

## **Abstract**

### **1. Introduction**

Internationalization of Multinational Enterprises (MNEs) is unanimously acknowledged the most distinctive manifestation of globalization. It comes as no surprise then the fact that there is a large body of studies exploring the determinants of FDI activities, yet, most of them are concentrated on inward FDI. Nevertheless, there is an on-going growing interest in understanding the push factors of outward FDI but empirical evidence thus far is dominated by macro level analyses, mainly due to data availability. The present work deviates from the bulk of existing work by using firm level data including the total population of Greek MNEs that invest all over the world, thus contributing to the related literature with more accurate results and sector-based analysis.

Greece emerged as a key FDI player with the opening of borders in Central-Eastern and South-eastern European countries in early 1990s (Bastian, 2004; Demos, Filippaios, & Papanastassiou, 2004; Kekic, 2005) and has, since then, expanded operations abroad even to more distant countries. It is illustrative to mention that Greek firms operate subsidiaries in xxxxx countries including xxxxx This wave of internationalization is driven by the ownership advantages that Greek firms have developed jointly with particular location advantages of host markets that provide the opportunities for profitable activities, hence allowing for substantial advantage from abroad (Dunning & Lundan, 1998).

In this paper we build on Dunning's eclectic paradigm to better understand the internationalization motives of Greek MNEs taking into account both ownership and location advantages, placing particular emphasis on the role of taxation as a significantly interesting, yet neglected within this context factor for Greek investors as well as the institutional environment and local embeddedness.

Analysing determinants in terms of governmental policies regarding FDI, corporate taxes emerge as an instrument with the most immediate effects. Arguably, the use of this instrument to attract FDI may explain why along the last decades corporate tax rates have

significantly declined around the world. There is a clear notion that countries have lowered their corporate tax rates in response to increasing capital market integration. Tax facilities tend to distort the investment playing field and do not necessarily tackle the roots of the attractiveness issues in many developing countries. Tax friendly environments allow MNEs to shift profits out of high tax jurisdictions into low tax jurisdictions, most commonly via transfer pricing (Eden, 2009).

At the same time, embeddedness in the local environment, i.e. pre-existing presence of MNEs is an important source of local knowledge for foreign investors who have a high degree of outsidership in the local context. This knowledge is tacit and it involves sensitive cultural and institutional aspects of the host economy (Miller et al., 2008). Investors with a high degree of outsidership in the local context are likely to find it difficult to develop trust with local business partners (Tsui-Auch & Möllering, 2010), hence might be more prone to rely on their own previously established familiarity with the local territory.

It is well understood that firms entering a new market must adapt their overall strategies to environmental conditions in the host country (Hymer 1976, Kindleberger 1969). As a result, investors prefer locations where the institutional framework facilitates the development of their firm-specific advantages, thus creating new challenges for both multinationals and public policy (Rugman & Verbeke, 2001).

This paper contributes to the literature in several ways. Firstly, it uses an eleven years (2000 to 2010) firm-level dataset consisting of the total population of Greek MNEs from all sectors that invest abroad which is further enriched with other firm-specific factors and country level data, developing a unique database which allows for more accurate and conclusive results. This contrasts with the majority of studies in the literature that use national aggregate statistics. Besides that, the analysed period is rather interesting, including a high period of Greek firms' expansion (prior to economic crisis and distortions that this has caused). Secondly, this paper evaluates both firm level and host country determinants to evaluate their relative significance in outward FDI placing particular emphasis on embeddedness, institutional quality and taxation, three particular aspects of ownership and locational advantages. Thirdly, it examines and finds significant evidence of complementarities and substitutabilities among the above three variables in order to better understand Greek investors' motives. These effects fall within a dynamic OLI context and capture the interplay between ownership and location advantages (Cantwell & Narula, 2001). Finally, it analyses the response of firms' invested capital based on various activity sectors.

## 2. Theoretical framework

Dunning's eclectic paradigm (1981) provides a holistic approach to the study of MNEs activities abroad by integrating Ownership, Location, and Internalization advantages (OLI). The OLI framework combines the competitive advantages of firms and the comparative advantage of nations in order to explain production and subsequent growth of MNE activities (Dunning & Robson, 1987, p. 1; Estrella Tolentino, 2001, p. 191). Though highly criticised<sup>1</sup> for its limited ability to identify the behaviour of particular enterprises due its generality, it is still the most influential context that facilitates specific questions posed by theorists (Cantwell & Narula, 2001).

