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**IS THERE ANYTHING SPECIAL
WITH INTRA-ARAB CAPITAL FLOWS?**

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Working Paper No. 812

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Send correspondence to:

Khalid Sekkat

University of Brussels

ksekkat@ulb.ac.be

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Abstract

The paper examines the determinants of intra-Arab FDI inflows as compared to inflows from non-Arab countries. To this end, the analysis is conducted on two samples separately: one concerns intra-Arab FDI while the other focuses on FDI flows to Arabs from non-Arab countries. The results show a difference in the determinants of FDI inflows to Arab countries depending on the suppliers (Arab or non-Arab) and that Arabs are investing more than they should in other Arab-countries. However, the more striking result of the analysis is the difference in the determinants of Arab FDI inflows according to the supplier. Such a difference suggests that human capital, quality of institutions, infrastructure and openness don't affect an Arab investor's decision to locate in a given Arab country while they affect non-Arab investors. Hence, for an Arab country to attract more Arab FDI it doesn't need necessarily to comply with the literature and international organization's recommendations regarding openness and institutions.

JEL Classifications: F2

Keywords: Foreign Direct Investment, Inflows, Intra-Arab and from non-Arab Countries

ملخص

تدرس هذه الورقة محددات تدفقات الاستثمار الأجنبي المباشر فيما بين البلدان العربية بالمقارنة مع التدفقات من دول غير عربية . ولهذا الغرض، يجري تحليل عينتين على حدة: الأولى تخص الاستثمارات العربية البينية المباشرة والأخرى تركز على تدفقات الاستثمار الأجنبي المباشر إلى العرب من دول غير عربية . تظهر النتائج فرقا في محددات تدفقات الاستثمار الأجنبي المباشر إلى الدول العربية اعتمادا على الموردين (عربية أو غير عربية) و أن العرب يستثمرون أكثر مما ينبغي في غيرها من الدول العربية . ومع ذلك ، فإن النتيجة أكثر لفتا للتحليل هو الفرق في محددات تدفقات الاستثمار الأجنبي المباشر العربي وفقا للمورد. ويشير مثل هذه الفرق أن رأس المال البشري ، ونوعية المؤسسات والبنية التحتية والانفتاح لا يؤثر على قرار المستثمر العربي لتحديد موقع بلد عربي معين في حين أنها تؤثر على المستثمرين من غير العرب . وبالتالي، فإن لاي دولة عربية لجذب المزيد من الاستثمار العربي المباشر لا تحتاج بالضرورة لتتوافق مع الأدبيات و توصيات المنظمة الدولية بشأن الانفتاح والمؤسسات.

1. Introduction

The idea of regional integration among Arab countries has been pursued for decades. Efforts to integrate regionally were started in the late 1950s, earlier than in any other developing region. All Arab states have concluded numerous agreements to reduce trade barriers on a preferential basis. Most of these have not had much of an economic impact. For a variety of reasons discussed in the literature, progress has been very slow, with frequent reversals (Sekkat, 1996 and Fawzy, 2003).¹

Most of the analysis on the reasons for intra-Arab integration failures focused on the level of intra-regional trade in goods. The finding that intra-Arab trade in goods is “too low” is supposed to imply that the expected benefits from regional integration would be low and, hence, the incentive to achieve such integration is weak. This line of reasoning follows from the works by, among others, Al Atrash and Yousef (2000) and Testas (1998 and 2002) which consider mainly inter-industry trade. The former conclude that intra-Arab trade is lower than predicted by the gravity equation. Testas (1998), comparing the Association of South-East Asian Nations (ASEAN) and the Arab Maghreb Union (AMU), found that the former had a much more profound impact on intra-regional trade than the latter. Testas (2002), using an economic growth model to estimate the static and dynamic output and welfare effects of the AMU on Algeria, found a very small effect.

However, such analyses are biased. They focused on the goods market only to assess the desirability of intra-Arab integration, which might be misleading. On the one hand, such reasoning involves a vicious circle: intra-regional integration fails because there is little intra-regional trade (IRT) and there is a little IRT because of the absence of effective regional integration. On the other hand and more importantly, integration of the goods market is not the only form of economic integration and is not a prerequisite to other forms of integration. The successful regional integration in Europe started with a focus on the goods market, but there is no conceptual reason to adopt the same approach everywhere in the world. Hence, integration of services, labor or capital markets might proceed independently of significant progress in goods market integration.

Actually, available evidence points to important potential welfare gains from integration of the capital market in the Arab region. For instance, Konan (2003), focusing on Tunisia and Egypt, considered not only good market integration scenarios but also the scope for deeper integration through coordination of regulatory procedures and the liberalization of barriers to FDI. Her findings show that while the benefits of trade liberalization are positive, increased intra-Arab FDI induces substantial additional gains. The question becomes, therefore, how to induce such increase. The present paper addresses this question by investigating the determinants of intra-Arab FDI. Doing so may point to possible actions that could induce an increase in such flow.

The mainstream literature shows that FDI inflows to countries are determined in part by the size of domestic and accessible foreign markets (Lucas, 1993), sound economic policies (Blomstrom and Kokko, 1997), infrastructure (Wheeler and Mody, 1992) and political/institutional security (Wei, 2000 and Henisz, 2000). Studies on Arab countries confirm the relevance of these factors for the region. Sekkat and Véganzones (2007) confirm the importance of openness, infrastructure availability and sound economic and political conditions in increasing Arab countries attractiveness with respect to FDI. Méon and Sekkat (2004) conclude that political risk and specific aspects of governance (corruption,

¹ Until the late 1990s, the exception to the rule was the 1981 Gulf Cooperation Council. Even there, it took more than two decades for members to agree on a common external tariff, the minimum necessary condition for the realization of the customs union objective (Legrenzi, 2003).

government effectiveness and the rule of law) do much to explain the FDI performance of the region.

