BRICS VS. MENA COUNTRIES:
MAPPING OUT THREATS AND OPPORTUNITIES

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Abstract

The rising economic and political power of the BRICS countries cannot be neglected or ignored. Without doubt, it is difficult to believe that this growing power will have no effect on developing countries specially those belonging to the MENA region. Positive and negatives effects could be significant in both sides. How BRICSS's emergence is affecting MENA economies is the purpose of this paper. Given the important potential of the BRICS countries and their worldwide influence, it is expected that economic ties between the MENA region and this group should be significant. Unfortunately we only have little understanding of this issue. These are the questions motivating the analysis in this work. Specially, we will focus on Trade and FDI as the main spillover channels through which the MENA region interacts with the BRICS group. How has the emergence of the BRICS impacted the MENAs' trade and FDI flows is the purpose of this study.

JEL Classification: F1, F6

Keywords: BRICS, Effects, Trade, FDI

ملخص

ارتفاع القوة الاقتصادية والسياسية لدول البريكس BRICS لا يمكن إهمالها أو تجاهلها. ودون شك، فمن الصـعب أن نصـدق أن هذه القوة المتناميـة لـن يكون لهـا أي تـأثير علـى البلدان الناميـة وخاصـة أولئك الـذين ينتمـون إلى منطقـة الشرق الأوسط. الآثار الإيجابيـة والسلبيات يمكن أن تكون كبيرة في كـلا الجـانبين. كيفيـة ظهور البريكس ومدى تأثيرهـا علـى اقتصـاديات دول الشرق الأوسط هـو الغرض مـن هذه الورقة. ونظرا للإمكانـات المهمـة لـدول البريكس وتأثيرهـا في جميع أنحـاء العـالم، فمن المتوقع أن تكون العلاقـات الاقتصادية بين منطقة الشرق الأوسط وهذه المجموعـة أن كبيرة. للأسف ليس لدينا سوى القليل من الفهم في هذه المسـألة. هذه هي الأسئلة لتحفيز التحليل في هذا العمل. سوف نركز علـى التجارة والاستثمار الأجنبي المباشر والقنوات غير المباشرة الرئيسية التي من خلالها يتفاعل منطقة الشرق الأوسط مـع مجموعـة بريكس. كيفية ظهور بريكس وأثر التجـارة دول الشرق الأوسط وشمال أفريقيـا وتدفقات الاستثمار الأجنبي المباشر هو الغرض من هذه الدراسة.

1. Introduction

Thanks to their demographic and economic potential, the BRICS countries (Brazil, Russia, India, China and South Africa) are now ranked among the world's largest and most influential economies in the 21st century. Together, the four BRICS countries account for more than 25 percent of global GDP and comprise more than 2.9 billion people (40% of the world's population). The BRICS are already major players in the world economy and their role is only likely to increase over time[1] (IMF 2011). Certainly, the emergence of the BRICS is reshaping worldwide international economic relations. The rising economic and political power of the BRICS countries cannot be neglected or ignored. Without doubt, it is difficult to believe that this growing power will have no effect on developing countries specially those belonging to the MENA region. Positive and negatives effects could be significant in both sides. How BRICSS's emergence is affecting MENA economies is the purpose of this paper. Given the important potential of the BRICS countries and their worldwide influence, it is expected that economic ties between the MENA region and this group should be significant. Unfortunately we only have little understanding of this issue. These are the questions motivating the analysis in this work. Specially, we will focus on Trade and FDI as the main spillover channels through which the MENA region interacts with the BRICS group. How has the emergence of the BRICS impacted the MENAs' trade and FDI flows is the purpose of this study.

2. The BRICS: An Emerging Economic Power

A great attention is given to the BRICS countries since the creation of this grouping in 2001 and is currently considered to play an outstanding role (both in economic and political field) across the globe.

Their overriding economic development connote be neither neglected nor ignored. It is not surprising that scholars are more and more involved in the study of this emerging group focusing mainly on the global and regional aftermath. In the last decade the BRICS countries were growing faster economically than the world economy and it is expected that they will overtake the EU by the year 2020, and they will have overpowered the world economy by 2030. In the same way, it's predicted that the BRICS nations are gaining progressive importance and eventually will become four of the six largest economies in world by 2050 (Wilson and Purushothaman 2005). O'Neill (2007) predicted that the BRICS as a group will overtake the G7 economies in 2032, and that the BRICS countries will become four of the six most dominant economies in the world. The World Bank data confirm this trend and presage that China, India, Russia and Brazil respectively exceed or equal (Brazil) world GDP growth and all of them individually go beyond the OECD GDP Growth.

The sustained growth of the BRICS is in part explained by an outgoing strategy. For example, according to the UNCTAD data of 2012 the BRICs outward FDI picked up sharply to reach $1.8 trillion which represents more than 11% of the world outward FDI. In 2012, more than 17% of the world total outward FDI flows are from the BRICS countries.

3.The Trade Complementarily between BRICS and MENA

Trade relationship between BRICS and MENA region is evolving since China joined the WTO in 2001. BRICS and MENA are two different groups of countries lying on different development paths. The economic dynamism of the first group is explained on a wide variety of sector and a rapid worldwide integration thanks in part to a growing competitiveness of their exported products. The second group, formed by producer and non-produced countries

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[1] According to the IMF (2011) exports and imports of the BRICS group will reach respectively about 20% and 18% of global exports and global imports. IMF (2011), New Growth Drivers for Low-Income Countries: The Role of BRICs, IMF Report].

are suffering from the declining of their part world trade (explained frequently by an insufficient level of diversification of the productive system). However, this economic antagonism between the two groups of countries explains somehow the growing bilateral trade between the two groups: the need of the BRICS to sustain a rapid growth allow the MENA countries (well endowed in natural resources) to trade with BRICS and to ensure the raw materials they need[2]. Thus, it is not surprising that the BRICS trade with the MENA region increased in the last decade reaching 14% of the total MENA exports in 2011.

This growing trade may be explained in addition by an on the rise trade compatibility between MENA and BRICS in the last decade as shown by the evolution of the UNCTAD trade complementarity index indicating whether the trade profiles are becoming more compatible even if it remains below the index with the EU (the main partner of MENA countries). As shown in Table 1 below, the BRICS are considered as the top ten economies that have bilateral trade with the MENA countries. The compatibility between the two groups does not seem to be just a myth.

4. The Econometric Analysis

4.1 The gravity model

To examine the impact of the BRICS trade on the MENA region we perform a gravity model. In its basic and general formulation, the gravity equation has the following multiplicative form:

$$X_i = GS_iM_i\emptyset_{ij} \qquad \text{[eq.1]}$$

Where X_{ij} is the value of exports from i to j. S_i comprises exporter-specific factors (such as the exporter's GDP) that represent the total amount exporters are willing to supply. M_i denotes the importer-specific factors that explain the total importer's demand (such as the importing country's GDP) (the demand side). G is a variable that does not depend on i or j (for example the level of world liberalization). Finally, $\emptyset_{ij}$ represents the ease (or the difficulty) of exporter i to access of market j.

Traditionally the multiplicative gravity model was linearised and estimated using different regression techniques depending on the data, the sample, and estimation problems to be resolved. Following Lederman et al. (2007), Anderson and Van Wincoop (2003) and Feenstra (2002), among others, we adopt the following basic gravity framework:

$$X_{ijt} = \propto Y_{it}^{\propto}Y_{jt}^{\beta}D_{ij}^{\delta}B_{ij}^{\emptyset}l_{ij}^{\varphi}Linder_{ijt}^{\sigma}e^{\theta_i\,d_i+\theta_jd_j} \qquad \text{[eq.2]}$$

Where X_{ijt} is the monetary value of exports of country i to country j at time t. Y_{it} is the GDP of the exporter at time t, Y_{jt} is the GDP of the importer at time t, D_{ij} is the bilateral distance, B_{ij} is a dummy variable that takes the value 1 if the exporter and the importer share a border, and l_{ij} is a dummy that takes the value 1 if the exporter and the importer share a common language. $Linder_{ijt}$ is the absolute value of the difference of the GDP per capita between the importer and the exporter at time t. The Linder variable is frequently used in gravity models to capture the effect of similarities or dissimilarities between importers and exporters in their levels of development or factor endowments on bilateral trade. Following Anderson and Van Wincoop (2003) and many other authors, d_i and d_j indicate respectively the exporting and the importing country dummies.

