

FDI POTENTIAL AND SHORTFALLS IN THE MED AND CEECS: DETERMINANTS AND DIVERSION EFFECTS

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Abstract[#]. This paper examines FDI flows (1994-2004) from the EU (and for comparison from the USA and Japan) to two neighbouring regions: Central and Eastern Europe (CEE) and South Mediterranean (MED) countries. The analysis provides circumstantial evidence that the intensification of FDI in CEE, following integration within the EU, has had no discernible dampening effect on FDI flows directed to MED countries. This hypothesis is confirmed in several empirical analyses. First, a random effect gravity regression for determinants of bilateral FDI flows to a large sample of 84 developed and developing partners shows that when environmental, institutional and policy variables are included in the analysis MED countries are not different from the rest of the sample. Moreover, the actual capital inflow to MED economies is not much far from the flow predicted based on the enlarged gravity equation. This suggests that the low inflow of FDI to the region might correspond to equilibrium condition considering various distortions that economic agents have to face in MED countries. This result is also confirmed by the common trend followed by coefficients obtained interacting yearly with regional dummies for the two areas.

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Abstract. This paper examines FDI flows (1994-2004) from the EU (and for comparison from the USA and Japan) to two neighbouring regions: Central and Eastern Europe (CEE) and South Mediterranean (MED) countries. The analysis provides circumstantial evidence that the intensification of FDI in CEE, following integration within the EU, has had no discernible dampening effect on FDI flows directed to MED countries. This hypothesis is confirmed in several empirical analyses. First, a random effect gravity regression for determinants of bilateral FDI flows to a large sample of 84 developed and developing partners shows that when environmental, institutional and policy variables are included in the analysis MED countries are not different from the rest of the sample. Moreover, the actual capital inflow to MED economies is not much far from the flow predicted based on the enlarged gravity equation. This suggests that the low inflow of FDI to the region might correspond to equilibrium condition considering various distortions that economic agents have to face in MED countries. This result is also confirmed by the common trend followed by coefficients obtained interacting yearly with regional dummies representing the two areas.

INTRODUCTION

Several analyses point to the worrying fact that Southern Mediterranean countries (MED from now) receive relatively little FDI from most other regions in the world including the EU, despite the fact that enforcing the economic and financial partnership through the creation of a Free Trade Area (FTA) by 2010 was one of the pillars of the Euro Mediterranean partnership (EMP) launched in 1995¹. From 1996 there have been several bilateral Association Agreements between the EU and each MED aimed at liberalising progressively trade and capital flows. In the meantime, MED countries committed themselves to a programme of deep macro- and microeconomic reforms, including monetary stabilisation, reduction of public deficit, privatisation of state owned enterprises, and the liberalisation of trade and capital flows. As noted, among others in FEMISE (2005), the result we observe after ten years of this policy cast serious doubts about the too widely accepted assumption that economic liberalization would lead itself to an increase in foreign investments and that tariff dismantling has always a positive effect on growth.

The recent intergovernmental summit celebrating the 10th anniversary of the EMP, and the qualified comments that followed, have clearly shown that the expected flows (trade, investment and labor) have materialized quite in the opposite direction (i.e. fewer FDI's and more migration) (Gallina, 2006).

Based mainly on EUROSTAT data, section one shows, in fact, that the FDI flow into some Southern Mediterranean countries has tended to grow slowly over the 1990s and to decline after 2000, while it has been booming in Central and Eastern Europe (CEECs) in the same period. A first glance comparison of FDI trends also suggests that a substitution process might be at work between these two competing areas. The main aim of this paper is to investigate whether and why the inflow of FDI from the EU to MED countries have tended to level off over the last few years compared to

¹ The following link provides detailed information on the EMP: http://ec.europa.eu/comm/external_relations/euromed/.

CEECs, also touching upon the issue of potential diversion effects due to the EU enlargement. Minisey and Nugent (2006) deal with the same question focusing on trade.

This study adopts the gravity model approach, which has been already applied to studies of common determinants of FDI across countries (Brenton et al. 1999). A broad version of the model is used though where such traditional factors as proximity and market size do make countries attractive locations for FDI, but also policy and institutional variables, often neglected in the literature, are crucial. These variables are expected to catch the shortfalls of MED countries at the aggregate level: the assumption is that the success of FDI attractiveness of CEECs was mainly due to the prospect of EU membership and to the fact that most CEECs have succeeded in attaining both institutional and political stability. The institutional environment is caught by proxies of, among others, the degree of openness to international trade of the countries involved, the volatility of the bilateral nominal exchange rate, the process by which governments are selected, monitored and replaced, the capacity of the governments to effectively formulate and implement sound policies, the respect of citizens and the state for the institutions that govern economic and social interactions, the presence of current and capital account restrictions.

The empirical analysis proceeds in three steps. First, the gravity model is estimated with panel data techniques based on assembled data on bilateral FDI flows of fourteen European countries and two non-EU countries (USA and Japan). We run panel regressions for determinants of bilateral FDI outflows into a large sample of 84 developed and developing partners, using many explanatory variables for the years 1994-2004 and aggregate country-level data, estimating the model with both fixed and random effects (analysis of determinants). This gravity model is used to define a “normal pattern” of bilateral FDI flows. Dummy variables are also included for two groups of countries (CCEC10 and MED10) to test for a possible regional divergence from this “normal” pattern. Interestingly, the results shows that the dummy for MED countries becomes insignificant when institutional variables are added to the equation, suggesting that a poor institutional environment explains the weakness of this area in attracting capital from abroad.

Step two implies the use of gravity estimates to perform out-of-sample forecasts for FDI flows of some EU countries to some Southern Mediterranean countries, comparing these long term estimated flows to actual flows (simulation analysis). The analysis suggests that the stock adjustment might have already taken place in the case of CEE, in which case actual and expected flows are not strongly misaligned. On the contrary, actual capital flows to MED are much below the expected flows. However, the current situation might also correspond to equilibrium condition taking into account various types of distortions that economic agents have to face in MED countries. Many other conditions which should be present simultaneously such as the level of physical and human

capital accumulation, a developed institutional setting, the presence of a competitive industry and an appropriate specialization model are lacking in the south Mediterranean area. Moreover, the main productions in the region (agriculture or gas and oil) are also not an attractive factor for foreign investors.

Further, we investigate upon the issue of diversion. Here we use the gravity model to assess whether changes in FDI flows to CEECs which are economically integrating appear to be associated with negative changes in FDI flows to MED. We experiment this by including interaction of regional dummies with dummy variables for particular sub-periods: 1994-1998 (transition period), 1998-2004 (pre-accession period) and for every year of the period under study, checking how regional dummies change. The results show that after controlling for institutional variables, MED countries follow the same trend as CEECs, suggesting that institutional differences explain not only the overall performance of EU FDI to MED, but also their evolution over time.

The structure of the paper is as follows. Section 1 gives an overview of the performance of FDI in the MED-10 *vis-a-vis* CEE using descriptive statistics. Section 2 is devoted to the analysis of the determinants of FDI within the gravity framework. The results of the panel estimates are presented in section 3, whereas section 4 carries out a simulation exercise aimed at comparing the magnitude of actual to “normal” value of FDI expected on the basis of the explanatory variables. Section 4 contains a preliminary test of Diversion of FDI from MED to CEECs. Some final remarks conclude the paper.