More recent developments in the literature point to the importance of similarity between countries as another major determinant of FDI inflows. This means that after controlling for the above variables, FDI between two countries will be higher if the countries are similar than if they are not. Similarity encompasses culture, language or institutions. Habib and Zurawicki (2002), focusing on corruption, showed that the absolute difference of the corruption index between the investor and the host country has a negative impact on bilateral FDI. Benassy et al. (2007), using a wide variety of institutional characteristics, found that institutional distance tends to reduce bilateral FDI well in line with Lee et al. (2007)'s result that cultural familiarity has an important effect on FDI decisions. Melitz (2008) focused on language considering both the ability to communicate directly or indirectly through translation. Direct communication appears about three times more effective than indirect communication in promoting trade. Taking both direct and indirect communication into account, the impact of a common language is nearly twice higher than suggested in the previous literature. Finally, Guiso et al. (2009) investigated the impact of bilateral trust on economic exchange. Trust is supposed to be affected by the characteristics of the countries such as history, past conflicts, religions, genetic, and even somatic factors. The results show that bilateral trust leads to more trade and investment between two countries.

Hence, an additional contribution of this paper is to examine whether the above findings on similarity are confirmed in the case of Arab countries. To this end, we conduct our quantitative analysis on two samples separately: one concerns intra-Arab FDI while the other focuses on FDI flows to Arab from non-Arab countries. The rest of the paper is organized in three sections. The next section discusses first the potential impact of intra-Arab FDI flows and second assesses the importance of such flows in an international perspective. Section 3 presents an econometric analysis and a comparison of the determinants of intra-Arab FDI flows and of FDI to Arab countries from non-Arab countries which allows for assessing the validity of the prediction of the literature that similarity between countries is a major determinant of FDI inflows. Section 4 concludes.

2. Intra-Arab integration and FDI inflows

2.1 The Pan Arab Free Trade Area

The most recent regional integration scheme in the Region is the Pan Arab Free Trade Area (PAFTA) implemented gradually after 1998.² Members of PAFTA can be divided fairly naturally into three types of economies. One consists of relatively oil rich and labor poor countries (the Gulf countries and Libya), the second type are the oil rich and labor abundant countries (Iraq, Algeria, Syria, Sudan and Yemen) and the third includes oil poor and labor abundant countries (Egypt, Morocco, Tunisia, Jordan and Lebanon). The first group is frequently in surplus of capital while the third one is in need of more capital to develop. Hence, there is a potential mutual benefit in term of capital exchange. Actually, some evidence suggests sizeable increase in GDP if the Arab countries move from shallow to deep integration that covers NTBs, services, and FDI.

To assess potential gains from deeper economic integration, two approaches have been traditionally used. One is an ex-ante approach based on CGE modeling while the other is an ex-post approach based on econometric estimation of gravity models. The gravity studies allow for assessing the impact of implementing intra-regional liberalization on exchanges of goods, services, labor or capital. However, as the length of time that has passed since PAFTA

² Member States of the PAFTA are Egypt – United Arab Emirates (UAE) – Bahrain – Jordan – Tunisia – Saudi Arabia – Sudan – Syria – Iraq – Oman – Palestine – Qatar – Kuwait – Lebanon – Libya – Morocco – Yemen.

has been implemented is short, there have been few ex post studies. A recent paper by Abedini and Peridy (2008) tries to do so. It found that the agreement resulted in a gross increase in trade creation of approximately 20% in the 1988-2005 period.

The literature dealing with the ex-ante evaluation of the impact of PAFTA is not much richer. However, useful insights can be drawn from some CGE studies focusing on specific countries in the region. Konan (2003) focused on Tunisia and Egypt, considering not only shallow integration scenarios (reduction in tariffs only) but also the scope for deeper integration through coordination of regulatory procedures (reduction in NTBs) and the liberalization of barriers to trade in services and FDI.

Konan considered five scenarios: (i) shallow integration involving only reduction in tariffs on goods; (ii) preferential liberalization, either through the Euro-Med initiative or PAFTA; (iii) multilateral liberalization; (iv) deep integration, in which NTBs on goods are eliminated; and (v) services liberalization consisting of reduction of barriers on cross-border trade as well as barriers to FDI in the service sector. Table 1 summarizes the impact on GDP of the various combinations of these scenarios.

The gains from liberalization are greater for Tunisia than for Egypt; except in one case. While PAFTA (with tariffs removal only) has almost no effect on Tunisia, trade liberalization involving also the EU would raise Tunisian GDP by 4 percent. In contrast, gain from PAFTA alone in Egypt is 2 percent while a shallow trade agreement with the EU would have a negligible impact. The explanation of such differences seems to be that Tunisia's economy relies much more on trade than Egypt's does.³

Turning to the deeper integration scenarios, the results show that a liberalization involving elimination of tariffs and non-tariff barriers to trade in goods entails gains significantly higher than those of shallow integration. In the case of Tunisia, the GDP gains are almost twice as high. In Egypt, the gains are also twice as high but their levels are still modest compared to Tunisia's. Service liberalization also induces positive gains while FDI liberalization induces substantial gains in both countries.

Bchir et al. (2007) shed light on the potential gains from moving from a simple preferential trade agreement (PTA) to a common market among Maghreb countries. They examine three scenarios: (i) Free trade area in the Maghreb (similar to shallow integration in Konan (2003)); (ii) Custom Union between Maghreb countries; and (iii) a Maghreban Common Market (similar to deep integration in Konan (2003)). Table 2 summarizes the main results. The gains for Tunisia in term of increase in GDP are almost the same as in Konan (2003). Moreover, Tunisia seems to benefit more from any scenario of liberalization than the rest of the Maghreb. The additional gains from moving from a simple PTA to a Customs Union are sizeable for both Morocco and Tunisia: around 4 percent increase in GDP.

2.2 Arab FDI

Arab countries in the World FDI market

The extent of Arab integration in the world FDI market can be examined following two perspectives: i) Arab countries as receivers: Did they receive enough FDI given their weight in World GDP? ii) Arab countries as senders: Did they send enough FDI given their weight in World GDP?