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[2] BRICS countries are among the ten largest world consumers of oil and phosphate.

4.2 The econometric results

The econometric analysis is performed in two steps. First, a benchmark gravity model (a basic gravity model augmented by including a number of explanatory variables recommended by recent theoretical and empirical trade works) is used to assess whether MENA levels of exports are consistent with predictions of economic theory. This is will be considered as the baseline estimation of our analysis. In the second stage, to capture the overall impact of exports from BRICS on the MENA region we re-estimate the benchmark model by adding exports of individual BRICS countries (to the same third country markets) as an additional explanatory variable. The third step describes whether the MENA exports to third countries are impacted by the BRICS imports (the BRICS import demand).

The bilateral export and import trade data (in current US dollars) are drawn from the UN Comtrade database. Our trade data set relates to 70 partners[3] of 10 MENA countries (Algeria, Egypt, Jordan, Lebanon, Morocco, Oman, Qatar, Tunisia, Turkey and the United Arab Emirates)

Data on the GDP of the countries included in the sample are from the World Development Indicators (World Bank). The complementarity index is provided by the UNCTAD. Data about distance, contiguity, landlockness, common language, colonial links, and land area are compiled from CEPII.

The benchmark specification is described by equation (3) and includes 12 explanatory variables. The dependent variable (*lnexport$_{ij}$*) is the log of exports from the MENA countries to third countries.

$lnexport_{ij} = \propto + \beta_1 lngdpexporter_{ij} + \beta_2 lngdpimp_{ij} + \beta_3 lndistw_{ij} + \beta_4 lndiffrgdpl_{ij} + \beta_5 lnarea_j +$
$\beta_6 contig_{ij} + \beta_7 comlang_{off_{ij}} + \beta_8 comcol_{ij} + \beta_{10} colony_{i,j} + \beta_{11} landlocked + lncomplementarity_{i,j} +$

$FTA_{i,j} + \varepsilon_{ij}$ [eq.3]

Where:

I and *j* refer *to* the exporting (*i* =1 to 10) the BRICS countries and the partner (importing, j=1 to 79) country;

lngdpexporter: the log of the GDP exporting country. It is well acknowledged in the literature that the GDP of the exporting country impact positively and significantly the volume of exports. Certainly we cannot deny the cause and effect relationship between what countries produce and what and how much they export. This variable should be positively correlated with a country's propensity to export.

lngdpimp: the log of the GDP importing country is a proxy of the market size of the importing country. All things being equal the bigger the market is the greater will be its absorption capacity. This variable is expected to have a positive effect on exports of reporting (exporting) countries.

lndistw: the log of the weighted distance between *i* and *j*. Mayer and Ziango (2005) developed the weighted distances covering all countries of the world. The basic idea, inspired by Head and Mayer (2002), is to calculate distance between two countries based on bilateral

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[3] Albania, Angola, Argentina, Bahrain, Bangladesh, Belgium, Brazil, Bulgaria, Cameroon, Canada, China, Colombia, Croatia, Cuba, Cyprus, Czech Rep., Denmark, Ecuador, Finland, France, Germany, Greece, China, Hong Kong SAR, Hungary, Indonesia, Iran, Iraq, Ireland, Italy, Côte d'Ivoire, Japan, Kazakhstan, Kenya, Rep. of Korea, Kuwait, Libya, Malaysia, Mali, Malta, Mauritania, Mexico, Netherlands, Nigeria, Norway, Pakistan, Panama, Paraguay, Philippines, Poland, Portugal, Romania, Russian Federation, Saudi Arabia, Senegal, India, Singapore, Viet Nam, South Africa, Spain, Slovenia, Sudan, Sweden, Switzerland, Syria, Thailand, Ukraine, United Kingdom, United States of America, Venezuela, Yemen.

distances between the biggest cities of those two countries, those inter-city distances being weighted by the share of the city in the overall country's population. Head and Mayer (2002) use latitudes, longitudes and populations data of main agglomerations of all countries for calculating distances between country i and j by the following formula[4]:

$$d_{ij=} \left[\sum_{k \in i} \left(\frac{pop_k}{pop_i} \right) \sum_{l \in j} \left(\frac{pop_l}{pop_j} \right) d_{kl}^{\theta} \right]^{1/\theta}$$

The hampering effect of geographic distance over bilateral economic transactions has been widely acknowledged and often proved by empirical works. This statement can be explained by the existence of transport and transaction costs generated by geographic and psychic distance. These costs will certainly impede the international trade of both final and intermediate products.

Lndiffrgdpl: is the log of absolute value of the difference of the GDP per capita between exporting and importing countries. This is a proxy of the difference of factor endowment between the pair of countries, which capture the effect of similarities or dissimilarities between importers and exporters on bilateral trade. This variable is expected to have a positive effect in our model. This can be explained by the vertical North-South trade nature between the MENA countries and their most important partners. In fact, most of the trade between the MENA countries and the rest of the world is of an inter-industry kind à la Ricardo.

lnarea: is the log of country's area in square kilometers. This variable is included in the model to take account of the internal distance of a country. According to the gravity literature geographically large countries tend to do more internal trade and less international trade. The bigger the country, the lower the necessity it would have of importing. Thus we expect a negative effect of this variable on trade.

contig: is a dummy variable indicating whether the two countries are contiguous. It takes value one if trade partners share a common border otherwise it takes zero. According to Castellani et al. (2011), even with no transportation costs, entrepreneurs would prefer psychically close markets as they would try and reduce the psychic distance (differences in language, education, business practices, culture, and industrial development). "There is a general consensus in the literature that when firms decide to enter foreign markets, they must adjust to a foreign culture and be prepared for challenges, such as differences in languages, lifestyles, cultural standards, consumer preferences, and purchasing power (Sousa and Bradley 2006:49). Trade between two contiguous countries is expected to be larger than trade between countries that do not share a border.

landlocked: dummy variable set equal to 1 for landlocked countries. Access to water or distance to the sea reduce transport cost and relatively facilitate the fluidity of trade. Thus landlockness risk hampering trade and development. We expect a negative sign of this variable since landlocked countries will face higher transport cost.

comlang_off: is a dummy variable equal to 1 if trade partners share a common official language. Transactions, trade, exchange and communication become easier and more convenient when the two partners share the same language.

comcol and ***colony***: are dummy variables describing colonial ties (direct and indirect links). Colonial links captures the effect of having had a common coloniser or having been colonised by another country in the past. The common-colonizer variable (comcol) indicates if trading

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[4] For more details see Mayer and Ziango (2005), page 11.

partners have had a common colonizer after 1945. The variable *colony* point out if a two countries have ever had a colonial link (colony). We expect a positive relationship of these dummies with the dependent variables since a direct or indirect colonial relationship is supposed to reduce cultural differences between two countries.

FTA: Free Trade Agreement is a dummy taking the value 1 if the reporter and partner are parties to a preferential agreement. We expect a positive effect of this variable.

complementarity: is a complementarity index provided by the UNCTAD and designed to measure compatibility of trade profiles. According to the UNCTAD the index evaluates the suitability of preferential trade agreement between two economies given the structure of one potential partner's exports match the imports of the other potential partner. Formally the index is equal to sum of the absolute value of the difference between the import shares and the export shares (as 3-digit SITC, Rev.3) of the countries under study, divided by two:

$$Se_j m_k = 1 - \frac{\sum_i |E_{ij} - M_{ik}|}{2}$$

Where:

$Se_j m_k$=the index of trade complementarity of exporter j with importer k.

i=goods in three digit SITC Rev. 3 (Standard International Trade Classification Revision 3, 3-digit group level).

j = exporter (country or country group)

k=importer (country or country group)

E_{ij}= the share of goods I in country j's total exports to the world

Mik= the share of goods I in country k's total imports from the world.

The index has potential values ranging between 0 and 1 with zero indicating that there is no correspondence between country j's export structure and country k's import structure and one corresponding to a perfect match in the export/import pattern.