The eclectic paradigm asserts that any engagement in international production depends on three basic groups of advantages, namely ownership, location and internalization advantages (Dunning, 1981, 1998; Narula and Dunning, 2000), where the first letters stand for the acronyms of the OLI framework. Ownership advantages are those firm specific advantages that a company may possess that allows for profitable foreign activities abroad, hence it gives us the intuition why some firms become international and others don't. Location advantages focus on the particular host country characteristics that are attractive to foreign investors, thus, given their ownership advantages, firms choose among alternative locations. Finally, internalization advantages influence how a firm chooses to operate in a foreign country, choosing among an array of entry modes such as FDI, exports, licensing, or joint venture. A key feature of this approach is that it focuses on the incentives facing individual firms. The majority of empirical papers using the eclectic paradigm address only location advantages due to ownership data scarcity. Even so, the location advantages put forward by Dunning have been criticised as being randomly selected (Dunning, 2001, p. 177). Yet, all variables of interest can be justified by economic or organisational theory (Dunning, 2001, p. 177).

Given the generality of the OLI paradigm, Soian and Filippaios (2008) assert that it should rather be seen as context specific, since its configuration is likely to vary across firms, regions or countries, industries or value-added activities. Furthermore, its applicability is likely to depend on the motivations for FDI (Dunning, 2001, p. 176). We adopt this notion here and we therefore set up our OLI formulation within the context of Greek MNEs. Indeed, Stoian and Filippaios (2008) is the first study that examines the Greek firms' decision to

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<sup>1</sup> Dunning has acknowledged the frameworks limitations however these are beyond our study's scope here. For some of the criticisms one may see ..... Cantwell & Narula, 2001; Dunning, 2001; Dunning, Pak, & Beldona, 2007; Estrella Tolentino, 2001. (Dunning, 1988a, 1988b, p. 1; Dunning, 2001, p. 176).

expand abroad through FDI within this context specific framework. Their work though decomposes institutions into its various attributes in order to assess the relative significance of each one. While we are also interested in the institutional quality as an L factor, our motivation and emphasis is totally different.

Dunning and Lundan (2008) extended the determinants of FDI in terms of locational components of OLI by underlining the growing impact, brought about by the agglomeration, on the location of an MNC. They argued that there are three types of factors that influence the MNC's location choice: 'endowment effects' which mainly refer to the presence of natural resources or strong low-cost labour force; 'agglomeration effects' which emphasize the 'self-reinforcing tendency' or Myrdal's 'circular causation' (Krugman 1991, Fujita and Thisse 2002), and, finally, policy-induced effects' which indicate the impacts on location which are generated by policy intervention and institutions.

We basically build upon this latter extension, adding to the empirical understanding of firms' internationalization by incorporating agglomeration and institutional effects while, at the same time, we try to account for their relative significance and interaction in firms' decision to invest. Indeed, agglomeration economies have been recognized by different strands in the literature as an important aspect of firm location choices. The new economic geography holds a prominent role among them (Krugman, 1991; Cantwell and Iammarino, 2000). Agglomeration economies emerge when economic units, with common characteristics, collect near each other due to the presence of such factors as knowledge spillovers, specialized-labour markets, supplier networks, etc (Fujita, Krugman and Venables, 1999, Maskell and Malmberg, 1999 and Storper, 1997). Furthermore, agglomeration plays an important role in providing knowledge externalities, complementary firms and business or social network. Thus, agglomeration economies induce a 'self-reinforcing phenomenon' (Head and Ries, 1996). While the related literature has extensively discussed industry agglomeration (e.g., Head & Ries, 1996; Wei et al. 1999), research on country-of-origin agglomeration is scarce (e.g., Chung & Song, 2004; Shaver & Flyer, 2000). Even more scarce is the evidence regarding agglomeration effects arising from the embeddedness of firms into local markets and how this embeddedness enhances or not subsequent investments. We address this issue here demonstrating the extreme significance of established ties of various forms with a local market. We argue that embeddedness is an important source of local knowledge for foreign investors who have a high degree of outsidership in the local context. This knowledge often concerns sensitive cultural and institutional aspects of the host economy and is typically tacit (Dhanaraj, Lyles, Steensma & Tihanyi, 2004; Miller et al.,

