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Alessandrini, Sergio and Resmini, Laura

Università Commerciale L. Bocconi Milano

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FDI in the Mediterranean Region: a Comparison with CEE Experience

*Sergio Alessandrini & Laura Resmini
University Luigi Bocconi, Milano, Italia*



January 2000

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**EUROPEAN FDI IN THE MEDITERRANEAN REGION: A COMPARISON WITH CEE
EXPERIENCE^(*)**

Sergio Alessandrini and Laura Resmini

"L. Bocconi" University, Milan (Italy)

January, 2000

1. The Association Agreements: a new challenge for FDI

The main characteristic of the Association Agreements with the EU is the acknowledgement of the dynamic effects of investments, both domestic and foreign ones. The transitory period of 12 years is sufficiently long for implementing the adjustment measures and for preparing the Southern Mediterranean countries to the competitive environment imposed by the globalisation of markets. The domestic enterprises, actually protected by high tariffs and customs duties, will have the time to implement the appropriate adjustment policies and to reap the opportunities of trade liberalisation (Pace, 1997). Considering the inevitability and the urgency of such choices, it seems therefore suitable the decision of Morocco and Tunisia to immediately sign the new Association Agreements. They encouraged the structural adjustment programmes, reducing the domestic and external imbalances, strengthening the financial system and introducing new codes for attracting FDI (Brown, Deardoff and Stern, 1997; Chatti, 1999; Hamdouch, 1996).

The benefits of the opening up of the economies – this is the main rationale of the economic integration – are directly associated to the timely adjustment to the new economic environment and to the capacity of the local system to adapt its performance and its structure to the conditions dictated by the international markets. These adjustments will be possible and self-sustaining when motivations for investment and entrepreneurial abilities support the reallocation of productive factors (Hoekman and Konan, 1999).

The dynamic of investments is therefore a crucial element in order to maximise the benefits of regional integration (Reiffers, 1997). It depends on the ability to build a convincing development strategy on the existing competitive advantages (in static sense) or to reallocate the available resources in order to create new competitive advantages (in dynamic sense). These two strategies are complementary. From this point of view, FDI – that in some countries, such as Tunisia and Egypt, accounts for up to 20 percent of the total capital expenditures) may be a crucial factor fostering the modernisation and the social development.

^(*) A preliminary version of this paper has been presented at the ERF Sixth Annual Conference, Cairo 28-31 October, 1999. The authors are grateful to all participants at the seminar, Carlo Altomonte and Ali Bayar for helpful comments and suggestions. Usual disclaimer applies. Although the paper is the result of a common work, S. Alessandrini wrote sections from 1-4, while L. Resmini is responsible for section 5 and 6.

The aim of this paper is to analyse the determinants of FDI in the Mediterranean region. In particular, we are interested in comparing the recent experience of the Mediterranean (MED) countries with that of the Central and Eastern European countries (CEECs). Both groups of countries signed Association Agreements with the EU. Moreover, the recent up-surge of FDI flows into the CEECs raised some concerns about the future patterns of FDI in the Mediterranean region. The paper is organised as follows. Section 2 deals with an important issue for the MED countries: the progressively marginalisation of the region as recipient of FDI flows and stocks, marginalisation that could become more and more severe because of the tougher competition between MED and CEE countries as location of FDI. Although confirmed by existing data, it is worth to keep in mind that official statistics are based on criteria and rules of recording of the phenomena that depend on the country of origin and destination. These conceptual asymmetries contributed to the alleged marginalisation of the MED region as recipient of FDI. Section 3 summarises recent trends and data on FDI in the Mediterranean region, focusing on main home and host countries. Section 4 briefly reviews the existing literature on the determinants of FDI in the MED region. Section 5 explores and analyses what factors best explain foreign investments from a quantitative point of view. The analysis, based on a three-dimensional panel data base, compares the behaviour of two important sources of FDI, i.e. European Union and United States of America, not only in the MED region, but also in CEE. Section 6 provides some conclusions.

2. The marginalisation of the Mediterranean region: missing FDI or missing figures?

According to the last World Investment Report (1999)¹, the most authoritative source of information on FDI, in 1998 the Southern Mediterranean Countries, as a group, have attracted 6.0 billions USD, i.e. 3.6 per cent of the total FDI inflows in the developing countries. Notwithstanding the increase of inflows since 1996, the share of the Mediterranean region continued its decreasing trend during the Nineties (figure 1).

The current experience differs significantly across countries, given their heterogeneous nature. Egypt, that was the main host country during the Eighties, has been replaced in the first half of this decade by Turkey and, in the most recent years, by Israel. Algeria evidenced a stagnation of new foreign investments and its concentration in the energy sector. Only Morocco, Tunisia and Malta show an increasing trend during the decade.

This uneven distribution of FDI among countries did not prevent the gradual marginalisation of the region, that Petri (1997) in one of the few analysis on the geo-economic aspects of capital movements into the area, ascribes to the limited attractiveness of these countries, in particular when they are compared with the more

¹ It is published annually by UNCTAD, Division on Transnational Corporation and Investments, Geneva.

dynamic and emerging regions in CEE and South East Asia. This negative differential is a source of worries. Related to GDP, FDI inflows in the Mediterranean region remain on average below 0.8 per cent, while in the CEEC this ratio exceeds 4 per cent (Petri, 1997).

Table 1 - FDI in Southern Mediterranean Countries- Flows

Source	Values in million USD						In percentage of the flows in LDC					
	IDE Inflows UNCTAD	IDE Inflows DAC	Portfolio Inflows DAC	US Outflows US	EU-15 outflows EUROST	EU-15 outflows OECD	IDE Inflows UNCTAD	IDE Inflows DAC	Portfolio Inflows DAC	US Outflows US	EU-15 outflows EUROST	EU-15 outflows OECD
1980												
1985	1.650											
1990	2.051			-301		707	5,9			-2,2		3,1
1991	1.836			196		717	4,4			1,7		3,1
1992	3.074			707	758	1.154	6,2			3,5	5,0	4,5
1993	2.840	1.430	5.502	475	740	845	3,6	3,7	19,6	1,7	4,9	3,6
1994	3.728	1.387	1.434	533	1.093	894	3,7	2,9	3,9	1,7	4,3	2,3
1995	3.798	1.205	1.239	536	1.013	818	3,6	2,3	3,6	2,3	3,8	3,3
1996	4.539	1.290	6.440	948	1.168	1.355	3,4	2,2	9,1	3,2	3,1	2,9
1997	6.093	1.796	7.114	1.241	893	1.138	3,5	2,3	14,4	2,9	2,0	2,2
1998	6.013						3,6					

Source: IMF, UNCTAD, EUROSTAT, OECD

Note: 11 countries participating at the Euro-Mediterranean Conference. Algeria, Morocco, Tunisia, Egypt, Jordan, Lebanese, Syria, Malta, Cyprus, Israel, Turkey.