Figures 1 and 2 shed light on each perspective regarding Arab integration in the world FDI market. Figure 1 tackles the first perspective. Arab countries were receiving lesser than they

³ Note that the surprising result in terms of ranking of the various scenarios (e.g. PAFTA plus Euro-Med induces less gain than of the scenarios alone) seems to be due to the interaction between domestic taxes and trade taxes (see Konan (2003) for further discussion).

would before 2003 and much more after this year. Actually, 2003 marked a clear change in inflows to Arab countries. The corresponding share started increasing markedly. Figure 2 concerns the second perspective. Over the whole period 1995-2009, Arab countries were sending lesser than they would. The share of Arab outflows is always lower than their share in World GDP. However, a similar change as for inflows shows up after 2003. The Arab share in World outflows jumped markedly to stabilize at levels closer to the share of Arabs in World GDP; although still lower. Arab countries seem, therefore, investing lesser than they could but they are “catching-up”. From both perspectives, the period after 2003 suggests a much higher Arab integration in the world FDI market. The extent to which such higher integration in world FDI market translates in a higher integration of the intra-Arab FDI market is examined below.

The contrast in the behavior Arab FDI before and after 2003 is, however, striking and deserves investigation. Figure 3 sheds some light on this contrast. It presents the evolution of the two components of total private capital outflows (FDI and portfolio investment) from Arab countries. Overall, Arabs seem net exporters of capital. More interestingly, the amount of total private capital flows became more important after 2003 and there is a dramatic shift toward more FDI. Note that, as shown in the Appendix (Figure A.2), such a behavior seems specific to Arabs; the split between FDI and portfolio investment at the World level follows the opposite trend.

Intra-Arab FDI

Here, we also adopt the two perspectives explained above. From the first perspective, Figure 4 shows that Arab countries receive more FDI from other Arab countries than they should (i.e. given the share of receivers in World GDP). This is relatively high and stable over the whole period. From the second perspective, Figure 5 shows a different picture. While on average Arab countries send more FDI to other Arab countries than they should (i.e. given the share of senders in World GDP), in some years they send much less. Moreover, after 2003 the average share of Arab FDI sent to other Arab countries is lower than before. Overall, such a share is higher, more volatile and decreasing as compared to Arab economic weight.

Summing up, the descriptive analysis suggests that intra-Arab FDI is higher than it should be. Arabs receive more FDI than they should from other Arab countries and Arabs send more FDI than they should to other Arab countries. In the last case, however, the advantage is decreasing over time especially since 2003. Combined with the findings from Figure 3, this suggests that the increase in the total amount of FDI by Arabs doesn't benefit other Arabs (who were already receiving too much) but oriented toward other economies. Hence, it seems that in absolute term Arabs are not investing less than before in other Arab countries, they are just investing more in non-Arab countries. In relative terms the advantages of Arab countries are eroding.

Figure 6 shows the breakdown of Arab FDI outflows among Arab receiving countries. Given their clear contrast (see Figures above), we distinguish between the periods before and after 2003. Over the recent period (2003-2009), Saudi-Arabia is benefiting much more than any other Arab country from Arab FDI (36%) followed by Lebanon (8%). The two countries held the reverse order between 1995 and 2002: Lebanon (32%) first and Saudi-Arabia (20%) second. In relative terms, Egypt and Lebanon are the countries which lost the most of Arab FDI between the two sub-periods.

3. Empirical analysis

3.1 Data issues

Ideally we should use data on bilateral FDI inflows to distinguish between Arab and non-Arab investors. Unfortunately, adequate data on bilateral FDI inflows are not available for the region. UNCTAD is selling some bilateral FDI inflows data, however, they are only available for Morocco, Tunisia and Saudi Arabia for the period 1995-2009 and for Egypt for the years 2001, 2002 and 2003 which is too dated to be useful. Moreover, Morocco, Tunisia and Saudi Arabia are too specific to limit the analysis to these countries and draw any meaningful recommendations. Fortunately, the Inter-Arab Investment Guarantee Corporation (IAIGC) publishes data of FDI flows to individual Arab countries distinguishing between the Whole Arab World and the Whole World as senders. Using these data allows constructing two samples: one for intra-Arab FDI flows, while the other concerns FDI inflows to individual Arab countries from the non-Arab World. Each sample covers the 1995-2009 period and 13 Arab countries i.e. Bahrain, Egypt, Jordan, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, UAE and Yemen. Because of a possible heterogeneity between the samples, estimation should be conducted on each of them separately. To judge of the well founding of a separate estimation, an F-test is performed.

3.2 Specification

Empirical studies differ with respect to FDI specifications. The differences concern both the variables to be included in the specification and their definition (nominal versus real measures and levels versus growth rates). A basic specification relates FDI to GDP and to per capita GDP. The literature shows that, in addition to these variables, FDI inflows to countries are determined in part by the size of domestic and accessible foreign markets (Lucas, 1993), sound economic policies (Blomstrom and Kokko, 1997), infrastructure (Wheeler and Mody, 1992), political/institutional security (Wei, 2000 and Henisz, 2000) and human capital (Borensztein et al., 1998).

Studies on Arab countries confirm the relevance of the above factors for the region. Sekkat and Veganzones (2007) confirm the importance of openness, infrastructure and human capital availability and sound economic and political conditions in increasing countries attractiveness with respect to FDI. Méon and Sekkat (2004) conclude that political risk and specific aspects of governance (corruption, government effectiveness and the rule of law) do much to explain the FDI performance of the region.

In the descriptive analysis, we noticed a specific behavior of Arab FDI outflows over the period 1995-2009. The amount of total private capital flows became more important after 2003 and there is a dramatic shift toward more FDI. As shown in Appendix A (Figure A.2) such a behavior seems specific to Arabs; the split between FDI and portfolio investment at the World level follows the opposite trend. Moreover, combining the Figures suggests that the increase in the total amount of FDI by Arabs doesn't benefit other Arabs. This observation is not anecdotal and may have implications for the determinants of intra-Arab FDI. Méon and Sekkat (2012) shows that the impact of various determinants on FDI inflows to a given country may depend on the total supply of FDI; the total amount of available FDI. We therefore add the total amount of FDI outflows from Arab or from non-Arab countries as explanatory variable. The resulting specification is:

$$\text{Log}(FDI_{jit}) = \beta_{0i} + \beta_1 * \text{Log}(GDP \text{ per capita}_{it}) + \beta_2 * \text{Log}(GDP_{it}) + \beta_3 * \text{Log}(Infrastructure_{it}) + \beta_4 * \text{Log}(Institutions_{it}) + \beta_5 * \text{Log}(School_{it}) + \beta_6 * \text{Log}(Openness_{it}) + \beta_7 * \text{Log}(Total FDI_{it}) + \eta_{it} \quad (1)$$

where

FDI_{jit} is Foreign Direct Investment inflows (in current \$US) to country i from investor j in year t ;

