

**Investigating the Determinants of Foreign Capital Inflows to
Emerging Economies:
The Case of the MENA Countries**

Tasneem Hamed Abdelhakim

**Master's of Business Administration,
Arab Academy Graduate School of Business (AAGSB)
Supervisor**

Dr. Ahmed Fekri Mabrouk

**Associate Professor, Department of Economics,
Misr International University (MIU)**

Abstract

The research examines the relationship between capital inflows and the institutional quality, macroeconomic factors in the host country. To realize the study objective the researcher used FDI determinants in addition to FPI inflows using descriptive statistics. The current study is based on the quantitative data collected from 14 countries from Middle East and North Africa (MENA region), dividing sample into oil countries and non-oil countries. Panel data for the period 2007-2022 are used. The results of this study indicate that capital inflows are driven by institutional quality index and some of economic factors for MENA countries, non-oil countries and oil countries of MENA region. Practicing more institutional quality procedures will negatively impact the FDI inflows for oil countries. In contrast, practicing more institutional quality

procedures will positively impact the FDI inflows for non-oil countries. Curvilinear relationship exists between institutional quality index and FPI, which means the existence of an optimal level of institutional quality index that maximizes FPI inflows. Any deviation will lead to inefficiency in attracting FPI; there is (N) shape between them for full sample and oil countries models. In contrast, there is no significant impact of institutional quality index on FPI inflows for non-oil countries.

Keywords: Foreign direct investment, foreign portfolio investment, Institutional quality variables, capital inflows determinants, macroeconomic variables, MENA region, oil countries, non-oil countries.

المستخلص

يتناول البحث العلاقة بين تدفقات رأس المال الداخلة والنوعية المؤسسية وعوامل الاقتصاد الكلي في البلد المضيف. ولتحقيق هدف الدراسة، استخدم الباحث محددات الاستثمار الأجنبي المباشر بالإضافة إلى تدفقات الاستثمار الأجنبي المباشر الوافدة باستخدام إحصاءات وصفية. تستند الدراسة الحالية إلى البيانات الكمية التي تم جمعها من ١٤ دولة من الشرق الأوسط وشمال إفريقيا (منطقة الشرق الأوسط وشمال إفريقيا)، وتقسّم العينة إلى بلدان نفطية وبلدان غير نفطية. وتستخدم بيانات الفريق للفترة ٢٠٠٧-٢٠٢٢. وتشير نتائج هذه الدراسة إلى أن تدفقات رؤوس الأموال تدفعها مؤشرات الجودة المؤسسية وبعض العوامل الاقتصادية لبلدان الشرق الأوسط وشمال إفريقيا والبلدان غير النفطية والبلدان النفطية في منطقة الشرق الأوسط وشمال إفريقيا. وستؤثر ممارسة المزيد من إجراءات الجودة المؤسسية تأثيراً سلبياً على تدفقات الاستثمار الأجنبي المباشر إلى بلدان النفط. وعلى النقيض من ذلك، ستؤثر ممارسة

المزيد من إجراءات الجودة المؤسسية تأثيراً إيجابياً على تدفقات الاستثمار الأجنبي المباشر إلى البلدان غير النفطية. توجد علاقة منحنية بين مؤشر الجودة المؤسسية و FPI، مما يعني وجود المستوى الأمثل لمؤشر الجودة المؤسسية الذي يزيد من تدفقات FPI وأي انحراف سيؤدي إلى عدم الكفاءة في اجتذاب الاستثمار الأجنبي المباشر؛ يوجد شكل (N) بينهما لنماذج العينة الكاملة وبلدان النفط. وعلى النقيض من ذلك، لا يوجد أثر كبير لمؤشر الجودة المؤسسية على تدفقات الاستثمار الأجنبي المباشر إلى البلدان غير النفطية.

الكلمات المفتاحية: الاستثمار الأجنبي المباشر، استثمار الحوافز المالية الأجنبية، متغيرات الجودة المؤسسية، محددات تدفقات رأس المال، متغيرات الاقتصاد الكلي، منطقة الشرق الأوسط وشمال أفريقيا، بلدان النفط، البلدان غير النفطية.