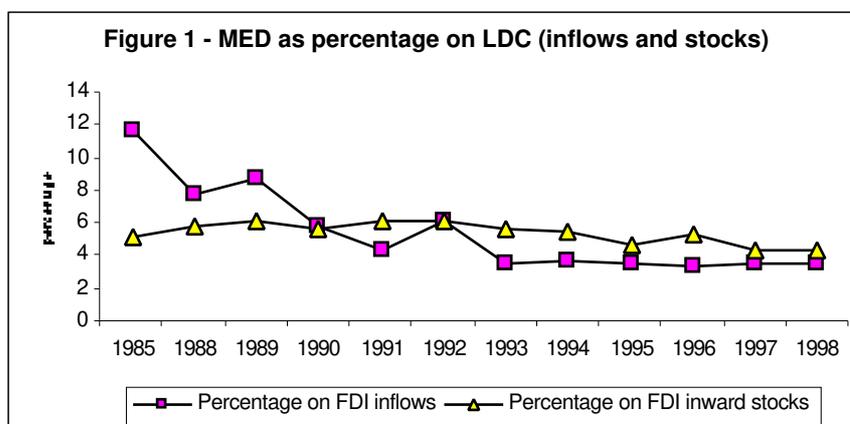


Table 2 - FDI in Southern Mediterranean Countries- Stocks						
Source	Values in million USD			In percentage of the flows in LDC		
	IDE Stocks	US Stocks	EU-15 Stocks	IDE Stocks	US Stocks	EU-15 Stocks
	UNCTAD	US	OECD	UNCTAD	US	OECD
1980	6.171			4,6		
1985	12.375			5,2		
1990	21.401	2.641	2.471	5,8	2,5	2,3
1991	22.845	2.784	3.052	6,2	2,4	2,6
1992	26.155	3.607	4.408	6,2	2,6	3,6
1993	28.848	4.738	6.216	5,8	3,0	4,9
1994	33.318	4.290	6.808	5,6	2,4	4,5
1995	36.392	4.892	7.589	4,7	2,4	4,0
1996	40.931	5.748	7.976	5,3	2,4	3,6
1997	47.024	6.859	8.068	4,5	2,4	3,2
1998	53.038			4,3		

Source: UNCTAD, OECD

Note: 11 countries participating at the Euro-Mediterranean Conference. Algeria, Morocco, Tunisia, Egypt, Jordan, Lebanese, Syria, Malta, Cyprus, Israel, Turkey.

In order to improve the comprehension of this phenomenon, it would be necessary to analyse more in detail FDI flows and determinants at country, both home and host ones, and sector level. However, an accurate analysis of the external growth of the transnational enterprises is prevented by the deficiencies of statistical data, often inadequate, heterogeneous and partial. The utilisation of data drawn from the monetary flows of the balance of payment statistics, tends to stress the cyclical reversals and, in the opinion of the authors, to underestimate the real contribution of the investment initiatives carried on by the transnational enterprises.

In quantitative terms, large asymmetries are found between home and host reporting countries, due to the modalities of imputation of profits; in several cases profits are reinvested in the foreign subsidiary (without a corresponding capital movement, but with an effective participation of the transnational enterprise in the host country); alternatively, the foreign partner supplies investment goods and licences which are reported in kind or credits without affecting the ownership structure.

These strategic decisions, as well as inadequate reporting, are the sources of quantitative asymmetries that prevent the correct interpretation and understanding of the role of foreign enterprises. A reconciliation with the economic analysis should therefore be encouraged. As an example, large asymmetries are found in the time series prepared by investing countries, mainly from OECD and EUROSTAT, and those prepared by the host countries, utilised by UNCTAD in his yearly report. The total inflows in the Mediterranean countries should mirror the outflows from the industrial countries reported by OECD and EUROSTAT, as far as the EU is concerned². But this is not the case, since inflows reported in UNCTAD statistics exceed always the outflows declared by OECD countries. The differences are relevant, as shown in the table 1 and 2.

² For example, the situation found in the FDI inflows of Israel, in 1997 the UNCTAD report clearly underlines a FDI inflow of 3.4 billions USD and goes further in commenting positively the 30 per cent

An improvement in the quality of FDI statistics is recommendable, in order to differentiate the cyclical dynamics of the 1990s. The reduction of FDI outflows from the American enterprises seems more sensitive in the first half of the nineties, while the financial contribution of the European enterprises has shown an increasing trend in the final part of the decade. Are these changes linked to the Partenariat initiatives? The recent developments that mark a positive change of direction, have not avoided the marginalisation of the region in the decisions of the American and European enterprises. For the European the reduction of the share is below 3%, from 5% in 1990. This U shaped trend is clearly visible also in portfolio investment flows, that for their nature are much more erratic and sensitive to the profitability conditions.

Although data on inward stocks of FDI are not available for all countries, their analysis offers a further contribution to the understanding of FDI patterns in the MED region. According to UNCTAD (1999) figures, the stock of foreign investments in the Southern Mediterranean region exceeded 53 billions USD in 1998 but the share of the region in the total inward FDI stock in developing countries contracted less than 4,5 percent, compared to 6,2 percent in 1990 or to 5.2 percent in 1985 (see Figure 1). Egypt still remains the country with the most important stock of FDI, more than 15 billions USD in 1997, followed by Israel (11.8 billions) and Turkey (6.4 billions). On the contrary the position of Algeria has been now surpassed by Tunisia (with 3.4 billions USD) and by Morocco .

