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**The Role of Regional and Local Incentives on the Location
of Foreign Firms in Portugal**

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ABSTRACT

Foreign direct investment is an issue of paramount importance in the Portuguese economy from the eighties onwards, especially ever since Portugal became an European Community member state. Nevertheless, little emphasis has been put on the role of the local and regional incentives (for example, financial incentives) to launch business and investment throughout the Portuguese territory.

This paper seeks to shed light upon the above issue. Information has been gathered through interviews. Thirty seven foreign firms have been randomly selected from a representative sample. The results will be shown in this paper.

INTRODUCTION

Regional policy, in its broad sense, and regional incentives to investment, in particular, seem to be a pivotal issue whilst being a rather controversial one. On one hand, this controversy springs from the opposition between different streams of opinion of the economic thought on the ability to correct regional growth disparities which the market unequivocally unveils; on the other hand, the difficulty to assess and control for the effects produced by the political tools designed by public policy makers.

In addition, while handling the foreign firm matters, the analysis has been focusing upon the established competition among countries for its location. Research therefore fails to materialise an accurate diagnosis of the role of financial and fiscal incentives to launch investment on a regional and local level. As for the efficacy of those policies, there seems to remain a considerable concern seeking to discriminate among dislocated firms, usually those of large and medium size and local firms. However, and considering the firms' strategy, there is evidence showing that the nature of domestic and foreign capital (considering the national perspective) is an element of some importance, which seems to justify and shed light upon the specific approach of the international firms.

Once the methodology has been explained and the sample selected, the results will be discussed at length in the latter part of this paper.

1. INCENTIVES AND INDUSTRIAL LOCATION: A FEW REMARKS

Although it cannot be denied that incentives (financial, fiscal, for example) to investment, whilst countries perceive to become more attractive, seem to play a role of pivotal importance at the international level (Dunning, 1973; Hood and Truijens, 1993), the same does not happen at the regional level. In this manner, it can be said

that this happens due to the existence of several successive levels or standards which characterise the decision making process when the foreign firm is set up, each time perceiving different location objectives and factors (Dupuy and Savary, 1987). Another rather significant aspect which could be brought into consideration is the investors' perception while considering the horizon of opportunity that he/she is about to be gifted with, increasingly "cloudy" as the territorial/spatial scale decreases.

One way or another, such reasoning leads the researcher to contemplate and sort out the opposing dilemma of sufficient location *versus* optimal location, which is emphasised by strong psychological polarisation elements. As a matter of fact, the configuration of scale and external advantage, between certain urban areas of the countries are not as intense as formerly expected.

In light of this, while some authors defend that incentives somehow "push" the foreign investor to most disadvantageous regions (Yannopoulos and Dunning, 1976; O'Farrell, 1980; Hill and Munday, 1992; Collins and Noon, 1994), there can be traced others (Blackbourn, 1978, Semple, 1987; Young, Hood and Hamill, 1988) who seem to materialise less optimistic views. Indeed, the latter ones consider that this is the most necessary instrument of regional policy; nonetheless it is far from being enough. Furthermore, Polése (1993, p. 198) expresses a more concise view when approaching the worthiness of those policies of incentives to investment. He claims that those political instruments are not as successful as expected due to the fact that the cost associated with distance and the profits stemming from globalisation are underestimated. As far as he is concerned, the subsidies awarded should be understood as an attempt to make up for (compensate) a "bad" location investment. Given that the subsidies seem to play a secondary role in the firm location, the decision making process would most certainly contemplate the "real" and lasting advantages of the location rather than the available amount of incentives (Polése, 1993, pp. 198/9).

