

## Università degli Studi di Ancona DIPARTIMENTO DI ECONOMIA

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## THE ROLE OF SUBSIDIES IN PROMOTING ITALIAN JOINT VENTURES IN LEAST DEVELOPED AND TRANSITION ECONOMIES°

by
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#### Abstract

This paper analyses the impact of subsidies for the promotion of Italian joint ventures (JVs) aimed at LDC and transition economies. The empirical analysis is carried out on a unique dataset of 172 JVs interviewed during 1998 by means of a closed-answer qualitative-quantitative questionnaire. The main finding of the study is that, although there is a significant deadweight component in incentive policy, the subsidised firms are significantly more likely to grow. Moreover, the JVs comprising new firms (which need to grow to survive) also have a higher employment performance than average, as do the (labour intensive) JVs motivated by the search for lower labour costs, and the JVs in east European countries.

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#### 1. Introduction

As of the end of the eighties, the relative political and economic stability reached by some Least Developed Countries (LDC), together with the liberalisation processes activated in central and eastern European countries, have permitted a significant acceleration in foreign direct investments on a global level. The growth of these investments was very rapid between 1992 and 1995 (18%, 16% and 28% respectively in '93, 94 and '95), followed by a slowdown (-0.7% in 1996), due mainly to a net decrease in investments made by EU member states (-4.6% in 1996).

Italian foreign investments have partly reflected the expansion characterising other European nations during the first half of the nineties. The number of employees of foreign firms with Italian shareholders increased from 244,188 in 1986 to 606,266 at the end of 1997 and most of this increase occured in LDC or in transition countries, where in 1997 53% of these employees were to be found (see Cominotti, Mariotti and Mutinelli, 1999). If total foreign investments are considered, there is still a gap compared with the other three major European states: the United Kingdom invested 3.5 times as much as Italy, Germany 2.5 times as much and France twice as much (in 1994 Italy contributed 3.5% to total world capital stock invested overseas, see Prometeia - Comit 1998). However, the capacity of Italian firms to invest abroad is considerable, if the investments in LDCs and transition economies are considered alone. When considering central and east European states, for example, Italy is together with Austria the third largest investor after Germany and the USA (see Mutinelli and Piscitello, 1997).

This paper analyses the impact of the two main financial instruments for the promotion of Italian joint ventures (JVs) aimed at LDC and transition economies: subsidised credit provided by the Foreign Office in accordance with the law on development aid (art. 7 Law 49/87) and funds provided by Simest and Mediocredito Centrale in accordance with Law 100 of 1990 (officially this is a Public Development Finance Corporation, while in practice the funding is equivalent to subsidised credit). The context for the application of these instruments - which basically provide subsidised credit for financing investments- is significant both as regards the total volume of Italian investment and as regards the volume of the facilities provided. For example, there were approx. 350 JV projects approved by Simest and the Foreign Office at the end of 1998: 300 for Simest and 50 for the Foreign Office.

When one considers that the total number of foreign firms with Italian shareholders in the LDCs and transition economies was approx. 1,000 at the beginning of that year (source;

National Committee for the Economy and Labour, CNEL), approx. 35% of Italian investments were subsidised. The size of the subsidies is also quite noteworthy; a previous study by one of the authors (Barba Navaretti, 1997) shows that approx. 30% of total capital invested by beneficiary firms was subsidised, and that the subsidy generated a reduction varying between 10% and 20% of the total cost of the investment.

The aims and means of subsidising are extremely controversial. When credit facilities substitute funds obtaineable on the open market for financing investments which would take place in any case, there is simply a deadweight effect, i.e. a net transfer of resources from taxpayers to subsidised firms (see Hansson and Stuart, 1989; Wren, 1996). By means of a descriptive analysis, Barba Navaretti (1997) has in this respect shown how in the case of Italy the firms which have benefited from credit facilities have been mainly large-scale, i.e. those which should not have any problems in finding finance on the market. In contrast, any market failure ought to involve small and medium firms, which have more difficulty than large ones in investing abroad because of financial and managerial limitations (see Buckley 1979 and 1989) This preliminary evidence justifies the doubt that facilities granted to Italian JVs might have a deadweight component.

This paper analyses the impact of subsidies more deeply, using information from a study carried out over a sample of JVs financed by the promotional instruments described above. Comparing data relative to these JVs with that for other Italian JVs in developing nations which have not received subsidised credit, it has been possible to study the role of the incentives. More specifically, this has enabled us to answer questions such as: how far has the investment really been induced by the presence of the subsidy? Are subsidised firms different from non-subsidised firms? Have the subsidised firms performed better than the non-subsidised firms? Indirectly, these questions enable us to understand whether the subsidies really generate investments which otherwise would not be made, and whether the resources are really devoted to investments with high growth potential. Overall, 172 JVs, ex-novo or deriving from the acquisition of existing plants by Italian firms in LDCs or transition economies, are analysed.