1. EU FDI towards MED vis-à-vis CEECs over the last decade

EU is the main provider of FDI to MED. Between 2001 and 2004, the share of EU25 in MED10² total inflow was on average about 31%, compared to only 15% for the US. The European presence is not equally distributed in the region and in some countries the share is really striking: in Turkey it reaches more than 75%, in Morocco 73% (more than 95% in 2001), in Tunisia 65% (EUROSTAT data). According to the MIPO database from ANIMA, 59% of the investment projects are coming from European investors, essentially France, Spain, the United Kingdom, The Netherlands and Germany (Sztejnorn and de Saint- Laurent, 2004).

However, as Figure 1 highlights, the shares of EU FDI flows towards MED (on total extra-EU flows) show how little these countries have been able to benefit from the recent great expansion of this new engine of international integration and growth. There was quite a slow trend of growth

² Med10 includes all the members of the Euro Mediterranean Partnership, excluding the new EU members, namely Cyprus and Malta. CEEC10 include all the new EU member States plus Bulgaria and Romania.

over the nineties up to 1997. After that, there were positive signals: an upsurge between 1997 and 2002 from 5 to 15 billions of USD and from less than 1% to almost 14%. However, after 2002 a strong decline has eroded these first achievements: the FDI share halved from almost 14% in 2002 to 7% in 2004, a reduction amounting to more than 10 billions of USD. Overall, EU FDI never exceeded 2 billions of USD per annum during the last two decades and the overall trend over the last two decades suggests a substantial stagnation (EUROSTAT data).

[Figure 1 about here]

The trend observed for EU FDI to CEEC10 over the same span of time is different. It is marked by a stronger growth performance and a clearly diverging pattern with respect to MED, especially over the last few years. A constant and rapid growth trend has marked this region after 1997, apart for the slowdown in world FDI in 2002, which also shot these countries. Unlike the MED, over the period 2002-2004 CEEC10 have highly profited of the more positive global trend in FDI recording a jump in EU FDI from 6 to 16 % and a doubling of the amount in USD from 3 to 16 billions dollars.

As comparison of the Figure 2 and 3 brings to the fore, even stronger asymmetries are recorded if total (intra and extra EU) EU FDI to the world are considered. Between 2001 and 2004 MED10 share in EU FDI flows has grown but it still represent only 1.4% of total in 2004, almost the same as in 2001. A very small percentage compared to the 11 % registered by Latin America (5 % registered by MERCOSUR countries) and to the almost 8 % of the new EU member states, which are the key actors of the increase in the share of FDI to EU25 from 52 to 61 % between 2001 and 2004.

[Figure 2 and 3 about here]

Also the global breakdown of world FDI outflow between MED and CEECs during the last decade provided in Figure 4 clearly shows that the investors' confidence has been mainly oriented towards East European countries. After a very slow growth up to 2000, in 2001, the world FDI outflows to MED was very volatile. It exceeded USD 13 billions; but then the amount dropped to USD 7.2 billions in 2002, climbed back to 11 billions in 2003 to drop again to 10 billions in 2004. Over the same period, the new EU member and candidate countries reached peaks of USD 25 billions in 2002 and almost 30 billions in 2004, starting from only 5 billions in 1994. In terms of share, in 2004, the share of MED countries in the FDI world distribution returned to the 1994 level (1.5%), whereas over the same period the CEEC10 share increased from 2.5 to almost 5 %, the MED amounting to only a quarter of the FDI flows to them (see Figure 4). This was happening in spite of the fact that the unit costs of labour (wage per capita/labour productivity), increased only very little in the Mediterranean vis-à-vis the new EU member states (UNCTAD data, 2005).

[Figure 4 about here]

These figures uncover an important stylised fact of FDI flows to this area: their extreme volatility. They have an erratic trend: the peak in 2001 and the fall again in 2002 was not due to a lack of confidence in these markets following September 11, but mainly to the privatisation of the Moroccan telecom to Vivendi Universal. Direct capital flows show, therefore, a feature similar to portfolio capital flows: they fluctuate heavily year by year as a result of a strong influence of privatisation plans and investment opportunities in the primary sector, especially in hydrocarbon sectors and natural gas, which still attract the largest shares of FDI to the producing countries of the region (Syria, Egypt, Algeria above all) and also in those of primary resources.

This structural feature of FDI in the area vanishes one of the crucial factors that determine the great potential for foreign investment in creating growth and spillovers, i.e. the fact that they have a higher duration, are more stable and can be influenced with respect to the more destabilising financial investment.

The signing of the Euro-Mediterranean Partnership in 1995 reinforced the commitment of MED countries to sound macroeconomic policies and economic reforms and improved the environment for FDI. Some measures have been adopted under the Euro Mediterranean Partnership to create new opportunities for investment. In-depth reform of indirect taxation, so as to reduce fiscal pressure on foreign trade, opening up of financial intermediation activities to competition and scaling down of public sector involvement in this field, support for privatisation.

However, the hypothesis that this paper intends to address is that macroeconomic measures alone were unable to affect the confidence of foreign investors. In fact, restructuring and privatisation projects have been carried out within a political framework characterised by wars and civil conflicts and poor economic governance. The surge of radical Islamism (particularly in Algeria, but not only), a phenomenon which might have offset all the gains in environmental conditions for foreign investment derived from macroeconomic reforms, political instability and lack of a stable and systematic approach to encourage foreign capitals by the governments was also crucial. The often-identified issues such as lack of transparency and public accountability, the limited size of national markets, the still significant trade barriers within the region, the low rate of return to foreign investment in the region – the lowest in the world – and inadequate social and physical infrastructures (eg education and transport) diminish the attractiveness of the region. Electricity per capita, telecom and internet penetration rates are relatively poor. There are also under-developed financial sectors (eg. central and private banking infrastructures) that impede the mobilization and channelling of funds. Besides skilled labour is scarce.

Therefore, although these economies have been subject to stringent structural adjustment programs for the biggest part of the 1990s, however, the positive impact this should have had on FDI has been offset by persistence of red tape, bureaucratic inefficiency and corruption in the public sector, on the one hand, and social and political instability, on the other.

The increased competition for a limited volume of available FDI resources exerted by Eastern Europe countries, with a more qualified workforce and a closer geo-strategic position to the central European countries (including the prospect to join the EU themselves one day) has also played a part. The FDI situation has further deteriorated in the end of the 1990s when the Eastern European countries opened up their economies and entered a transition process which brought some of them into the European Union in the medium term: the highly educated, cheap labour force (the average hourly wage of a Polish skilled worker was in 1993 around half that of a Moroccan's and a third of Tunisian's, according to calculations made by the World Bank) and the extensive industrial tissue in those countries, as well as the prospects for full market integration with Europe became a decisive attraction factor for European FDI, detracting from the FDI-attractiveness of Southern Mediterranean countries.

While MED and CEE countries might be seen as comparable in terms of the wage and education level of labour, the adhesion process has made the latter a much more stable region and one with enhanced growth perspectives. Moreover, with EU membership, uncertainty about the completion of economic transition has been strongly reduced. Overall, therefore, these groups of countries are different not only because their specialisation, qualification, level of human capital would be different, but mainly because of the drastic change in expectations on future development induced by the speed and effectiveness with which the EU carried out pre-entrance reform and the admission process.

The issue of FDI diversion between these two areas so close geographically is obviously one highly disputed. The adoption of drastic reforms and market oriented policies in the CEECs, in addition to a strong endowment of a cheap *and* qualified labour force have raised the issue whether investment flows previously destined for the relatively cheap labour markets of MED countries, and also to some South European countries, may have been diverted to CEE (see Baldwin et al., 1997). Previous studies of determinants EU FDI in the MED area (Alessandrini and Resmini, 1999; Altomonte and Guagliano, 2003; Alessandrini, 2001; Di Mauro, 2000) have used sophisticated tools of analysis as well as firm and sector level data, to test whether a re-orientation towards the countries of Central and Eastern Europe had taken place over the nineties, when these now New EU Members have increasingly become the destination for considerable amounts of FDI. These studies generally reached the conclusion that no FDI diversion took place.