The above argument is rather strong. And it is as strong as the effects produced by the incentives to investment on the decision towards firm's location varies in its extent, of sectorial reasoning and markets, and the unequivocal assessment of the policies' efficacy is difficult. At the extreme, however, the statement produced by Polése might be understood as an attempt to consider the regional policy as a completely ineffective tool, at least that one which expresses itself through the offering of fiscal and financial incentives, which fails to be compatible with some empirical evidence. For example, Armstrong and Taylor (1993), when reporting the paradigmatic case of the United Kingdom, provide a rather expressive insight on the creation of direct employment by the foreign firms, in various areas, between 1981 and 1990. They seem to be rather surprised at the extent of this phenomenon in what refers to the Japanese investment case (Armstrong and Taylor, 1993, p. 345).

The controversial arguments express a well-known opposition between liberals and interventionists and which confronts the pre-eminence of the market, held responsible for the correction of regional disparities by the former ones, with the sceptical attitude of the latter ones, whom tenaciously defend the auto-correcting potentialities of the market mechanisms, and, therefore, insist upon the need of public intervention so as to focus on the exploitation of the local resources and the growth of those regions, which have slacken their own development.

Although they express a pessimistic view of the correcting efficacy of the markets, the authors, whom defend the design of active policies regarding the planning of economic activities, are not necessarily blindfold to the evidence of the relative inefficacy of multiple situations. Yet, they understand that the regional policy effectiveness rests upon an integrating convergence; that is, an integrating approach of the sectorial policies which do not neglect the macro-policies' regional effects (Temple, 1994; Armstrong and Taylor, 1993).

This will be the framework which backs up the current regional policy debate. It ascertains to approach the recent Portuguese policy to launch foreign industrial investment. The empirical analysis relies upon a questionnaire as it allows for the discrimination, alternatively, of those factors which interfere in the firm's location. It also permits to determine their importance in the decision making process, whilst pursuing objectivity and acuity by questioning those whom have been responsible for the decision making process.

2. METHODOLOGY

2.1 – Data

Data has been collected on the basis of an interview to the person responsible for the location decision making process. The interview, based upon a structured questionnaire, took place in the selected foreign firm. Whenever the owner was unavailable, the functional representatives, whom had a considerable knowledge of the location decision making process were interviewed.

The interviews have commenced in January and ended up in June, 1996.

2.2 – Sample

All those firms, which integrate the sample, have been set up in between 1990 – 1994. This time constraint seems to facilitate responses and helps to control for those factors which were most decisive for the location process.

Seventy firms were previously contacted, but only thirty seven have agreed to respond personally to the questionnaire.

All the sample units comprised in the firms' universe have been identified at random whilst pondering the relative importance of each district.

As for the firms' distribution during the period under analysis, it should be pointed out that the years 1990 and 1991 seem to represent more than 50% of the sample. This finds explanation in the fact that the flows of Foreign Direct Investment have reached higher absolute and percentual values.

The number of manufacturing firms which have been interviewed is most relevant during the first years of the period, while the distribution firms, except for 1990, are represented by one single firm in each year. The joint ventures can only be traced in the last two years and they seem to anticipate new ways of Foreign Direct Investment in Portugal.

Regarding the sectorial ventilation of the sample, it should be stressed that all the manufacturing industry activities are represented. The textiles, apparel and footwear comprise 32,4% of the sample, followed by the manufacturing of metallic products and machines with a share of 27% and the chemicals, plastic and rubber products with 21,6%. The other sub-sectors within the manufacturing industry, except for food, drinks and tobacco (5,4%), are represented by one single firm (2,7%).

If an analysis of the sample focusing upon the firm's nationality is attempted, it must be underlined that within the EU Germany has the largest share (32,4%), there follows Spain (16,2%), France and Italy (8,1%) and the United Kingdom (5,4%). Sweden, The Netherlands, Finland and Austria are represented by one sole firm. It seems worth mentioning that thirty european firms were interviewed, which represents a share of 80% of the whole sample.

Japan represents 5,4% which implies the perspective of the major world investor; the USA, being the oldest portuguese investor, represents 2,7% of the sample; Switzerland, as member of the EFTA, represents 5,4%; Malasia and Brazil represent 2,7%, respectively representing the Asian continent and Latin-America.