To run our regressions we choose the fixed effect specification (a random specification was consistently rejected by the Hausman test). In the same way the F-test rejects the null hypothesis stipulating that all the fixed effects are equal to zero. However, the modified Wald test for groupwise heteroskedasticity in fixed effect regression reveals that there is a heteroskedasticity problem of our specification. Thus regressions are estimated with weighted least-squares procedure. Further, the correlation matrix indicates that there are no serious problems of multicolinearity between explicative variables.

The regression results (see Annex 1), from the fixed effect model, are broadly in line with theoretical predictions and highly statistically significant at the one-percent level (the GDP of the exporting country, the GDP of the importing country, the distance, common language and complementarity). Both the variables colony and common colonizer are significant at the conventional level of 5%. The remaining variables (the size difference between the reporter and partner country, the geographic area, landlockness, contiguity and Free Trade Agreement) are not significant at any statistical level.

When the BRICS exports are added to the $[eq.3]$ (see Annex 2) the model remains stable and the only change which deserve to be noted concerns the GDP of the exporting country which became (for unknown reason) significant at only 10%. According to the econometric results China's exports seem to impact positively the MENA exports at 1% of confidence level (a 10 percent increase of China exports leads to 0.15 increase of the MENA exports). The same

statement is true for India (a 10 percent increase of India exports raise the MENA exports by 0.18). For Russia, Brazil and South Africa econometrics findings discloses no eviction nor complementarity effects on MENA export flows.

Regarding China these results are in some extent consistent with those found by the following model (Annex3) exploring the BRICS demand import by introducing DumBRIC$_{ij}$ that takes value 1 if the partner is Brazil, China, India, Russia or South Africa. Dum_China is significant at 5%. Intuitively the positive impact of China's exports on MENA exports can be explained by an additional Chinese demand for the import of MENA commodities. No significant import demand effect has to be mentioned for India, Brazil and South Africa, while for Russia a significant wrong negative sign was found by econometric regression.

5. Attractiveness of MENA Countries and BRICS: Diversion or Complementarity Effect?

5.1 Determinants of FDI in MENA countries: The Benchmark Model

In order to bring out the impact of the BRICS countries on the MENA FDI inflows we first estimate the following simple equation explaining the main determinants of FDI[5] in the MENA countries (economic variables, fiscal policy, labor cost, the quality of the infrastructure and the endowment of natural resources) and we add in second step three alternatives measures of the crowding in/out effect to the baseline specification.

FDI = f (Growth, Energy, Credit, Open, FiscalFreedom, XRSTAB, Laborcost, Bureau, PavedRoad)   [eq.4]

Where the variables are listed and defined below, with the expected sign in brackets.

FDI: foreign direct investment (% GDP).

Growth: annual percentage growth rate of GDP at market prices. (+)

Energy: energy production[6] as a proxy of resource endowment (Kt of oil equivalent). (+)

Credit: domestic credit provided by banking sector % of GDP (a proxy of the availability of financial institutions). (+)

Open: is trade openness approximated by the sum of merchandise exports and imports divided by the value of GDP. (+)

FiscalFreedom: this variable indicates the degree of freedom of the fiscal policy. According to The Wall Street Journal and The Heritage Foundation, the fiscal freedom is a direct measure of the extent to which government permits individuals and businesses to keep and manage their income and wealth for their own benefit and use. The index score ranges from 0 and 100 points, the highest score (100 points) indicate high degree of fiscal freedom and the lowest score (0 point) indicate a high degree of repression. (+)

PavedRoad: paved road (% of total road) is a proxy of the quality of infrastructure. Infrastructure is essential for both domestic and foreign investors by facilitating business activity and reducing transaction costs. (+)

XRSTAB: this variable indicates the exchange rate stability (the appreciation or depreciation of a currency against the US dollar) elaborated by ICRG. Values range from 0 to 10 (higher

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[5] There is an abundant and controversial literature on the determinants of FDI (see Dunning,1993;,Chakrabati 2001; Balasubramanyam 2001 and references therein).

[6] Energy production refers to forms of primary energy-petroleum (crude oil, natural gas liquids, and oil from nonconventional sources), natural gas, solid fuels (coal, lignite, and other derived fuels), and combustible renewables, waste and primary electricity, all converted into oil equivalents.

values correspond to better stability). According to several works Exchange rate volatility is found to be systematically impediment to trade (Frankel and Wei 1997; Rose 2000; Tenreyro, 2007; and Gil-Pareja et al. 2008). (-)

LaborCost **(Labor cost):** foreign firms (especially those having a low cost multinationalisation strategy) are very sensitive to costs. Due to the lack of data on wages weighted by productivity we simply use the gross average nominal monthly wages as a proxy of a labor cost. Low wages may also mean low productivity the sign of this variable may be in then positive or negative. (+/-)

*Bureau***:** describes the institutional strength and quality of bureaucracy. High points (the highest score is equal to 4 points and the worst score is equal to 0) are given to countries where bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. (+)

We rely on a General Least Square Estimation (EGLS) fixed effect model for a panel data of 13 MENA countries[7] ranging from 1995 to 2010. Regressions are estimated with a weighted least-squares procedure, employing a White correction for heteroskedasticity (cross-section weights) to ensure heteroskedasticity-consistent standard errors. To avoid the risk of fallacious regressions between dependent and explanatory variables, the Augmented Dickey-Fuller test (ADF) was applied the variables of the model. Results show that diffwages_Brazil_MENA, diffgdpcap_Brazil_MENA, FDI_Brazil, diffwages_China_MENA, FDI_China, diffgdpcap_India_MENA, diffwagesIndia_MENA, FDIscalled_India,

FDIshare_India, FDI_India, diffgdpcap_Russia_MENA, diffwages_Russia_MENA, FDIscalled_Russia, FDI_Russia, diffwages_SouthAfrica_MENA, credit, paved road have a unit root but are stationary in first difference. Therefore, in the regressions, non-stationary variables were computed in first difference. Moreover, the matrix of partial correlations points out that there are no serious problems of multicollinearity between the explanatory variables included in the regressions.

Results (reported in Annex 4) are in line with the hypothesis and empirical works (the variables energy, trade openness and fiscal freedom are highly significant). Even if some variables of labor cost, bureaucracy, paved road, and exchange rate stability are not significant at any statistical conventional level. Both growth and paved road are only significant at 10% and the variable credit is significant at 5%.

5.2 *Estimation of the crowding in/out effect*

To estimate the FDI crowding in or crowding out effect between BRICS and the MENA region is actually a challenging issue. First, a dynamic spatial and time approach should be adapted to take account of the different mechanisms and interactions that influence inflows and outflows from and toward all the countries in the world including of course the BRICS and MENA countries. Second, this global framework requires also a high quality data (sectoral and aggregated) and the appropriate econometric techniques.

To estimate the effect of BRICS on MENA inward FDI we follow Mercereau (2005,7) by choosing as a first indicator of crowding in/out effect FDI to BRICS over the combined GDP of the MENA region. In other words we assume that diversion (in absolute amount) is proportional to the size of a given economy relative to the MENA region. Writing α the fraction of FDI to BRICS that comes at the expense of MENA countries, the total amount of FDI diverted from MENA countries is the following:

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[7] Algeria, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, Turkey and United Arab Emirates.

Total FDI diverted from MENA economies = αFDI_BRICS_t (1)

The importance of country i's GDP compared to a given regional GDP can be represented by the following ratio: $\dfrac{GDP_{i,t}}{\sum_{j\epsilon\{allcountries\}} GDP_{j,t}}$ (2)

Assuming that diversion from a given country i is proportional to the size of its economy relative to the MENA region, the amount of FDI diverted from country i is given by multiplying equation (2) by (1):

FDI diverted from country $i = \alpha FDI\_BRICS_t \dfrac{GDP_{i,t}}{\sum_{j\epsilon\{allcountries\}} GDP_{j,t}}$ (3)

Dividing both sides of equation (3) by $GDP_{i,t}$ shows that the parameter for crowding out, α, can be estimated by regressing $\dfrac{FDI_{i,t}}{GDP_{i,t}}$ on $\dfrac{FDI_{i,t}}{\sum_{j\epsilon\{allcountries\}} GDP_{j,t}}$

To deal with diversion and complementarity effect on FDI between MENA and BRICS, we add respectively the three following measures to the Benchmark model:

FDIscalled: FDI to individual BRICS countries over the sum of GDP of MENA countries[8].