GDP_{it} is GDP (in current \$US) of country i in year t ;

$GDP\ per\ capita_{it}$ is per capita GDP (in real \$US) of country i in year t ;

$Infrastructure_{it}$ refers to paved roads (in % of total roads) in country i and year t ;

$Institutions_{it}$ refers to the protection of property rights in country i and year t ;

$School_{it}$ is the primary school enrollment ratio (% gross) in country i and year t ;

$Openness_{it}$ refers to the freedom to trade internationally in country i and year t ;

$Total\ FDI_{jt}$ refers to the total amount of FDI (in current \$US) by investor j in year t

β_{0i} is country i 's fixed effect;

η_{it} is the error term

We introduce GDP to take account of the differences in countries' sizes. The relationship between per capita GDP and FDI is debated in the empirical literature (Asiedu, 2002). For instance, Schneider and Frey (1985) consider GDP per capita as reflecting the wealth of the resident of the host country and then demand effectiveness. The expected sign of the corresponding coefficient is, therefore, positive. In contrast, Edwards (1990) interprets GDP per capita as the inverse of the return on capital in the host country. Then the coefficient of GDP per capita in the FDI equation is expected to be negative. A higher real per capita income is supposed to decrease the attractiveness of FDI.

While the GDP related variables are standard in the literature and all have well-established definitions, there are many indicators of the other explanatory variables that can be used. Some of them have to be disregarded because they consist of only one observation, or too few, per country (e.g. the World Bank's indicator "Doing Business"). Using them would reduce dramatically the degree of freedom and, the quality of the inference. This still leaves us with more than one indicator to proxy a given dimension. Introducing all of them into the same specification raises multicollinearity issues which affect the significance of the coefficient and make it difficult to decide on which variable has the best explanatory power. Hence, we used the literature findings to select among possible indicators. For the human capital indicator, we just selected the one giving the best quality of the fit (as measured by the Adjusted R^2).

For the infrastructure we used the percentage of paved roads in total roads. Some authors use mobile phone lines by 1000 inhabitants to explain FDI. The problem when using this variable to explain FDI is that one cannot separate causes from effects. Many of the countries under consideration have privatized their telecom sector and sold some parts of it to foreigners. In this case, the causal interpretation is not clear. It might be that FDI caused the number of phones (especially mobiles) to increase and not that phones attract FDI. Moreover, when one looks at the data, the series of phone number is exploding: increasing from 0 to several millions over ten years or so. Even divided by population, the variable poses a problem during estimation.

The traditional indicator of openness (i.e. exports plus imports divided by GDP) is likely to depend on FDI; which makes it endogenous and not suitable as explanatory variable. This is why some economists constructed alternative indicators of openness. An openness index provided by Sachs and Warner (1995) combines information on tariff and non-tariff barriers, the Black Market Premium and the control on exports. Another indicator due to Frankel and

Romer (1999) is calculated as the ratio of imports plus exports to GDP from which the “Natural Trade Openness” of the economies is deduced. The “Natural Openness” is estimated using a simple gravity model taking into account the size and the distance of the markets of the countries concerned. Sometimes exports of oil and mining products are also deduced. However, these indicators are available only up to the mid-1990s. We, therefore, use the indicator of openness published by Economic Freedom Network (Gwartney et al., 2010) called “Freedom to trade internationally”. It is available annually since 2000 and each five years since 1970 and covers around 140 countries. It reflects the open orientation of the economy beyond trade in goods which is more relevant for investors than trade only. It combines information on taxes on international trade, regulatory trade barriers, black-market exchange rates and international capital market controls. An increase in the indicator means more openness.

The coefficient of *openness* might be positive or negative following the motive of FDI. If the motive is only to serve the host market, the coefficient should be negative because higher openness means more competition on this market. This is known as the “tariff jumping” motivation for FDI. If the objective is to serve external markets, the coefficients should be positive since higher openness means easier access to foreign markets. Moreover, higher openness can allow cheaper access to imported inputs.

To assess the impact of the quality of institutions on FDI, various indicators are now available. They include the Gastil democracy index, the International Country Risk Guide (ICRG) index, the Transparency International index, and a set of the World Bank indices covering various dimensions of institutions’ quality. While the ICRG and the Gastil indexes provide broad measures of the quality of institutions, the others have the advantage that each is designed to measure a specific aspect of governance, which is a useful piece of information for our study. Actually, Li and Resnick (2003) argued that institutions have conflicting effects on FDI inflows. For instance, democratic institutions might hinder FDI inflows by limiting the oligopolistic or monopolistic behaviors of multinational enterprises. But, democratic institutions can promote FDI inflows because they ensure more credible property rights protection, reducing risks and transaction costs for foreign investors. Their empirical analysis confirmed that property rights protection is the main institutional attractor of FDI inflows. Hence, we use as an indicator of institutions the protection of property rights index available annually since 2000 and each 5 years since 1970 for around 140 countries (Gwartney et al., 2008). Higher values of the indicator indicate a better institutional environment. The expected coefficient is positive.

3.3 Estimation approach

Traditional estimations of the Equation 1 consisted in using a simple OLS method. This has, however, the inconvenience of not using all the information in the data and in particular controlling for the time invariant country’s idiosyncrasy. To avoid this problem fixed effects estimation method is recommended. However, some of the explanatory variables might be correlated with the error term because they are endogenous or for other reasons. In this case, estimation using traditional fixed effects methods may result in inconsistent parameter estimates. To address this problem, the GMM estimation method is recommended. The method uses lagged values of regressors as instruments for right-hand-side variables and also introduces lagged endogenous (left-hand-side) variables as regressors. As shown by Greene (2003), the inclusion of the lagged dependent variables among instruments with GMM estimation takes account of country fixed effects. To gauge the validity of the estimates, the test of overidentifying restrictions should be used. In what follows, we use both the fixed effects and the GMM methods.