2. EU FDI determinants within the gravity framework

This paper asks again the question of reorientation using a gravity framework. Moreover, it investigates the possible reasons of the low attractiveness of the MED area compared to CEE and, in particular, the role played by distortions of an institutional and policy type that economic agents have to face in the MED area. Further, this study attempts to measure the degree of misalignment between the potential and the actual FDI in the two competing areas and whether this has increased over the last few years due to the CEECs competition.

This section introduces the gravity model approach, which has been already applied to studies of FDI as a means of picking up the common determinants of FDI flows across countries (see, for instance, Eaton and Tamura, 1996; Brenton and Di Mauro, 1999). This study differs from previous studies, among other reasons, because it uses a large data bank and an enlarged version of the gravity equation so as to include institutional variables.

The traditional theory of FDI tries to explain why firms choose to produce abroad instead of simply servicing the markets via exports. After all, multinational companies (MNCs) experience additional costs in producing abroad: higher costs in placing personnel abroad, communication costs, language and cultural differences, informational costs on local tax laws and regulations, costs of being outside domestic networks; they also incur higher risk, such as the risk of exchange rate changes or even of expropriation by the host country.

One theoretical approach, introduced by Dunning (1977, 1981), namely the so-called “OLI framework”, considers FDI as determined by Ownership, Location and Internalisation advantages which the MNC holds over the foreign producer; when these advantages outweigh the above costs, FDI arises. The so-called “New Theory of FDI” takes inspiration from the OLI approach and refers mainly to the Ownership and Location advantage to introduce MNCs in general equilibrium models, where they arise endogenously. The early literature (Helpman 1984, Helpman and Krugman 1985) was mainly able to explain ‘vertical FDI’, i.e. investment that takes place in order to take advantage of differences in relative factor endowments (hence in factor prices) across countries. Instead, what is observed among developed countries is mainly ‘horizontal’ FDI, because similar types of production activities, owned by MNCs, take place in different countries. This phenomenon is better clarified if multinational activity is not driven by factor endowments differences, but rather by the trade-off between proximity and concentration (Brainard 1993), which constitutes the starting point of the more recent literature. The proximity advantage stems from ‘firm-level’ economies of scale, whereby R&D activity (or any other type of ‘knowledge capital’) is transferable to affiliates and allows MNCs to be closer to the foreign market. The concentration

advantage derives from traditional 'plant-level' economies of scale, which make it more profitable to concentrate production in one location and then export. Whenever the former outweigh the latter, foreign investment will take place, and this will be more likely the higher are intangible assets relative to fixed costs of opening up an affiliate and the higher are transportation costs, which are assumed to be positive and an increasing function of geographical distance in this model. This allows for horizontal FDI, where two-way investment between similar countries occurs, both in terms of absolute and relative factor endowment.

When we get to the empirical analysis, and we want to be able to compare 'attractiveness' across countries and explain the geographic distribution of FDI we need a model that can pick up its common determinants. In order to synthesise the two approaches discussed above, i.e. Helpman and Krugman's treatment of vertical FDI and Brainard's treatment of the horizontal one, the empirical model will include the following main variables: a measure of the 'economic space' between the two countries, given by the sum of the two GDPs and by the two country's populations. These variables are included to catch the 'market-seeking' aspect of FDI, i.e. when investors produce abroad to sell in the host market and increase their market shares there. Then, additional dummy variables include distance, a common language, a common land border, or preferential trade agreements, all factors that may reduce the (transaction and transportation) costs of locating abroad. An index of countries' similarity in size (their relative GDP) measures the relative factor endowments.

To sum up, factors such as proximity and market size should make countries attractive locations for FDI. Therefore, in the formulation of the gravity model, the volume of FDI (flows) is mostly explained by the size of the market, proxied by GDP, by the country's population and by the distance.

However, moving from the consideration that the attractiveness of CEECs was greatly influenced by the prospects of EU membership and by the fact that most CEECs have succeeded in attaining both institutional and political stability, we attempt to explain FDI shortfalls of MED at the aggregate level enlarging the traditional gravity model so as to include policy and institutional factors such as belonging to a Regional Trading Agreement, using the same currency, and also the level of governance of the host country, the existence of Regional Trading Agreement, openness of a country for foreign trade, size and level of development of the financial system, volatility of the bilateral nominal exchange rate, currency union, governance, central planning, regional trading arrangement, human capital endowment. The underlying hypothesis that this study wishes to test is that all this institutional factors might explain the poor performance of MED countries.

The model is estimated with panel data techniques based on assembled panel data on bilateral FDI flows of EU-14³ and two non EU countries (USA and Japan). For each of these countries, we run both fixed and random effects panel regressions for determinants of bilateral FDI flows aggregate country-level data into a larger than ever before sample of developed and developing partners⁴ for the years 1993-2004.

The formal equation we estimate is the following:

$\ln(\text{Bilat FDI}_{ijt}) =$

traditional gravity variables: $\beta_0 + \beta_1 \ln \text{SUMGDP}_{ijt} + \beta_2 \ln \text{POP}_{it} + \beta_3 \ln \text{POP}_{jt} + \beta_4 \ln \text{DiffGDPPC}_{ijt} + \beta_5 \text{Dist}_{ij} + \beta_6 \text{Dist}_{ij}^2 + \beta_7 \ln \text{Areas}_{ij} + \beta_8 \text{LL0}_{ij} + \beta_9 \text{LL1}_{ij} + \beta_{10} \text{Border}_{ij} + \beta_{11} \text{Lang}_{ij} + \beta_{12} \text{Colonial}_{ij} +$

policy and institutional variables: $+ \beta_{13} \text{Regional}_{ijt} + \beta_{14} \ln(\text{IMP/GDP})_{jt} + \beta_{15} \ln(\text{M2/GDP})_{jt} + \beta_{16} \text{ERV}_{ijt} + \beta_{17} \text{CU}_{ijt} + \beta_{18} \text{Gov}_{ijt} + \beta_{19} \text{FTA}_{ijt} + \beta_{20} \text{Humcap}_{jt} + \beta_{21} \text{Current} + \beta_{22} \text{Capital} +$

regional and time dummies: $+ \beta_{23} \text{EU} + \beta_{24} \text{MED} + \beta_{25} \text{CEECs} + \beta_{26} \text{YEAR Dummies}$

As indicated by the form of the above equation, the model is log-linear where: *i* and *j* denote donor and host country respectively, *t* denotes time, and the variables are defined as follows: FDI_{ijt} is the value of the FDI flow from country *i* (home country) to country *j* (host country), SUMGDP_{ijt} is the sum of nominal value of the gross domestic product in the host country *e* in the donor country, POP_i and POP_j , is the population of *i* and *j*, DiffGDPPC_{ijt} is the absolute difference in per capita income between *i* and *j* (a proxy for relative factor endowment), Dist_{ij} is the Great Circle Distance between *i* and *j* in miles, which is taken also as squared distance because we expect a non linearity in the FDI behaviour with respect to distance, Areas_{ij} is the sum of the areas of *i* and *j* in square kilometres (hence a proxy for distance within the country to the border), LL0_{ij} is a dummy variable, which is 0 if no countries are landlocked, 1 if one partner is landlocked, LL1_{ij} is a dummy variable, which is 0 if no countries are landlocked, 1 if both partners are landlocked, Border_{ij} is a binary variable, which is 1 if *i* and *j* share a border and 0 otherwise, Lang_{ij} is a binary variable, which is 1 if *i* and *j* share an official language and 0 otherwise, colonial is a binary variable, which is 1 if *i* colonized *j*.