1. Introduction.

Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) are critical components of international finance, playing pivotal roles in shaping global economies. FDI involves long-term investments where a company or individual from one country establishes operations or acquires assets in another country, aiming for significant control and lasting interest in the foreign enterprise. In contrast, FPI encompasses investments made in financial assets such as stocks, bonds, or other securities of foreign entities without obtaining ownership or controlling interest, FPI, on the other hand, focuses on short-term financial gains, providing liquidity to financial markets and allowing investors to diversify portfolios across

borders. Its volatility can impact exchange rates, stock markets, and overall financial stability. While FPI can inject capital swiftly, it might also lead to speculative bubbles, sudden market crashes, and vulnerability to external shocks due to its short-term nature. Understanding the interconnections and implications of FDI and FPI is crucial for policymakers, investors, and economists to navigate the complexities of global finance. While both forms of investment contribute to economic development, their differing characteristics necessitate tailored strategies to harness their potential benefits while mitigating associated risks for sustainable growth and financial stability in an increasingly interconnected world. Institutional quality includes its main six variables with the WGI (Worldwide Governance Indicators) as a proxy; voice and accountability, rule of law, regulatory quality, political stability, control of corruption, government effectiveness. For the macroeconomic variables they include the GDP growth which is quantified in the GDP growth per capita, currencies exchange rate, inflation rates which is quantified in the CPI, population employment rate, exports of goods and services as a percentage of GDP, current account balance which represents sum of goods and services net exports. So, any developing country's aim is to enhance its economic growth and

attract foreign investments, as it means to flow foreign currencies, which consequently nourish host countries with foreign skills, knowledge, and the enhancement of labor and the country's production. But countries of the Middle East and North Africa region (MENA) differ in their economic and institutional characteristics. In summarize, this article tries to answer these four questions:

- Do institutional quality factors affect FDI decisions?
- Do macroeconomic factors in host country have a significant effect on FDI inflows?
- Do institutional quality factors affect FPI decisions?
- Do macroeconomic factors in host country have a significant effect on FPI inflows?

Based on the problem discussion, the researcher will investigate the main objective of this research is to investigate the characteristics that attract foreign direct investments and foreign indirect investments (foreign portfolios) to both oil and non-oil countries of the MENA region. The Study is arranged as follows: after this introduction, In Section 2, a literature review is presented, followed by study research methods in Section 3, results and discussion in Section 4. Finally, in Section 5, the conclusion and implications are presented.

2. Literature Review.

This section summarizes some prior studies on foreign direct investment, foreign portfolio investment and institutional factors, and macroeconomic factors.

2.1. Impact of Macroeconomic Variables on FDI.

Enu, Patrick, et al. (2013) shed light on crucial macroeconomics determinants that affected Foreign direct investment such as inflation rates, exchange rates, growth domestic product growth and trade openness and recommended policy makers to foster policies that encourage foreign direct investment, moderate exchange rate depreciation, increasing trade openness.

Kelly (2016) conducted that foreign direct investment inflow has an impact on GDP, but it goes through the development of the financial sector. Also, he showed that public authorities in MENA countries need to put in place the right institutions to attract more foreign direct investment inflows and thus, accelerate economic growth. Furthermore, they should promote the international integration of the MENA countries in Europe and Asia. In receiving countries, a good understanding of the positive effects of foreign direct investment on growth requires complementarity and interrelationships between institutions and foreign direct investment.

Khatabi, Sanaz, et al. (2020) The Consumer Price Index (CPI) was used to measure the level of inflation in the study, and the results of the analysis cannot reject the hypothesis that inflation is negatively related to foreign direct investment inflows - a finding that is consistent with other investment theories based on the assumption that investors must be able to predict their profits in order to make investment decisions. Inflation raises the "transaction cost". As a result, if inflation is unpredictably volatile the tendency to perform business transactions is reduced. Similarly, inflation can be the basis for impulsive transactions in order to avoid complications caused by the chance of accurately projecting prices. As a result, this could set in motion a lack of willingness to conduct business, perhaps preventing FDI over time.

Okafor, Luke Emeka, et al. (2022) discussed the increase of risk in international trade, examined the impact of four risk dimensions, such as political stability, currency volatility, inflation rate risk and financial risk on FDI inflows using several fixed effects model and GMM system. The obtained results are consistent with the theoretical predictions. A currency's appreciation against the US dollar, gradual economic growth, lower inflation rates, and lower external debt can help a country build a better international image, leading to incremental IDE

entries. Influences of political stability are mixed. Even with political stability, countries may still have difficulty attracting foreign direct investment.