FDI_BRICS: annual flows of foreign direct investment (in Million us $) to individual BRICS countries.

FDIshare: FDI to individual BRICS over total FDI to the MENA region[9] (individual BRICS share of total FDI to the MENA region).

In addition we introduce a variable representing the difference between the GDP per capita in current U.S. dollars (a proxy of the development level) between the BRICS and MENA countries (diffgdpcap_BRICS_MENA). The expected sign of this variable is in some extent controversial especially when we don't take account of the nature of FDI. As well acknowledged, the vertical North-South FDI flourish between dissimilar countries (but not too much dissimilar) and the North-North or horizontal FDI is commonly observed between countries with the same level of development (similar countries)[10].

A difference in economic development between MENA countries and BRICS may act in both directions. MNCs can make a trade-off between countries if they are, in some extent, dissimilar (labor and capital costs should be among the most important variables of this arbitrament). It is also found that countries cannot be on the same foreign investor's indifference curve especially when they present a very different attractiveness potential and therefore they will be treated differently by the foreign firms. MNCs who plan to invest abroad will not necessarily consider all countries as the same; some countries will be on the short list while others will not simply be considered.

As well we add to the model the wage difference between the BRICS countries and MENA (diffwages_BRICS_MENA). The sign expected of this variable is somewhat ambiguous. Foreign firms can see a wage difference between countries as an opportunity but for other firms a wage gap could also mean a productivity gap.

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[8] Countries included in the calculation of the sum of GDP are: Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Palestine, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates and Yemen.

[9] Countries included in the calculation of total FDI Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait Lebanon, Libya, Mauritania, Morocco, Palestine, Oman, Qatar, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates and Yemen.

[10] For more details: Markusen and Venables (1998), Markusen and Maskus (2001) and MarKusen (2002).

5.3 Findings

Results of the substitution or the complementarity effect are set by adding one by one an indicator of crowding in/out to the benchmark model. On the subject of Brazil (Annex 5) estimation results match well with the hypothesis. Growth, energy, trade openness are highly significant (1%) in specification (1), (2) and (3). Labor cost has the right negative sign and is significant at 5% in specification (1) and (2). Paved road is significant at 1% and 5% respectively in model specification (1) and (3). Also, fiscal freedom is significant at 10% and 1% in specification (1) and (3). The variables relative to the competition and complementarity effect are significant and having the same signs in both specification (1) and (2) (the difference between Brazil and MENA countries wages is negative and the difference of GDP per capita has a positive sign). FDIscalled_Brazil and FDIshare_Brazil are significant respectively at 5% and 1% in specification (1) and (2) and specification (3). In the model containing Brazil FDI inflows as an indicator we reject the hypothesis of crowding in or out, the variable FDI_Brazil is not significant at any conventional level.

Results of India model show that except the variables bureaucracy, exchange rate stability and credit, all other variables are significant in specification (4), (5) and (6). The variables FDIscalled_India, FDIshare_India and FDI_India are positively significant respectively at 1% and 5%. Thus the hypothesis of complementarity is more realistic. The variable wages difference is negatively significant at 5% (specification (4) and (6)) and at 10% in the specification (5). Moreover, the difference of GDP per capita is positively significant at 1% in specification (4), (5) and (6).

Results concerning China effect show that like the previous regression energy, trade, openness and labor cost are significant in specification (7), (8) and (9). In addition, the variable credit becomes significant at 5%. We note also that the difference in GDP per capita and the difference in wages are not significant in any specification. The three indicators for crowding in/out are only significant in specification (7) and (8) (level of significance equal to 1%) and having the negative sign of the diversion effect.

For Russia, econometric regression highlights that growth, energy, trade openness, fiscal freedom, difference of GDP per capita are positively significant at 1% in specification (10), (11) and (12). Moreover labor cost and paved road are significant at 5% and having the hypothesized sign in specification (10), (11) and (12). The wage difference and the three indicators of FDI are not significant at any specification.

Results for South Africa confirm the significance (with the expected sign) of energy and trade openness (at 1% level) in specification (13), (14) and (15). The same statement can be underlined for the two variables fiscal freedom and credit in specification (13) and (14) but at a 5% conventional level while growth is significant only at 10% in both specifications. All the variables in relation with the crowding in/out effect are not significant at any statistical conventional level.

6.Conclusion

The emergence of BRICS as worldwide new players obviously begun to have considerable impact on the trading and international investment environment faced by other countries namely the MENA region. The econometric findings in this paper show that diversion effect from the BRICS countries is more likely for FDI flows to the MENA region, while MENA exports seem to be crowded in by the increase of BRICS trade. There is clear evidence that competition from BRICS does not necessarily imply proportionate losses in market share for the MENA countries. Spillover effects and the BRICS import demand may offset the diversion threat. In addition, exports by MENA of strategic commodities (oil and gas) may possibly reduce the risk of diversion and could even be a bulwark against the competition

threat thanks to their statue of strategic products. Econometric analysis shows also that the MENA FDI inflows are crowded out by the BRICS FDI namely by China and Brazil. We believe that tournament between countries to draw FDI and to be on the short list of foreign investors (by definition is very short) is harder than trade competition. Moreover, given the large size of FDI flows to China and Brazil, an increase in FDI inflows to these countries will mechanically reduce the share of the MENA countries. Results reveal also a crowding in effect by FDI flows toward India, thus opportunities and threat may coexist. Challenging questions are how to profit from the fast growing BRICS countries, how to endogenise the maximum positive spillovers, and how to minimize the diversion effect. A more detailed analysis with sectoral data could be of great interest.