In what refers to the firms' size as measured by its volume of employment, there can be found an equilibrium. However we should focus upon and put into

evidence two sizes (between 10 and 100 employees) in which they correspond to 60% of the firms.

3. POLICY OF INCENTIVES TO INVESTMENT AND THE FOREIGN FIRM BEHAVIOUR.

Whilst launching their competitiveness to attract foreign investment, governments usually design an industrial policy whose corner stone are the incentives. They explain this attitude claiming they seek to modernise and diversify the national industrial tissue, to transfer technology and to reach an equilibrium of the trade balance.

It seems important to emphasise that attracting foreign investment is not only the government's concern but also regions for they compete among them to offer better conditions in each local industrial area. A foreign firm is therefore expected to increase employment. In this manner, government gathers the adequate means so as to diversify the productive tissue. In addition, several incentives are offered aiming at hosting the foreign firm.

3.1. The role of the incentives to attract foreign investment in Portugal

The incentives have been a political instrument which succeeded in setting up about half of the foreign firms (45,9%), included in the sample (Table 1). If we attempt to sort out these incentives, there can be traced financial subsidies (14 firms) and the financial support allocated to training (11 firms). The latter one comprises a more reduced importance (2,55), however some firms seem to consider highly this sort of subsidy as shown by the standard deviation which displays a higher value.

Table 1**Importance of Different Types of Incentives to Select Countries and Districts**

Type of Incentives	Number	%	Mean (a)	Standard Deviation
National				
No	20	54,1	-	-
Yes (b):	17	45,9	-	-
Financial	14	-	3,57	1,02
Fiscal	3	-	3,67	1,15
Training	11	-	2,55	1,29
Regional				
No	26	70,3	-	-
Yes (b):	11	29,7	-	-
Financial	1	-	5	-
Fiscal	5	-	2,8	1,48
Land	9	-	3,89	1,05

Legend: (a) The assessment of incentives' importance is graded from very important (5) to not very important (1).
(b) A few of those whom have been interviewed pointed out more than one type of incentive.

In spite of being pointed out by simply three managers, fiscal subsidies turn out to be an incentive which comprises a higher importance (3,67), whilst displaying a standard deviation of 1,15.

Overall, financial subsidies seem to play a pivotal role in what concerns the design of a policy of incentives to attract foreign investment, unveiling a considerable importance (3,57) and homogenous (lower standard deviation).

As to whether the local authorities offer incentives to foreign investment, there can be seen a minor interest (about 30%) comparing to those attributed at the level of the national government. The most common incentive is the donation of land for which very low prices are charged (generally 1 PTE per square metre), and which seems to the case in more than 80% of the cases analysed, comprising a medium importance of 3,89.

Offering fiscal incentives to foreign firms at the local level (waving out or reducing of the local taxes) seems to be a tool seldom utilised (45% of the cases), although the investor does not seem to put too much emphasis (a reduced medium

importance of 2,8). The apparent lack of interest for this sort of incentive stems, in most cases, from the amount of the benefit which does never ever reaches a high value.

Finally, there is another financial subsidy whose extent depends upon the number of persons the firm will employ. This subsidy alongside with that one offered by the government, has been rather determinant for the decision process making leading to the setting up of the foreign firm in one of the most unfavoured areas of Portugal.

As for the role played by those incentives which have led to the selection of the national regions (Table 2), it should be stressed that they have scarcely been important for the cities of Lisboa and Porto. Nonetheless, there is a single case which has simultaneously benefited from national and regional incentives in one of the above regions. As a matter of fact the firm has applied for everyone of them (except for the regional financial incentive), therefore pondering them all likewise (maximum importance).