3. FDI in the Mediterranean region: motivations and patterns

The strategic behaviour of TNCs investing into the area has changed over time, as well as motivations. In the previous two decades foreign investments aimed at overcoming custom protectionism. The set up of a production plant within the local market strengthened the margins of competitiveness towards foreign exporters, or reinforced the special links with local partners through subcontracting or joint-venturing. Significant examples of this kind of investment strategy are the contracts of exploration and oil extraction with SONATRAC in Algeria and a number of foreign participation registered in Egypt or Turkey in the production and assembling of several consumer goods for the domestic markets. These obstacles have not been still eliminated and the degree of effective protection of the region is higher than that of other developing countries or transition economies of Central Europe.

increase to the previous year. But this value is adding together FDI and portfolio investments and so one can explain the asymmetry with similar data provided by OECD, which applies rigorously the IMF definition (foreign control at least 10 percent of the property). The same Bank of Israel, in its annual report, specifies that "Nonresidents' investment flows in 1997 amounted to \$ 3.7 billion, a rise of more than 30 percent from the 1996 level; 45 percent was direct investment, and the rest was portfolio investment in the Tel Aviv Stock Exchange (TASE) and in Israeli shares traded abroad" (Annual Report 1997, page 150).

The privatisation process and the reduction of the state intervention in the economy are also contributing to modify the strategic behaviour of foreign enterprises in many countries, especially in Central and Eastern Europe. In the Mediterranean region, however, the privatisation process has been delayed too much and has been too slow, worsening the competitiveness of local enterprises relative to those located in other more dynamic regions, such as Central Europe, to mention the nearest one, (Hoekman and Djankov, 1996), or Latin America.

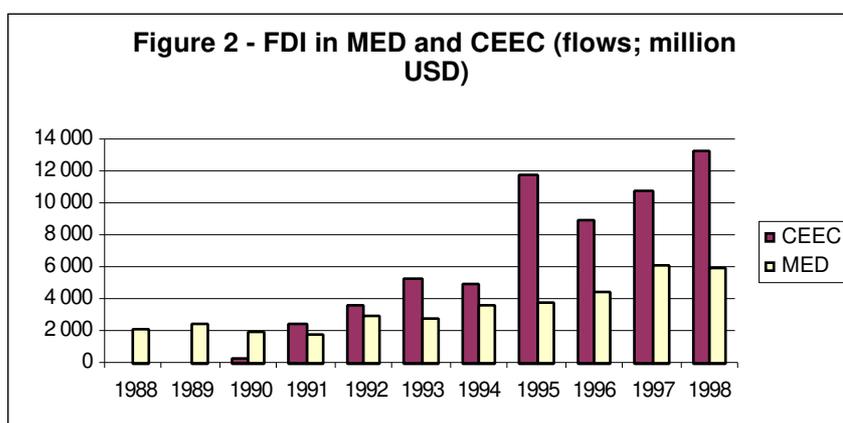
Ultimately, the overall production system of the region still remains prudent or dubious on the benefits of the changing relationships with Europe, since the first Association agreements were signed in 1994 (before the conference of Barcelona) with Tunisia and Morocco, followed three years later by Jordan, Palestinian territories and recently by Egypt. Only in the former three countries we have noticed an increase of FDI inflows, but given their size, the effects are limited and locally defined. Much more important seems to be the agreement with Egypt, signed in 1999. It is expected that it will generate more radical changes in the European direct investment patterns, even though they are not yet visible in the statistical data.

Considering the distribution of FDI within the region, only six countries turn out to be dominant source of FDI, four of which are European. The evolution of the main investor countries is presented in table 3. In 1997, 50.5 percent of total capital (15.9 billions USD) was controlled by European enterprises and only 6 percent by Japanese enterprises. However, American TNCs remain the main investor in the region after the stagnation during the mid Nineties. Compared with the dynamism of the American investors, one can find evidence of the negative pattern of the European enterprises, which did not react to the opportunities offered by the new political and economic agreements with the EU. Within Europe, the most active enterprises are those from Netherlands, France and to a lesser extent, from Germany. The Italian position, instead, is slightly contracting, after an intense phase of investments in the energy sector and in the distribution of gas. The relative stagnation of the European investments is due to the effects of the European industrial restructuring, revitalised by the completion of the single market, that has stimulated a significant investment activity within Europe. This "Eurocentric" phase resulted in a general slowdown of capital outflows to developing countries and to the Mediterranean region (Table 1, EUROSTAT source). Nevertheless, a significant qualitative change is noticeable in the European investments, with a greater proportion of FDI in the CEECs region.

	Values in million USD				Distribution percentage			
	1990	1992	1995	1997	1990	1992	1995	1997
EU-15	2.471	4.408	7.589	8.068	46,3	53,0	55,9	50,5
<i>Germany</i>	582	1.577	1.786	1.697	10,9	19,0	13,2	10,6
<i>France</i>	483	1.041	1.680	1.678	9,1	12,5	12,4	10,5
<i>Italy</i>	714	761	1.067	1.125	13,4	9,1	7,9	7,0
<i>Netherlands</i>	148	245	1.702	1651	2,8	2,9	12,5	10,3
United States	2.641	3.607	4.892	6.859	49,5	43,4	36,0	43,0
<i>Japan</i>	224	307	1.124	1.028	4,2	3,7	8,3	6,4
Total OECD	5.335	8.319	13.581	15.961	100,0	100,0	100,0	100,0

Source: Elaborations of the author on OECD data

Note: 11 countries participating at the Euro-Mediterranean Conference. Algeria, Morocco, Tunisia, Egypt, Jordan, Lebanese, Syria, Malta, Cyprus, Israel, Turkey.



Finally, considering a third statistical source we are able to cross home and host countries and evaluate bilateral flows, at least for some countries. According to UNCTAD (1996)³, European investors continue to maintain substantial interests in Tunisia, Morocco, Syria and Lebanon, with several national shares greater than 70 percent (Tables 4 and 5). The United States have a dominant position in the energy sector in Algeria and in the manufacturing sector in Israel, with a share less than 50 percent in both countries. The Arab investors play an important role in the banking and real estate sector, often not adequately reported in official statistics. Generally, Arab investments are spread off over the whole region, except Israel. Moreover, the presence of a North African and Lebanese diaspora contributes to determine further uncertainties on the consistency of the capital stocks and inflows in the region. According to a World Bank (1996)⁴ the capital accumulated abroad is four times more than the average of the other developing countries and for the Mashreq it exceeds 46 percent of GDP.

³ UNCTAD (1996), World Investment Directory, West Asia, Volume VI, 1996.