2008; Tung, 1998). As investors with a high degree of outsidership in the local context are likely to find it difficult to develop trust with local business partners (Tsui-Auch & Möllering, 2010), we expect them to be more likely to tap into already own established networks. In this context, we view agglomeration as embeddedness in a location that provides membership in a 'club' of complex relationships with suppliers, customers, and knowledge infrastructure through formal and informal institutions. These are 'goods' associated with the networks that are only available to those already present in the market and are thought of as quasi-public goods, which firms located there have invested in to acquire knowledge of these institutions (Narula & Santangelo, 2009). At the same time, such agglomeration may be viewed as a particular transaction-type O advantage (Ot). Narula and Santangelo (2011) discriminate between the O advantages of a firm, where the Ot advantages may include, among others, the knowledge of institutions, because familiarity of institutions plays an important part in reducing the coordination costs, shirking costs and other transaction costs (Narula 2010; Santangelo and Meyer 2011). Embeddedness takes time to achieve because the knowledge of institutions takes time to acquire (Narula, 2013).

The above mentioned institutional effects are highly relevant in the third element of Dunning and Lundan (2008) who incorporate policy-induced effects as the outcome of policy intervention and institutions. We are mostly interested here in the institutional context of potential investment locations that affects investors' decision making process. It is well understood that firms entering a new market must adapt their overall strategies to environmental conditions in the host country (Hymer 1976, Kindleberger 1969). In this study we assume that MNEs transfer their improved ownership advantages and their respective ability to deal with several institutional challenges in specific host countries in order to operate in those different host economies. Institutions 'represent the major immobile factors in a globalised market' (Mudambi and Navarra, 2002: p. 636). For potential investors, the incentives and restrictions created by institutions 'shift the playing field favouring some deals and opportunities while discouraging others' (Mudambi and Navarra, 2002: p.636). Consequently, firms act strategically about how to avoid the limits imposed by domestic laws as well as how to reap the benefits that the law and particular circumstances are capable of providing' (Spar, 2001).

Apart from the extensions of Dunning and Lundan (2008) we are trying to encapsulate here, we place emphasis on another significant, yet neglected within the eclectic paradigm L factor, that of corporate taxation. The literature on taxation and FDI is not new, it goes back to

Hartman (1984). He explains the aggregate inflow of direct investment in the United States as a ratio of GNP ( $K/Y$ ) between 1965 – 1979 with a growing literature since then<sup>2</sup>. Slemrod (1990), using effective tax rates, concludes that corporate taxes do in fact repel FDI in general and, particularly, the FDI based on the transfer of funds. Slemrod adds that, regarding the parent country's system of dealing with double taxation (exemption or credit), there is no evidence that it is a relevant determinant of FDI. These two papers were part of a first body of literature, devoted to the study of inward FDI in the US using aggregate data, which has its limitations<sup>3</sup>. In particular, aggregate data on FDI include investments such as mergers and acquisitions (M&A) that involve an ownership decision and are hardly a real investments. Auerbach and Hassett (1993) argue that real and financial investments may be differently affected by taxes. Though the literature on the effect of taxation is abundant, it is scarcely investigated within the OLI context. In order to conceptualise the role that tax havens play in IB activity one might be led to take a similar approach to that taken by [Oxelheim et al. \(2001\)](#). In this sense, international expansion (i.e. the use of tax haven subsidiaries) is based on the ability of MNEs to leverage their own finance-related ownership, locational and internalisation advantages. For example, the O advantage of a financial blueprint to avoid corporate income tax is strongly linked with it being internalised by the firm. In addition, the host country location advantage of a tax friendly environment, i.e. low corporate taxes and secrecy, can plausibly be transformed into an O. The host-country corporate tax rate contributes to determine the comparative location advantage that it can offer to international investors relative to other destination countries. More generally, corporate taxation and the tax treatment of foreign corporate income are likely to affect the wedge between the pre-tax and post-tax rates of return on FDI. Reinvested earnings constitute an important aspect of FDI that may be largely affected by corporate taxation. This is because reinvested earnings can only happen, after a profitable FDI has been effectuated. Profits that are re-distributed to the source country of FDI are most likely to be taxed domestically. We therefore predict that the likelihood of re-investing profits abroad should increase if host countries offer attractive tax rates. In the case of Greece, the tax system is of particular relevance given the continuously changing regimes at home which, beyond the fact that it affects the FDI returns, it creates uncertainty, thus, inability of investors to predict their returns. In this paper, we even go a step further and explore the role of corporate taxation as a particular L advantage

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<sup>2</sup> For an extensive survey see, for example, de Mooij and Ederveen (2003).