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Data Source

Variables	Source
Foreign direct investment (% GDP)	United Nations Conference on Trade and
Foreign direct investment in million of US $	Development, UNCTAD Statistics database
Trade complementarity	online, 2011.
	http://unctadstat.unctad.org
Domestic credit provided by banking sector (% of GDP)	World Bank, World Development Indicators
Paved road (% of total road)	database online, 2011.
Annual percentage growth rate of GDP at market prices	http://data.worldbank.org/indicator
GDP per capita (current US$)	
Energy production (Kt of oil equivalent).	
GDP (current US$)	
Openess at 2005 constant prices (%)	Penn World Tables
Fiscal Freedom	Wall Street Journal and The Heritage Foundation
The gross average nominal monthly wages	International Labor Organization
Distance, contiguity, landlockness, common language, colonial links and land area	CEPII
- Bureau: describes the institutional strength and quality of bureaucracy. High points (the highest score is equal to 4 points and the worst score is equal to 0) are given to countries where bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services.	International Country Risk Guide (ICRG), The PRS Group, Inc. 2010
- Exchange Rate Stability: this variable indicates the exchange rate stability (the appreciation or depreciation of a currency against the US dollar) elaborated by ICRG. Values range from 0 to 10 (higher values correspond to better stability).	
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Figure 1: Nominal GDP 2006-2050, The BRICS VS. G7
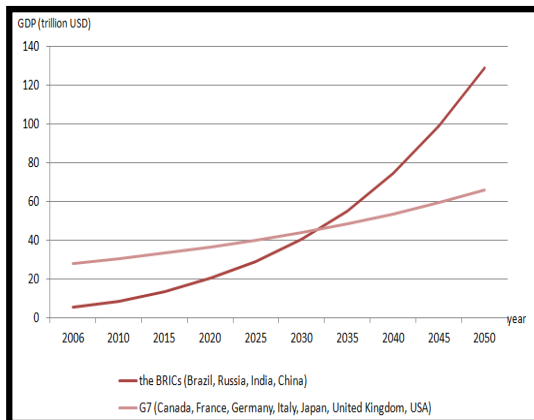
Figure2: GDP Growth Compared
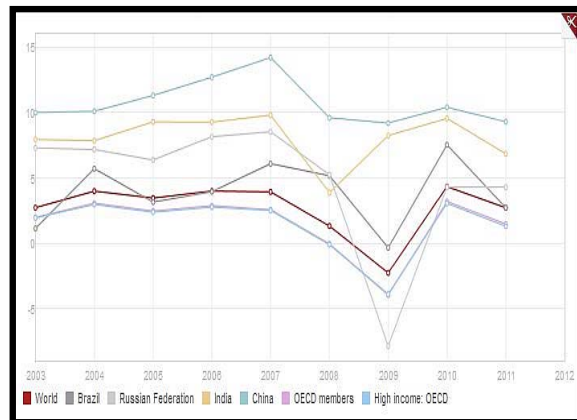
Figure 3: Inward FDI (millions US Dollars)
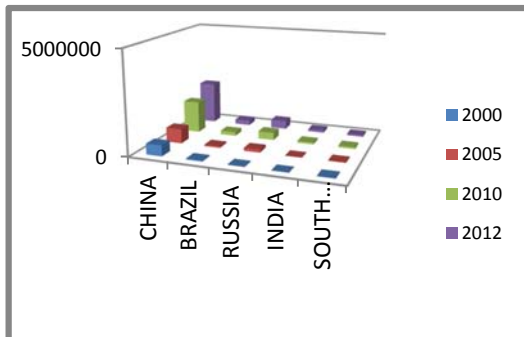
Figure 4: Outward FDI (millions US Dollars)
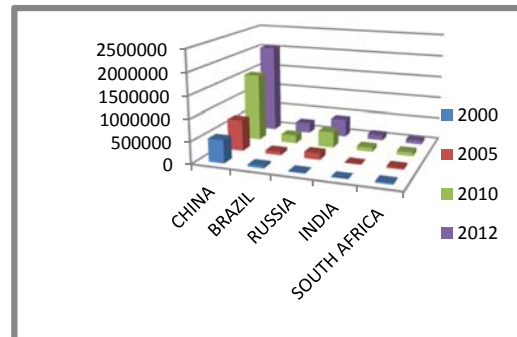
Figure 5: BRICS FDI INWARD – OUTWARD (millions US Dollars)
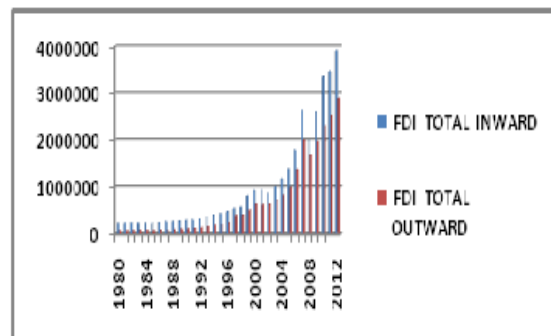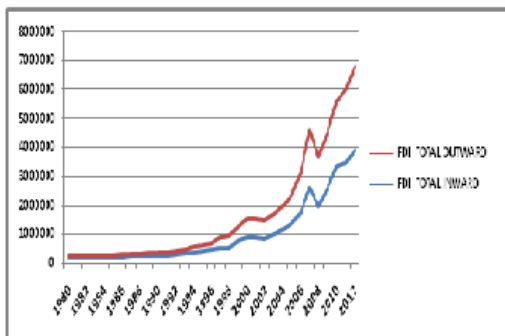
Source: Calculated by author based on data retrieved from UNCTAD database online

Figure 6: The Share of BRICS in the Imports of MENA Countries (in %)
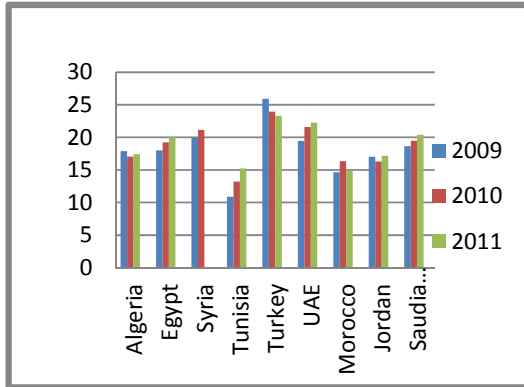
Figure 7: The Share of BRICS in the Exports of MENA Countries (in %)
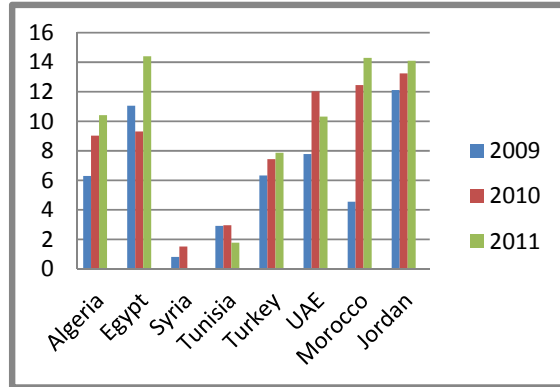
Source: The authors' calculation from UN Comtrade data base, 2013

Table 1: Ranking of Economy's Total Exports and Imports between MENA and BRICS Countries

	China		India		Brazil		Russia		South Africa	
	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export
Tunisia	2						3			
Algeria	2				5	4				
Egypt	3			2						
Morroco	2			2		3	5			
Turkey	3						2	3		
Jordan	3			3						
Libanon	3									1
Syria	3						5			
Oman,	3	3	4	2						
Qatar	3			4						
Emirates	3		2	1						

Source: Conception of the Author from World trade organization database: Trade profiles 2012

Annex 1: Determinants of MENA Exports

	Panel Fixed-effects regression Period: 2000-2010		
Dependant variable : lnexport	**Coeff.**	**t-Stat.**	**P-value**
C	-6.86**	-2.75	0.02
lngdpexporter	0.56***	3.48	0.00
lngdpimp	0.83***	5.52	0.00
lndiffgdpcap	0.06	1.14	0.28
lndistw	-1.35***	-9.67	0.00
landlocked	-0.69*	-1.77	0.10
comcol	0.85**	2.45	0.03
colony	0.56**	2.62	0.02
comlang_off	1.48***	6.51	0.00
contig	0.08	0.23	0.82
lnarea	-0.0028	-0.09	0.92
lncomplementarity	1.21***	5.29	0.00
FTA	-0.44	-1.53	0.16

Notes: R^2=0.52; Hausman test: X^2 (12) = 68.26 (P-value=0.00); F test that all u_i=0: F(9,8646) = 35.77 Prob > F = 0.000; sigma(i)^2 = sigma^2 for all i : chi2 (6) = 973.08 Prob>chi2 = 0.000 . Number of obs = 8668, Heteroscedasticity consistent P-value are in parenthesis. ***, ** and * indicate statistically significance at 1, 5, and 10 respectively.

Annex 2: Impact of BRICS Exports on MENA Countries

	Panel Fixed-effects regression Period: 2000-2010		
Dependant variable : Lnexport	**Coeff.**	**t-Stat.**	**P-value**
C	0.72	0.30	0.76
Lngdpexporter	0.17*	1.94	0.08
Lngdpimp	0.69**	4.12	0.00
Lndiffgdpcap	0.03	0.64	0.53
Lndistw	-1.43***	-9.51	0.00
Landlocked	-0.73*	-2.11	0.06
Comcol	0.69**	2.22	0.05
Colony	0.41**	2.17	0.05
comlang_off	1.38***	6.91	0.00
Contig	0.05	0.18	0.86
Lnarea	-0.02	-0.67	0.52
Lncomplementarity	1.18***	5.52	0.00
FTA	-0.47	-1.62	0.13
Lnexp_Brazil	0.02	0.26	0.80
Lnexp_China	0.15**	2.37	0.04
Lnexp_India	0.18**	2.25	0.05
Lnexp_Russia	-0.02	-0.76	0.46
Lnexp_SouthAfr	0.01	0.43	0.67

Notes: R^2=0.47; F(17,8641)= 504.96, Prob > = 0.000; F test that all u_i=0: F(9, 8641) = 54.31 Prob > F = 0.000. Number of obs = 8668, F(17,8641)=504.96 Prob > F = 0.000; Heteroscedasticity consistent P-value are in parenthesis. ***, ** and * indicate statistically significance at 1, 5, and 10 respectively.