⁴ World Bank (1996), Global Economic Prospects and the Developing Countries, Washington, D.C.

	Morocco		Tunisia		Israel	Turkey	
	1992	1995	1989	1992	1994	1990	1996
EU	57,6	59,7	57,1	80,5	21,3	67,7	84,7
<i>Germany</i>	1,9	2,5	7,0	0,3	1,4	7,8	5,9
<i>France</i>	23,5	24,8	19,2	9,0	0,9	36,0	61,8
<i>Italy</i>	2,0	1,4	9,9	61,9	2,6	3,5	1,1
<i>Spain</i>	18,8	6,6	7,7	0,1	0,5		
<i>Netherlands</i>	4,4	8,7	0,0	0,0	8,0	1,8	8,8
<i>United Kingdom</i>	2,0	8,5	0,0	0,0	5,4	15,4	4,3
<i>Sweden</i>	0,0	1,4	0,1	0,1	0,0	0,0	0,0
USA	6,8	11,6	17,0	11,7	52,8	6,9	4,7
Japan	0,1	2,5	0,1	0,0	0,0	5,5	0,5
Arab Countries	11,7	13,0					
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Source: UNCTAD (1996) and original sources updated by the author.

Israel: Ministry of Trade and Investment. Tunisia: Ministry of International Cooperation and Foreign Investment, Tunisia Investment Promotion Agency. Algeria: Agence de Promotion, de Soutien et du Suivi des Investissements. Morocco: Ministère des Finances ET des Investissements Extérieurs. Egypt: Egyptian General Authority for Investment. Turkey: Undersecretariat of the Treasury.

	Egypt	Syria	Lebanon	Tunisia	Algeria
	1995	1993	1993	1994	1995
EU	40,4	81,9	99,5	70,0	23,2
<i>Germany</i>	4,5	36,4	-7,0	3,9	
<i>France</i>	6,0	44,6	111,9	23,4	5,3
<i>Italy</i>	5,8			30,9	13,4
<i>Spain</i>	0,4				4,5
<i>Netherlands</i>	2,8	0,0	0,1	0,0	0,0
<i>United Kingdom</i>	8,7	0,0	0,1	0,0	0,0
<i>Sweden</i>				5,2	
USA	16,7			0,6	53,0
Japan	4,6	0,0	0,0	0,0	0,0
	100,0	100,0	100,0	100,0	100,0

Source: UNCTAD (1996)

The sectoral distribution of FDI is concentrated in a limited number of sectors: energy and mining in Algeria, Syria and Egypt; basic manufacturing, tourism and infrastructures (Egypt, Tunisia, Jordan), labour intensive sectors (Tunisia, Morocco, Turkey) and electronics and other high tech sectors but only in Israel. Generally, Southern Mediterranean countries, tend to attract investments in activities scale and capital intensive, that contributes to expand the production but that involves a modest technological transfer (Petri, 1997). These factors affect the specialisation of the region

and its differentiation with other LDC regions. Petri (1997) derives this conclusion on anecdotal literature (with few quantitative support) and estimates that only one third of the investment projects really improves the technological abilities of the region. This implies that opportunities to generate new foreign investments remain tied to natural resource endowments. This peculiar specialisation hinders the impact of FDI on technological and organisational knowledge, a cause explaining the slow regional development compared with the positive experience of the South East Asia and Latin America.

4. The factors of attractiveness in the Mediterranean region: a preliminary survey of the literature

Which are the causes of the insufficient attractiveness of the Mediterranean countries? A first answer should be related to the motivations of the transnational enterprises. The economic literature agrees on two precise motivations corresponding to two different strategies of internationalisation of enterprises. Markusen (1995) and Michalet (1996, 1997) distinguish two investment strategies, defined respectively as “horizontal” and “vertical”. The horizontal strategy characterises foreign investments which aim to secure an advantage when the host country opens up its domestic market. Therefore, FDI can be considered as an extension of the export strategy, and it can be also defined as “market seeking” since its target is local markets (Dunning, 1992). The distinction is however arbitrary and deceptive since a horizontal FDI can be the consequence not only of the opening up of the domestic market of the host country, but also of its excessive protection that forces foreign investors to produce locally and jump the tariffs and other barriers to trade. Products supplied in host markets, the technology incorporated into the plants and the marketing strategies are generally similar to those used in the home country. This presupposes the similarity of the environmental conditions and the structural characteristics of the two countries.

On the contrary, the vertical strategy implies a new production system which specialises in one particular phase of the production process and foreign enterprises aim at lowering the production costs. This strategy can be identified with “efficiency seeking” FDI. The choice of the host country is then explained by the factor endowment. Vertical-type FDI is intersectorial and is supported by the price differential of factors of production, while Horizontal-type FDI supports intra-sector trade flows and generates differentiated products on the regional markets.

Michalet (1997) emphasises that horizontal FDI is more frequent in Morocco, Tunisia, Turkey and Egypt. Therefore, the size and growth of the market are the main determinants of investment decisions. However, the target market not necessarily corresponds to the domestic one. It often includes other markets within the region. This implies that foreign investors consider the host country as a bridge to enter regional market through a “hub and spokes” pattern. This fact questions the above mentioned traditional dichotomy of FDI strategies: horizontal and vertical FDI can not be considered as two clearly differentiated strategies since they often overlap. The host

country must guarantee not only the access to a market, both domestic and regional, with a sufficient dimension, but also the presence of cheaper factors of production in order to make convenient the local production and the exporting activity into the region or the rest of the world. The selectivity and the competition among multinational enterprises seem therefore to reduce the possibilities of locating into a limited number of countries, as it happened for the CEEC and it is going to take place also for the Mediterranean region. In the group of countries inquired by Michalet, foreign investors seem to prefer Turkey, Hungary and the Poland, that are included in the group of the Core countries. The author concluded that other Mediterranean countries have a potential vocation for FDI, not completely exploited. The author endorses the hypothesis of a complementary relation between Mediterranean and CEE countries because of the different motivations declared by the transnational enterprises investing into the two areas: they see opportunities for horizontal investments in Morocco, Tunisia and Egypt, and for vertical investments in CEE.