<sup>3</sup> For more recent works studying the relation between the decline in tax rates and the increasing capital market integration ending up investigating if countries compete over corporate tax rates see Haufler and Wooton, 1999; Devereux et al., 2008; Karkalakos and Makris, 2008; Overesch and Rincke, 2009).

relative to the overall institutional quality of potential host countries and agglomeration/embeddedness of firms locally.

### **3. Variables and model formulation**

In this paper, we test the joint significance of ownership and location advantage in determining the decision of internalisation by the total population of Greek investors. To set the OLI in a specific context, we account for the different sectors and countries where Greek companies have internationalised, as well as for the time period when investments have been made. Having a quite long time span of eleven years during the last decade, we are able to detect whether the presence of Greek investors in particular locations affects their subsequent investments by developing further their ownership advantage locally given host characteristics.

Here we use three subsets of the several variables proposed by the eclectic framework, but at the same time the most representatives for multinational firms' motives (Dunning, 1993a, 1993b). We therefore use both ownership and location advantages to identify the motives of Greek MNEs. The dependent variable measures the total capital invested by each parent firm abroad, either to a new affiliate or established ones. One set of our explanatory variables includes firm-specific variables encapsulating the O advantages of parent firms shifting the interest to the Ot advantage captured agglomeration/embeddedness as tacit knowledge of formal and informal institutional contexts that we discussed above. The second set of explanatory variables explores the L advantages where the focus is placed on corporate taxation and institutional quality.

#### **3.1. O-advantages**

Ownership advantages compensate investors for the additional costs associated with setting up and operating abroad (Dunning, 1988a, 1988b, p. 2). We use the logarithm of total assets to account for 'Size', short-term and long-term debt over own capital as a measure of 'Leverage' and the gross profit margin to account for 'Efficiency'. Of course, we also include the Ot advantage variable, the agglomeration/embeddedness as a key variable to assert its relative significance.

Size is an obvious 'transaction cost minimising 'O' advantage' (Dunning, 1993a, 1993b, p. 81) and tends to favour multinationality (Buckley & Pearce, 1979; Grubaugh, 1987; Horst, 1972; Juhl, 1979). Larger firms are found to be more prone to go international mainly



because they possess the necessary resources to do so or it may be easier for them to secure the necessary resources, something which smaller firms find difficulty in. According to theory predictions and prior empirical evidence, we expect that the larger the firms, the more their international investments.

Multinationals usually are in a better position to raise capital, either domestically or internationally. This leads to financial assets advantages which reinforce multinationality (Dunning, 1993a, 1993b, p. 162). However, the investment decisions of MNEs may be restricted by creditors if the targeted country is perceived as too risky. These firms have different capabilities when raising capital and thus we expect that a higher level of leverage might have an ambiguous effect on FDI decision.

The gross profit margin is a widely acknowledged indicator that can capture a firm's efficiency. It indicates the operational effectiveness of a firm as well as its price policy. A high share indicates the management capabilities and competencies to acquire cheap resources while selling in high prices. In this sense, the higher the gross profit margin the more efficiently can firms organize their resources necessary for foreign activities (Cantwell & Sanna-Randaccio, 1993). Therefore, we expect a positive effect of the gross profit margin on firms' international investments.

Last but most importantly, we incorporate the number of already established affiliates in each particular location by the parent MNE as a particular O<sub>t</sub> advantage capturing the familiarity of institutions that helps reduce coordination costs, shirking costs and other transaction costs.

### 3.2. L-advantages

The second set of factors within the OLI that this paper examines captures host characteristics. Within the traditional spectrum of locational advantages, we are mostly interested in the role of corporate taxation, a highly neglected L factor in the eclectic paradigm, and institutional quality. The role of taxation ('TAXATION') is captured via the corporate tax rate host nations bearing in mind that corporate taxation in Greece is a long lasting open wound.

Pournarakis and Varsakelis (2004) find that institutions alone do not contribute substantially to explaining the cross-country variation of FDI-inflows. We take that argument further by demonstrating that local institutional quality may interact with other elements and affects differently international investment. As a result, investors prefer locations where the institutional framework facilitates the development of their firm-specific advantages, thus



creating new challenges for both multinationals and public policy (Rugman & Verbeke, 2001).