The paper is structured as follows: paragraph 2 describes the data used and presents descriptive statistics for subsidised firm profiles, especially as regards their motivation in support of the decision to promote a JV; paragraph 3 presents a probit analysis for the relation between the firm profile and the probability of receiving a subsidy; paragraph 4 examines

whether the existence of the subsidy or other company features are decisive factors for the performance of Italian JVs abroad; finally, paragraph 5 presents some conclusions.

#### 2. Data and descriptive statistics

The empirical analysis is carried out on a unique dataset of 172 JVs interviewed during 1998 by means of a closed-answer qualitative-quantitative questionnaire. 134 of these concern industries in which Italy is specialised (mechanical, textiles, clothing), while the other 38 cases are from firms from a mix of industries. Some of the JVs had exploited the credit facilities in accordance with Law 100 and Art. 7 of Law 49. In order to evaluate the impact of the subsidy, these JVs must be compared with a control subsample, i.e. with JVs starting up independently and without subsidies. In our case, 34% of the sample comprises subsidised firms while 66% is unsubsidised. This combination reflects the incidence of subsidies in the population of Italian investors in LDCs and transition economies (see Section 1).

As regards the location of the JVs, they are from almost all areas of the world, though many of those studied are concentrated in central-eastern Europe (53 cases, equal to 31%) and the far east (India, China and Far East 51 cases, equal to 30%). Given that generally the investments considered are new, this geographic distribution reflects recent trends in foreign Italian investment: between 1986 and 1998 investment in central-eastern Europe grew from 0.6% to 19.9% of the total of overseas firms with Italian shareholders (including firms in industrialised nations), and that in Asia grew from 7.6% to 13% (see Barba Navaretti, 1997).

Table 1: Composition of the sample

|                  | TOTAL     | SUBSIDISED | NON-SUBSIDISED |
|------------------|-----------|------------|----------------|
|                  | 172 FIRMS | 59 FIRMS   | 113 FIRMS      |
| MECHANICAL       | 42%       | 25%        | 50%            |
| TEXTILES         | 10%       | 10%        | 11%            |
| CLOTHING         | 26%       | 14%        | 32%            |
| OTHER INDUSTRIES | 22%       | 51%        | 7%             |
| EAST EUROPE      | 31%       | 41%        | 26%            |
| LATIN AMERICA    | 17%       | 14%        | 19%            |
| FAR EAST         | 30%       | 27%        | 31%            |
| OTHER            | 22%       | 18%        | 24%            |

For two reasons - the availability of only partially complete data and the need to obtain a sample reflecting present relative proportions between subsidised and non-subsidised firms in

the reference population - it has not been possible to balance the two sub-samples from an industry and geographic point of view. The firms received a questionnaire aimed at gaining information about the company profile (turnover, employees, investment, motivation, type and effectiveness of subsidy, etc.), relative to both the parent company and the JV.

The first problem considered is the capacity of the incentives to generate additional investments in developing nations. If this is not the case, the companies are using credit facilities to finance investments they would have made anyway at market cost, thus the incentives are a mere transfer of resources from the general public to the owners of the firms (deadweight effect). The answer to this question is broken down into two parts: firstly, we asked the firms some questions directly; secondly, we carried out a descriptive and a regression analysis to find out whether the subsidised firms have different characteristics from the non-subsidised firms.

Table 2: Subsidy and decision to invest

|  | Simest |           |      | Law 49 |      |           |       |     |
|--|--------|-----------|------|--------|------|-----------|-------|-----|
|  | Yes    | Partially | No   | Tot    | Yes  | Partially | No    | Tot |
| The decision to invest was influenced by:  | 96     | %         | %    | %      | 9%   | %         | %     | %   |
| Availability of financial facilities   | 4.5    | 29.5      | 65.9 | 100    | 13.3 | 40        | 46.67 | 100 |
| Reduced cost of investment   | 2.3    | 45.5      | 52.3 | 100    | 0    | 46.67     | 53.3  | 100 |
| Was a developing nation chosen because of the availability of credit facilities? | 2.3    | 32.6      | 65.1 | 100    | 6.67 | 40        | 53.3  | 100 |
| Was the JV chosen because of the availability of credit facilities?              | 9.3    | 30.2      | 60.5 | 100    | 6.67 | 33.3      | 60    | 100 |
| Was your competitiveness influenced by the availability of credit facilities?    | 6.8    | 27.3      | 65.9 | 100    | 0    | 43.0      | 57    | 100 |

Table 2 gives the frequency of answers to the questions for the 58 subsidised firms with reference to the influence of the subsidy on their decision to invest. The questions were broken down into several points.

First, we asked whether the decision to invest was influenced by the availability of credit facilities (in the case of firms limited in their ability to raise capital on the market) and by the availability of the subsidy, which permits a reduction in the cost of financing. The results are rather disquieting: in all cases, the majority of firms replied no and over 90% replied no or partially. This suggests that the firms could have found money on the market (reply regarding the availability of credit) and that the yield expected from the investment was such as to repay the market cost of credit (reply regarding the reduced cost of credit).

