Foreign Direct Investment and Development in MENA Countries

by

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Abstract

Investment Development Path (IDP) hypothesis is investigated for the Middle East and North African (MENA) countries and the MENA region as a whole. While some of the countries are outliers of the IDP concept, we found empirical evidence that supports the relationship between the international investment position and economic development. The empirical results support the theory of IDP only for Egypt, Oman, Qatar, Sudan and Tunisia (at the second stage), Bahrain, Turkey (third stage) and United Arab Emirates (fourth stage). The results for the MENA region (with aggregate figures) sustain the IDP approach identifying the region's investment position as being at the second stage. It seems that MENA still draws more FDI as a region than its outward investments with rich natural resources and recently adopted government policies.

JEL Classification: F23, O.

Keywords: FDI, Investment Development Path, Developing Economies

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I. Introduction

Although world Foreign Direct Investment (FDI) flows have been in decline during the period between 2000 and 2003, FDI is still crucial for especially the developing economies. According to UNCTAD (2004) international production is now accomplished by over 900,000 foreign affiliates of at least 61,000 Transnational Corporations (TNCs) worldwide. These foreign affiliates make up about one-third of the world exports and one-tenth of world GDP. While FDI flows to developed economies fell down by 25%, flows to developing economies rose by 9% in 2003 (relative to 2002). Recently, outward FDI from developing countries is becoming significant as FDI outflows from developing countries have grown faster than those from developed ones. Outward FDI now accounts to more than 10% of world total stock. Moreover, South to South (i.e., developing countries to developing countries) FDI flows have grown faster than that from South to North (i.e., developing countries to developed countries) (see UNCTAD, 2004).

Unfortunately, despite its size (population of 430 million) and total GDP ($1,198 billion), MENA region seems to have difficulties in drawing foreign investors.[1] In fact, the UNCTAD Inward FDI Performance Index -for the period from 2001 to 2003- shows that the MENA region is far behind any other developing region except South Asia. In particular, the West-Asian part of the region performed much worse than the North-African part. During this period, the best performer in the region was Sudan, coming 29th, followed by Morocco (32nd) and Bahrain (51st) (see UNCTAD, 2004).

MENA region includes various countries with different economic structures and resources, however these countries have some general common characteristics such as heavy reliance on oil; weak economic base; high population growth and unemployment rates; dominance of the state in the economic sector; low level of integration with the world; underdeveloped financial and capital markets; underdeveloped institutions; and low rates of returns on human and physical capital (Hassan and Bashir, 2002; Makdisi, Fattah and Liman, 2002). Most importantly, most of the MENA countries share similar features as long as FDI-related figures are concerned. Therefore, the Investment Development Path (IDP) framework

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[1] MENA region includes Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, UAE, West Bank & Gaza, Yemen,.

brought in by Dunning (1981) could be a useful tool for investigating the net FDI position of the MENA region in relation to its development.

The paper is organized as follows: the IDP theory and the model to be used will be defined in the next section. The general characteristics of MENA countries will be highlighted in the third section. The methodology and data will be spelt out in section four. Section five tests the IDP theory for individual MENA countries whereas section six does that for MENA region with aggregate figures. Finally, section seven makes some concluding remarks.

II. Investment Development Path (IDP)

The IDP theory was introduced by Dunning (1981) as an extension of Eclectic Paradigm, to explain the net outward investment position of countries in relation to their development stages. The Eclectic Paradigm suggests that the direct investment stock of countries is determined by three factors: ownership, location and internalization (OLI) advantages. Ownership advantages describe the net competitive advantages of a domestic firm relative to the firms of other countries such as patents and trademarks, managerial know-how, scale or preferential access to raw materials and/or to markets. Internalization advantages of a firm define the perception of the firm as more profitable to exploit the ownership advantages in the international markets instead of selling them to other firms. Finally, location advantages identify the host country's attractiveness relative to others such as physical distance, labour composition, wages, infrastructure, economic and political system, etc.

The IDP theory suggests that the country passes through five main development stages determined by the changes in the OLI parameters of domestic firms and the country (Dunning and Narula 1996). These changes affect the international investment position of the country with respect to its development. Dunning and Narula (1996) demonstrate the change in investment position of a country with changes in its net outward investment (NOI: outward FDI minus inward FDI) and the development with country's gross domestic product (GDP) level.

In the first stage of IDP, outward FDI of the country is at a negligible level or zero because of insufficient ownership advantages of domestic firms. The inward FDI level of the country also remains at a low level as a result of limited market demand related to low income level, insufficient government policies in promoting FDI, inadequate labour force and

infrastructure (Dunning and Narula 1996). In the second stage of IDP, outward direct investments remain still at a negligible level but inward FDI begins to rise as the location advantages of the country improves, particularly with the help of government policies. As the ownership advantages of the firms improve, firms become more competitive and internalization of international markets becomes more attractive. Eventually, the rate of outward FDI begins to increase in the third stage of IDP. At this stage, along with the decrease in the growth rate of FDI inflows, the net outward investment (NOI) level (outward FDI minus inward FDI) of the country rises. In the fourth stage, outward FDI of the country becomes equal to or greater than its inward FDI. During this period, location advantages of the country are assumed to depend mostly on the location-bounded created assets that are not independent of natural resources. As the ownership advantages of the domestic firms become similar to the firms in other fourth stage countries, inter-industry trade and inter-industry FDI increases between these countries. Finally, the NOI level of a country fluctuates at the zero level in the fifth stage of IDP while the growth rate of both inward and outward FDI continues to rise (see Diagram 1).