Table 2
Regional and National Incentives per cities

Type of Incentive	Lisboa & Porto (n = 12)	Coastal Cities (n = 17)	Inland Cities (n = 8)
National			
Yes:	1	9	7
Financial Importance (a)	1 (3)	8 (3,25)	5 (4,2)
Fiscal Importance	1 (5)	1 (3)	1 (3)
Training Importance	1 (5)	5 (2)	5 (2,6)
Total (b)	3	14	11
Regional			
Yes:	1	4	6
Financial Importance (a)	-	-	1 (5)
Fiscal Importance	1 (5)	1 (2)	3 (2,33)
Land Importance	1 (5)	3 (3)	5 (4,2)
Total (b)	2	4	9

Legend: (a) The arithmetic mean is displayed in brackets and it shows the attitudes' scale which has been used to assess the importance of incentives ranging from important (5) to less important (1).
(b) Some of those whom have been interviewed indicated more than one type of incentive.

The available data show that 53% of the firms located in the coastal regions (Setúbal, Braga, Leiria, Aveiro, Santarém and Viana do Castelo) have benefited from national incentives, while only 23,5% have received the regional ones. It seems understandable that at national level, conceding financial subsidies has become a supporting instrument of paramount importance to attract the foreign firm. At local level, regional incentives, namely land, performed the same role.

As for the inland regions (Viseu, Castelo Branco, Portalegre, and Vila Real) there can be traced 87,5% of the firms which have received national incentives: financial subsidies or training. It is interesting to underline that national and regional financial incentives are rather important for the above regions (4,2 and 5); on the contrary, these incentives are not as important: Lisboa and Porto (3) and the coastal

regions (3,25). There is though the peculiar case of a firm, located in an inland region, which has benefited from a regional financial subsidy.

Concerning the foreign firms' characteristics, those which have benefited from subsidies, we deem important to point out that the distribution firms have not benefited from any sort of incentive, while the productive units and the joint-ventures as well have been supported by national and regional instruments; that is, have been offered incentives. On the contrary, if we consider those which supply the home market, the exporting firms have been favoured. This is not the case in what refers to the supply of raw-materials.

Regarding the importance of the firm's size in the decision making process to concede national and regional subsidies, the small size firms have not received any incentives, whilst the other firms have put emphasis on financial incentives rather than training or land. In what refers to the comparative advantages, it can be seen that only regional authorities seem to discriminate negatively those firms which explore advantages based upon costs. On the contrary, the national authorities behave otherwise.

The industrial sub-sectors which have received higher incentives were the textiles, apparel and leather and the manufacturing of metallic products and machines, equipment and transportation material (CAE 38), where financial subsidies and grants to professional training are the most common instruments, while allowances or fiscal exemption do not occur very often. The most common regional incentive is land, which is the most favourite one for the sub-sector chemistry and (CAE 38). At a secondary level, there can be stressed the fiscal incentives mostly comprised in the sub-sector (CAE 38).

A nationality's approach allows for pointing out the german firms. Indeed, 60% of them have been supported by both national and regional incentives, afterwards there should be pointed out the spanish and the japanese ones which gather both the financial subsidies and the concession of land.

3.2 – The regional incentives and foreign firm location

As to whether the concession of a national and/or regional incentive might increase the probability of a foreign firm to set up outside the bigger urban centres, it was decided to utilise a logit model, where the dependent variable is dichotomic (0 or 1) and the independent variables are quantitative.

In this work, the probability of a firm to choose to locate in a considerable urban area (Porto, Lisboa and Setúbal) is represented as follows:

$$1 / [1 + e^{(-Y)}]$$

where $Y=1$ if the firm is located in a metropolitan area (Porto, Lisboa and Setúbal) and 0 otherwise. The model is:

$$Y_i = b_0 + b_1 \text{ICAP} + b_2 \text{IMO} + b_3 \text{INCNF} + b_4 \text{INCRT} + u_i$$

where $Y_i=1$ if it is located in a metropolitan area (Porto, Lisboa and Setúbal) and $Y_i=0$ otherwise; ICAP=capital intensity (Firm's stock capital); IMO = labour intensity (number of employees); INCNF = national financial incentive; and, INCRT = regional incentive (land) (the attitude range varies between 0 and 5, and it is randomised afterwards); b_0 and u_i are the constant and estimation error, respectively.