3.4 Estimation results

Table 3 presents results. Since the difference between the “intra-Arab” and the “extra-Arab” samples might only exert an upward (intercept) shift on FDI, while leaving the standard fundamentals to have the same influence regardless of the source, we report the results of two F-test. One concerns the difference in the intercept (constant) only, while the other examines the difference in the impacts of the standard fundamentals (slopes). Irrespective of the estimation method, the differences is supported by the data for both the constants and the slopes. The assumption that the coefficients are the same for the two samples or alternatively that Arab and non-Arab investors behave in the same way regarding their FDI inflows to Arab countries is rejected by the data which is in accordance with the discussion in the introduction regarding the role of similarity in attracting FDI. We therefore run a separate estimation on each sample.

The fixed effects tests support the need of including country dummies to take account of time invariant country’s idiosyncrasy. The tests of overidentifying restrictions reject the possibility of correlation between explanatory variables and the error term with both samples when the GMM is used method. Since, the inclusion of the lagged dependent variables among instruments with this method takes also account of country fixed effect, we consider the GMM results as the most reliable and focus on them.

The overall quality of fit is medium for the intra-Arab sample and high for the extra-Arab sample. Focusing on the determinants of intra-Arab, only the size of the receiving economy (GDP) and the total supply of FDI have significant coefficients. With extra-Arab FDI, the coefficients of GDP, real per capita GDP, institutions, openness and total supply of FDI are significant. The coefficient of the per capita GDP is negative which is coherent with Edwards (1990)’s interpretation i.e. GDP per capita as the inverse of the return on capital in the host country. The other significant coefficients are positive.

Interestingly, the above results suggest that human capital, quality of institutions, infrastructure and openness don’t affect an Arab investor’s decision to locate in a given Arab country. Hence, for an Arab country to attract more Arab FDI it doesn’t need necessarily to comply with the literature and international organization’s recommendations regarding openness and institutions. The pessimistic side of the result is that this leaves it with no tool to attract Arab FDI since the GDP depends on too many other factors than government action. The optimistic side is that such a country can still try improving its openness and institutional records to attract non-Arab FDI without losing Arab’s.

3.5 Simulation results

One of the main message from the discussion in Section 1 is that FDI between two countries will be higher if the countries are similar than if they are not. Similarity is to be understood in a broad sense including culture, language or institutions. This implies that FDI between two Arab countries should be higher than if one of them is not Arab. Such expectations seem to be confirmed by the descriptive analysis. However, to address the question rigorously one needs to examine the traditional determinants of FDI. We do so using the estimations results from the separate sample together with observed explanatory variables to compare the fitted FDI to the observed. Actually, to get rid of the influence of unobserved factors, we adopt a “difference in difference” approach. We compare the difference between the fitted and the observed intra-Arab FDI to:

- The difference between fitted and the observed extra-Arab FDI (i.e. going to Arab countries and coming from non-Arab countries).
- The difference between the fitted and the observed intra-Arab FDI *under the assumption* that Arabs behave like non-Arabs as suppliers. Practically, we combine the estimated

coefficients pertaining to non-Arab suppliers with the explanatory variables in the intra-Arab sample.

The two panels of Table 4 present the results of the “difference in difference” analysis. Looking at the first panel shows that both Arab and non-Arab investors send more FDI to Arab countries than predicted by the model. However, the comparison of the observed and fitted values might be affected by many factors and cannot, therefore, be interpreted with high confidence as indicating that Arab countries receive too much FDI. An adequate comparison concerns the ratio of fitted to observed values with the intra-Arab sample to a similar ratio with and non-Arab investors. The first ratio is equal to 117% meaning that Arab countries receive 17% more FDI from other Arab countries than predicted by the model. The second ratio is equal to 101% meaning that Arab countries receive from non-Arab countries the same amount of FDI as predicted by the model. Such a comparison suggests that, given their characteristics and the investors’ behaviors, Arab countries are receiving “too much” FDI from Arab investors. Such result is in accordance with the literature suggesting that FDI should be higher between similar countries than between non-similar ones. Following such argument, one would expect that Arab investors invest more in other Arab countries than do non-Arab investors which is the case.

To check the robustness of this conclusion, we run another simulation (Second panel in Table 4). The idea is to compare the ratio of fitted to observed values pertaining to intra-Arab FDI to a similar ratio but under the assumption that Arabs behave like non-Arabs as suppliers. Practically, we combine the estimated coefficients pertaining to non-Arab suppliers with the explanatory variables in the intra-Arab sample. The first ratio is, of course, the same as before i.e. 117%. The second ratio is equal to 202% meaning that Arab countries receive from other Arab countries twice the FDI they would have received if Arab investors behaved like non-Arab investors.

In sum, it appears that Arab countries are receiving more FDI from other Arabs than they could have and that this difference seems more related to the suppliers’ behavior rather than to the receivers’ efforts at reform.

4. Conclusion

The paper has examined the determinants of intra-Arab FDI inflows. The issue is motivated by both normative and positive considerations. First, available evidence suggests that such inflows should be higher in order to reap further benefit from intra-Arab integration. Second, recent developments in the literature point to the importance of similarity between countries as a major determinant of FDI inflows. This means that after controlling for its traditional determinants, FDI between two countries will be higher if the countries are similar than if they are not. Hence, the analysis is conducted on two samples separately: one concerns intra-Arab FDI while the other focuses on FDI flows to Arab from non-Arab countries.

The results support the difference in the determinants of FDI inflows to Arab countries depending on the suppliers (Arab or non-Arab) and hence justify a separate estimation according to suppliers. More importantly, only the size of the receiving economy and the total supply of FDI by a sender, determine intra-Arab FDI. In contrast, extra-Arab FDI depends on GDP, real per capita GDP, institutions and openness in the receiving countries and total supply of FDI from the sender. Combining the estimated coefficients with the exogenous variables, we examined whether Arabs are investing more than they should in other Arab-countries. The results show that they are which is in accordance with the discussion regarding the role of similarity in attracting FDI.