Şişman, Muhammet Yunus (2018) reveal it is crucial to keep inflation rates modest, as this would help to preserve economic growth and vitality, attracting additional foreign direct investment activity to the region. The GDP deflator, which is used as a proxy for inflation, has a positive sign for the majority of the nations and time periods in our sample also, inflation volatility shows positive direct effect on foreign direct investment in MENA region, negative indirect effect of exchange rate volatility on foreign direct investment.

2.2. Impact of Macroeconomic Variables on FPI.

Haider, Muhammad Afaq, Muhammad Asif Khan, and Elyas Abdulahi (2016) investigated the economic factors that attracts foreign portfolio investment investors to Chinese economy. GDP, external debt, exchange rate, population shows significant impact on foreign portfolio investment. They assured that enduring political conditions and government economic policies engage foreign portfolio investment to the host country consequently refine economic growth of the country enhancing standard of living of host country people.

Sahar, Hassan, Khayat (2020) used panel data analysis for Gulf Cooperation Council (GCC) countries for the period from 2000 to 2018, stated positive significant relationship between real GDP and foreign portfolio investment. However, negative and insignificant effect of inflation on foreign portfolio investment as it mitigates investors actual returns, subsequently discouraging foreign investors. Also, stronger domestic creditworthiness attracts foreign portfolio investments as there is positive significant impact of domestic credit on foreign portfolio investment.

2.3. Impact of institutional quality variables on FDI.

Kurul and Yalta (2017) results showed that voice and accountability positively and significantly influence foreign direct investment inflows as a comprehensive indicator of fundamental rights and liberties, the functioning of the political system and a striking figure of country. The remaining three dimensions do not significantly affect foreign direct investment inflows. Developing countries that are lacking control of corruption, government effectiveness, and voice and accountability, may attract less foreign direct investment.

Brahim M. et al. (2016) concluded that motivated by the important role of foreign direct investment for economic growth, this paper has shed new light on understanding this relationship by focusing on the role played by the

institutional quality in host countries. Using a panel of 19 MENA countries for the period 1984-2011, this paper highlights the impact of foreign direct investment on economic growth conditional on the institutional quality. The empirical evidence captured by within the PSTR approach confirms that institutional quality clearly influences the impact of foreign direct investment on growth in MENA countries. The PSTR is adopted for 9 measures of institutions quality (Law and order, Corruption, Socioeconomic conditions, External conflicts, Internal conflicts, Military in politics, Bureaucracy quality, Religion in politics and Ethnic tension).

Buchanan et al. (2012) stated that foreign direct investment increase and decrease according to countries institutional quality that matters to the foreign direct investment inflow, whereas inflow increases to countries with better institutional quality, and inflow decreases to the countries that have inferior institutional quality. However, they provided evidence and prove that there is positive and significant relation between institutional quality on foreign direct investment inflow.

Derbali and Jamel (2020), Mentioned that institutional factors in the MENA region has significant effect determining political, economics, civil freedoms levels. Clearly means that bringing out encouraging business

climate can foster both domestic and foreign investors and nourishing dynamics and removing challenges of integration and development, all Institutional factors in the host country have significant effect and correlated with foreign direct investment flows except corruption control and bureaucracy quality. Institutional factors vary from country to another. Which means that countries with high institutional quality, security and protection of property rights attracts foreign direct investment.

Fiodendji, (2013) Foreign investors are highly sensitive to Political stability changes, Democratic fundamental rights matter to operate in countries as political rights and civil rights, property rights protection is crucial more than democracy, corruption, political stability, and investment profile.

Nasr El-din, Haitham Mohammed (2015) Stated that political determinants for developing countries as Egypt in particular should lower political risks develop clear economic vision to achieve economic stability reduce income inequality and perish terrorism to restore security to its normal levels in the country leads to attract more foreign direct investment inflows to the host country.

Jindřichovská et al. (2020) empirically examine the impact of foreign direct investment inflow and outflow to

institutional quality. Their study finds the positive impact of FDI on institutional issues.

Mostafa, Eman (2021) finds after empirical investigations that perceived corruption in Egypt is correlated positively with foreign direct investment inflows, also supports that income (per capita GDP), market size, domestic agglomeration (a local economy which large number of industries, companies and services are close to one another so they benefit from this proximity in cost reductions and efficiency gains) all these importance economic fundamentals are determinants of foreign direct investments inflows and crucial for capital accumulation in Egypt, also recommends governments to strengthen the role of anti-corruption agencies, enhance governance, establish improved strategies to attract short run foreign direct investments as long as to promote sustainable and long-term economic development to enhance the host country's appeal to the foreign investors.