Asked on the factors that influence the location and the choice of the host country, transnational enterprises place at the first places the **economic and political stability** followed by the **dimension of the market**. The political and economic stability has a dimension that should inspire the legal and institutional framework: it must be stable, transparent and reliable. These conditions are important and their absence induces the enterprises to suspend their investment decisions or limits their financial commitments. Therefore, Michalet's survey confirms the traditional hypothesis of TNCs risk averted. The availability of **skilled labour**, rather than low labour costs, is the third variable that affect investors' attractiveness and it should be connected to the type of investment, the introduction of more complex technologies, as well as the tendency to externalise an increasing number of production phases. Mediterranean countries' poor **structural conditions** reinforce the risk of marginalisation of the area, if the adoption of corrective measures aimed at modernising the domestic production and labour market continues to be postponed. Such a risk is real also in those countries that succeed in attracting foreign investors in the sixties and the seventies. It seems that the current competitive model driven by the globalisation contrasts with the old logic of tariff protectionism. Of growing importance is also the need for **communications** and infrastructure that allow the transfer of information and goods. Financial incentives rank last in the list of the factors of attractiveness quoted by MNEs, with the exception of manufacturing and assembling activities, such as OPT in the textile-apparel sector.

5. The econometric model

In this section we explore and analyse what factors best explain foreign direct investments into CEE and the MED region. From a theoretical point of view, FDI arises from a combination of industrial organisation motives that result in a number of activities being placed under common ownership and control, and comparative advantage reasons that cause these activities to be located in different countries and

regions (Krugman, 1995). Whilst there are no reasons to expect that factors determining FDI in Central and Eastern Europe are different from those promoting FDI in the Mediterranean countries, much less is known about the relative strength of these factors in the two regions. In fact, there is little econometric evidence about the factors determining inward investments in both regions⁵. However, quantitative analysis of the factors determining flows of FDI is useful to establish whether and what government policies can influence FDI. This section is devoted to shed light onto this issues by assessing and comparing factors affecting the pattern of FDI in the two regions in a framework of a standard location choice model.

In doing this, we utilise European Union and American outward stocks of FDI for the years 1990-1997 in a panel data study of its determinants in eight Central European countries – i.e. the Visegrad ones, Bulgaria, Estonia, Romania and Slovenia – and 11 Mediterranean countries – i.e. Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Syria, Tunisia and Turkey. This framework allows us to include exogenous fixed effects for each host countries, since both regions hide large differences within them. It also allows for some variation in the behaviour of the investors, depending on their country of origin, i.e. European Union or United States. Although this panel is constrained in one dimension by the absence of the sectoral distribution of FDI, it remains a rich source of information because of the considerable cross-sectional differences between the countries included in it.

5.1 The independent variables

An important aspect of any econometric analysis is the specification of the model. The choice of the variables has been dictated by the literature on the determinants of FDI in the developing countries, as summarised by Caves (1996) and Singh and Jun (1996). Unfortunately, it has sometimes been constrained by the availability of data. The independent variables have been chosen to reflect the attractiveness of the host economies as potential locations for foreign investors.

According to the market size hypothesis, FDI in any period is assumed to be a function of the size of the target market: the larger the market, the more opportunities it offers to foreign investors. However, given the long-run nature of FDI, expected market growth may be a more accurate factor in determining the distribution of FDI among regions and countries. Since it is difficult to measure investors' expectations, we control for market potential by considering the inward stocks of FDI relative to

⁵ A small number of econometric studies on the determinants of FDI have recently been undertaken in Central and Eastern Europe (Lansbury et al. 1996; Holland and Pain, 1998; Resmini 1999 and Altomonte, 2000). As far as the MED region is concerned, Petri (1997) estimated a regression model to determine how the level of FDI and stock market capitalization compare with international norms. He found that there is great potential for expanding FDI into the region and that large gaps actually exist between the Med countries and similar economies elsewhere. Michelet (1999) reporting the results of a survey, concluded that the MED countries are actually excluded by the “core countries”, i.e. by that group of countries whose characteristics are able to attract foreign investments regardless the country of origin and the economic activities. Whilst such empirical evidence is informative, it does not provide a full explanation of recent patterns of investments in the MED region.

population. Moreover, we introduce as explanatory variable the growth rate of the GDP, a variable that has been used in several studies (Wang and Swain, 1995; Holland and Pain, 1998; Singh and Jun, 1996).

A number of studies have suggested that investments in developing countries are also positively affected by the degree of openness of the host economy. This implies that foreign investors prefer countries with relatively liberal trade regimes, possibly within region with free trade agreements (Blomstrom and Kokko, 1997). Existing business linkages and knowledge of local markets may help foreign firms, especially small and medium-sized ones, to take advantages of the opportunities presented by a rapidly evolving market structure. In order to investigate whether the stock of investments by individual countries in Central Europe and in the MED region has been influenced by trade linkages, we use a measure defined as the share of trade (exports plus imports) in each of the host economies accounted for by trade with the investing economies. In addition, we include a measure of the growth rate of the GDP of the trading partners of each host economy, weighted by trade shares, to test whether investment decisions are influenced by trade arrangements that allows the entrance in neighbouring markets.

Profit-maximising multinationals may decide to de-localise production plants overseas to exploit manufacturing cost advantages, in terms of both labour costs or proximity to natural resources. The neo-classical theory of the determinants of FDI suggests that host countries' labour supply influences foreign investors' location decisions through the labour cost and the quality of the skills of the labour force. Locations with low labour costs and/or highly skilled labour force are expected to be more attractive for foreign investors, particularly for firms producing labour intensive goods. Unfortunately, time-series data about labour costs and productivity are not readily available in most of the countries included in the sample. Therefore, we try to draw the importance of labour cost as an explanatory variable for FDI inward stocks indirectly through the level of education. The proximity to natural resource hypothesis is tested through the country specific fixed effects.

There is a general belief that a conducive business environment is necessary for attracting FDI. The long-term nature of FDI makes it very sensitive to risk with respect to portfolio investments. It may take several years before a foreign investment becomes profitable, so investors want to be assured of the economic and political stability of the host countries, globally considered. We proxy the business environment characteristics with an index, the Operation Risk Index (ORI), computed by a consultancy agency (Bery S.A). A panel of 105 experts from around the world evaluates each country on the basis of a wide range of factors, including political continuity, attitude toward foreign investors, enforceability of contracts, infrastructure and local management. This qualitative index ranges from 0 (prohibitive risk) to 100 (operation conditions very closed to those existing in the industrialised countries). A number of studies have already used this index as a proxy of country risk in a inter-country perspective, with good results (Singh and Jun, 1996; Resmini, 1999 and Altomonte, 2000).