³ Belgium was excluded.

⁴ The sample of the host countries is made up of 84 countries, including 46 OECD countries, the non OECD countries belonging to the CIS, to the Balkan area, to the south Mediterranean area, to the Central and East European area.

The variables from this on are non-standard variables, to capture policy and institutional factors: $Regional_{ijt}$ is a binary variable, which is 1 if i and j belong to a Regional Trading Agreement in year t , IMP/GDP a proxy for the openness of a country to foreign trade, $M2/GDP_j$ is the share of broad money to GDP in the host country a measure of the size and level of development of the financial system, ERV_{ijt} is the volatility of the bilateral nominal exchange rate between i and j in period t , CU_{ijt} is a binary variable, which is 1 if i and j use the same currency at time t , Gov_{it} is the sum of the governance indices of j at t , FTA is a dummy variable measure of trade diversion defined as 1 if only one of the countries is in a regional trading arrangement (and 0 otherwise), $HUMAN$ is a proxy for human capital measured by the percentage of people enrolled in secondary education of the corresponding age, $CURRENT$ and $CAPITAL$ are variables coded 0 if host country has no current and capital account restrictions, at time t , 1 if host country has, MED is a dummy variable which is 1 when host countries are MED countries, $CEECs$ is a dummy variable equal 1 when host countries are CEEC countries, EU_{ij} is a dummy variable for EU membership of the host country (1 for EU members), ε_{ijt} is the error term. We also add a time trend (year) as data on FDI flows at which we are looking here may be considerably biased upward or downward in a particular year. For instance, a large merger and acquisition deal has taken place or a substantial portion of the domestic corporate sector has been privatised. Therefore, there is a great instability in the coefficients over time and year dummies are introduced to solve this problem. Source of all variables is reported in Appendix I.

The governance indicator deserves a special attention. Gov_j is a broad measure capturing: (1) the process by which governments are selected, monitored and replaced; (2) the capacity of the government to effectively formulate and implement sound policies; and (3) the respect of citizens and the state for the institutions that govern economic and social interactions. These three dimensions of governance are built on the basis of six different subindicators as suggested and constructed by Kaufmann, Kraay, and Zoido-Lobaton (2002) based on subjective indicators taken from the International Country Risk Guide. The six different indicators – Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption – were combined into a single index. Since the various indicators make use of somewhat different scales, they were also standardized into a similar scale.

Theoretical reasoning supports the following expectations for the signs of the estimated coefficients. Larger markets are expected to attract more FDI, and the coefficients on GDP, sum of GDP and population should represent the economic space variable and thus be positive. Furthermore, it may be expected that firms will tend to prefer FDI to exports as trade costs, proxied by distance, rise, therefore we should find a positive sign on distance. However, a negative

coefficient on the distance variable might be expected since the costs of operating overseas affiliates are likely to rise as the distance from their domestic central headquarters increases. Overall, the effect of distance might be non-linear and, specifically, u-shaped: in other words, a negative coefficient of the first derivative and a positive coefficient for the second derivative of distance would support the hypothesis of a substitution effect from trade to FDI with increasing distance. Vice-versa, an inversely u-shaped effect of distance would suggest the existence of complementarities between trade and FDI also with increasing distance. Differences in relative endowments (DiffGDPPC) have also an ambiguous sign: vertical FDI (equivalent to inter-industry trade), emerges as countries greatly differ in their factor composition – hence showing a positive coefficient, while horizontal FDI (comparable to IIT) is determined by similarity in factor composition, therefore displaying a negative coefficient. The traditional variables we consider such as areas, not being land locked, having a common border, common language, ex-colonial links, belonging to a regional trading agreement are expected to have a positive impact.

Following Brenton et al. (1999), this model also takes into account the ratio of a country's GDP devoted to imports (IMP/GDP)_j, a proxy for the openness of a country to foreign trade, on which we expect a positive coefficient. As for the size of the financial system, we would expect countries with more developed financial systems to be relatively more attractive for FDI. Exchange rate volatility might have a positive impact if FDI are a way to escape instability of export earnings due to exchange rates variations. Sharing a common currency, having a high governance index, should have a positive impact alike the human capital coefficients. The coefficients for Current and Capital deficit are expected to be negative.

Regional should be positive and significant as according to the theory trade liberalisation enhance investment in the integrated area due to reduced transaction costs and to liberalisation of financial flows. The sign of the variable participating in a FTA is ambiguous: if positive, it would suggest no FDI diversion effect.

3. Empirical results

Here we present the results of regression analysis of bilateral FDI flows by major investing countries over 1994-2004. The gravity model introduced is used to define a "normal pattern" of bilateral FDI flows. Dummy variables are included for three groups of countries EU, CEECs, MED10 to get a preliminary test for possible divergence from this "normal" pattern. If the corresponding coefficients are significant and negative, this is evidence that the group has received less FDI than other countries, after controlling for all the other factors. Therefore, the group concerned can expect to benefit from further large FDI inflow as foreign investors adjust their

stocks to the new opportunities created by economic transformation. If the dummies are not significant, the future growth of the FDI flows can be expected to be in line with changes in the determinants of FDI.

First we focus on few basic variables at the core of gravity models: sum of GDP (a measure of mass), Population, Distance (measure of transport and transaction costs). In Table 1, the results of this base model and of the enlarged model are presented. A Hausman test cannot reject the hypothesis that the coefficients based on fixed effect estimates are the same as those based on random effect estimates, which allows us to focus on the latter.

The gravity variables in the basic model have all the expected sign. Increased economic space (SUMGDP and Population) has a statistically significant impact on FDI. Elasticity of bilateral FDI with respect to population is larger than 1. Distance appears to harm FDI something that is more intuitive in the case of exports. However, there is a non linear relationship: squared distance has a positive coefficient, confirming theoretical reasoning according to which firms tend to prefer FDI to exports as trade costs, as proxied by distance, rise. More distant markets will tend to be served by overseas affiliates rather than by exports.

[Table 1 about here]

Differences in relative factor endowments have a negative impact on FDI; from the theoretical discussion above one can infer that, on average, EU investors are in general more prone to horizontal than to vertical FDI.

All these results support the expected signs of the variables and in almost all cases are statistically significant at the 1 percent level. The variables most significant are those crucial for gravity model based on GDP (a measure of mass), Distance and Areas (measures of transport and transaction costs).

From the point of view of this paper, it is interesting to observe that the coefficient for the MED countries is negative and significant at 10%, CEECs is positive but not significant, EU is positive and significant at 1%. This suggests that while ceteris paribus intra-EU FDI flows are higher than average, those with CEE are just average, whereas those to MED countries are lower than average.

Now, we move to the “enlarged gravity” model results. As expected, Border, Language, Regional agreement, currency union all have positive and significant effects on FDI levels.

FTA has a not significant effect, indicating that for the full sample there has been no discernible trade diversion effect of FTAs. Colonial links are not significant too alike the import on GDP coefficient. Volatility of exchange rate is positive and significant which might suggest that FDI are more stable and less risky than portfolio and trade activities when exchange rate movements are

strong. Governance is highly significant with positive sign. Current and capital account restrictions are both negative and highly significant.

It is interesting to observe that after introducing these policy, environmental and institutional variables, the coefficients for regional dummies change in a quite interesting way. The MED dummy is no more significant suggesting that all the negative difference with respect to other countries is caught by the additional variables. The EU dummy is not significant any more which might suggest that the future growth of intra-EU FDI flows will be in line with changes in the determinants of FDI. The CEE dummy, instead, becomes negative and significant: the group has received less FDI than expected as “normal” after controlling for the value assumed by the additional determinants of FDI.