Diagram 1 The IDP stages of a country
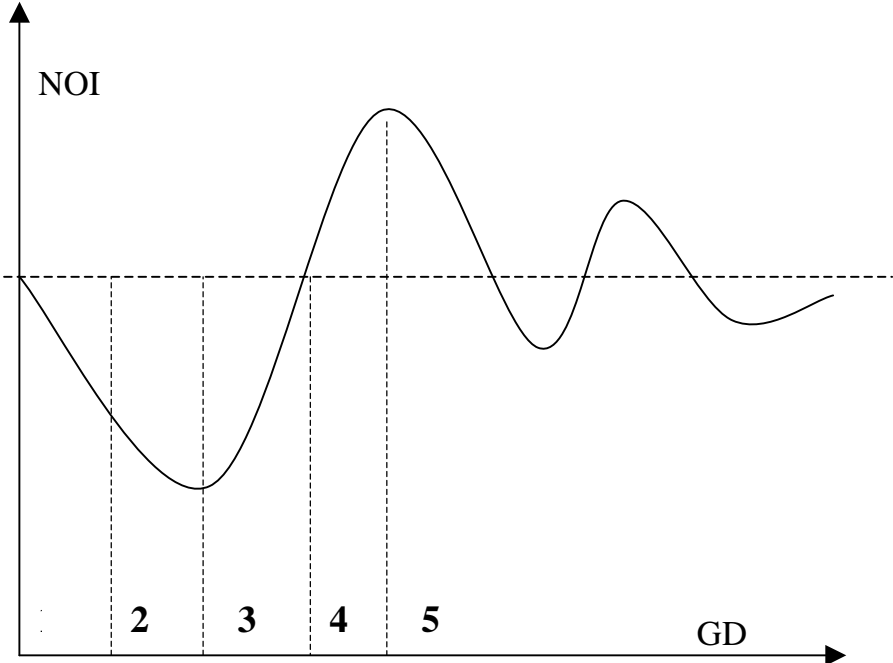
Dunning (1981) and Dunning and Narula (1996) have analyzed the IDP stages of a group of countries using cross-section data, and have used gross domestic product (GDP) as a representative of the countries' development level. These studies analyze the IDP stages of

the countries by regressing GDP on NOI to reveal the U-shaped relation between GDP and NOI. Duran and Ubeda (2001) have also investigated the IDP stages of countries by using cross-section data. In the literature, there are time series analyses that investigate the U-shaped relation between GDP and NOI such as Buckley and Castro (1998), Bellak (2000, 2001) and Barry, Gorg and McDowell (2002)[2]

Dunning and Narula (1996) suggests regressing net outward investments on *GDP* and *GDP^2*, using a quadratic specification to estimate the non-linear function giving the U-shaped relationship between NOI and GDP. Dunning and Narula (1996) estimate the IDP stages of a group of country by using cross-section data with the following model[3]:

$$NOI = \beta_0 + \beta_1\,GDP + \beta_2\,GDP^2 + \varepsilon \qquad (1)$$

However, Buckley and Castro (1998) suggest regressing NOI on GDP^3 and GDP^5 for developing countries as a better fit than quadratic function because of the better performance of projecting higher growth rate of inward FDI than of GDP at the first stage of IDP[4]:

$$NOI = \beta_0 + \beta_1\,GDP^3 + \beta_2\,GDP^5 + \varepsilon \qquad (2)$$

To investigate the systematic relationship between a country's net outward investment position and its economic development for the MENA region, we first analyse IDP stages of selected MENA countries separately by using time series data. Later, the aggregate IDP relationship is estimated using a weighted GDP and the net outward investment position of the region.

III. The MENA Region

Despite reforms in several MENA countries such as Algeria and Saudi Arabia to sustain economic development and macroeconomic stability, MENA region still suffers from insufficient development (UNCTAD, 2004).

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[2] Buckley and Castro (1998) have investigated the IDP for Portugal, Bellak (2000, 2001) for Austria, Barry, Gorg and McDowell (2002) for Ireland.
[3] See also, Alvarez (2001), Barry, Görg and McDowell (2002) for other applications of Dunning and Narula (1996) that test the IDP stages of Spain and Ireland, respectively.
[4] In a different manner, Bellak (2000, 2001) has estimated the NOI level of Austria with *GDP*, *GDP^3* and *GDP^5* and with *GDP*, *GDP^2*, *GDP^3* and *GDP^4*, respectively.

Diagram 1. Aggregate GDP for the MENA region over 1980-2003 period.
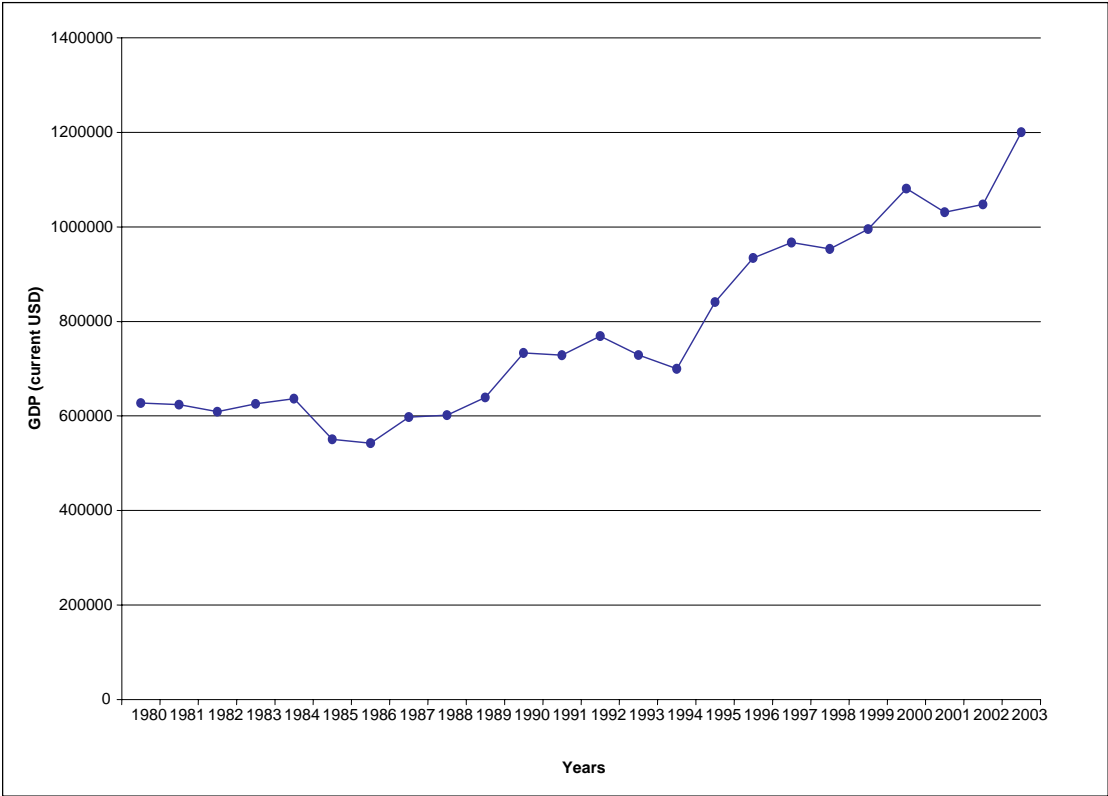
Data source: UNCTAD Handbook of Statistics On-line database.