Annex 3: Effect of BRICS Demand Import

Panel Fixed-effects regression Period: 2000-2010			
	Coeff .	t-Stat.	P-value
C	-6.64**	-2.64	0.03
Lngdpexporter	0.58***	3.67	0.01
Lngdpimp	0.81***	5.27	0.00
Lndiffgdpcap	0.08	1.44	0.19
Lndistw	-1.40***	-10.00	0.00
Landlocked	-0.72*	-1.84	0.10
Comcol	0.83**	2.37	0.04
Colony	0.58**	2.86	0.02
comlang_off	1.46***	6.76	0.00
Contig	0.05	0.14	0.89
Lnarea	0.01	0.43	0.68
lncomplementarity	1.18***	5.36	0.00
FTA	-0.45	-1.52	0.16
Dum_Brazil	0.79	1.22	0.25
Dum_China	1.08**	2.41	0.04
Dum_India	0.98	1.37	0.21
Dum_Russia	-1.10*	-2.19	0.06
Dum_SouthAfr	0.48	0.88	0.40

Notes: R^2=0.53; F test that all u_i=0: $F_{(9, 8630)}$ = 35.59 Prob > F =0.000; $F_{(17,8630)}$= 476.03 Prob > F = 0.00; Number of obs = 8657, Heteroscedasticity consistent P-value are in parenthesis. ***, ** and * indicate statistically significance at 1, 5, and 10 respectively.

Annex 4: Determinants of FDI in MENA

Method: Panel EGLS (Cross-section weights) Cross-sections inclused:13, Period: 1995-2010			
Dependent Variable: FDI	Coefficient	t-Statistic	Prob.
C	-8.51***	-5.99	0.00
GROWTH	0.03*	1.56	0.10
ENERGY	3.00E-5***	4.11	0.00
OPEN	0.09***	4.30	0.00
FISCALFREEDOM	0.02***	2.60	0.01
LABORCOST	-0.0001	-0.44	0.66
BUREAU	-0.25	-0.96	0.34
XRSTAB	0.04	0.69	0.49
D(CREDIT)	0.02**	2.05	0.04
D(PAVEDROAD)	1.00 E-5*	1.53	0.10

Note: D( ): variable in first difference. R^2=0.50, F-statistic=8.23 Prob (F-statistic)=0.000. White cross-section standard errors & covariance; ***, ** and * indicate statistically significance at 1, 5, and 10 respectively.

Annex 5: Impact of FDI to Brazil on MENA Countries

	Specification 1			Specification 2			Specification 3		
	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob.
Dependant variable : FDI_MENA									
C	-7.00***	-3.93	0.00	-6.42***	-3.84	0.00	-8.50***	-6.25	0.00
GROWTH	0.07***	3.02	0.00	0.07***	2.9	0.00	0.07***	2.89	0.00
ENERGY	2.65E-05***	4.33	0.00	2.00E-05***	4.17	0.00	2.92E-05***	4.52	0.00
OPEN	0.08***	3.79	0.00	0.08***	3.75	0.00	0.09***	4.16	0.00
FISCALFREEDOM	0.02*	1.83	0.07	0.02	1.48	0.14	0.03***	3.02	0.00
LABORCOST	0.00**	-1.95	0.05	-0.001**	-2.12	0.04	-0.0004	-1.47	0.14
BUREAU	-0.24	-0.75	0.46	-0.21	-0.67	0.50	-0.28	-0.84	0.40
XRSTAB	0.05	0.61	0.54	0.04	0.45	0.65	0.03	0.37	0.71
DCREDIT	0.01	1.19	0.24	0.01	1.01	0.32	0 .01	1.44	0.15
D(PAVEDROAD)	0.00***	2.68	0.01	1.06E-05***	2.69	0.01	9.54E-06**	2.29	0.00
D(DIFFGDPCAP_BRAZIL_MENA)	0.0001***	4.05	0.00	0.0001***	4.33	0.00	1.00E-04***	2.84	0.01
D(DIFFWAGES_BRAZIL_MENA)	-8.16E-04***	-2.40	0.01	-0.001***	-3.29	0.00	-4.00E-04	-0.83	0.41
FDIscalled_BRAZIL	31782502	-2.06	0.04	-	-	-	-	-	-
FDIShare_BRAZIL				-0.20***	-2.79	0.01	-	-	-
D(FDI_BRAZIL)							2.00E-06	0.20	0.84
R²=0.59 , F-Stat=10.34***				R²=0.60 ,FStat=10.34***			R²=0.59 , FStat=10.34***		

Notes: White cross-section standard errors & covariance; ***, ** and * indicate statistically significance at 1, 5, and 10 respectively. D( ): variable in first difference

Annex 6: Impact of FDI to India on MENA Countries

Variable	Specification 3			Specification 4			Specification 5		
	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob.
C	-9.09***	-6.46	0.00	-8.26***	-6.08	0.00	-8.55***	-6.6	0.00
GROWTH	0.07***	3.58	0.00	0.08***	3.58	0.00	0.08***	3.61	0.00
ENERGY	2.98E-05***	5.98	0.00	2.9E-05***	5.55	0.00	2.90E-05***	5.63	0.00
OPEN	0.09***	4.18	0.00	0.09***	4.27	0.00	0.08***	4.25	0.00
FISCALFREEDOM	0.03**	2.38	0.02	0.03***	2.81	0.01	0.03**	2.33	0.02
LABORCOST	-0.001**	-1.96	0.05	-0.001***	-2.71	0.01	-0.001**	-2.08	0.04
BUREAU	-0.090	-0.27	0.78	-0.21	-0.63	0.53	-0.08	-0.25	0.8
XRSTAB	0.030	0.37	0.71	0.01	0.12	0.9	0.01	0.09	0.92
DCREDIT	0.010	0.8	0.43	0.01	1.2	0.23	0.01	0.91	0.36
D(PAVEDROAD)	9.49E-06**	2.31	0.02	9.30E-06**	2.17	0.03	9.44E-06**	2.12	0.04
DIFFGDPCAP_INDIA_MENA	1.85E-04***	6.77	0.00	1.75E-04***	7.53	0.00	1.88E-06***	7.24	0.00
DDIFFWAGES_INDIA_MENA	-0.001**	-2.2	0.03	-0.001*	-1.72	0.08	-0.001**	-2.03	0.04
FDIscalled_INDIA	115000000	3.55	0.00	-	-	-	-	-	-
FDIshare_INDIA				2.21***	2.51	0.01	-	-	-
D(FDI_INDIA)							3.76E-05**	2.31	0.02
R²=0.63 , F-Stat=12.42***				R²=0.60 , F- Stat=10.97***			R²=0.62 , F-Stat=11.58***		

Notes: White cross-section standard errors & covariance; ***, ** and * indicate statistically significance at 1, 5, and 10 respectively. D( ): variable in first difference

Annex 7: Impact of FDI to China on MENA Countries

Dependant variable : FDI_MENA	Specification 7			Specification 8			Specification 9		
	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob.
C	-2.77***	-0.89	0.37	-2.97	-1.13	0.25	-8.79***	-5.56	0.000
GROWTH	0.05***	2.05	0.04	3.00E-02	1.28	0.20	3.00E-02	1.51	0.13
ENERGY	2.00E-5**	2.15	0.03	1.00E-05*	1.61	0.10	2.00E-5***	2.56	0.01
OPEN	0.09***	3.89	0.000	0.08***	3.28	0.000	0.10***	4.15	0.000
FISCALFREEDOM	1.00E-02	1.17	0.24	-1.00E-03	-1.00E-01	0.91	0.025***	3.41	0.000
LABORCOST	-0.001***	-2.33	0.02	-0.001*	-1.84	0.06	-3.00E-04	-7.30E-01	0.800
BUREAU	-1.00E-01	-2.50E-01	0.80	-3.00E-02	-9.00E-02	0.92	-2.80E-01	-7.30E-01	0.46
XRSTAB	5.00E-02	6.30E-01	0.53	-1.00E-02	-2.20E-01	0.82	6.00E-02	7.70E-01	0.44
DCREDIT	0.02***	2.52	0.01	0.02**	1.93	0.05	0.02**	2.06	0.04
D(PAVEDROAD)	1.00E-05	1.38	0.17	1.00E-5*	1.81	0.07	1.00E-05*	1.60	0.11
DIFFGDPCAP_CHINA_MENA	-1.00E-07	-1.00E-02	0.99	4.00E-06	1.70E-01	0.86	-2.00E-05	-7.40E-01	0.45
DDIFFWAGES_CHINA_MENA	4.00E-05	5.00E-02	0.95	-5.60E-04	-8.00E-01	0.42	3.00E-04	4.20E-01	0.67
FDIscalled_CHINA	-84295912***	-2.55	0.01	-	-	-	-	-	-
FDIshare_CHINA				-0.27***	-3.11	0.00	-	-	-
D(FDI_CHINA)	-	-	-	-	-	-	-8.20E-06	-0.65	0.51
R²=0.54 , F-Stat=8.36***				R²=0.56 , F-Stat=8.98***			R²=0.50 , FStat=7.08***		