4. Simulations for selected countries

This section proposes a simulation analysis aimed at computing the ratio of the expected, taken as “normal” or potential level of FDI inflow from each EU country to each MED and CEE country (based on the model enlarged to include institutional variables) divided by the actual FDI flow for the same couples of countries. Our hypothesis is that if the actual FDI flow is above (below) the average level normally expected for countries with comparable characteristics (a ratio lower than one), a reduction (increase) of actual FDI has to be expected.

In the case of MED, based on the very poor performance shown in section 1, one would expect that the actual stock of FDI to MED be below its potential or equilibrium level (a ratio higher than one) and that some kind of adjustment towards equilibrium has still to take place.

However, another possible outcome could be also found. Although not corresponding to an optimal allocation of resources, the current FDI performance of MED might also correspond to equilibrium taking into account the distortions of various type that economic agents have to face in the MED area and to the fact that these economies are still too underdeveloped as compared to average industrialised countries. In that case, actual flows would not be below the expected level and the current situation would suggest that MED have reached some kind of equilibrium although of low level. There would be in other words both low performance and low “potential” with some MED countries even showing performance “above their potential”, as actually suggested by the UNCTAD measurement of FDI performance and potential index in these countries (UNCTAD, 2004). This hypothesis would be consistent with the behaviour of the MED dummy coefficient in the estimates of the previous section after introducing the institutional and policy variables. In this

case, removing institutional and policy distortions in MED economies might play a crucial role to move out of this low level “equilibrium trap”.

For shortness sake, the Figures 5 and 6 propose calculations of the ratio of potential to actual FDI for only two EU investors, Italy and Germany, towards four MED countries⁵. The figures show that the considered MED attracted almost 100% of the total expected FDI inflow. There was a downward shift in inflows for Israel as opposed to a slight increase for Egypt and Morocco, but overall there was a stable pattern over the entire decade and no noticeable gap between actual and forecasted FDI. In Egypt, the forecasted FDI from Italy has increased over the decade, becoming 40% higher than the actual value, while in Israel the opposite took place with forecasting approaching 100% from 120% in 1994. These results seem to suggest that the stagnant behaviour shown by the FDI inflow to MED economies over the last years might persist also in the future if the institutional and policy environment does not change in any remarkable way. Omitted results suggest, instead, that further FDI expansion to CEE might take place.

[Figure 5 and 6 about here]

5. Diversion of FDI from MED to CEECs?

This section aims to study the evolution over time of the bilateral distribution of the FDI flow to the MED and CEE regions and to assess whether the increasing integration of CEECs in changes in the FDI outflow from the EU is associated in any way with changes in FDI flows to MED. In other words, we aim to test whether increasing CEE integration in the EU over the second half of the 1990s, culminating into the EU accession for most of them, has had any noticeable negative impact upon FDI flows from EU countries to the MED⁶.

We experiment this by including in the enlarged model of Table 1 interactions of regional with time dummies both for particular sub-periods: 1994-1998 (transition period), 1998-2004 (pre-accession period) and for every year from 1994 to 2003. In case of diversion, one would expect that *ceteris paribus* the coefficients relative to CEE would increase, whereas that to MED economies would reduce.

We find a negative and significant time regional interaction dummy for CEECs both in 1994-1998 and in 1999-2004. For MED the dummy interacting with time is negative and significant for the first period but not significant and positive in the second period. In other words, MED countries

⁵ Similar results relative to other countries are available on request from the authors.

⁶ This methodological approach is based upon that of Sapir (1997) who sought to identify whether a domino effect had characterised the impact of European integration upon bilateral trade flows with EU of countries not integrated such as Portugal, Spain, Finland, Austria and Sweden.

were receiving substantially less FDI than could be expected on the basis of their incomes and proximity to the EU and to other variables in the 1994-1998. However, the magnitude of this 'underpotential' weakened in the late 1990s and in the first half of the 2000s, which seems to suggest that the Eastward enlargement did not adversely affect the magnitude of inward FDI to MED economies.

Figure 7 reports the coefficients of these interacted dummies each year from 1999 to 2003. There seem to be a clear positive trend for both groups of countries, which suggests that they were able to catch up with the world increase in the degree of capital market integration. This is circumstantial evidence that the intensification of FDI in CEE, following integration within the EU, has had no discernible dampening effect on FDI flows directed to MED countries.

[Figure 7 about here]

In turn, this suggests that once one controls for the institutional difficulties of MED economies, they show a trend similar to CEE. This seems to confirm the findings of previous sections according to which internal institutional specificities fully explain the shortfalls of MED countries in attracting direct investment from abroad in recent years.

CONCLUSIONS

Considering the high growth rates and relative monetary stability that the MED region has recently achieved and the favourable projections for the future, its FDI attractiveness should be on the rise. Nonetheless, the evidence goes right in the opposite direction, since the FDI inflow to the area is low and stagnant. This paper has investigated the reasons why this might be so. Two possible and competing explanations have been considered of which one is internal and the other is external to the area. The former hypothesis is that it is necessary to modify the business environment and the behaviour of enterprises in this area and also the role of anchorage, which the EU should play in this process. The latter hypothesis is that CEECs offered a more promising long term prospect due also to the perspective of EU accession and consequent guarantee that the process of regulatory and institutional reforms would not undergo any reversal.

The paper addresses the issue by examining FDI flows (1994-2004) from the EU (and for comparison from the USA and Japan) to the two neighbouring regions of CEE and of the South Mediterranean. The analysis provides circumstantial evidence that the intensification of FDI in CEE, following integration within the EU, has had no discernible dampening effect on FDI flows directed to MED countries. This hypothesis is confirmed in several empirical analyses. First, a random effect gravity regression for determinants of bilateral FDI flows to a large sample of 84 developed and developing partners shows that when environmental, institutional and policy

variables are included in the analysis MED countries are not different from the rest of the sample. The institutional environment is caught by proxies of, among others, the degree of openness to international trade of the countries involved, the volatility of the bilateral nominal exchange rate, the process by which governments are selected, monitored and replaced, the capacity of the governments to effectively formulate and implement sound policies, the respect of citizens and the state for the institutions that govern economic and social interactions, the presence of current and capital account restrictions.