In the 1980s, many MENA countries have shifted their import substitution policy to export led growth that can be seen as a more open and attractive environment for FDI. There were two major reasons for this policy change, the debt crisis of many developing countries and the success of export led growth experience in the South East Asian economies (Soliman, 2003). MENA countries have realised many liberalization reforms in order to encourage FDI inflows. Almost all selected MENA countries have a special FDI regime that refers to a law or decree dealing specifically with FDI.[5] These reforms include tax and custom duty breaks, relaxed foreign ownership restrictions, and implemented privatization and capital market reform programs (Eid and Paua, 2003; UNCTAD, 2004). This makes the MENA region an interesting case for testing the IDP approach. Besides comparing many MENA countries with respect to their IDP stages, this study also investigates the IDP for the whole region.

Diagram 2 shows the inflow and outflow levels of FDI in the MENA region for the 1981-2003 period. While FDI inflows to the MENA region varies from year to year, there is

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[5] Algeria 1993, Bahrain 1984, Egypt 1997, Jordan 1995, Kuwait 1965, Libyan Arab Jamahiriya 1996, Morocco 1983-1995, Saudi Arabia 1979, Tunisia 1993, Turkey 1954-1995, Israel 1990 (UNCTAD WIR,1998).

an increasing trend particularly after 1990's parallel to the trend of increasing FDI flows to developing countries in the world. However, in the period between 1980 and 2003 the inward FDI stock of the MENA countries have varied between 1.5% and 4.5% of world inward FDI stock and between 3.6% and 11% of developing counties' FDI stock. The region receives only one-third of the FDI expected to the region relative to the other comparable countries (IMF Survey, 2001).

Among many reasons lack of democracy, transparency and good governance, macroeconomic instability, the need for economic management, low development in physical infrastructure, deficiencies in the political environment and economic conditions can be counted for the low levels of inward FDI in MENA countries (World Bank, 1997; IMF, 2001; Sekkat and Veganzones-Varoudakis, 2004).

Diagram 2. FDI flows to and from MENA Region
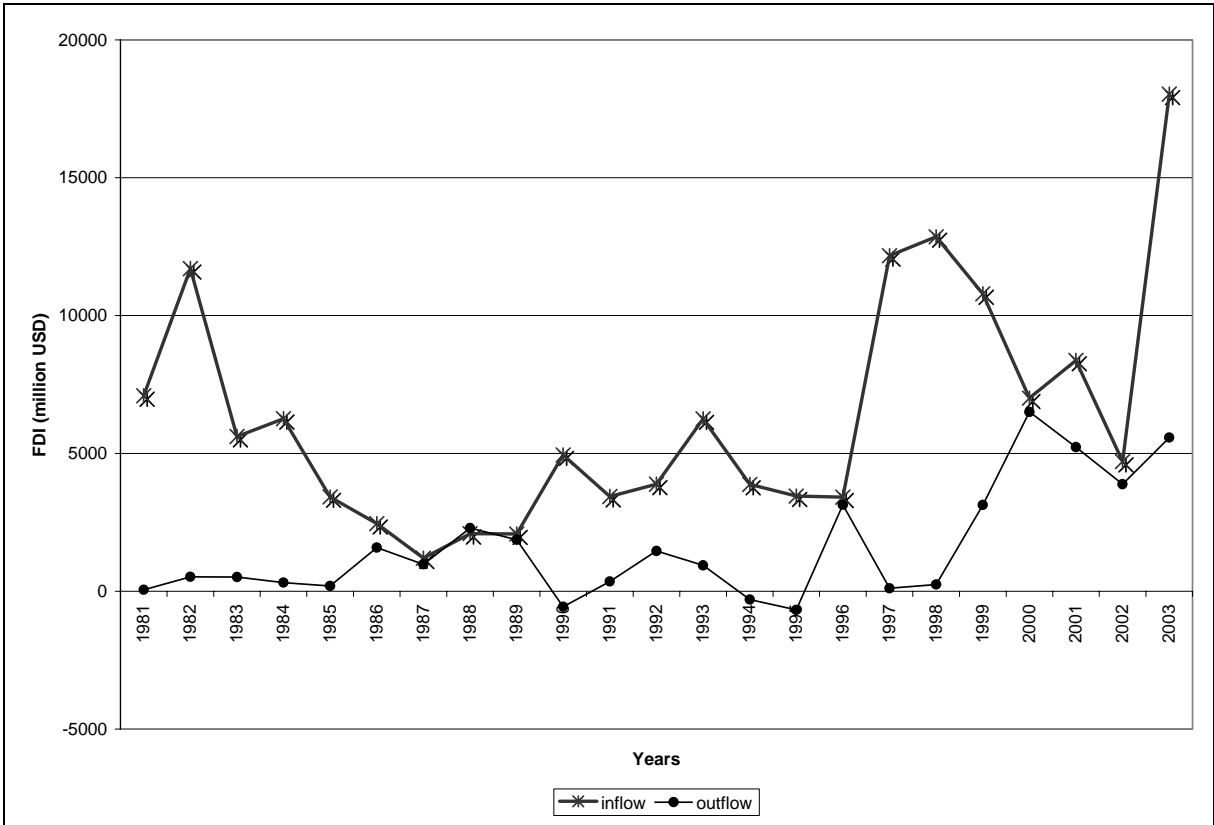
Data source: UNCTAD Handbook of Statistics On-line database.

Among the MENA countries inward FDI has mostly concentrated in Egypt, Saudi Arabia, Tunisia, Turkey and Israel, whereas Bahrain, Saudi Arabia and Morocco have the

most rapid increase rates of inward FDI. The least FDI recipient countries are Kuwait and Libyan Arab Jamahiriya[6]. Main inflow recipient sectors of MENA region are petroleum-related sectors (particularly hydrocarbons) and other primary activities (UNCTAD, 2003). Non-petroleum FDI (especially to countries such as Bahrain, Egypt, Morocco and Tunisia) has gone into tourism, banking, telecommunications, manufacturing, and construction (Eid and Paua, 2003:111).

The FDI outflow levels of MENA region for the period 1980 to 2003 can be seen from Diagram 2. Although the outflow FDI level varies over years, the outward FDI remains below the inward FDI level. Outward FDI level from the MENA region is below 1% of world outward stock and below 5% of developing countries' outward FDI stock for the period 1980 to 2003[7]. Among the MENA countries Bahrain, Saudi Arabia, Turkey and United Arab Emirates are the most important countries as the source of outward FDI. Especially Saudi Arabia is one of the emerging investors abroad (UNCTAD, 2003).