The more striking result of the analysis is not that Arabs are investing more than they should in other Arab-countries but the difference in the determinants of Arab FDI inflows according to the supplier. Such a difference suggests that human capital, quality of institutions,

infrastructure and openness don't affect an Arab investor's decision to locate in a given Arab country. Hence, for an Arab country to attract more Arab FDI it doesn't necessarily need to comply with the literature and international organization's recommendations regarding openness and institutions. The pessimistic side of the result is that this leaves it with no tool to attract more Arab FDI since the GDP depends on too many other factors than government action. The optimistic side is that such a country can still try improving its openness and institutional records to attract non-Arab FDI without losing Arab's.

While it is beyond the scope of the present paper to rigorously examine the reasons for such "Arab specificity", some explanations could be put forward. One is that to the extent that a large share of intra Arab FDI is provided by government or government related entities, such as those of the GCC, the driving force might be a 'regional' authoritarian bargain across the Arab world. In this case capital surplus Arab countries would invest in other Arab countries for strategic considerations, hence causing some standard FDI fundamentals, most notably institutional quality, to be relatively unimportant as determinants of FDI. Moreover, the same effect is also likely to obtain even if the FDI flows originated from the private sector, but are linked to politically connected business partners in the FDI-receiving countries. Alternatively the main influence of the cultural and language commonality across the Arab world might be operating through the information channel, where Arab investors are able to avoid informational and/or institutional impediments through their informal socio-cultural networks. Naturally this would allow them to be less sensitive than their non-Arab counterparts to some established FDI fundamentals, such as institutional quality, for example.

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Figure 1: Arab countries As Receivers of World FDI