In our model, we use the overall institutional quality ('Institutions') as a measure. The index of economic freedom is published annually by the Heritage Institute and Wall Street Journal. It measures the degree of economic freedom of countries based on ten quantitative and qualitative factors which are weighted equally (freedom of corruption, property rights freedom, financial freedom, trade freedom, business freedom, fiscal freedom, monetary freedom, plus the government size). Each of the ten economic freedoms within these categories is graded on a scale of 0 to 100. A country's overall score is derived by averaging these ten economic freedoms, with equal weight being given to each. More information on the grading and methodology can be found in the appendix. We therefore use the overall score in order to capture all aspects of institutions<sup>4</sup>.

### 3.3. Traditional L-variables

While our emphasis is placed on corporate taxation and institutional quality in the L spectrum, we need to also include economic factors that are widely accepted to affect FDI activities. The market size ('MARKET') is consistent with Dunning's (1993a, 1993b) typology of FDI motivations. The direct relationships between a country's market size and FDI is the most widely tested hypothesis in previous studies of FDI determinants (Barrell & Pain, 1997, 1999; Bevan & Estrin, 2004; Bevan et al., 2004; Culem, 1988; Wheeler & Mody, 1992). Market seeking investors are attracted by high levels of GDP of the host country. Furthermore, larger host markets are more appealing to potential investors as economies of scale are more likely to be captured in local production (Amiti, 1998; Krugman, 1979). The openness of an economy ('OPENESS') is defined as a share of total trade over the total country's GDP and describes the competitiveness position of country in terms of international trade and exposure. High level of competitiveness accompanied by price advantages can attract FDI aiming at wider markets than the host country itself. On top of that, the degree of openness to trade could also measure the national regulatory and control environment of the host countries (Li and Guisinger, 1992).

Foreign investors generally aim to take advantage of host countries' cheaper factor inputs (Dunning 1988, 1998), and the cost of labour is often considered negatively related to FDI inflows. Foreign production is more likely when production costs are lower abroad than at

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<sup>4</sup> Recent works detecting a significant effect of institutional quality on FDI belong to Bloningen (2005), Bénassy-Quéré et al (2007), Gani (2007), Stoian and Filippaios (2008).

home, especially for efficiency-seeking FDI. However, if higher labour cost is related to higher labour quality (and so to higher productivity), that is to say, labour costs reflect the availability of skilled workers in the region, acting as a proxy for qualifications and skills, then labour costs would have a positive correlation with FDI; it is especially true for the knowledge-intensive FDI. Wang and Swain (1995) point out that nominal wage differences may not induce FDI if labour productivity is very low. Countries or regions with low labour productivity coupled with relatively cheap labour may attract less FDI than those with higher labour productivity and more costly labour even when FDI is motivated by efficiency-seeking. The empirical relationship between labour cost and FDI inflows is not conclusive. We hereby include the average wage prevalent at host countries ('WAGES').

The interest rate ('INTRATE') is the rate which is charged or paid for the use of money or more precisely the cost of borrowing. According to Gross and Trevino (1996) a relatively high interest rate in a host country has a positive impact on inward FDI. However the direction of the impact could be in a reverse if the foreign investors depend on host countries capital market for raising FDI fund. The researcher has used prime lending rates because investors are lenders and borrowers. We use the lending rate of the host country to capture its potential effect on Greek foreign investors.

An overview of all variables is presented in [Table 1](#), together with the relevant sources of information.

#### **4. Sample description and methodology**

Our analysis is based on data derived from a database maintained by the department of statistics of the Bank of Greece. The data are derived from an annual census survey which is applied on the total of Greek firms which possess equity capital of 10% or more on foreign firms. The data disposed by the Bank of Greece include the identity and the sector of the parent firm. This is the first time that this data comes to light for research purposes, thus allowing us to obtain some robust results. This is a main contribution of the present work since no study to date has explored the total or at least the majority of Greek MNEs while it provides assurance of the validity of the data.

We combined the data of the Bank of Greece with data from the balance sheets of the parent firms in Greece in order to include firm specific attributes and sector grouping. Further, we advanced the database with locational characteristics of the host countries where the parent firms invest. Consequently, we ended up with a unique database consisting of three different data subsets, allowing for a thorough and robust investigation of the internationalization pattern of Greek investors at the firm level.