IV. Methodology and Data

Since the IDP analyses the long run relationship between net investment position and the GDP of a country, stock values for FDI are used in the investigation. We had to use current GDP (US$) levels for countries because of problems in data availability for all countries in the region. The data on inflow, outflow, inward and outward FDI were collected from UNCTAD Foreign Direct Investment database and GDP data were gathered from the UNCTAD Handbook of Statistics On-line for the period 1980 to 2003 for the MENA countries. The population values used in aggregate regression is obtained from World Development Indicators database.

Using data on 20 countries covering the time period of 1980-2003, this study estimates the IDP for MENA countries. First, an analysis of covariance is applied in order to choose the estimation technique that will be followed. Following the results from this analysis, IDP for each country in the sample is estimated by OLS. The last step of this study estimates the IDP for the whole MENA region in aggregate level. Stata 8 is used for estimations.

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[6] The authors' calculations using UNCTAD databases.
[7] The authors' calculations using UNCTAD databases.

(i) Analysis of covariance:

One of the advantages of panel data analysis is that it allows including unobserved country-specific or time-varying effects that could not be measured with the explanatory variables in the model estimated. There are three main model specifications capturing country-wise differences (Hsiao, 1999):

$$y_{it} = \alpha_i * + \beta_i' x_{it} + u_{it} \qquad \text{(Model I)} \qquad (3)$$
$$y_{it} = \alpha_i * + \beta' x_{it} + u_{it} \qquad \text{(Model II)} \qquad (4)$$
$$y_{it} = \alpha * + \beta' x_{it} + u_{it} \qquad \text{(Model III)} \qquad (5)$$

Both intercept and slope coefficients vary across countries in the first model, slope coefficients are the same but intercepts vary across countries in the second model and all coefficients are homogeneous in the last model. Analysis of covariance could be applied to test for these model specifications.

Analysis of covariance apply F tests for the restrictions imposed on the parameters in each equation given above. The model given in Eq. (3) is unrestricted since all coefficients vary across cross-sectional units. The model in Eq. (4) imposes restrictions on the slope parameters and is also called *individual mean-corrected* model. The last specification is the fully restricted one where all coefficients are imposed to be the same for countries.

For an analysis of covariance, first, the unrestricted model in Eq. (3) is estimated separately for each country by applying Ordinary Least Squares (OLS). The residual sum of squares obtained from each of these regressions are obtained and their sum is calculated:

$$S_1 = \sum_{i=1}^{N} RSS_i \qquad (6)$$

where RSS_i denotes the residual sum of squares obtained from regressions for each country, N is the number of countries in our sample, and S_1 is the unrestricted sum of squares. Then the second model (Eq. 4) is estimated by Within-Groups Estimation technique and the residual sum of squares from this model, S_2, is obtained. The third model is estimated on a pooled sample of countries and the residual of squares, S_3, is obtained.

The first step in performing *F* tests is to test for the third model against the first, where the null and alternative hypotheses are given by,

H$_0$: $\alpha_1 = \alpha_2 = ... == \alpha_N$, $\quad \beta_1 = \beta_2 = ... = \beta_N$
H$_1$: Constant and slope coefficients vary for each country

The *F* statistic is calculated by the expression below:

$$F_3 = \frac{(S_3 - S_1)/[(N-1)(K+1)]}{S_1/[NT - N(K+1)]} \tag{7}$$

where *T* is the number of years, and *K* is the number of explanatory variables in the model. The fully restricted model is chosen if the null hypothesis cannot be rejected and the model could be estimated by OLS on a pooled sample.

The testing procedure continues if null hypothesis is rejected. In this case, the second model against the first is tested where the null and alternative hypotheses are given by,

H$_0$: $\beta_1 = \beta_2 = ... = \beta_N$
H$_1$: Constant and slope coefficients vary for each country

The *F* statistic is calculated by,

$$F_1 = \frac{(S_2 - S_1)/[(N-1)K]}{S_1/[NT - N(K+1)]} \tag{8}$$

Rejection of the null hypothesis implies varying intercept and slope coefficients for countries. The slope coefficients are concluded to be homogeneous if the null hypothesis cannot be rejected.

A further step in this stage could be to test for the equality of the intercepts given homogeneity in slope parameters. In this case, the second model against the third is tested where the test statistic is calculated by,

$$F_4 = \frac{(S_3 - S_2)/(N-1)}{S_2/[N(T-1) - K]} \tag{9}$$

OLS on the pooled sample could be applied if the null hypothesis is rejected and the individual mean-corrected model is chosen otherwise.

(ii) Analysis of Covariance Results:

This study has applied the analysis of covariance in order to test for the homogeneity of parameters across countries in the IDP model for MENA countries. Mentioned above, the IDP could be estimated by two alternative specifications, where the level and square of GDP (quadratic form) or the third and fifth power of GDP could be included as explanatory variables. The models given in Eq.s (3) to (5) are estimated and F statistics are calculated for both of these specifications. For the regressions in quadratic form F_3 and F_1 statistics are calculated to be, respectively, 38.965 and 58.675. For the regressions in which the third and fifth orders of GDP are included, F_3 and F_1 statistics are calculated to be, respectively, 41.890 and 60.286. According to these results, any restriction on the parameters is rejected.

Since both intercept and slope coefficients are found to vary across cross-sectional units in our data, IDP for each country in the MENA region is estimated separately.

V. IDP Stages of Individual MENA Countries

In order to determine the IDP stages of each country, we analyse the changes of NOI position with respect to GDP level for each country. It was mentioned before that at the first stage of IDP a negative NOI is accompanied with a low GDP level. As the inward FDI increases, the NOI level of the country tends to decrease and the GDP level to rise relative to the first stage. A country shifts to the third stage of IDP when its outward FDI begins to increase while its inward FDI growth rate decreases and the NOI level of the country tends to rise with respect to the change in its GDP level. At the fourth stage of the IDP, a country's outward and inward FDI levels become equal initially and later the outward FDI exceeds the inward FDI. Therefore, the NOI level of the country increases to positive values. The fifth stage is characterised with rising levels of both inward and outward investment and the NOI level fluctuates around zero. Diagram 3 shows the NOI position of selected MENA countries' with respect to their GDP levels.