2.4. Impact of institutional quality variables on FPI.

Ritab, Al-Khoury. (2015) showed that foreign portfolio investment lag and openness level play an important role in attracting foreign portfolio investments to the MENA region. Furthermore, stock market capitalization and return on equity have a positive and significant positive impact on foreign portfolio investment flows. This study also

shows that while significant and negative government structures influence foreign portfolio investment, surprisingly, religious tensions in the MENA region have a positive impact on foreign portfolio investment, it is possible that countries with religious tensions directly attract foreign portfolio investments, or that foreign investors place less importance on religious tensions in foreign portfolio investments. This result indicates that the level of foreign portfolio investment lag and openness plays an important role in attracting foreign portfolio investments to MENA region. Furthermore, stock market capitalization and return on assets have a positive and significant positive impact on foreign portfolio investment. Adding different components of political risk, our results show that in addition to foreign portfolio investment and openness in the first period, government structure also has a significant but negative impact on foreign portfolio investment, while religious tensions in the MENA region have a negative impact on foreign portfolio investment. It has been shown to have a positive impact.

Al Sayed, O., Omar, N. S., & Khaled, A. (2023) examined the relationship between institution quality and foreign portfolio investment inflows to 10 MENA countries across period 1996-2007, random effect panel regression estimated the results of the study which revealed that

institutional quality has significant negative relationships to the foreign portfolio investment and foreign direct investment. They also underlined that inflation has a significant negative relationship with volatility of both capital inflows foreign direct investment and foreign portfolio investment.

Mohammad O. Al-Smadi (2018) found significant impact between inflation, risk diversification, country credit worthiness, aggregate economic activity, governance and corruption and portfolio investment flow to Jordan. Investigating Jordan econometric data during the period from 2000 to 2016. And they recommended that policy makers must frost monetary and fiscal policies to maintain low inflation rate and high economic growth rate to attract foreign portfolio investors to Jordan. Assuring the significant role of host country's level of governance and corruption in attracting portfolio inflows to host country. As enhancing economy and protecting investors rights would increase attractiveness of foreign portfolio investment in Jordan.

Ahmed, Badawi., Anas, Al, Qudah., Waleed, Rashideh.(2019) in Gulf region Saudi Arabia has the largest stock market which makes it opened for foreign investors. Cross-sectional data from three main sectors: agriculture, manufacturing and service sector that merged

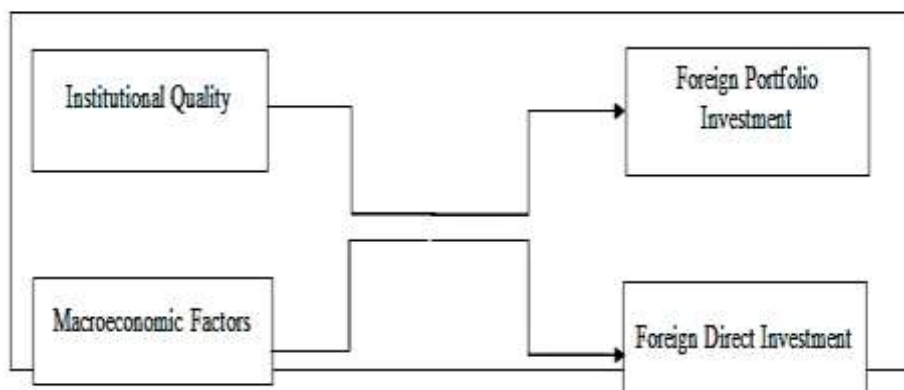
the economy. Data from 125 Saudi listed companies were used from the year 2015 to illustrate foreign investors decisions made in 2016. Investors are forward-looking and sensitive to risk. They see private non-governmental ownership. Existence of a government share in listed firms is found to give a negative signal to foreign investors.

As compared to the past works, this study examines the effect of the institutional quality and macroeconomic factors on foreign direct investment and foreign portfolio investment.

3. Research Methodology

3.1. Model.

This article examines the relationship between capital inflows and the institutional quality, macroeconomic factors in the host country. The following diagram presents the proposed model.