It seems worth emphasising that the variables reporting to incentives have been chosen according to the references' number, the outcome of the interviews, which have thoroughly been undergone; baring in mind that the national financial incentive is the most significant one (14), while the regional incentive appears to be the concession of industrial land or its purchase at rather symbolic prices (9).

A priori, b1 is expected to assume a positive value given that the higher it is the capital intensity the bigger will be the probability of the firm to be located in an inland region, whose authorities are willing to favour its installation and that offer better accessibility conditions. It should therefore be noted that two of the foreign investment projects of higher capital intensity are located in Setúbal (FORD/VW) and in Porto (SIEMENS).

The negative signal expected in b2 means that labour intensity constrains the location of the firm: outside of the metropolitan areas, where the employment is an abundant factor.

As for b3 and b4, a negative signal is expected as it is supposed that the higher is the importance placed in the national incentive and/or regional, the higher is the firm to locate itself in those regions where incentives are traditionally offered.

Before going any further and proceed to analyse the regressions, it is deemed useful to make a few remarks on the statistical results (mean and standard deviation) and the Pearson correlation matrix (Table 3)

Table 3
Descriptive Statistics and Pearson Correlation Matrix

Variables	Mean	SD	2	3	4	5
ICAP (1)	363,2	809,2	0,105	-0,033	-0,068	0,276
IMO (2)	81,43	112,8		0,336*	0,122	-0,228
INCNF (3)	1,351(a)	1,85 (a)			0,599*	-0,405*
INCRT (4)	0,945(a)	1,763(a)				-0,318
Y (5)	0,432	0,502				1

(a) – the values of the scale range from 0 to 5, non-standardised. (*) significant at 5% (bicaudal test). Y – 1 if the firm is located in a metropolitan area (Porto, Lisboa or Setúbal), 0 otherwise. The left variables have been identified when specifying the model.

It can be observed that the sole significant correlation occur in between the INCNF variable and the IMO, INCRT and Y variables, which seems to stress the

importance of the financial national incentive when the firm intends to employ a considerable number of employees and a somewhat overlapping of the national subsidies and those offered by the local authority. In what refers to the dicotomic variable Y, there can be traced a negative association with the cities. It therefore remains unclear if its influence is real over the non-metropolitan areas. On the other hand, the correlation coefficients between the variables, which have been analysed, they are poor. It can therefore be inferred that there are no major problems of multicollinearity.

The econometric analysis has followed the maximum likelihood method [NORUSIS, 1994 a)], included in the logistic procedure of the SPSS programme, version 6.1. Simultaneously, it was also used the discriminant analysis of the very same programme and version [NORUSIS, 1994 b)]. As the results do not show any contradiction, it was decided to present solely those which refer to the logit model (Table 4). When appropriate, the results derived from the discriminant analysis may underline the comments on this study.

The size of the sample and the nature of the variables, which have been included the model, seem to require caution analysis. This is corroborated by the poor quality of the adjustment of the models. The same applies to the -2Log L value (HAIR JR. *et al*, 1995, p. 132), and the goodness of the adjustment, although display a high percentage of correctly classified cases.

The next table displays the regression coefficients before they have been submitted to any transformation so as to obtain the relative effect in the probability equation (HAIR JR. *et al.*, 1995, p. 131).

Table 4
Logit Analysis Results (maximum likelihood)

Independent Variables	Model1	Model 2	Model 3
Constant	-2,069 (1,398)	-2,054 (1,382)	-0,603 (0,201)
ICAP	0,822 (4,434)**	0,834 (4,676)**	0,505 (3,006)*
IMO	-0,599 (2,44)	-0,618 (2,733)*	-0,58 (2,926)*
INCNF	-1,381 (3,927)**	-1,441 (5,189)**	-
INCRT	-0,112 (0,039)	-	-0,762 (2,417)
Concordant	70,27%	70,27%	70,27%
-2Log L	36,72	36,76	41,95
Goodness of Adjustment	30,65	30,72	34,99