Finally, industrial location theory (Markusen and Venables, 1999), both at regional and international level, suggests that the main force driving location decisions is the strength of existing manufacturing activities. Manufacturers gain from locating in closer proximity because of external economies; moreover, a country with a strong concentration of manufacturing activities is more likely to have an adequate labour pool and supply network to support industrial activity. Manufacturing development has been measured by the share of manufacturing in total GDP.

To summarise, the estimated model assumes the following form:

$$\left(\frac{FDI_{ijt}}{POP_{jt}}\right) = \alpha_{0ij} + \alpha_1 G_{jt} + \alpha_2 EDU_{jt} + \alpha_3 ORI_{jt} + \alpha_4 TRADE_{ijt} + \alpha_5 MAN_{jt} + \alpha_6 GTP_{jt} + u_{ijt}$$

where:

$i = EU, USA$

$j =$ Algeria, Bulgaria, Cyprus, Czech R., Egypt, Estonia, Hungary, Israel, Malta, Morocco, Poland, Romania, Slovenia, Slovak R., Syria, Turkey, Tunisia

$t = 1990, \dots, 1997$

FDI_{ijt} denotes outward stock of FDI from country i to country j at time t , POP_{jt} is the population level of the host country, G_{jt} denotes the GDP growth rate of the host country j , ORI_{jt} measures the country risk, EDU_{jt} is the level of tertiary education (percentages), $TRADE_{ijt}$ captures the intensity of trade linkages between home and host countries, MAN_{jt} is the share of the industry in the GDP and GTP_{jt} is the growth rate of the trade partners of the host economies⁶. All variables are in log form. In estimation we allow for country specific effects within host countries, α_{0j} , since both regions hide large differences within them. We also control for home country specific effects (α_{0i}). Not wishing to suppress useful information about some form of interdependence among countries, a seemingly unrelated regression model has been chosen (Matyas, Sevestre, 1996).

5.2 Expected sign of the explanatory variables

The first question to address is whether the expected signs of the explanatory variables conform with the theoretical prediction of the determinants of FDI.

On a priori grounds, it is expected that FDI reacts positively to the market size hypothesis. Therefore, we would expect that the relationship between FDI per capita and the percentage growth of GDP is positive. Moreover, if multinationals located production facilities in Central Europe or in some of the MED countries to take advantages of growing regional markets, also the sign of the coefficient of GTP will be positive.

⁶ See data appendix for details on sources and definitions.

The coefficient of EDU may be positive or negative. It is expected to be negative if foreign investors prefer less educated, and thus cheaper, workers. A positive sign, instead, would indicate a preference for more productive, and thus more expensive labour force.

The sign of the coefficient of the country risk is expected to be positive since economically and politically stable countries offer more guarantees to foreign investors.

A well developed manufacturing sector sounds attractive for foreign firms since the exploitation of agglomeration economies may increase efficiency and, then, profits. Nevertheless, MAN could also have a negative sign since an increase in the size of the manufacturing sector might also be a sign of a tougher competition. Foreign investments driven by the search of strategic assets may be negatively affected by an increase in the size of the manufacturing sector, since it becomes more and more difficult to gain market share while pre-empting competitors from doing likewise. Moreover, in transition countries this variable must be interpreted with further caution. Privatisation and industry restructuring process may negatively affect the size of the manufacturing sector. If foreign firms are attracted by restructured sectors, the sign of the coefficient of MAN will be negative.

Finally, there are no prior assumptions regarding the sign of the coefficient of TRADE. Barriers to trade increase the costs associated with serving a foreign market through exports, stimulating direct investments as a substitute for trade. In this case we would expect a negative relation between TRADE and FDI. On the other hand, trade and FDI may be complement, as multinationals tend to generate a high level of trade between parent and affiliate firms. If this influence dominates, it is likely that the sign of the coefficient of TRADE is positive. If the two forces balance, the coefficient will tend to be close to zero.

5.3 Results

Tables from 6 to 9 show the results of the econometric analysis. We first estimated the determinants of FDI by pooling all observations in a single sample (table 6). This analysis allows us to detect two important sources of heterogeneity in the determinants of FDI: region specific effects, picked up by the REG dummy, and home country specific effects, caught by the HOME dummy. Both are statistically significant at the one per cent level. We thus plunged into these specific effects. First of all, we split the original sample into two sub-regional ones (CEECs and MED ones) in order to detect potential structural changes in the determinants of FDI due to region specific effects. Because of the presence of several missing values, panels are not balanced and the number of countries included may vary according to the availability of data. The resulting coefficients for the CEECs and the MED ones are reported in tables 7 and 8, respectively. Secondly, we allow for separate slope coefficients among home countries within each sub-region since heterogeneity can give rise to bias if slope homogeneity is imposed. The results are reported in table 9.

Concerning CEECs, the fit of the equations seems good, with an adjusted R^2 higher than 0.80. All equations include separate intercepts for each host countries and a dummy variable to control for home country effects. Both are statistically significant.

The first column (model 1) reports the parameter estimates obtained for the basic model including all the explanatory variables. Only one variable, that is, the growth rate of the host economies, is statistically insignificant with a coefficient very close to zero, suggesting that market size effects are adequately captured by conditioning on the population level. The growth rate of the trading partners has a negative coefficient close to zero. This result, can be explained partly by the fact that FDI have been targeted mainly to the domestic markets and not to the regional ones, and partly by the “Eurocentric” phase of the European foreign investments discussed in section 3⁷.

The coefficient of EDU is positive, indicating that foreign firms prefer locations with highly skilled labour force, even though this implies higher wages. This does not mean that low labour costs do not play a role as determinants of FDI, since CEE is generally considered as low cost area with respect to Western Europe and the United States as well. Rather, this result confirms that the productivity gap between home and host countries is not very pronounced (Lankes and Venables, 1996). Also the coefficient of TRADE is positive and greater than one, indicating that bilateral trade relations are important to stimulate FDI. The negative sign shown by MAN is not surprisingly since in transition countries privatisation and restructuring processes have played an important role as determinants of FDI⁸. ORI coefficient is very high, suggesting that foreign firms investing in Central and Eastern Europe are very concerned about risk.