3.2. Data.

The data are collected annually over 14 different countries across 15 consecutive years (2007–2022), mainly from the world governance indicator and the economic indicators over the period under analysis for the chosen sample. Originally, the analysis was planned to take a longer period of time, but due to some countries available data limitations and older years, the chosen sample was analyzed according to their availability. In a panel data form, the sample is observed from 14 countries in the MENA region based on annual rate data covering the period from 2007 to 2022. Countries in scope: Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, and the United Arab Emirates.

3.3. Variables and Proxies.

A multidimensional effect approach for the study that includes two main aspects: Macroeconomic variables, institutional quality. Institutional quality includes its main six variables with the WGI (Worldwide Governance Indicators) as a proxy, for the macroeconomic variables they include the GDP growth which is quantified in the GDP growth per capita, currencies exchange rate, inflation rates which is quantified in the CPI, population employment rate, exports of goods and services as a

percentage of GDP, current account balance which represents sum of goods and services net exports. This research studies the institutional quality factors and macroeconomic quality factors affecting foreign capital inflows on MENA countries level acquired from IMF (International Monetary Fund) and World Bank databases. The dependent variable in this data is the foreign direct investment, foreign portfolio investment and independent variables are the multidimensional institutional and macroeconomic variables as per the model mentioned in the following section.

3.4. Hypotheses.

The study examines the following testable hypotheses:

Hypothesis I:

The relationship between Capital inflows and institutional factors of the host country.

H₀: There is no significant relationship between capital inflows and institutional factors in the host country.

H₁: There is likely to be a negative relationship with capital inflows and Institutional factors of the host country.

Hypothesis II:

The relationship between capital inflows and macroeconomic factors of the host country.

H₀: There is no significant relationship between capital inflows and macroeconomic factors in the host country.

H₁: There is likely to be a negative relationship with capital inflows and macroeconomic factors of the host country.

3.5. Estimation

1. The impact of institutional quality index and economic determinants of FDI. (M1)

$$FDI_GDP_{i,t} = \beta_0 + \beta_1 IQI_{i,t} + \beta_2 Inf_{i,t} + \beta_3 GDPg_{i,t} + \beta_4 Employ_{i,t} + \beta_5 Exp_{i,t} + \beta_6 CA_GDP_{i,t} + \beta_7 Curr_Exch_{i,t} + \varepsilon_{i,t}$$

2. The impact of institutional quality dimensions and economic determinants of FDI. (M2)

$$FDI_GDP_{i,t} = \beta_0 + \beta_1 Voice_{i,t} + \beta_2 Law_{i,t} + \beta_3 Regu_{i,t} + \beta_4 Corrup_{i,t} + \beta_5 Gov_Effect_{i,t} + \beta_6 Political_{i,t} + \beta_7 Inf_{i,t} + \beta_8 GDPg_{i,t} + \beta_9 Employ_{i,t} + \beta_{10} Exp_{i,t} + \beta_{11} CA_GDP_{i,t} + \beta_{12} Curr_Exch_{i,t} + \varepsilon_{i,t}$$

3. The impact of institutional quality index and economic determinants of FPI. (M3)

$$FPI_GDP_{i,t} = \beta_0 + \beta_1 IQI_{i,t} + \beta_2 Inf_{i,t} + \beta_3 GDPg_{i,t} + \beta_4 Employ_{i,t} + \beta_5 Exp_{i,t} + \beta_6 CA_GDP_{i,t} + \beta_7 Curr_Exch_{i,t} + \varepsilon_{i,t}$$

4. The impact of institutional quality dimensions and economic determinants of FPI. (M4)

$$FPI_GDP_{i,t} = \beta_0 + \beta_1 Voice_{i,t} + \beta_2 Law_{i,t} + \beta_3 Regu_{i,t} + \beta_4 Corrup_{i,t} + \beta_5 Gov_Effect_{i,t} + \beta_6 Political_{i,t} + \beta_7 Inf_{i,t} + \beta_8 GDPg_{i,t} + \beta_9 Employ_{i,t} + \beta_{10} Exp_{i,t} + \beta_{11} CA_GDP_{i,t} + \beta_{12} Curr_Exch_{i,t} + \varepsilon_{i,t}$$

4. Results and Discussion

From a sample of 14 different countries across 15 consecutive years 2002-2022 period, data on capital inflows and the institutional quality, macroeconomic factors in the host countries were acquired. The descriptive statistics are illustrated in table below.