Note: The independent variable is Y [1 if it is a metropolitan area (Porto, Lisboa and Setúbal), 0 otherwise]; ICAP is the logarithm of the firms' assets; IMO is the logarithm for the number of workers; INCNF is the importance attributed to national financial incentive, displayed through a scale ranging from 0 to 5, standardised; INCRT is the importance attributed to the regional incentive, land availability, displayed through a scale ranging from 0 to 5, standardised. The values displayed in brackets comprise the Wald chi square statistics. *** $p < 0,01$; ** $p < 0,05$;

* $p < 0,10$; $n = 37$.

As for the results derived from the econometric analysis, it can be observed that the variables show the expected signals, which puts emphasis upon the statistical acuity shown by the variables ICAP and INCNF. In what refers to the former one, the positive signal increases the probability (higher than 0,5) of the foreign firm, capital intensive, to locate in metropolitan areas (Lisboa, Porto and Setúbal). In what regards the latter one, the negative signal confirms the probability (lower than 0,5) of a foreign firm to locate in a non-metropolitan area (category basis 0), provide that a national financial incentive is allocated. It seems worth saying that, in the discriminant analysis, this very variable revealed itself as the most appropriate for classifying both groups of districts.

Although the regression displays the expected signal, the offering of land by the local autarchies (INCRT) lacks statistical significance. The explanation for this seems to rely upon the nature of the subsidy. Despite its representing an insignificant percentage of the investment, this incentive is solely pondered after the decision making process to locate the firm in a non-metropolitan area. In addition, the regional incentive seems to produce effects upon the competition between the non-metropolitan districts, but it remains unclear whether or not this subsidy materialises when the investors have to decide to locate their firms in Lisboa, Porto or Setúbal and the other cities.

Regarding the signal displayed by the IMO variable, it allows to unveil and prove that the interest of a foreign firm in choosing to locate itself in a non-metropolitan area increases whenever there are more jobs to be offered. Nevertheless, the precarious statistical evidence shown by the variable associated to the poor discriminating power seems to give origin to some doubts as to whether its influence upon the selection of district to locate the foreign firm.

The analysis seems to validate the hypothesis according to which the offering of national financial incentives increases the possibility of a foreign firm to locate outside a country metropolitan area. On the other hand, it can as well be said that although the hypothesis, which rests upon incentives offered by local authorities (land), plays an important role, it is not decisive as to whether the location of a firm should be in a non-metropolitan area or in a metropolitan one.

CONCLUSION

It can be inferred that incentives have played a pivotal role in the decision making process both for the country and region. In what regards the selection of the country, the financial subsidies turned out to be the domestic policy instrument

which has been highly valued by foreign entrepreneurs. As for the latter situation, the offering of land at symbolic prices has been the most important one.

Under these circumstances, the design of a national policy of incentives, within the strong European competitiveness for foreign investment framework, seems to be more of a pre-requirement without which any European peripheral country would qualify for hosting foreign firms. However, one should have in mind that the amount of the incentive reduces the investment turnover, which most certainly contributes for the firm's de-location.

The shortening of the life cycle of most consumer products, the changing of the world market structure or the commercial failure of a new product, seem to threaten and, therefore, decrease the hosting of a foreign firm, because both changes and adjustments within industry may lead to the rationalisation of the productive process and its transfer to another country. Thus, the design of political instruments to launch foreign investment should be targeted towards the attraction of industries that have a strong connection with the national industry (backwards), technology intensive, and which might better and upgrade the Portuguese work force and, simultaneously, allow for the access and dissemination of new technologies and management and production processes.

Concerning the management of the incentives' system to foreign investment, it should not only focus upon the industrial policy (strengthening of its technological basis, industrial modernisation, for example). It should also orient itself towards regional development whilst being used as a political tool, whenever possible, for the location of the foreign firm in the most unprivileged regions.

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