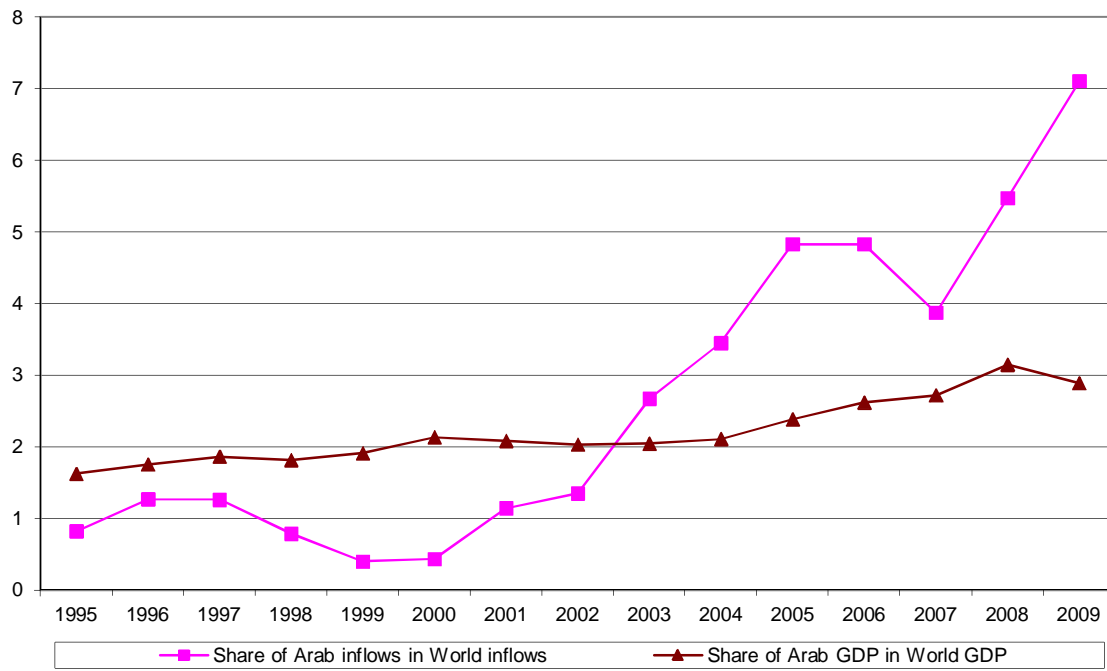


Figure 2: Arab Countries As Suppliers of World FDI

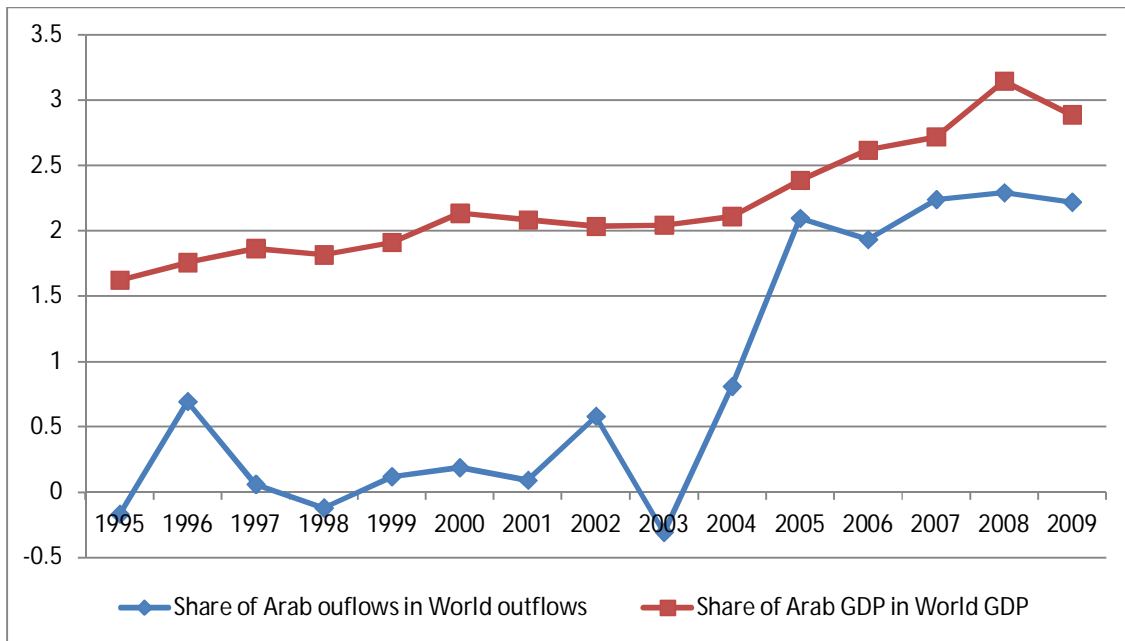


Figure 3: Components Of Total Private Capital Outflows: Arab Countries

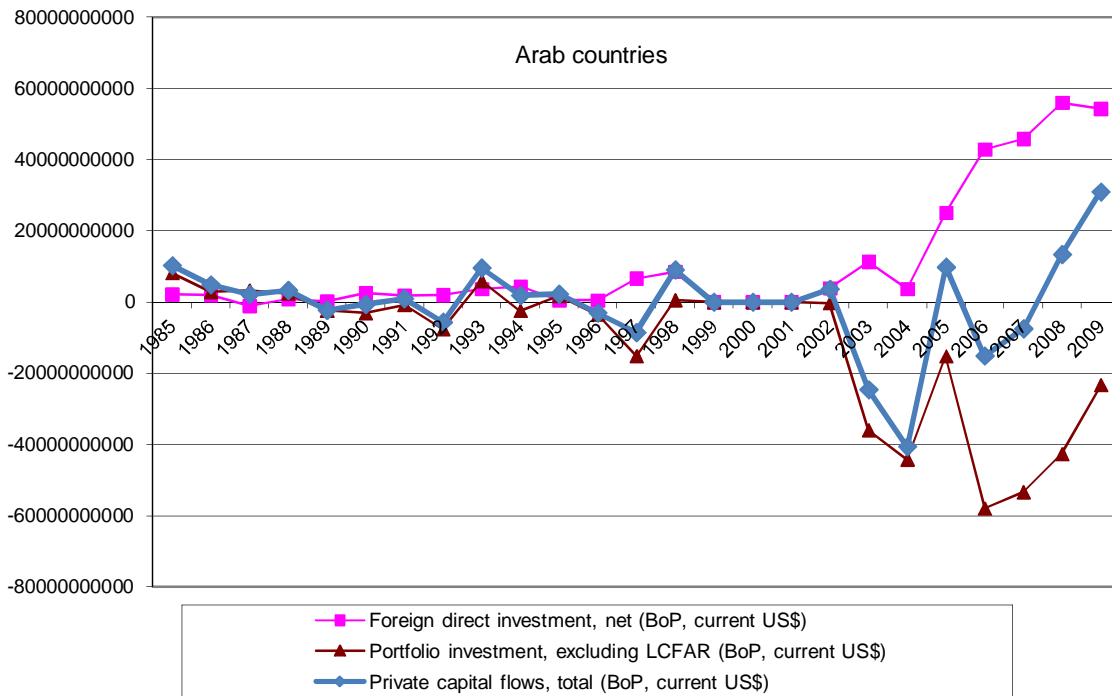


Figure 4: Arab countries As Receivers of Arab FDI

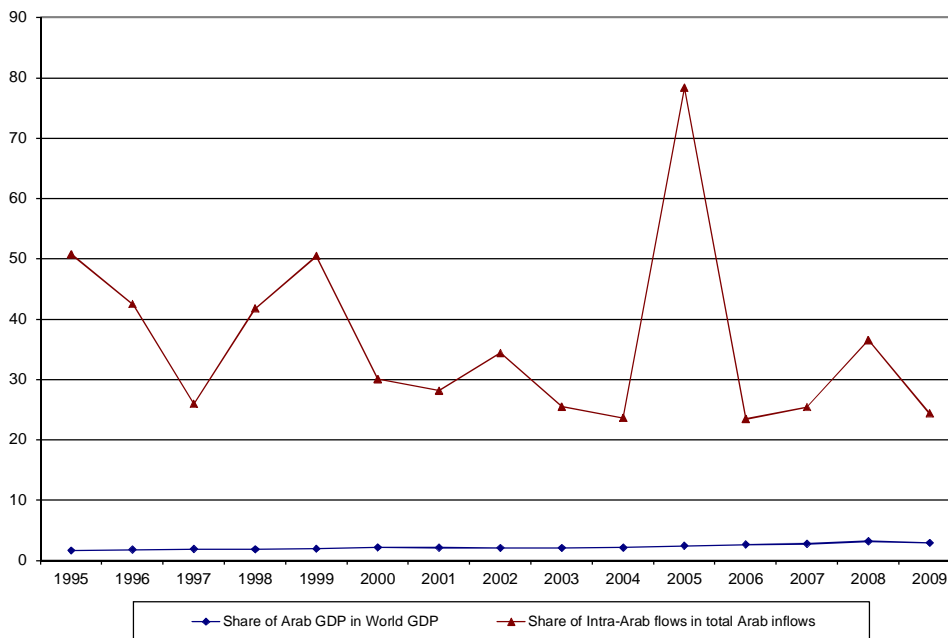


Figure 5: Arab Countries As Suppliers of Arab FDI

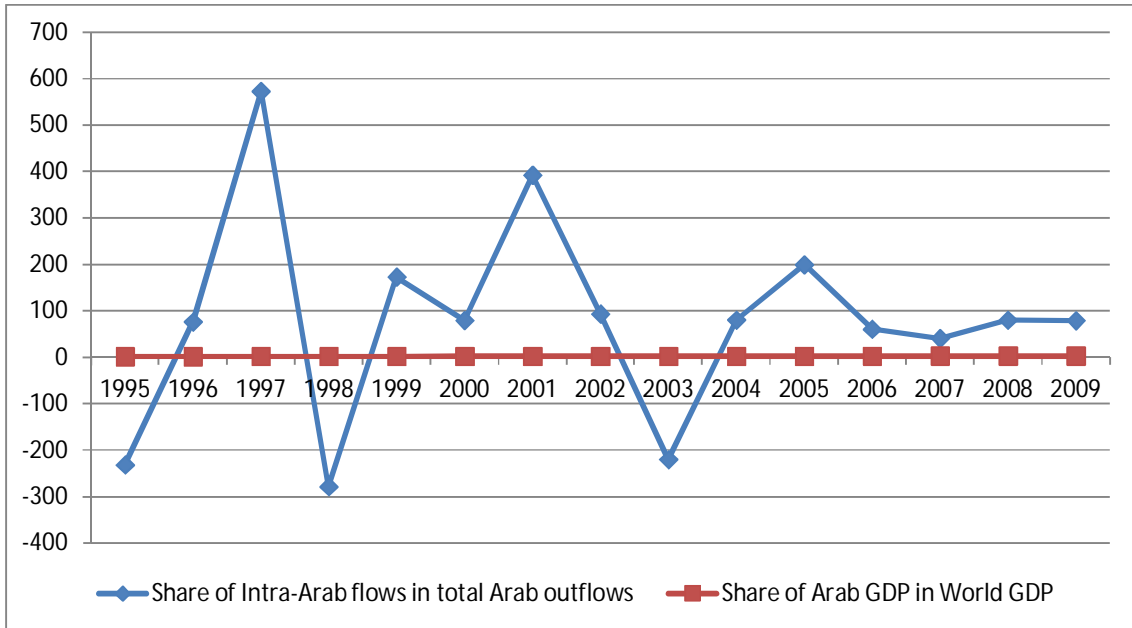


Figure 6: Share of Individual Countries In Total Arab FDI Outflows (%)

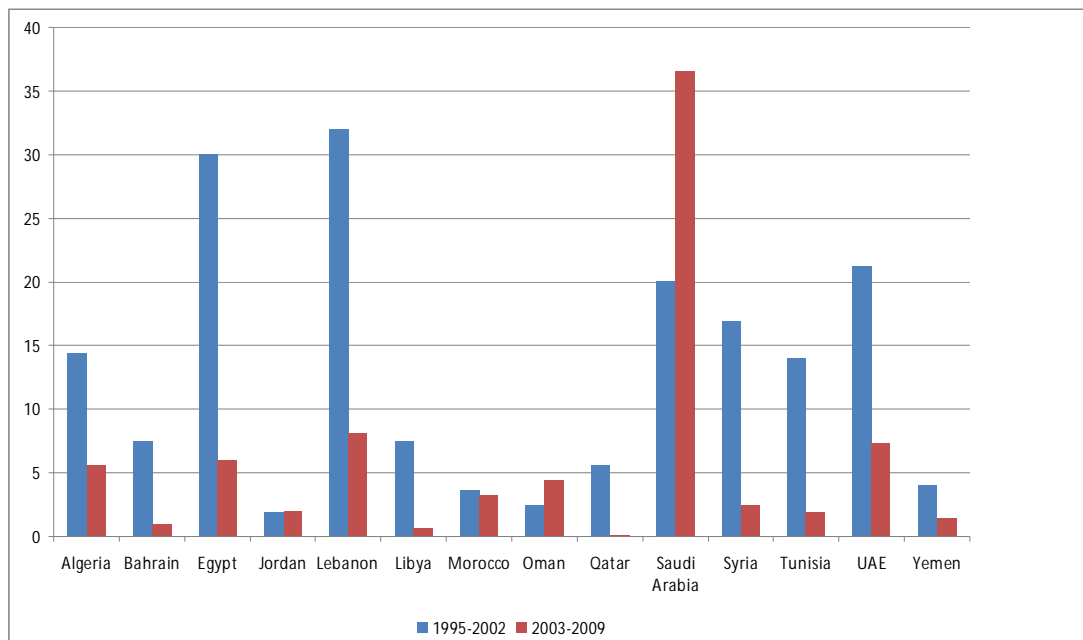


Table 1: Change in GDP (%) following scenarios of integration

Scenarios	Tunisia	Egypt
PAFTA (tariffs only)	-0.07	2.05
PAFTA and Euro-Med (tariffs only)	4.31	0.45
PAFTA and Euro-Med (tariffs plus goods NTBs)	8.26	1.87
Services Liberalization (no change in goods barriers)	8.78	8.71
PAFTA plus deep goods, services and FDI liberalization	16.49	8.2

Source: Konan (2003).

Table 2: Change in GDP (%) Following Scenarios of Integration

	Tunisia	Morocco	Rest of North Africa
PTA	1.87	0.40	0.19
Customs Union	5.94	4.54	-0.48
Common Market	8.46	6.40	1.32

Source: Bchir et al. (2007)

Table 3: Determinants of FDI to Arab Countries: Equation 1

Variable	Estimate			
	Fixed effects		GMM	
	From Arabs	From non-Arabs	From Arabs	From non-Arabs
Log(GDP)	1.447 (2.365)***	-0.629 (0.628)	0.717 (3.433) ***	0.999 (7.495) ***