Variable		Mean	Std. Dev.	Min	Max	Observations
FDI_GDP	overall	3.049	3.729	-4.542	23.039	N = 223
	between		2.614	-0.995	8.662	n = 14
	within		2.754	-2.962	17.426	T-bar = 15.9286
FPI_GDP	overall	0.003	0.013	-0.059	0.069	N = 138
	between		0.005	-0.002	0.018	n = 11
	within		0.012	-0.061	0.067	T-bar = 12.5455
IQI	overall	41.705	17.079	4.907	71.946	N = 223
	between		17.370	8.829	67.422	n = 14
	within		3.166	30.667	51.919	T-bar = 15.9286

Voice	overall	21.270	10.797	2.347	56.522	N = 223
	between		9.565	4.525	40.215	n = 14
	within		5.613	-9.940	37.577	T-bar = 15.9286
Law	overall	47.998	21.731	0.957	81.429	N = 223
	between		22.075	2.523	75.644	n = 14
	within		4.220	35.189	60.096	T-bar = 15.9286
Regu	overall	47.931	21.194	7.143	82.857	N = 223
	between		21.071	12.432	75.075	n = 14
	within		5.784	25.587	66.618	T-bar = 15.9286
Corrup	overall	48.294	21.994	1.942	91.388	N = 223
	between		22.305	5.861	82.106	n = 14
	within		4.710	36.129	63.096	T-bar = 15.9286
Gov_Effect	overall	49.519	21.138	2.427	90.476	N = 223
	between		21.024	10.487	85.548	n = 14
	within		5.785	23.227	65.023	T-bar = 15.9286
Political	overall	35.220	24.822	0.483	92.417	N = 223
	between		24.629	2.580	81.200	n = 14
	within		7.169	17.081	60.114	T-bar = 15.9286
Inf	overall	4.115	6.941	-4.900	84.900	N = 222
	between		2.905	1.663	11.594	n = 14
	within		6.363	-9.120	79.580	T = 15.8571
GDPg	overall	3.310	4.613	-25.900	18.200	N = 222
	between		1.494	1.050	6.494	n = 14
	within		4.385	-23.640	15.017	T = 15.8571

Employ	overall	9.493	4.877	1.087	24.075	N = 138
	between		4.755	1.563	15.882	n = 9
	within		1.871	5.486	17.686	T = 15.3333
Exp	overall	51.638	28.934	10.345	166.718	N = 203
	between		32.833	18.070	144.164	n = 14
	within		8.850	11.239	74.193	T-bar = 14.5
CA_GDP	overall	1.331	14.541	-30.776	45.460	N = 194
	between		11.504	-18.483	27.026	n = 13
	within		9.317	-28.431	31.805	T-bar = 14.9231
Curr_Exp	overall	0.017	0.083	-0.145	1.009	N = 223
	between		0.033	0.000	0.110	n = 14
	within		0.077	-0.150	0.915	T-bar = 15.9286

A fisher-type unit-root test is conducted to examine whether the time series of each variable is stationary or has a unit root for unbalanced panel data. The null hypothesis states that the series contains a unit root. Conversely, the alternative hypothesis assumes that the series is stationary. The null hypothesis is accepted when the p-value is greater than 5%. However, the alternative hypothesis is accepted when the p-value is less than 5%.

Table (2) Fasher-Type Unit-Root Test	
Variables	P-Value
FDI GDP	0.000***
FPI GDP	0.000***

IQI	0.000***
Voice	0.3688
Law	0.000***
Regu	0.1542
Corrup	0.5139
Gov Effect	0.6095
Political	0.0348**
Inf	0.000***
GDPg	0.000***
Employ	0.0873
Exp	0.4257
CAT GDP	0.000***
Ch Exch	0.000***
P Exch	0.000***

Table (2) shows voice and accountability, regulatory quality, corruption control, government effectiveness, employment rate, and exports have a unit root at their original levels because their corresponding p-values are greater than 5%. However, the remaining variables have a stationary time series at their original levels because their corresponding p-values are less than 5%. Nonetheless, the stationarity of the non-stationary variables can be obtained by taking their first difference.

Variables	P-Value
D.Voice	0.000***
D.Regu	0.000***
D.Corrup	0.000***
D.Gov_Effect	0.000***
D.Employ	0.000***
D.Exp	0.000***

Concerning voice and accountability, regulatory quality, corruption control, government effectiveness, employment rate, and exports, the first differencing transformation is taken. Hence, the stationarity of the time series of all non-stationary variables after taking the first differencing transformation, as shown in **Table (3)**, the p-values reveal that there is no unit root, and all the study variables are stationary.