Our sample enables for a sector-based analysis to be taken. We first test for the whole population which includes all sectors described below in table 1<sup>5</sup>. Yet, one may criticize this on the ground that telecommunications and the financial sector may behave totally differently, so we excluded these two sectors from our sample. Then, since manufacturing constitutes a large share in the total sample, we proceeded in estimating our models for this in order to check for sector specific effects and we did the same thing for the trading sector. Thus, we are able to detect specific attributes and understand the pattern of the entire population but also the pattern of the two sectors with the highest MNE activity.

Sectors were grouped under 8 categories as shown on the following table.

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<sup>5</sup> Though the total sample consists of 5196 parent firms, our total sample in estimations is restricted to half of them. This is due to rest of the variables we incorporated, both variables from the balance sheets and variables regarding the host countries. Given the dispersion of host countries and time span of our firms' sample, we inevitably ended up with some missing values. Yet, even half of them can closely represent the entire population and are far more than similar studies in the field.

Table 1. The pattern of Greek MNEs by sector.

<b>Sector grouping</b>			
<b>Grouped sector</b>	<b>N</b>	<b>Original sector</b>	<b>N</b>
Primary sector	307	Agriculture, livestock, hunting, forestry, fishing.	53
		Mining and quarrying except from oil and gas	254
Industry-manufacturing	2262	Food, beverages and tobacco	528
		Textiles, clothes and leather products	255
		Wood and paper products, publications and printing	161
		Production of coke, oil refinery and nuclear fuel	29
		Production of chemicals	155
		Medicines, chemical and herbal products	28
		Production of rubber and plastic products	323
		Production of primary metals and metallic products	540
		Production of machinery and equipment	57
		Production of electric machines and computers	34
		Production of vehicles	27
		Other industries	125
		Constructions	254
Trade	704	Trade and repair of vehicles	86
		Wholesale trade	432
		Retail trade	186
Telecommunications	157	Telecommunications	31
Transports	82	Road and pipeline transports	2
		Sea transports	37
		Air transports	10
		Couriers	33
Financial institutions	822	Banks	157
		Other financial intermediates	428
		Holding companies	4
		Insurance and pension funds (except from required social security)	313
		Life insurances	19
		Activities relating to insurances and insurance funds	24
Consulting and other services	463	Hotels and restaurants	34
		Information technology and related activities	190
		Consulting and management (holding companies included)	92
		Advertising	19
		Health and social work	31
		Entertainment, cultural and athletic activities	5
		Cinema, radio, television and other entertainment activities	6
		Other services	64
		Non classified	25
Missing	145		149
Total	5196		5196

## 5. Empirical findings

Table 2 demonstrates our empirical results based on the model formulation discussed earlier. We should stress in this point that our primary interest lies with 3 particular variables; agglomeration/embeddedness which represents an O<sub>t</sub> advantage among the other O advantages, taxation, which has largely been neglected in OLI empirical frameworks and institutional quality, a significant by theoretical and empirical assessment L factor. Beyond their direct impact, we are interested in their interactions and how they may jointly affect Greek MNEs activities abroad.

Our sample enables us to discriminate among sectors hence we are able to make inferences not only for the total sample but various sub samples. Columns 1-4 include results for the baseline model without any interaction terms.

Indeed, among the ownership advantages, embeddedness is consistently statistically significant irrespective of sample and subsamples proving the highly important role Greek investors assign to creating links with domestic markets and tap into local milieus. Our second variable of interest, taxation, is again constantly and very significant in all samples. This should come as no surprise given that corporate taxation affects the after tax earnings of firms. Thus, the evidence confirms our claim that corporate taxation should not be neglected in empirical studies but should instead be among the key variables especially for firms coming from particular environments with unfriendly tax incentives. Finally, regarding our third key variable, institutional quality emerges as particularly significant in the majority of cases with the trading sector being the only exception. This may be due to the particular nature of the sector relying more on other aspects of domestic market.

Regarding the rest of our variables, there are quite some differentials among various sub groups. While for the entire sample all other O variables seem to affect real investments, this is not the case in the rest of the samples. The size of the parent is important for the population and the manufacturing sector. Leverage is significant for the entire population even after excluding telecommunications and the financial sector and so does efficiency. Apparently, these firm specific O advantages do not seem to matter for the manufacturing or the trade sector. Turning to the L factors, the market size, interest rate and the openness of domestic markets are constantly significant. The interest rate affects positively and significantly Greek investments abroad, obviously seeking for higher returns.