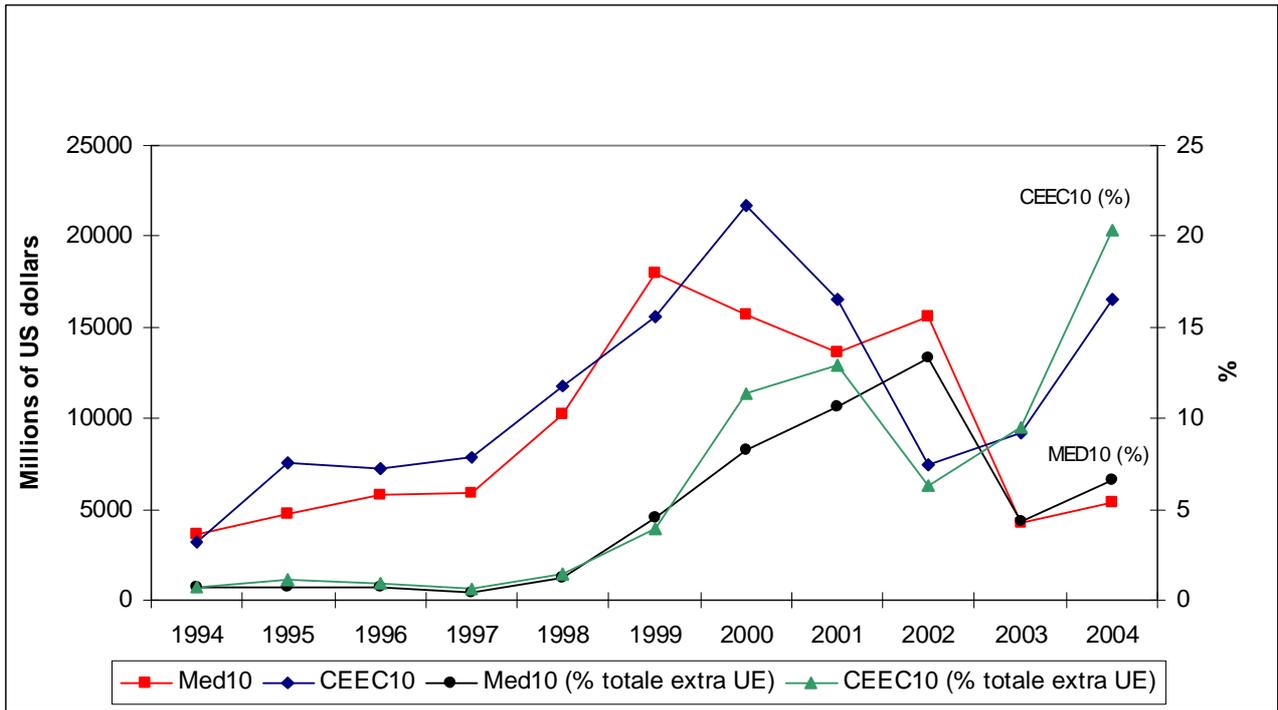
Moreover, the actual capital inflow to MED economies is not much far from the flow predicted based on the enlarged gravity equation. This suggests that the low inflow of FDI to the region might correspond to equilibrium condition considering various distortions that economic agents have to face in MED countries. Finally, this result is also confirmed by the common trend followed by coefficients obtained interacting yearly with regional dummies representing CEE and the South Mediterranean.

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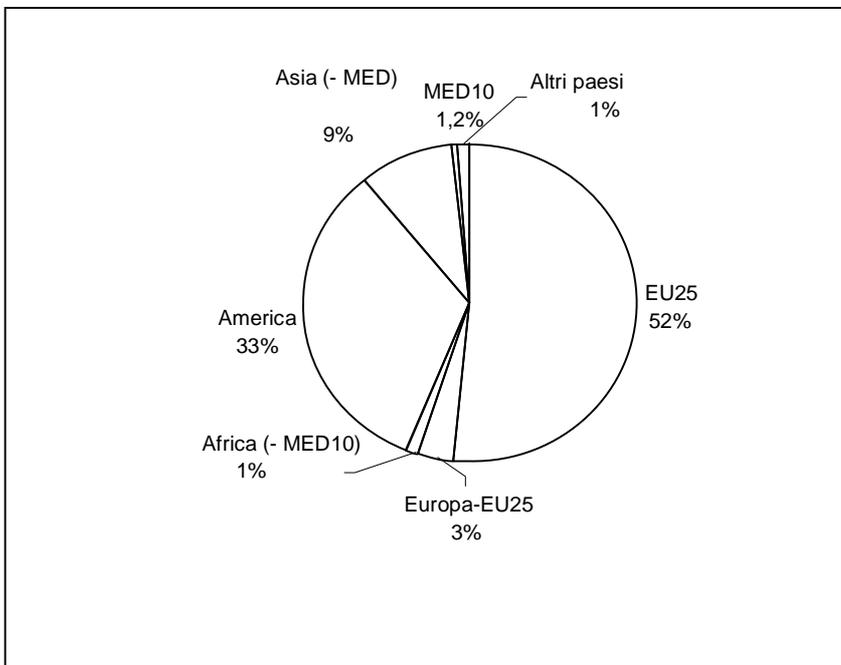
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Figure 1. FDI out from EU to CEEC10 and MED10



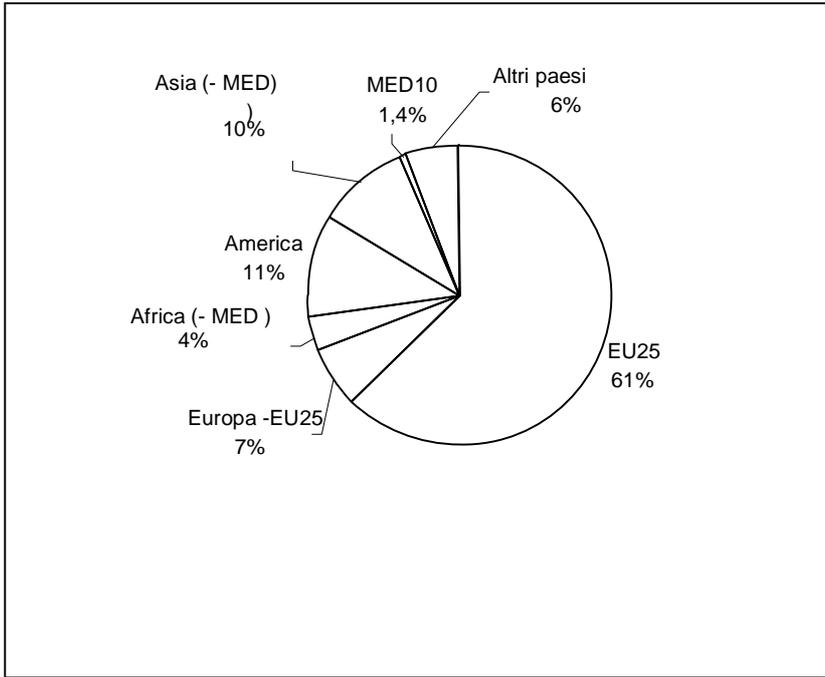
Source: Own elaboration on EUROSTAT, Economics and Finance Statistics, 2005.

Figure 2. EU outflow of FDI (in % of total EU and extra-EU): 2001



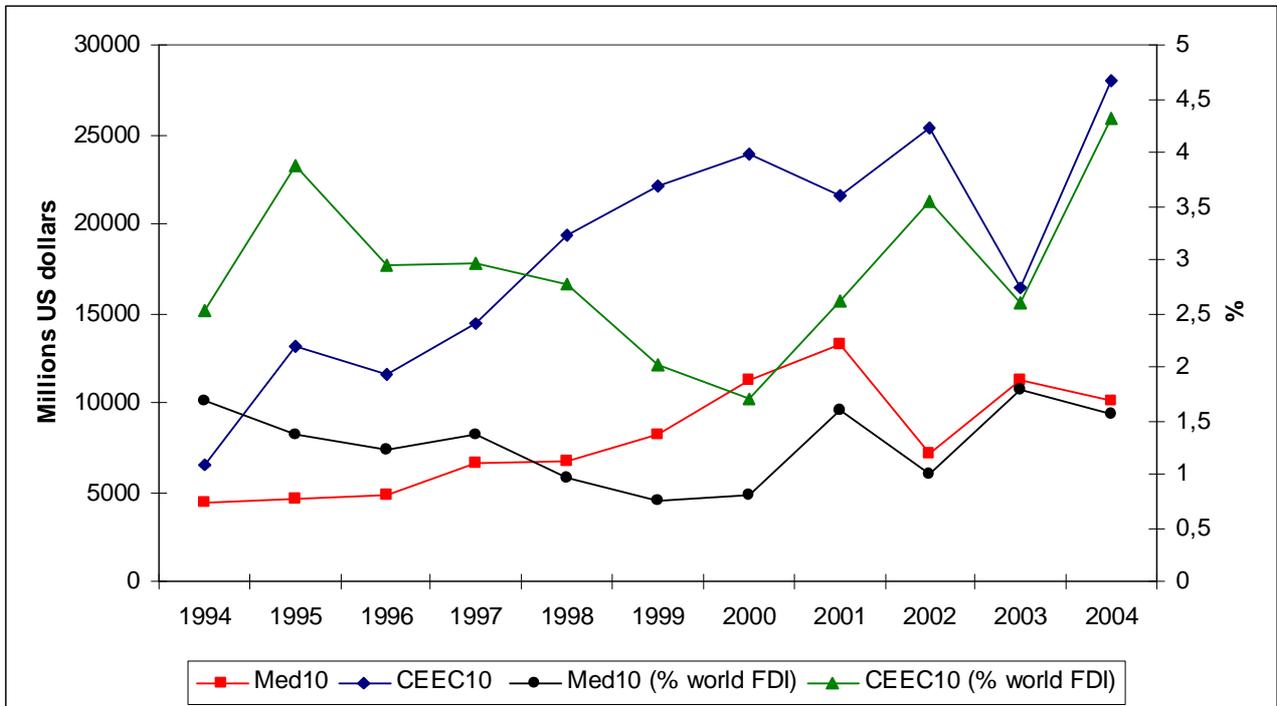
Source: Own elaboration on EUROSTAT, Economics and Finance statistics, 2005.