Variable	Model 1	Model 2	Model 3
	Full sample	Non-Oil countries	Oil countries
IQI	.26885529***	-.72731052***	.35403624***
IQI2	-.00331874**	.01180729***	-.00501699***
Inf	.05385906*	.09851452**	0.058
GDPg	.11716136***	.16923844**	0.055
Employ	0.038	-0.168	0.104
Exp	.04660622*	-0.036	.07758942***
CA_GDP	-.08522787***	-.22580495***	-.064729**
Curr_Exch	1.249	-0.055	-0.108
_cons	-2.420	17.504819***	-5.6529692*
Year Fixe Effect	Included	Included	Included
R2	0.53	0.788	0.591

Legend: * p<.1; ** p<.05; *** p<.01

Table (4) shows that Prais-Winsten regression is used to test FDI models to consider the effect of heteroskedasticity and autocorrelation in the tested models. The overall model can be accepted as a reliable model to explain foreign direct investment inflows because the Prob > chi2 is less than 5% for all models. In addition, the FDI model can explain 0.53, 0.788 and 0.591 of foreign direct investment inflows for full sample, non-oil countries, and oil countries, respectively, implying that FDI is driven by economic and institutional quality determinants for MENA region countries. Research reveals that a curvilinear relationship exists between institutional quality index IQI and foreign direct investment inflows FDI_GDP, which means the existence of an optimal level of institutional quality index that maximizes FDI inflows. Any deviation will lead to inefficiency in attracting FDI; there is an inverted U-shape between them for full sample and oil countries models. Where the IQI parameter is positive (>0) and significant, and IQI2 squared is negative (0) and significant.

Variable	Model 4	Model 5	Model 6
	Full sample	Non-Oil countries	Oil countries
Voice	.58704561***	1.0716063***	-0.628
Voice2	-.02424491***	-.03671782***	0.045
Voice3	.00024714***	.0003747***	-0.001
Law	.46334444***	-0.194	0.048
Law2	-.00476291***	0.001	-0.003
Regu	-.34369982**	0.396	-.41464039*
Regu2	.01002137**	-0.015	.01558837**

Regu3	-.00009001**	0.000	-.00014202**
Corrup	-.35702426***	-1.0483633***	-0.029
Corrup2	.00490829***	.01187289***	0.002
Gov_Effect	-0.067	0.017	-0.003
Political	.18244714**	.1565525*	0.128
Political2	-.00294894***	-0.001	-0.002
Inf	0.071	.13846775**	0.065
GDPg	.11795202***	.19092673***	0.036
Employ	0.118	-.26726957***	0.272
Exp	.09493437***	.11136075**	.1536812***
CA_GDP	-.05861277**	-0.012	-.06681935*
Curr_Exch	0.608	0.761	0.228
_cons	-6.4388252***	14.325	-5.354
Year Fixe Effect	Included	Included	Included
R2	0.536	0.877	0.570
Legend: * p<.1; ** p<.05; *** p<.01			

Table (5) shows that Prais-Winsten regression is used to test FDI models to consider the effect of heteroskedasticity and autocorrelation in the tested models. The overall model can be accepted as a reliable model to explain foreign direct investment inflows because the Prob > chi2 is less than 5% for all models. In addition, the FDI model can explain 0.53, 0.877 and 0.57 of foreign direct investment inflows for full sample, non-oil countries, and oil countries, respectively, implying that FDI is driven by economic and institutional quality dimensions determinants for MENA region countries. This research reveals that a curvilinear relationship exists between voice & accountability and foreign direct investment inflows FDI_GDP, which means the existence of an optimal level of voice & accountability that maximizes FDI inflows. Any deviation will

lead to inefficiency in attracting FDI; there is (N) shape between them for full sample and non-oil countries models. Where the Voice parameter is positive (>0) and significant, Voice2 squared is negative (0) and significant. In contrast, there is no significant impact of voice and accountability on FDI inflows for oil countries.