Log(Real per capita GDP)	4.403 (2.115) **	3.065 (1.376)	0.415 (1.408)	-0.440 (1.865) *
log(infrastructure)	2.948 (1.979) *	0.092 (0.065)	0.178 (0.309)	0.767 (1.455)
log (institution)	-1.310 (0.695)	2.882 (1.717) *	-0.990 (0.724)	2.106 (1.933) *
Log (School)	-0.258 (0.141)	1.566 (1.156)	1.929 (1.084)	2.829 (1.604)
log (Openness)	0.307 (0.218)	4.440 (3.205) ***	-0.179 (0.090)	4.420 (2.544) ***
log(Total FDI)	-0.371 (1.059)	0.875 (2.156) **	0.496 (2.981) ***	0.459 (1.803) *
Number of observations	97	83	77	57
Fixed effects; P-value	F(7,81): 0.01		F(7,67): 0.01	
Test of over identifying restrictions; P-value			0.29	0.24
Adjusted R ²	0.61	0.64	0.45	0.71
Test: Same constant; P-value	F(1,170): 0.00		F(1,124): 0.00	
Test: Same slopes; P-value	F(7,162): 0.01		F(7,118): 0.00	

Table 4: Simulation Results

Sender	Arab suppliers	Non-Arab suppliers
Variable		
Arab suppliers behave the same way		
FDI (Average, millions \$US)		
<i>Observed</i>	527.760	193.770
<i>Fitted</i>	449.603	192.330
Observed/fitted (%)	117 (a)	101 (b)
Comparison (a/b, %)	116	
Arab suppliers behave like non-Arabs		
FDI (Average, millions \$US)		
<i>Observed</i>	539.412	
<i>Fitted</i>	266.543	
Observed/fitted (%)	202 (c)	
Comparison (c/a, %)	172	

Appendix A

Figure A1: Total Private Capital Flow and Its Components: World