Our interesting results do not stop here. Columns 5-8 include the interaction term between the embeddedness of firms and local institutional environment, given that embeddedness in a locality captures an ownership advantage that a parent has already built and includes links

and accumulated knowledge with formal and informal institutions. This advantage may be further developed by the existing institutional framework, thus creating spillover effect between the host and the firm. In all our samples we obtain significant results. There is an important differentiation though here. In 3 samples we get a positive, i.e., reinforcing effect, while in the manufacturing sector the joint effect is negative. Is this some kind of inconsistency? Rather not, since it reveals a differing attitude of the manufacturing firms. That is to say, the negative effect implies that the higher the quality of the institutional framework of a country, the less firms rely on pre-existing ties or the higher the embeddedness in the local market, the less important the institutional framework. The above is evidence of a substitutable effect between the two. In other words, for manufacturing firms both embeddedness and institutions matter, but they could potentially ignore the one if the second factor is very strong. So, manufacturing firms could even invest in even not very good institutional places if they are strongly embedded in that market, i.e. if they already have created their informal institutions. The opposite holds for the rest of the firms. The effect in these other three samples is positively significant demonstrating a reinforcing impact of the two. It thus appears that the better the institutions the most important embeddedness is for their investments or the more embedded the firms, the more important the institutions. Here we have a complementary effect where it becomes apparent that there is an interaction between the ownership advantage of the firms and the local environment.

Columns 9-12 investigate the potential joint effect of institutions with taxation. This effect is not present in the manufacturing or the trade sector though the direct effects of the isolated variables are maintained. The picture is different though for the rest of the firms even when we exclude telecommunications and the financial sector. We obtain a negative and highly significant result, indicating a complementarity effect of those factors. The better the institutional environment the more important it is for Greek investors to invest in lower taxation destinations or the lower the corporate tax rate the more important the institutional quality. This latter result implies that taxation policy, actually, is perceived by Greek investors as part of the overall institutional context of a host nation.

## **6. Concluding remarks**

Dunning (2004a, 2004b, 2004c) who discusses extensively the role of institutional infrastructure in upgrading the pull factors determining the competitive advantages of countries and regions, while empirical evidence suggests that managers should investigate carefully the institutional environment of the country before deciding to internationalise

(Trevino & Mixon, 2004, p. 241). At the same time, Dunning and Lundan (2008) discriminated among three major categories of motives within the OLI paradigm talking about policy induced effects stemming from policy and institutions, thus reinforcing previous work on institutions and stressing the growing role of agglomeration economies.

The purpose of the present work is to investigate Dunning's eclectic paradigm using the classification of Dunning and Lundan (2008), thus placing emphasis on institutional quality and agglomeration effects, though we deviate from the mainstream literature and view agglomeration as the embeddedness of firms in the local environment. Simultaneously, we focus on a highly significant for particular firms yet neglected L factor within the eclectic framework, that of corporate taxation.

Our model not only captures firm-specific ownership advantages and locational economic advantages but also advances the discussion to complementarities and substitutabilities of ownership and locational factors. Our results show that Greek firms' embeddedness is a highly significant Ot determinant, even more than traditional and well evidenced O advantages. Institutional quality also emerges as constantly significant for initial and subsequent investments and so does corporate taxation. We find evidence of a substitutable effect between embeddedness and institutions for the manufacturing sector and a complementarity one for the rest of the sectors and a complementarity effect of corporate taxation and institutions except for manufacturing and trade. This latter result implies that taxation is mainly viewed by the managers of the majority of the sectors as a significant part of the overall institutional framework.

Several limitations must be noted for this study, leading to avenues of further investigation. First, the period of time can be expanded to include the post crisis years of 2011 to date in order to detect potential differentiation in managers' attitudes. This is not easy since the data is not publicly available and held by the Bank of Greece. Secondly, it would be helpful to include other firm specific variables such as scientific, technical and other personnel of firms, their R&D activity and networks they may have developed, but, again, the questionnaire collected by the Bank of Greece does not include such information, hence we wouldn't be able have neither the most accurate data that the Bank of Greece has nor the entire population of MNEs. Researchers are really constrained by the availability of reliable data sources and this is the case for variables measuring the unit labour costs or the existence of properly organised trade unions.



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