Figure 3. EU outflow of FDI (in % of total EU and extra-EU): 2004



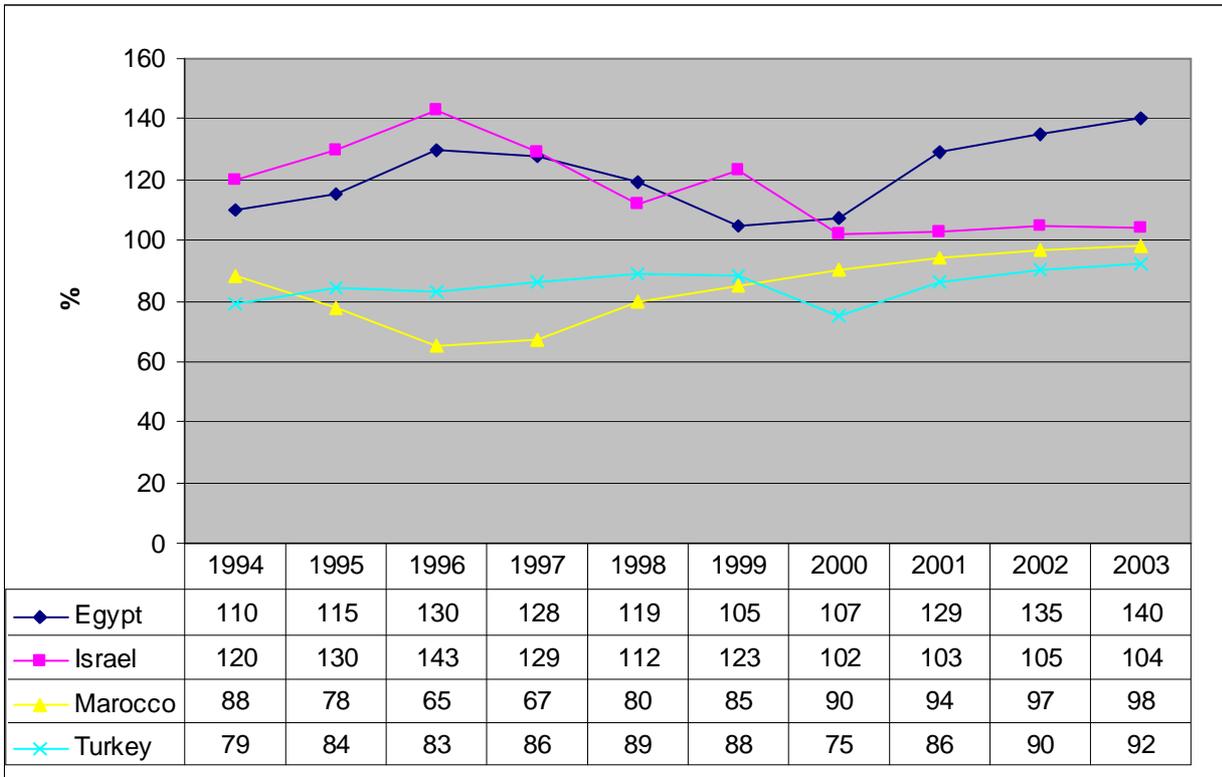
Source: Own elaborations on EUROSTAT, Economics and Finance statistics, 2005.

Figure 4. World FDI to CEEC10 and MED10



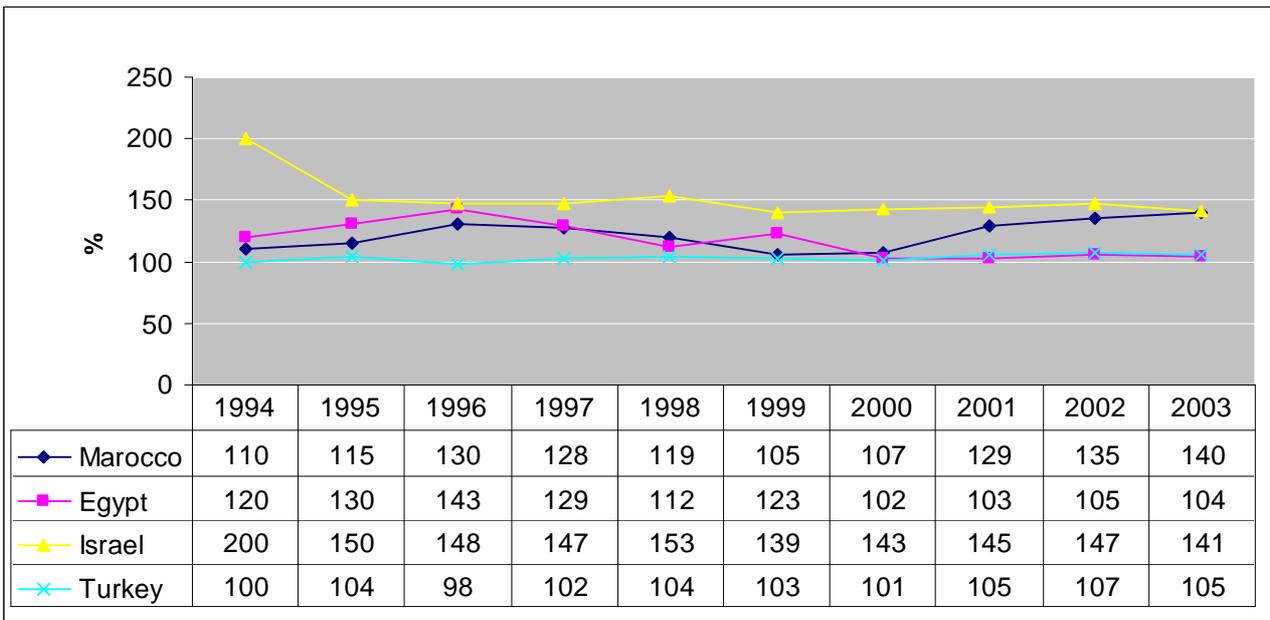
Source: Own elaborations on UNCTAD, 2005.