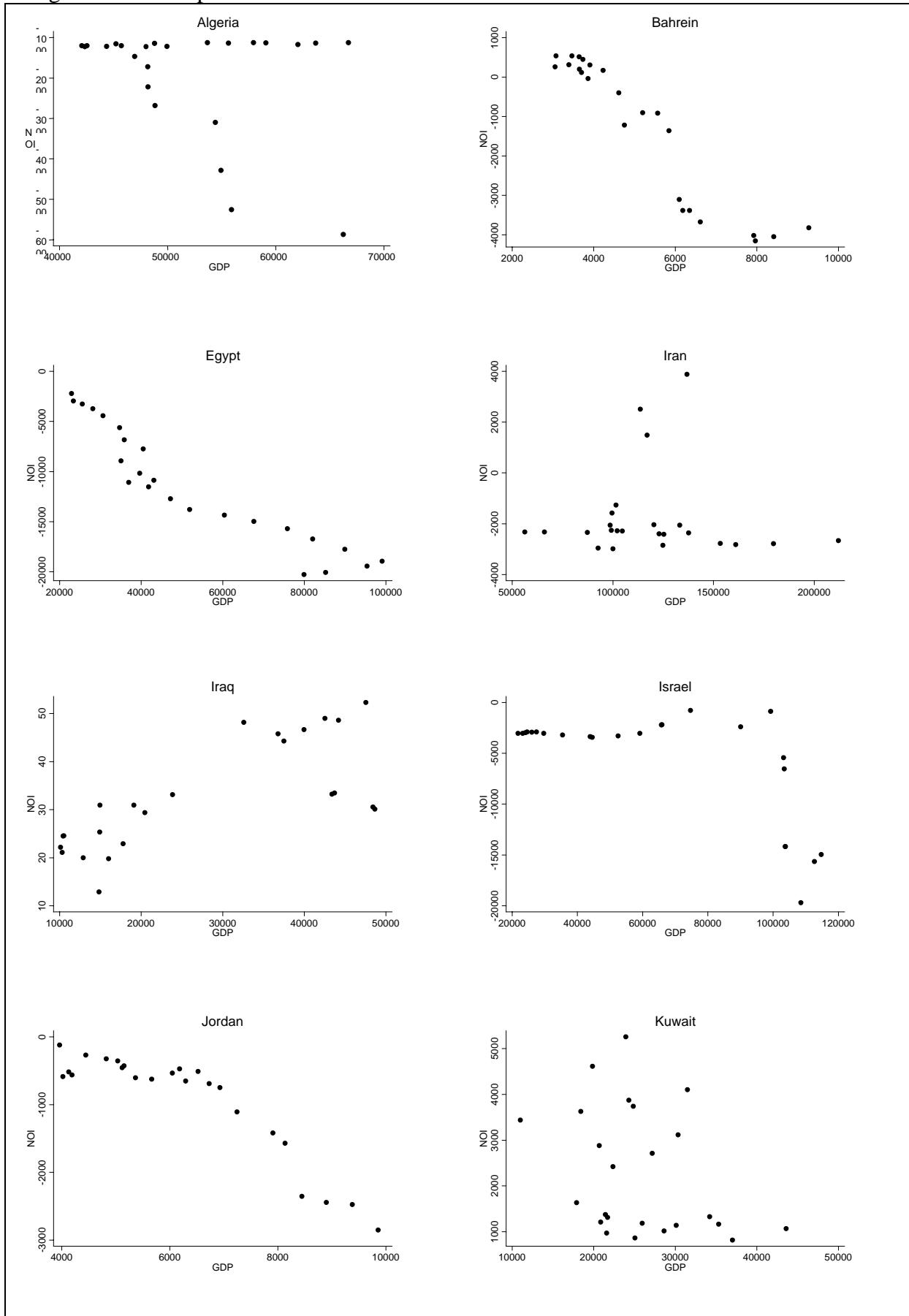Diagram 3. Scatter plots for NOI and GDP levels of MENA countries