Variable	Model 7	Model 8	Model 9
	Full sample	Non-Oil countries	Oil countries
IQI	-.00891359***	0.006	-0.004*
IQI2	.000327***	-0.000	.00019966*
IQI3	-3.443e-06***	0.000	-2.403e-06**
Inf	.00086541***	0.000	.00137034***
GDPg	0.000	0.001	0.000
Employ	-.00174877***	0.000	-.00298023**
Exp	.00052684***	-0.000	0.000
CA_GDP	-0.000	-0.001	0.000
Curr_Exch	0.005	.01363942*	.04094322*
_cons	.04899424**	-0.096	.09709499**
R2	0.705	0.475	0.776
Legend: * p<.1; ** p<.05; *** p<.01			

Table (6) shows that Prais-Winsten regression is used to test FPI models to consider the effect of heteroskedasticity and autocorrelation in the tested models. The overall model can be accepted as a reliable model to explain foreign portfolio investment inflows because the Prob > chi2 is less than 5% for all models. In addition, the FPI model can explain 0.705, 0.475 and 0.776 of foreign portfolio investment inflows for full sample, non-oil countries, and oil countries, respectively, implying that

FPI is driven by economic and institutional quality determinants for MENA region countries. Curvilinear relationship exists between institutional quality index IQI and foreign portfolio investment inflows FPI_GDP, which means the existence of an optimal level of institutional quality index that maximizes FPI inflows. Any deviation will lead to inefficiency in attracting FPI; there is (N) shape between them for full sample and oil countries models. In contrast, there is no significant impact of IQI on FPI inflows for non-oil countries model.

Variable	Model 10	Model 11	Model 12
	Full sample	Non-Oil countries	Oil countries
Voice	-.00137948***	0.001	0.001
Voice2	.00001607*	-0.000	-0.000
Law	-.00080559**	.00112972***	.00109798**
Regu	-.00168134***	-.00549274***	-0.001
Regu2	.00001653**	.00009173***	-0.000
Corrup	.00119667***	.00105006***	0.000
Gov_Effect	-0.000	-.00070547*	-0.000
Political	.00384718***	-.00816665***	.00318281***
Political2	-.0001154***	.00033122***	-.00014554***
Political3	8.547e-07**	-4.155e-06***	1.354e-06***
Inf	0.000	-0.000	.00167305***
GDPg	0.000	.00096776*	0.000
Employ	-.00158674***	-0.001	-0.000
Exp	0.000	-0.001	-0.000
CA_GDP	0.000	-.00078984*	0.000
Curr_Exch	-0.008	.01221296*	.05798449**
_cons	.04617024***	.06327961*	0.016
Year Fixe Effect	Included	Included	Included
R2	0.533	0.694	0.859

Legend: * p<.1; ** p<.05; *** p<.01

Table (7) shows that Prais-Winsten regression is used to test FPI models to consider the effect of heteroskedasticity and autocorrelation in the tested models. The overall model can be accepted as a reliable model to explain foreign portfolio investment inflows because the Prob > chi2 is less than 5% for all models. In addition, the FPI model can explain 0.533, 0.694, and 0.859 of foreign portfolio investment inflows for full sample, non-oil countries, and oil countries, respectively, implying that FPI is driven by economic and institutional quality dimensions determinants for MENA region countries. research reveals that a curvilinear relationship exists between voice & accountability and foreign portfolio investment inflows FPI_GDP, which means the existence of an optimal level of voice and accountability that maximizes FPI inflows. Any deviation will lead to inefficiency in attracting FPI; there is a U-shape between them for full sample model. In contrast, there is no direct linear significant impact of voice & accountability on FPI inflows for oil and non-oil countries models.

5. Discussions and Conclusion

Findings demonstrated that FDI inflows are driven by institutional quality list and macroeconomic factors for MENA, non-oil countries and oil countries of MENA region. Rehearsing more institutional quality regime will adversely affect the FDI inflows for oil countries. Interestingly, rehearsing more institutional quality regime will emphatically influence the FDI

inflows for non-oil nations. Curvilinear relationship exists between institutional quality file and FPI, and that implies the presence of an ideal degree of institutional quality list that augments FPI inflows. Any deviation will prompt failure in drawing in FPI; there is (N) shape between them for full example and oil countries models. Conversely, there is no huge effect of IQI on FPI inflows for non-oil countries model.

Further works are needed to precise the effects of capital inflows volatility to the whole MENA region, as due to limited data availability there was missing observations, as we employed only 14 out of 21 MENA countries, therefore access to information may provide broader results about the relationships in the study between macroeconomic and institutional variables with foreign capital inflows to all Middle East and North Africa region countries.

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