Figure 5. IDE outflow from Italy: simulated over observed values in %



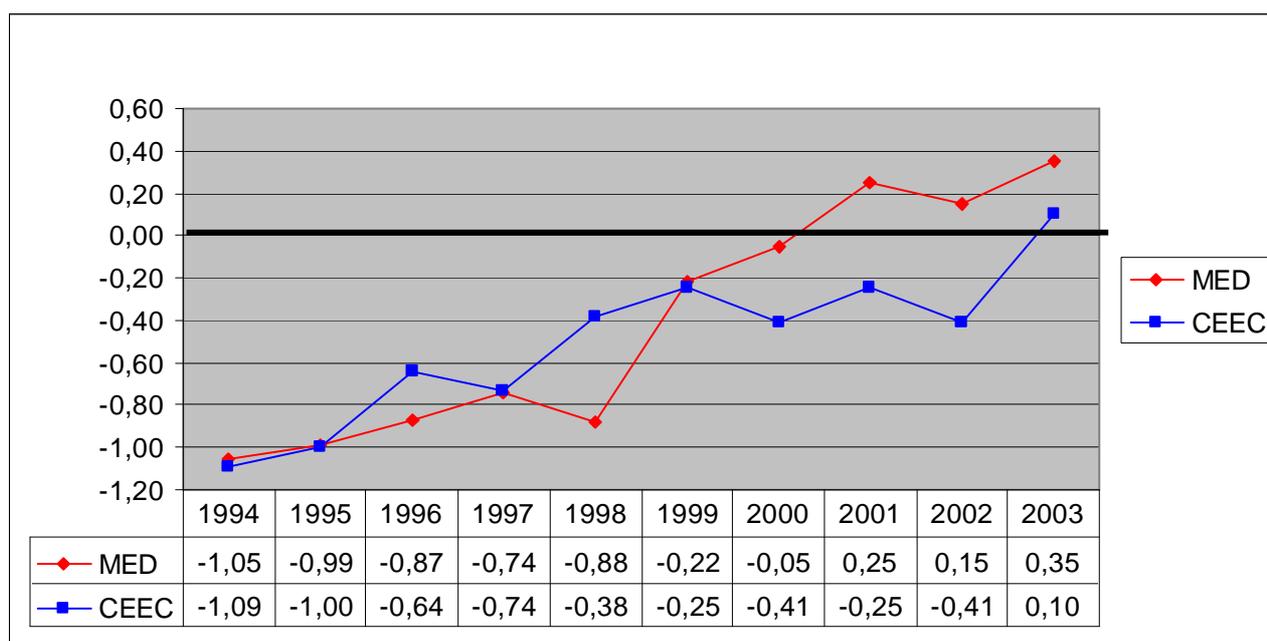
Source: Own elaboration on model (2) in Table 1.

Figure 6. IDE outflow from Germany: simulated over observed values (in %)



Source: Own elaboration on model (2) in Table 1.

Figure 7. The evolution of country effects over time



Source: Own elaboration on model (2) in Table 1.

Tab. 1.

Random-effects GLS regression	Number of groups = 753 R-sq: within = 0.1169, between = 0.4477, overall = 0.4644 Wald chi2(9) = 1072.52 Prob > chi2 = 0.0000				Number of groups = 718 R-sq: within = 0.2382 between = 0.5403, overall = 0.5708 Wald chi2(23) = 2063.71 Prob > chi2 = 0.0000			
lfdi	Coeffic.	Std. Err.	z	P>z	Coeffic.	Std. Err.	z	P>z
lgdpsum	-0,115	0,007	-15,29	0,000	0,110	0,041	2,680	0,007
lpop	0,859	0,055	15,59	0,000	1,068	.0581647	18,370	0,000
lpopdonor	1,304	0,064	20,20	0,000	1,181	0,066	17,830	0,000
diffgdppc	-0,903	0,048	-18,72	0,000	-0,314	0,052	-5,960	0,000
dist.	-3,99E-07	6,29E-08	-6,35	0,000	-3,24E-07	6,29E-08	-5,600	0,000
dist. sqred	2,32E-14	4,06E-15	5,72	0,000	1,76E-14	4,06E-15	4,780	0,000
dummy EU	0,648	0,153	5,16	4,22	-0,130	0,148	-0,880	0,377
Dummy MED10	-0,562	0,314	-1,79	0,073	-0,306	0,147	-1,130	0,181
Dummy CEEC10	0,077	0,252	0,31	0,758	-0,402	0,218	-1,840	0,066
Log area					-0,215	0,040	-5,430	0,000
Land locked					1,098	0,702	1,560	0,118
Land locked two					-0,149	0,176	-0,850	0,274
Common border					0,874	0,315	2,780	0,006
Common language					0,951	0,327	2,900	0,004
Regional integration agreement					0,293	0,071	4,120	0,000
Ex colonial linkages					0,674	0,462	1,460	0,145
Import/GDP					0,002	0,002	1,320	0,187
Exchange rate volatility					0,224	0,021	10,560	0,000
Governance					0,069	0,004	18,290	0,000
Current account restrictions					-0,187	0,044	-4,240	0,000
Capital account restrictions					-0,081	0,046	-1,780	0,075
Currency union participation					0,434	0,059	7,310	0,000
Participation of a country to a free trade area					0,054	0,051	1,050	0,294
_cons	-27,60	1,496	-18,44	0	-33,250	1,463	-22,740	0,000

Source: Own elaborations.

Appendix I. Source of data

Data on FDI were taken from EUROSTAT, Economics and Finance Statistics. Data based on GDP, POP, Area and M2 were taken from the World Bank's 2005 World Development Indicators' (WDI's) CD-Rom. Data on LL, Border, Lang, Colonial, CU, are own elaboration on information from Geographical Atlas and from the U.S. Central Intelligence Agency's (CIA's) website (<http://www.odci.gov/cia/publications/factbook/index.html>). Distance taken in metres and expressed as the great circle distance calculated by J.A. Byers and available at www.wcrl.ars.usda.gov/cec/java/lat-long.htm. The variables Regional and FTA were constructed on the basis of information about the recognized trade agreements obtained from the World Trade Organization's (WTOs) website (www.wto.org/english/tratop_e/region_e/eif_e.xls). Exchange rate volatility between countries *i* and *j* at time *t* (*ERV*) was calculated as the standard deviation of the logarithm of the bilateral monthly nominal exchange rate (using the IMF's International Financial Statistics (IFS) 2006, in the five years preceding the date of the bilateral FDI observations). Restrictions on payments for capital transactions and Restrictions on payments for current transactions were taken from IMF's Annual Report on Exchange Arrangements and Exchange Restrictions. The governance indicator is built on the basis of six different subindicators as suggested and constructed by Kaufmann, Kraay, and Zoido-Lobaton (2002) based on subjective indicators taken from the International Country Risk Guide (see the following note). These data are published in the WB, Governance indicators, 1994-2004, available now on line at www.worldbank.org/wbi/governance/govdata.

Data on governance components was taken from the International Country Risk Guide (ICRG) produced by the Political Risk Services (PRS) group, where the components of the political risk index were used, which report subjective assessments of the factors influencing the business environment in the countries studied. Several of these components were, in turn, based on additional sub-indicators. Specifically, Voice and Accountability was based on two subcomponents from ICRG data: Military in Politics and Democratic Accountability, "Political Stability" was based on one, Internal Conflict, "Government Effectiveness" on both Government Stability and Bureaucratic Quality; "Regulatory Quality" on Investment Profile, "Rule of Law" on Law and Order, and "Control of Corruption" on Corruption. The ICRG data has two very desirable features: (1) its large sample of developed and developing countries (130+), and (2) its length of coverage over time (1982-current). The ICRG data depends on polls of experts. The central advantage of polls of experts is that they are explicitly designed for cross-country comparability, and great effort is put in the benchmarking process to ensure this.