Diagram 3 Scatter plots for NOI and GDP levels of MENA countries, *Continued*
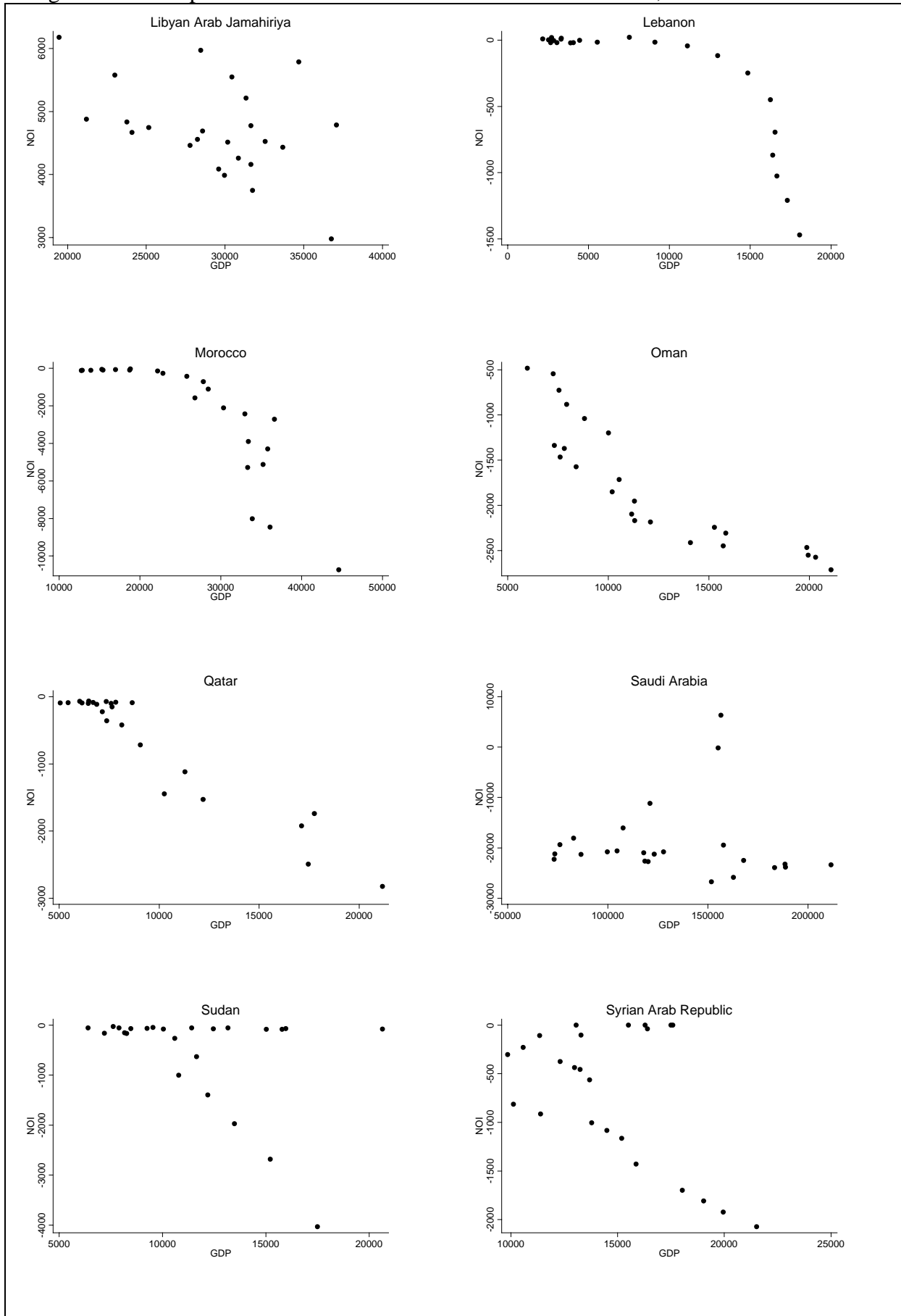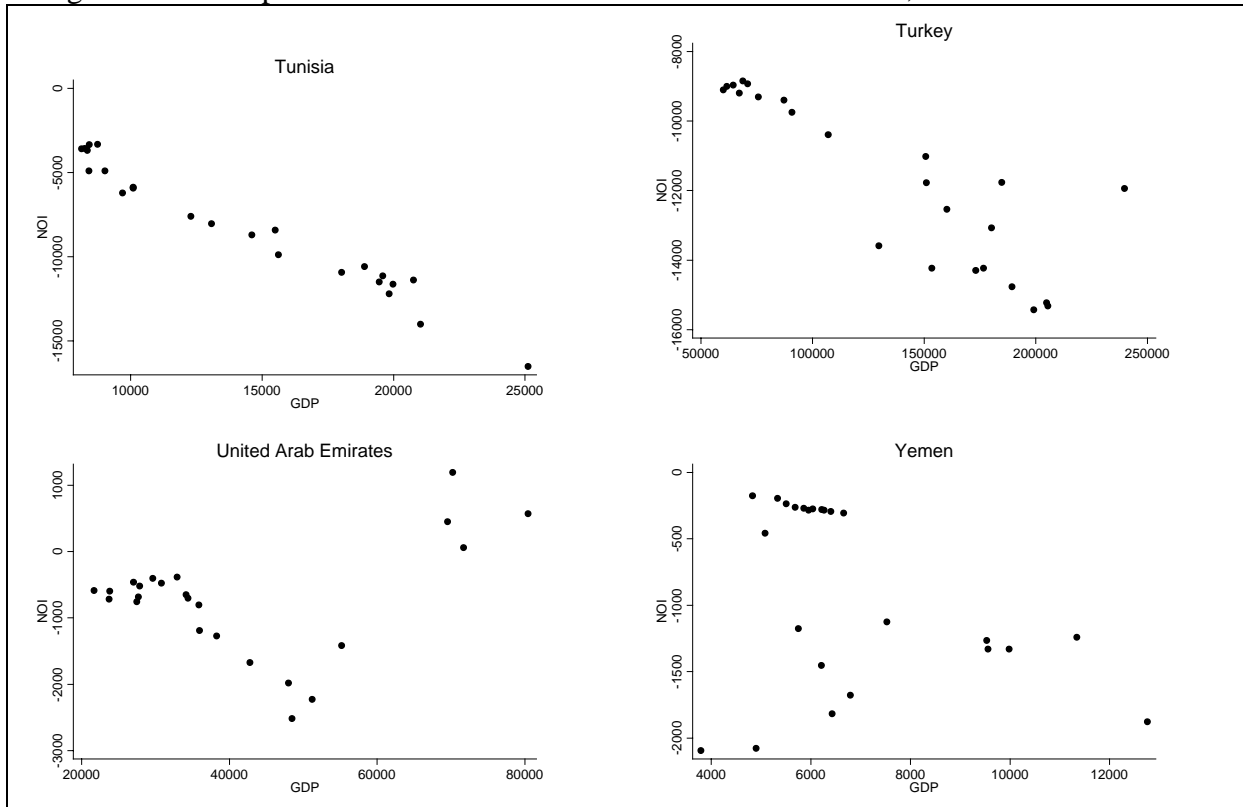
Diagram 3 Scatter plots for NOI and GDP levels of MENA countries, *Continued*

Data Source: UNCTAD Foreign Direct Investment and Handbook of Statistics On-line Databases.

According to the scatter diagrams that exhibits the NOI positions of MENA countries with respect to their GDP levels, Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Oman, Qatar, Sudan, Syrian Arab Republic, Tunisia and Yemen are at the second stage of IDP due to their increasing inward and low outward FDI thus a decreasing NOI level. Bahrain, Saudi Arabia and Turkey are at the third stage of IDP because of their NOI level's increasing pattern with respect to increasing outward FDI and to the increasing GDP levels. Iran, Iraq, Kuwait, Libya seem to be outliers for the IDP approach. The NOI and GDP scatters do not allow one to make a prediction about their IDP stages. Libya has negative inward FDI over the period, i.e., the foreign investors have disvested in the country after the UN sanctions. Political environment of Iran might have prevented FDI inflows since NOI position of the country is close to zero. In Kuwait, inward FDI is very low compared to outward FDI stock of the country therefore the NOI position of the country demonstrates positive values for the period considered.