In column 2 we dropped the insignificant growth rate variable. There is little change in the coefficients on most of the remaining variables. Finally in column 3, we estimated the original model without the degree of development of the manufacturing sector variable (MAN). The exclusion of this variable causes the size and the significance of the coefficient on risk country variable to increase markedly, suggesting that the effects of the restructuring process may have also been picked up by the country risk measure. Moreover, we observe the growth rate variable becomes significant, even though the coefficient remains very small.

The formulation of the model seems to be appropriate also for the Med region, since it explains about two third of the variation in the dependent variable (table 8). However, the signs of the coefficients do not always agree with the underlying economic theory. Market size effects are correctly picked up by the specification of the dependent variable, as in the CEE panel. However, regional markets are here more important than in Central and Eastern Europe. The coefficient of GTP is small but

⁷ European investments into CEE accounts for about 80 per cent of total investments. At first sight, one could think that this wrong sign might be the result of some multicollinearity with other variables, especially the home country dummy. This last, however, picks up only behavioral differences between EU and United States, rather than structural differences. Multicollinearity with host country dummies, instead, can not be excluded, since most of the countries included in the sample trade among them.

⁸ Again, multicollinearity with host country variables can not be excluded, since the size of the manufacturing sector depends on the industrial structure of each host countries. In fact, MAN show a positive sign in the restricted model (equal intercept across countries). However, restrictions can not be accepted at the conventional level of significance. In order to minimize multicollinearity, we dropped MAN in model 3.

significant at the one per cent level of confidence. The sign of the country risk variable is not coherent with the economic theory since ORI shows a negative but significant sign. This would indicate that FDI per capita stock decreases as country risk decreases, being other things equal. This surprising result may be explained partly by the fact that most FDI in the MED region has always been resource specific and natural resource seeker investors localise wherever resources are available, regardless of the presence of other factors of attraction (Dunning, 1998). Partly, it might be due to the specification of the country risk variable, not suitable to explain risks that foreign investors face in the MED region. It has been argued that one of the major problem of many Med countries is the legitimacy of the Governments. In several countries it seems to be a lack of consensus and an absence of dialogue with dissenters. Recently, the situation has not changed substantially. “The ensuing huge social problems interact with the other factors to create an endemic instability which discourages foreign investors” (ERF, 1999) since governability and the consequent capacity to gain consensus within law is frequently perceived to be an indicator of long-run stability. ORI, by definition, catches prevalently economic stability, being based on economic variables rather than on political and social indicators.

Also the size of the manufacturing sector seems to affect negatively the stock of FDI, as previously obtained in Central and Eastern Europe panel. According to recent studies (Petri, 1997) the bulk of new FDI projects undertaken in the MED region represent relatively large-scale, capital intensive undertakings in mining and quarrying, industry and infrastructure and in particular petrochemical plants, cement factories and power plants. All these sectors are characterised by a strong presence of large firms and by a tough competition due to the need to exploit economies of scale to become competitive. Thus, foreign investments in the MED region may hide strategic objective (first mover advantages, natural resource control, etc.). Finally, EDU and TRADE are statistically significant with the expected sign. However, TRADE coefficient is smaller than that previously obtained in the CEE panel. Overall, coefficient signs do not change across the specifications of the model. Host country intercepts are positive and the null hypothesis of equal country intercepts can be rejected at the conventional level of significance as in the case of the CEECs. Differently from the previous panel, country intercepts are now catching up the importance of resource specific FDI. Home country effects are always significant.

In order to test the existence of a different sensitivity of FDI coming from different country of origin, to the explanatory variables, we re-estimated the basic model relaxing the hypothesis of equal slope coefficients among investors. The results are reported in table 9. The null hypothesis of equal slope coefficients can not be rejected in CEE panel. In the Med region, however, FDI coming from Western Europe reacts to the explanatory variables differently from American outward FDI stocks. These differences concern two variables, i.e. country risk and the regional market potential. While European investors seem to be risk neutral, since the coefficient is closed to zero, though always negative, American FDI stock are more sensitive to the risk country, even though in a surprising way: *ceteris paribus*, an increase in the degree of economic stability reduces FDI stock per capita of about 6.6 per cent. This result

implies that economic stability may compensate the lack of governability for most European investors, while American investors prefer political to economic stability. Finally, Western European FDI are less sensitive to regional market potential than American investors.

6. Conclusions

This study was designed to identify the factors that would explain the patterns and the determinants of FDI in the Mediterranean region during 1990-1997. The most important fact characterising this period has been the extension of the Association Agreements to most of the countries belonging to the region. It was thought that these agreements would have given a new boost to foreign direct investments into the region, penalised by the emerging of the countries of Central and Eastern Europe as preferential partners of the EU. We take into consideration this potential competition by comparing the factors determining FDI in the MED region with those attracting FDI in Central and Eastern Europe.

Attracting FDI has been one of the key policy goals of Central European governments and today everybody agrees that FDI has been an important vehicle to accelerate enterprise modernisation and restructuring by introducing new technologies, management techniques and marketing practices. In other words, Central and Eastern Europe experience demonstrates that it is important to understand what drives foreign investors in order to exploit scarce resources most effectively.

According to our empirical analyses, natural resource endowment still represents an important factor of attraction of FDI, relative to Central and Eastern Europe. Moreover, foreign investors have been attracted in the MED region by market considerations, concerning not only the single national markets, but also the regional one. This effect is stronger than in Central and Eastern Europe, suggesting that a deeper regional integration may sound attractive to foreign enterprises, mainly if the parent firm is located in the United States. The availability of high skilled labour is another important factor of attraction for foreign investors provided that wage differentials between home and host countries prevail on productivity differentials. Trade with major investors countries also matters, even though the derived effect appears somewhat smaller than found in Central Europe. This implies that an improvement in trade relationships with the EU – as envisaged by the Association Agreements – would have a positive impact on FDI patterns. The impact of the development of the manufacturing sector variable on FDI is less clear, because of the presence of multicollinearity that weakens the econometric results. According to our analysis, strategic motivations may boost foreign investors to prefer less developed sectors. This may imply that the degree of development actually got by the manufacturing sector in the MED region is not adequate to attract other firms, both domestic and foreign. A further increase in the number of foreign firms could accelerate the formation of agglomeration economies. Country risk deserves further considerations. A conducive business environment is certainly important for foreign investors, as the experience of Central and Eastern Europe demonstrates. This result is however coherent with

previous analysis. In the MED region, this is not sufficient, since economic stability must be accompanied by political stability in order to affect positively FDI inward stocks not related to natural resource exploitations. This result implies that the MED countries should concentrate their efforts on getting a higher level of “governability attractiveness” (ERF, 1999) in order to attract a higher number of foreign investments.

