0.424 | 0.015 | -0.085 | 0.386 | -0.052 | 1 | | | | | | | |
| 10 | NR | 0.105 | 0.024 | -0.455 | 0.202 | -0.037 | 0.293 | -0.227 | 0.192 | 0.252 | 1 | | | | | | |
| 11 | HR | -0.473 | 0.041 | -0.009 | 0.436 | 0.015 | -0.088 | 0.547 | -0.350 | 0.402 | -0.037 | 1 | | | | | |
| 12 | RP | -0.134 | -0.074 | -0.026 | 0.195 | -0.070 | -0.098 | 0.395 | 0.083 | 0.505 | 0.167 | 0.215 | 1 | | | | |
| 13 | LF | -0.039 | -0.009 | -0.206 | 0.131 | -0.009 | -0.245 | 0.462 | 0.195 | 0.399 | 0.087 | 0.206 | 0.513 | 1 | | | |
| 14 | IP | -0.139 | -0.030 | -0.151 | 0.201 | -0.032 | -0.184 | 0.457 | 0.150 | 0.484 | 0.124 | 0.245 | 0.444 | 0.340 | 1 | | |
| 15 | GR | -0.047 | -0.066 | -0.070 | 0.169 | -0.062 | -0.153 | 0.418 | 0.132 | 0.499 | 0.122 | 0.204 | 0.346 | 0.459 | 0.349 | 1 | |
| 16 | TG | -0.104 | -0.075 | -0.086 | 0.164 | -0.069 | -0.165 | 0.417 | 0.139 | 0.493 | 0.112 | 0.200 | 0.356 | 0.463 | 0.347 | 0.486 | 1 |