Notes: White cross-section standard errors & covariance; ***, ** and * indicate statistically significance at 1, 5, and 10 respectively. D( ): variable in first difference

Annex 8: Impact of FDI to Russia on MENA Countries

FDI_MENA	Specification 10			Specification 11			Specification 12		
	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob.
Dependant variable :									
FDI_MENA									
C	-8.63***	-6.88	0.00	-8.40***	-5.96	0.00	-8.39***	-6.97	0.00
GROWTH	0.09***	4.70	0.00	0.09***	3.51	0.00	0.08***	4.13	0.00
ENERGY	2.9E-05***	5.14	0.00	2.86E-05***	5.25	0.00	2.87E-05*****	4.97	0.00
OPEN	0.09***	4.41	0.00	0.09***	4.34	0.00	0.08***	4.54	0.00
FISCALFREEDOM	0.03***	2.73	0.01	0.02***	2.71	0.01	0.03***	2.57	0.01
LABORCOST	-0.0006*	-1.93	0.06	-0.001**	-2.16	0.03	-0.001**	-2.32	0.02
BUREAU	-0.15	-0.46	0.65	-0.24	-0.69	0.49	-0.13	-0.41	0.68
XRSTAB	0.01	0.08	0.93	0.01	0.11	0.91	0.00	-0.04	0.97
DCREDIT	0.01	1.22	0.23	0.01	1.30	0.20	0.01	1.26	0.21
D(PAVEDROAD)	9.13E-05**	2.14	0.03	9.56E-06**	2.19	0.03	9.01E-06**	2.15	0.03
DIFFGDPCAP_RUSSIA_MENA	1.77E-04***	6.46	0.00	1.7E-04***	6.93	0.00	1.8E-04***	6.60	0.00
DDIFFWAGES_RUSSIA_MENA	6.3E-04	-1.20	0.23	4.4E-04	-0.72	0.47	7.26-E04	-1.51	0.13
FDIScalled_RUSSIA	-8.63***	-6.88	0.00	-	-	-	-	-	-
FDIShare_RUSSIA				0.09	0.15	0.88	-	-	-
D(FDI_RUSSIA)							1.25E-05	0.83	0.41

R²=0.59 , F-Stat=10.42***   R²=0.57 , F-Stat=9.70***   R²=0.59, F-Stat=10.51***

Notes: White cross-section standard errors & covariance; ***, ** and * indicate statistically significance at 1, 5, and 10 respectively. D( ): variable in first difference

Annex 9: Impact of FDI to South Africa on MENA

Dependant variable : FDI_MENA	Specification 13			Specification 14			Specification 15		
	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob	Coeff.	t-Stat	Prob.
FDI_MENA									
C	-8.25***	-5.36	0.00	-7.93***	-5.35	0.00	-7.75***	-4.20	0.00
GROWTH	0.03*	1.69	0.09	0.03	1.41	0.16	0.03*	1.87	0.06
ENERGY	2.12E-05***	2.68	0.01	2.00E-05***	2.47	0.01	2.17E-05***	2.76	0.01
OPEN	0.09***	4.07	0.00	0.09***	4.09	0.00	0.09***	3.77	0.00
FISCALFREEDOM	0.02*	1.84	0.07	0.02*	1.90	0.06	0.02	1.44	0.15
LABORCOST	-0.0003	-0.65	0.52	0.00	-0.85	0.40	-0.0004	-0.78	0.44
BUREAU	-0.28	-0.79	0.43	-0.19	-0.55	0.58	-0.34	-0.96	0.34
XRSTAB	0.05	0.82	0.41	0.04	0.59	0.56	0.06	0.81	0.42
DCREDIT	0.02*	1.82	0.07	0.02**	2.08	0.04	0.01*	1.66	0.10
D(PAVEDROAD)	6.44E-06	1.52	0.13	6.79E-06	1.61	0.11	6.37E-06*	1.57	0.10
DIFFGDPCAP_SOUTHAFR_MENA	-9.97E-06	-0.49	0.62	-1.02E-05	-0.52	0.61	-4.43E-06	-0.20	0.84
DDIFFWAGES_SOUTHAFR_MENA	2.59E-04	0.48	0.63	1.84E-04	0.34	0.73	3.25E-04	0.64	0.52
FDIScALLED_SOUTHAFR	16246520.00	0.32	0.75	-	-	-	-	-	-
FDIShare_SOUTHAFR				-0.66	-1.20	0.23	-	-	-
D(FDI_SOUTHAFR)							0.0001	1.11	0.27
R-squared		0.50			0.51			0.51	

Notes: White cross-section standard errors & covariance; ***, ** and * indicate statistically significance at 1, 5, and 10 respectively. D( ): variable in first difference

Annex 10 : Correlation Matrix (Trade Model)

	lnexport	lngdpexporter	lngdpimp	d(lndiffgdpcap)	d(lndistw)	landlocked	comcol	colony	comlang_off	contig	lnarea	lncomplementarity	FTA	lnexpsouthafr	lnexpchina	lnexpindia	lnexprussia	lnexpbrazil
lnexport	1																	
lngdpexporter	0,42	1,00																
lngdpimp	0,40	0,09	1,00															
d(lndiffgdpcap)	-0,02	-0,02	-0,01	1,00														
d(lndistw)	0,00	0,00	0,00	0,01	1,00													
landlocked	-0,13	0,00	-0,14	0,01	0,00	1,00												
comcol	0,07	-0,04	-0,23	-0,01	0,00	-0,05	1,00											
colony	0,18	0,13	0,06	0,00	0,00	0,01	-0,06	1,00										
comlang_off	0,13	-0,10	-0,30	0,00	-0,01	-0,04	0,29	0,02	1,00									
contig	0,16	0,06	-0,09	0,00	0,00	0,02	0,20	0,14	0,27	1,00								
lnarea	0,06	0,00	0,20	0,02	0,01	0,01	-0,13	0,01	0,00	0,05	1,00							
lncomplementarity	0,28	0,12	0,08	-0,03	-0,02	0,00	-0,04	0,10	-0,15	-0,01	0,02	1,00						
FTA	0,17	-0,01	0,11	0,02	-0,01	0,03	-0,02	0,08	-0,05	0,15	-0,06	0,08	1,00					
lnexpsouthafr	0,24	0,08	0,42	-0,01	0,00	0,06	-0,02	0,04	-0,10	-0,05	0,12	0,03	0,07	1,00				
lnexpchina	0,33	0,15	0,57	-0,01	0,00	-0,09	-0,11	0,09	-0,16	-0,07	0,16	0,08	0,09	0,38	1,00			
lnexpindia	0,31	0,12	0,44	-0,01	0,00	-0,01	0,03	0,03	-0,02	0,01	0,09	0,05	0,00	0,80	0,43	1,00		
lnexprussia	0,21	0,07	0,42	0,01	0,00	0,06	-0,09	0,09	-0,16	-0,03	0,08	0,06	0,08	0,46	0,28	0,43	1,00	
lnexpbrazil	0,24	0,11	0,51	-0,01	-0,01	-0,19	-0,15	0,05	-0,13	-0,08	0,22	0,03	0,07	0,34	0,70	0,32	0,15	1,00