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Data Appendix

FDI – stock data for 1990-1997 from OECD, *International direct investment statistics yearbook*, various years.

POP – Global Development Finance & World Development Indicators, World Bank.

G – GDP growth (annual %), Global Development Finance & World Development Indicators, World Bank.

GTP – GDP per capita growth of trading Partners (weighted average by trade share), IMF: *Directions of Trade* (trade data); Global Development Finance & World Development Indicators (GDP per capita growth).

EDU – School enrollment, tertiary (% gross), Global Development Finance & World Development Indicators.

TRADE – $\frac{M_{ij} + X_{ij}}{M_j + X_j}$, where M_{ij} is the year value of imports from the i^{th} investor country to the j^{th} home country; X_{ij} is the year value of exports from the i^{th} investor country to the j^{th} home country, and M_j and X_j are the yearly total value of imports and exports in the home country (IMF, *Direction of trade statistics*, 1999).

MAN – share of GDP created by the manufacturing sector; World Bank, *World development indicators* for Mediterranean countries and OECD, *Short Economic Indicators*, for Central and Eastern Europe countries.

ORI – Operation Risk Index, Bery S.A. weighted average of the following 15 criteria (weighting in parenthesis): policy continuity (3), Attitude: foreign investors and Profits (1.5), Degree of privatisation (1.5), Monetary inflation (1.5), Balance of Payments (1.5), Bureaucratic delays (1), Economic growth (2.5), Currency convertibility (2.5), Enforceability of contracts (2.5), Labour cost, productivity (2), Professional services and Contractors (0.5), Communications and Transportation (1), Local management and partners (1), Short-term credits (2), Long term loans and Venture capital (2). ORI ranges from 0 (unacceptable business conditions) to 100 (stable environment typical of an advanced industrialised economy).

Table 6 Econometric results: all countries

variables	model 1	model 2
C	-21.71 (14.29)	
G	0.11 (5.01)	0.09 (0.73)
GTP	0.09(1.15)	0.06 (0.97)
EDU	0.28 (1.23)	2.40 (17.43)
ORI	7.27 (20.70)	2.09 (4.85)
TRADE	1.44 (15.03)	1.30 (25.25)
MAN	-0.48 (1.73)	-4.68 (13.44)
HOME	-2.49 (10.00)	-2.07 (14.49)
REG	2.61 (15.91)	
host country effects		F(13,153)=20.10
R ²	0.52	0.78
adj. R ²	0.49	0.75
SE	1.41	1
n. of observations	174	174

$$HOME = \begin{matrix} 1 & EU \\ 0 & USA \end{matrix} ?; REG = \begin{matrix} 1 & CEE \\ 0 & MED \end{matrix} ? ; \text{ t-statistic in parenthesis.}$$

Table 7: Econometric results: Central and Eastern European Countries

Variables	model 1	model 2	model 3
G	0.004 (1.32)		0.006 (2.48)
GTP	-0.37 (4.67)	-0.37 (4.64)	-0.4 (6.27)
EDU	2.56 (7.47)	2.90 (12.74)	2.80 (8.82)
ORI	4.34 (3.72)	4.35 (3.90)	7.80 (9.52)
TRADE	1.36 (3.85)	1.47 (4.83)	1.21 (4.71)
MAN	-2.41 (3.68)	-2.54 (4.31)	
HOME	-2.37 (2.38)	-2.67 (3.14)	-1.98 (2.74)
host country effects	F(7, 71)=15.38	F(7, 71)=19.79	F(7,83)=14.10
R ²	0.89	0.88	0.87
adj. R ²	0.87	0.87	0.84
SE	0.77	0.78	0.84
n. of observations	86	86	90

t-statistics in parenthesis.

Table 8 Econometric results: Mediterranean countries

Variables	model 1	model 2	model 3
G	-0.11 (1.10)		
GTP	0.93 (3.60)	0.82 (3.70)	0.84 (3.07)
EDU	2.67 (3.56)	1.77 (3.78)	2.42 (7.20)
ORI	-3.91 (3.10)	-4.61 (5.84)	-3.79 (6.37)
TRADE	0.94(4.70)	0.79 (5.25)	0.49 (4.35)
MAN	-6.18 (3.26)	-3.00 (2.72)	
HOME	-1.17 (3.09)	-0.94 (2.95)	-1.07 (4.63)
host country effects	F(4,68)=18.18	F(5,76)=13.14	F(7,111)=6.88
R ²	0.7	0.69	0.69
adj. R ²	0.65	0.64	0.65
SE	0.99	1.02	1.08
n. of observations	80	88	114

t-statistics in parenthesis.

Table 9 Additional econometric results: home country effects

Variables	CEE	Med region
G	0.006 (2.15)	-0.04 (0.80)
GTP	-0.31 (3.16)	1.73 (5.91)
EDU	2.78 (6.65)	2.61 (3.88)
ORI	6.60 (6.38)	-5.93 (7.15)
TRADE	1.21 (4.21)	0.54 (1.33)
MAN		-4.99 (3.66)
HOME	-7.94 (1.72)	-16.96 (5.49)
G*HOME	-0.001 (0.18)	-0.13 (0.77)
GTP*HOME	0.07 (0.45)	-1.4 (4.70)
EDU*HOME	-0.19 (0.39)	-0.36 (0.43)
ORI*HOME	1.72 (1.67)	5.70 (6.30)
TRADE*HOME	-0.31 (0.76)	-2.03 (1.32)
host country effects	F(7,71)=9.10	F(4,62)=19.63
R ²	0.87	0.79
adj. R ²	0.83	0.73
SE	0.88	0.88
n. of observations	90	80

$HOME = \begin{matrix} 1 & EU \\ 0 & USA \end{matrix}$. Consequently, USA coefficients are those of the explanatory

variables, while EU coefficients are those of the explanatory variables plus the differential slope coefficients, i.e. those of the multiplicative dummies, provided that they are statistically significant. (Gujarati, 1995). t-statistics in parenthesis.