Table.1 Results of Equation (1)

Countries	GDP	GDP^2	Constant
Algeria	-0.3076	0.0230	7783.5510
	(0.574)	(0.053)	(15262.500)
Bahrain	-1.8695***	0.7951*	6011.8630***
	(0.465)	(0.394)	(1254.634)
Egypt	-0.6119***	0.0326***	9951.7860***
	(0.081)	(0.007)	(2078.569)
Iran	0.0686	-0.0026	-5874.2140
	(0.057)	(0.002)	(3652.368)
Iraq	0.0023***	-0.0003**	-1.8497
	(0.001)	(0.0001)	(8.439)
Israel	0.3672***	-0.0352***	-10621.2900***
	(0.127)	(0.009)	(3444.276)
Jordan	0.8955***	-0.9748***	-2434.3520***
	(0.182)	(0.135)	(580.866)
Kuwait	-0.0180	-0.0089	3386.8350
	(0.220)	(0.039)	(2964.498)
Lebanon	0.1509***	-0.1088***	-373.7504***
	(0.033)	(0.017)	(109.755)
Libyan Arab Jamahiriya	-0.2644	0.0342	9457.8230*
	(0.327)	(0.057)	(4589.948)
Morocco	0.4851**	-0.1455***	-3946.9230
	(0.199)	(0.037)	(2450.175)
Oman	-0.4671***	0.1248***	1776.5450***
	(0.081)	(0.029)	(496.107)
Qatar	-0.2242**	0.0159	1284.0510***
	(0.080)	(0.032)	(425.121)
Saudi Arabia	0.3528	-0.0131	-41029.0900**
	(0.281)	(0.010)	(18083.850)
Sudan	-0.3581	0.0949	2200.8880
	(0.340)	(0.131)	(2063.331)
Syrian Arab Republic	0.6136*	-0.2388**	-4320.9280*
	(0.327)	(0.106)	(2432.489)
Tunisia	-0.6842***	-0.0011	1553.7740
	(0.219)	(0.072)	(1503.681)
Turkey	-0.0964***	0.0022**	-3398.2110**
	(0.026)	(0.001)	(1595.088)
United Arab Emirates	-0.2165***	0.0235***	3534.8390***
	(0.046)	(0.005)	(1000.136)
Yemen	0.5434	-0.3943	-2597.5230
	(0.433)	(0.261)	(1654.208)

*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Note: 1. The numbers in parenthesis are the standard errors for the parameter estimates
2. GDP^2 is rescaled, dividing the number by 10^4

Table.2 Results of Equation (2)

Countries	GDP^3	GDP^5	Constant
Algeria	-0.2359	0.3277	121.3007
	(0.351)	(0.665)	(2224.250)
Bahrain	-253.3768***	22175.5900***	1382.5850***
	(21.485)	(2631.842)	(190.939)
Egypt	-0.5503***	0.4298***	-4950.7050***
	(0.082)	(0.090)	(788.533)
Iran	0.0053	-0.0014	-2150.3740**
	(0.008)	(0.002)	(907.898)
Iraq	0.0098***	-0.0367***	20.9718***
	(0.002)	(0.008)	(2.054)
Israel	0.1495**	-0.1872***	-3598.4840***
	(0.066)	(0.054)	(968.710)
Jordan	-15.3343	-1551.9930	-185.7779
	(9.220)	(950.104)	(120.525)
Kuwait	-0.4162	0.8557	2973.8200***
	(0.651)	(3.501)	(704.723)
Lebanon	2.1131***	-140.9564***	-19.3362
	(0.538)	(18.228)	(24.349)
Libyan Arab Jamahiriya	-0.7655	3.2953	5904.6490***
	(0.737)	(4.752)	(783.590)
Morocco	-1.1349**	-0.9387	632.3724
	(0.503)	(2.784)	(590.490)
Oman	-8.2172***	147.7621***	-815.9843***
	(1.388)	(31.486)	(137.901)
Qatar	-7.6416***	108.3451***	30.9484
	(1.221)	(29.733)	(89.535)
Saudi Arabia	0.0352	-0.0091	-22172.0900***
	(0.030)	(0.007)	(3763.945)
Sudan	-9.0491**	185.6941*	399.1052
	(3.763)	(92.777)	(400.828)
Syrian Arab Republic	2.3469	-87.9722	-629.7807
	(2.575)	(54.128)	(412.726)
Tunisia	-15.9399***	130.4166***	-3714.9720***
	(1.933)	(34.247)	(367.660)
Turkey	-0.0180***	0.0026***	-8560.3590***
	(0.002)	(0.0004)	(358.495)
United Arab Emirates	-0.1167**	0.2462***	-554.1589**
	(0.050)	(0.083)	(242.267)
Yemen	-3.2267	-148.1989	-711.0245**
	(13.988)	(887.103)	(302.333)

*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Note: 1. The numbers in parenthesis are the standard errors for the parameter estimates
2. GDP^3 and GDP^5 are rescaled, dividing the numbers by 10^{10} and 10^{20}, respectively

Using data covering the time period 1980-2003, the functional forms given in

Eqn. 1: $NOI = \beta_0 + \beta_1 \, GDP + \beta_2 \, GDP^2 + \varepsilon$ and

Eqn. 2: $NOI = \beta_0 + \beta_1 \, GDP^3 + \beta_2 \, GDP^5 + \varepsilon$

are both estimated by OLS for each MENA country in our sample to test the predicted IDP stages empirically. The results of these regressions are reported in Table 1 and Table 2, respectively. The results give empirical support for the expected U-shaped relation with the NOI and GDP levels unless the coefficients are insignificant and the signs are other than expected. We expect to have a negative sign for β_1 and a positive sign for β_2 to estimate this non-linear relationship. The main difference between these two functional forms is that (2) estimates countries which have faster inward FDI growth than GDP better because of steeper U-shape than (1).

As we expect to obtain a negative sign for β_1 and a positive sign for β_2 in both equations, we found empirical evidence for a U-shaped relationship between GDP and NOI for Bahrain, Egypt, Oman, Turkey and United Arab Emirates. These countries have significant coefficients in both functional forms whereas, the results for Qatar, Sudan and Tunisia are significant only at equation (2). The findings support the IDP approach for Bahrain, Egypt, Oman, Qatar, Sudan, Tunisia, Turkey and United Arab Emirates.

Although the scatter diagrams suggest that Algeria, Egypt, Jordan, Morocco, Oman, Qatar, Syrian Arab Republic and Tunisia are at the second stage of IDP, the empirical results do not support this observation for Algeria, Jordan, Morocco, Oman and Syrian Arab Republic. Qatar, which has mostly eliminated FDI restrictions and strengthened legal protections, has location advantages depending on its natural resources. Egypt and Tunisia are a little different from Qatar; they have attracted increasing FDI inflows to industries such as tourism, automobiles, electronics and infrastructure (UNCTAD, 2004). They have recently begun to attract efficiency-seeking FDI in such industries as textiles and apparel. This change can be interpreted as a sign of moving to the third stage of IDP particularly in some industries. Qatar poses a good portrait with its political stability, relatively well developed infrastructure and an efficient stock market as far as location advantages go.