	Growth	energy	Open	FiscalFreedom	laborCost	Bureau	xstab	dcredit	d(pavedroad)	diffgdpcapchina_MENA	ddiffwagesChina_MENA	d(FDI_China)	FDIshare_China	FDIcalled_China	ddiffgdpcapIndia_MENA	ddiffwagesIndia_MENA	d(FDIIndia)	d(FDIcalledIndia)	d(FDIshare_India)	ddiffwagesBrazil_MENA	ddiffgdpcapBrazil_MENA	d(FDI_Brazil)	FDIshare_Brazil	FDIcalled_Brazil	ddiffgdpcapRussa_MENA	ddiffwagesRussia_MENA	d(FDI_Russia)	FDIshare_Russia	d(FDIcalled_Russia)	diffgdpcapSouthAfrica_MENA	ddiffwagesSouthAfrica_MENA	FDI_SouthAfrica	FDIcalled_SouthAfrica	FDIshare_SouthAfrica
Growth	1																																	
energy	0,08	1,00																																
Open	0,08	0,11	1,00																															
FiscalFreedom	0,11	0,43	0,41	1,00																														
LaborCost	0,33	0,18	0,25	0,51	1,00																													
Bureau	0,02	0,14	0,47	0,29	0,14	1,00																												
xstab	0,18	0,20	0,37	0,44	0,21	0,10	1,00																											
dcredit	0,19	0,01	0,01	0,01	-0,06	0,03	0,08	1,00																										
d(pavedroad)	0,11	0,03	0,05	0,04	0,09	0,09	0,00	0,07	1,00																									
diffgdpcapchina_MENA	0,38	0,23	0,35	-0,55	-0,80	0,31	0,21	0,01	-0,07	1,00																								
ddiffwagesChina_MENA	0,20	0,00	0,04	-0,12	-0,30	0,01	0,18	0,00	-0,02	0,20	1,00																							
d(FDI_China)	0,19	0,03	0,10	0,11	0,10	0,04	0,16		0,26	-0,11	0,00	1,00																						
FDIshare_China	0,18	0,07	0,18	-0,28	-0,23	0,01	0,37	0,10	-0,09	0,16	-0,01	-0,39	1,00																					
FDIcalled_China	0,05	0,05	0,13	-0,25	-0,26	0,01	0,16	0,14	-0,04	0,14	0,02	-0,13	0,64	1,00																				
ddiffgdpcapIndia_MENA	0,40	0,05	0,07	-0,14	-0,25	0,08	0,00	0,31	-0,21	0,39	0,22	-0,18	-0,11	-0,10	1,00																			
ddiffwagesIndia_MENA	0,23	0,01	0,06	-0,15	-0,33	0,01	0,11	0,11	-0,02	0,21	0,99	-0,05	0,06	0,10	0,20	1,00																		
d(FDIIndia)	0,17	0,01	0,03	0,01	-0,02	0,01	0,18	0,00	0,09	-0,07	-0,05	0,38	-0,16	-0,13	-0,02	-0,08	1,00																	
d(FDIcalledIndia)	0,13	0,00	0,01	-0,02	-0,06	0,01	0,12	0,08	0,04	-0,04	0,00	0,13	-0,11	-0,09	0,04	-0,02	0,92	1,00																
d(FDIshare_India)	0,05	0,01	0,03	0,05	0,07	0,00	0,07	0,05	0,01	-0,06	-0,08	0,14	-0,06	-0,25	0,05	-0,13	0,54	0,58	1,00															
ddiffwagesBrazil_MENA	0,11	0,02	0,01	-0,04	-0,19	0,01	0,12	0,07	0,09	0,13	0,88	0,27	-0,23	-0,11	0,13	0,86	-0,15	-0,16	-0,15	1,00														
ddiffgdpcapBrazil_MENA	0,43	0,06	0,10	-0,17	-0,27	0,07	0,09	0,33	-0,27	0,41	0,23	-0,36	0,06	0,04	0,95	0,23	-0,27	-0,16	-0,07	0,11	1,00													
d(FDI_Brazil)	0,18	0,01	0,05	0,02	0,07	0,00	0,17	0,01	0,25	-0,06	-0,11	0,63	0,02	-0,10	-0,22	-0,13	0,15	-0,06	0,17	0,18	-0,31	1,00												
FDIshare_Brazil	0,20	0,05	0,15	-0,20	-0,15	0,01	0,11	0,18	-0,07	0,13	-0,06	-0,39	0,89	0,34	-0,08	0,00	-0,11	-0,08	0,10	-0,27	0,04	0,06	1,00											
FDIcalled_Brazil	0,17	0,04	0,12	-0,15	-0,10	0,01	0,12	0,07	-0,04	0,10	-0,03	-0,19	0,74	0,24	-0,07	0,00	-0,06	-0,05	0,21	-0,19	0,03	0,20	0,93	1,00										
ddiffgdpcapRussa_MENA	0,40	0,05	0,07	-0,14	-0,25	0,08	0,00	0,31	-0,21	0,39	0,22	-0,18	-0,11	-0,10	1,00	0,20	-0,02	0,04	0,05	0,13	0,95	-0,22	-0,08	-0,07	1,00									
ddiffwagesRussia_MENA	0,11	0,00	0,01	-0,10	-0,28	0,01	0,15	0,02	0,08	0,15	0,93	0,29	-0,14	-0,03	0,13	0,92	0,16	0,14	-0,04	0,90	0,06	0,10	-0,20	-0,14	0,13	1,00								
d(FDI_Russia)	0,22	0,01	0,05	0,03	0,00	0,02	0,13	0,05	0,28	-0,07	-0,08	0,64	-0,18	-0,10	-0,18	-0,09	0,66	0,48	0,22	0,06	-0,43	0,66	-0,15	-0,05	-0,18	0,24	1,00							
FDIshare_Russia	0,04	0,00	0,00	-0,01	0,07	0,02	0,08	0,08	0,03	-0,03	-0,16	0,15	0,23	-0,10	-0,08	-0,18	0,13	-0,04	0,32	-0,14	-0,11	0,59	0,27	0,27	-0,08	-0,13	0,27	1,00						
d(FDIcalled_Russia)	0,22	0,00	0,02	-0,02	-0,07	0,00	0,07	0,09	0,23	-0,03	-0,08	0,34	-0,13	0,01	-0,15	-0,06	0,53	0,47	0,12	0,01	-0,34	0,48	-0,16	-0,14	-0,15	0,20	0,90	0,20	1,00					
diffgdpcapSouthAfrica_MENA	0,38	0,23	0,35	-0,56	-0,81	0,31	0,21	0,00	-0,07	1,00	0,19	-0,11	0,17	0,16	0,39	0,21	-0,05	-0,02	-0,06	0,12	0,40	-0,06	0,14	0,10	0,39	0,16	-0,06	-0,03	-0,02	1,00				
ddiffwagesSouthAfrica_MENA	0,04	0,06	0,11	0,18	0,11	0,00	0,05	0,00	0,09	-0,03	0,46	0,35	-0,68	-0,55	0,15	0,39	-0,22	-0,26	-0,04	0,69	0,06	0,11	-0,56	-0,44	0,15	0,47	-0,04	-0,07	-0,14	-0,06	1,00			
FDI_SouthAfrica	0,00	0,13	0,09	0,13	0,11	0,00	0,10	0,03	-0,03	-0,09	0,09	0,39	-0,42	-0,27	0,10	0,03	0,32	0,24	0,22	0,04	0,03	-0,18	-0,35	-0,19	0,10	0,13	-0,07	-0,07	-0,31	-0,09	0,19	1,00		
FDIcalled_SouthAfrica	0,09	0,01	0,00	-0,01	-0,05	0,00	0,08	0,01	-0,04	0,01	0,16	0,19	-0,07	0,12	0,06	0,15	0,16	0,21	0,05	0,02	0,07	-0,30	-0,09	0,03	0,06	0,17	-0,11	-0,21	-0,21	0,01	-0,09	0,80	1,00	
FDIshare_SouthAfrica	0,17	0,05	0,11	-0,17	-0,17	0,01	0,30	0,21	-0,08	0,10	0,12	-0,14	0,50	0,43	0,00	0,17	0,00	0,13	0,05	-0,10	0,10	-0,21	0,41	0,42	0,00	0,06	-0,13	0,07	-0,07	0,11	-0,41	0,27	0,73	1,00