Because of its lower inward FDI level than some other MENA countries and high outward FDI performance, Bahrain is at the third stage of IDP, an indicator of its more

developed ownership and internalization advantages. Bahrain is also counted among the top 20 economies in World Investment Report's outward FDI performance index for the period 1988 to 2003 (UNCTAD, 2004). Turkey also has a similar inward and outward FDI pattern to Bahrain as a third stage country despite being a non-oil economy. Turkey's inward FDI is mainly concentrated in services and manufacturing sector while Bahrain attracts FDI with its oil resources. However, the empirical findings do not support the observations from scatter diagrams for Saudi Arabia even the latter suggested third stage for that country.

United Arab Emirates, has reached to positive levels of NOI suggesting a further stage than other MENA countries in IDP, presumably fourth. The country is attractive for FDI with its network of foreign affiliates located in the region, skilled labour, supportive business and regulatory climate and a high quality infrastructure besides being an oil economy (UNCTAD, 2004).

VI. IDP for the MENA Region

After running separate regressions for each country, we investigate the IDP stage of the MENA region in this section. We use aggregated NOI and GDP data for this purpose. In order to reflect the size differences of countries in the aggregate GDP, we calculate a weighted GDP using the equation below:

$$GDP_{MENA} = \left(\frac{1}{N} \sum_i^N \frac{GDP_i}{POP_i} \right) \sum_i^N POP_i \, , \qquad (10)$$

where POP_i indicates population for country i therefore, GDP_i / POP_i is the GDP per capita for each country i in the region. The term in the parenthesis shows the average GDP per capita for the region. Thus the weighted GDP (GDP_{MENA}) is population of the region times average GDP per capita.

Diagram 4 shows the NOI position of MENA region with respect to its GDP level. MENA seems to be at the end of the second stage of IDP as its NOI level is still negative and its inward FDI grows faster than outward FDI.

Diagram 4. Scatter plot for NOI and GDP levels of the MENA Region
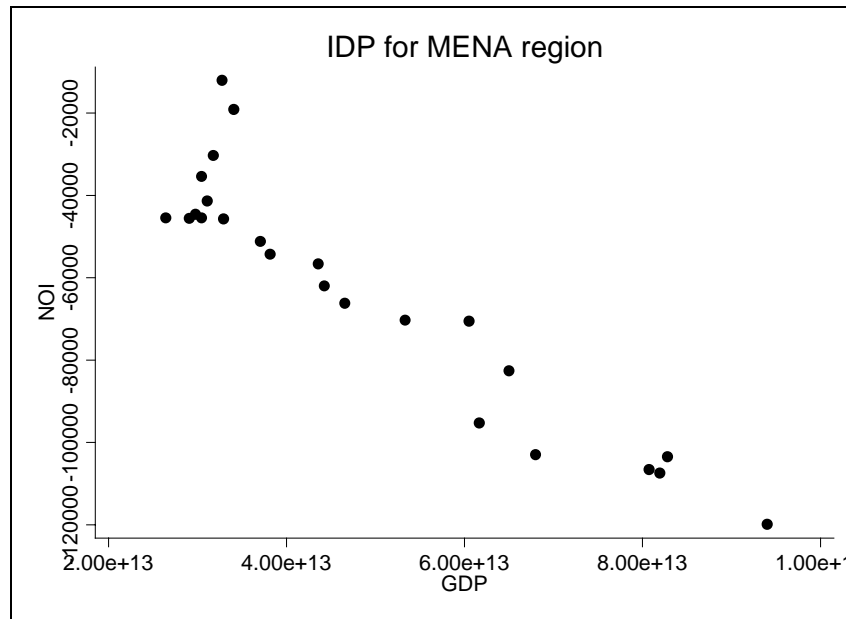
Data Source: UNCTAD Foreign Direct Investment and Handbook of Statistics On-line Databases.

Applying OLS, the IDP position of the MENA region is estimated[8]. The functional form given in Eqn. (2) has the best fit to the data.

The estimation result is:

$$NOI = -31771.58 + -2.99885 \; GDP^3 + 2.289138 \; GDP^5$$
$$\quad\quad\quad (3886.003) \quad\quad (0.478) \quad\quad\quad (0.588)$$

The numbers in parenthesis are standard errors and the R^2 obtained is 0.874. The coefficients of GDP^3 and GDP^5 are statistically significant at 1% level. Confirming our expectations, the coefficients for GDP^3 and GDP^5 are negative and positive, respectively. These results support the IDP approach identifying the region's investment position with respect to its development. Being at the second stage of IDP, MENA still draws more FDI as a region than its outward investments. The inward FDI to MENA region is likely to be stimulated by government policies, such as privatisations and regulations. While the inward FDI still depends on natural resources, the low levels of outward FDI shows insufficient ownership advantages for firms.

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[8] For the estimation, GDP^3 and GDP^5 are rescaled dividing the numbers by 10^{37} and 10^{57}, respectively.

VII. Conclusion

In this study, we first analyse IDP stages of selected MENA countries separately by using time series data in order to investigate the systematic relationship between a country's net outward investment position and its economic development for the MENA region. Moreover, the aggregate IDP relationship is estimated using a weighted GDP and the net outward investment position of the region. For time period from 1980 to 2003 we test the IDP for MENA countries using data on 20 countries.

The results of this covariance analysis imply that each country has to be estimated seperately. Although we expected Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Oman, Qatar, Sudan, Syrian Arab Republic, Tunisia and Yemen to be at the second stage of IDP, and Bahrain, Saudi Arabia, Turkey and United Arab Emirates to be at the third stage, the empirical results support the theory of IDP only for some of these countries (Egypt, Oman, Qatar, Sudan and Tunisia being at the second stage, and Bahrain, Turkey third and United Arab Emirates at the fourth stages).

Next, we analysed the IDP for the whole MENA region using aggregated NOI and weighted GDP data. These results sustain the IDP approach identifying the region's investment position as being at the second stage. MENA still draws more FDI as a region than its outward investments with rich natural resources and recently adopted government policies.

The fact that Egypt, Qatar and Tunisia are second stage countries implies that while domestic firms' ownership advantages in these countries' are improved relative to the first stage, the outward FDI stock still remains below the inward FDI stock. Also the inward FDI realizes in the labour-intensive manufacturing sectors and depends on the natural resources of the countries. Bahrain and Turkey's IDP stages shifts to the third stage of IDP as their competitive advantages in the international markets and especially at the traditional commodity sectors are improved relative to the second stage countries. United Arab Emirates confirms the fourth stage country characteristics with the improved competitive advantages in the international markets and high inward FDI stock.

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