Second, we asked whether the subsidy influenced the choice to invest in a JV rather than a fully-owned subsidiary and to invest in a developing nation rather than in an industrialised nation. These aspects are important, in as much as the subsidy is issued partly with the objective of furthering the development of the host nation. The formation of a JV rather than a subsidiary permits greater interaction with local partners. Again, a large majority of firms believes that the subsidies are useless, i.e. maintains they would have invested in a developing nation and in a JV even without the facilities.

Finally, we asked whether the subsidy had significantly influenced the firm's competitiveness. The reply was negative in this case too, confirming the fact that the expected profit margins on the investment were such as to render irrelevant the reduction in the cost of the investment resulting from the subsidy.

These results lead us to suspect that the subsidy represents a mere transfer of resources from the taxpayers to the firms, and that it does not really help compensate any market failures which might hinder investment activity. In order to better analyse this point, it is helpful to compare the characteristics of the subsidised JVs with those of JVs financed in accordance with market conditions. The more similar the groups of firms are, the more valid the hypothesis of a deadweight effect will be.

As a first step, we describe the motivational factors resulting in investment overseas. An initial examination of these factors (table 3) offers interesting and surprising elements regarding determining factors in the decision to form a JV with a foreign partner. Separating the subsidised and non-subsidised firms (table 3), the first fact to emerge is that for the former the most important motivation is that of the chance to increase or maintain their presence on foreign markets. For non-subsidised firms, the most important factor is reduced labour costs, though the market is still significantly important.

Among other factors considered, subsidised firms put income deriving from sale of technology, brands, plant, licences in third position (straight after reduced labour costs), which is last but one (just before access to locally-available skills, technology, and knowhow) for the non-subsidised firms (these results are not surprising, given the low or medium/low technological level of the host nations).

Overall, the motivation of the subsidised and non-subsidised firms do not seem significantly different, though there is a tendency for the subsidised firms to be more influenced by progressive motivation (market and technology). From this particular point of view, the subsidy therefore seems to exhibit a positive discriminating function.

Table 3: Determining factors for a joint venture (Likert scale from 1 to 4, averages, standard deviations in brackets): subsidised and non-subsidised firms\*

| Standard deviations in or- | torrow), namoramen |                 |                  |  |  |
|----------------------------|--------------------|-----------------|------------------|--|--|
| DETERMINING FACTOR         | TOTAL (151)        | SUBSIDISED (54) | NON SUBSID. (97) |  |  |
| Market                     | 2.93 (1.29)        | 3.06 (1.22)     | 2.87 (1.33)      |  |  |
| Labour costs               | 2.84 (1.17)        | 2.57 (1.21)     | 2.99 (1.13)      |  |  |
| Barriers                   | 1.93 (1.10)        | 2.06 (1.22)     | 1.87 (1.03)      |  |  |
| Strategy                   | 1.87 (1.06)        | 2.04 (1.20)     | 1.77 (0.97)      |  |  |
| Input                      | 1.85 (1.16)        | 2.06 (1.20)     | 1.74 (1.12)      |  |  |
| Technology                 | 1.83 (1.12)        | 2.26 (1.17)     | 1.60 (1.03)      |  |  |
| Skills                     | 1.54 (1.07)        | 1.70 (1.21)     | 1.45 (0.98)      |  |  |

\*Note: 151 firms are included, not 172, because 21 did not reply fully to the questions regarding motivation.

The questionnaire questions regarding motivation summarised in the table are the following: what motives caused you to decide to invest abroad?

- chance to increase or maintain foreign market penetration (market)
- income deriving from sale of technology, brands, plant, licences (technology)
- guaranteed cheap supply of raw materials/semi processed goods (input)
- reduced labour costs (labour costs)
- need to find loopholes in trade, technical or legal barriers (barriers)
- access to locally-available skills, technology, and knowhow (skills)
- reply to similar moves by competitors (strategy)

#### 3. Who benefits from the subsidy?

Our next step will be to try to better analyse the differences between the subsidised and non-subsidised firms. Using a probit analysis, we estimate the following model:

(1) 
$$P_{i,j,k}(SUBS=1) = a_1 + a_2 Xi + a_3 Yj + a_4 Zk + \varepsilon$$

(1) enables us to estimate the probability that the JV i set up by the Italian firm j in nation k is subsidised in relation with a series of characteristics of the JV itself, the Italian firm and the host nation. Table 4 describes the variables used and table 5 gives the regression results. The choice of variables used in the multiple regression is the result of a selection procedure that excluded all the characteristics not theoretically associated with the perception of the subsidy and all the characteristics non significantly linked with the dependent variable in the simple one variable regression. From 172, the number of observations is reduced to 104 because of limitations in the availability of fully answered questionnaires.

Table 4: Key to variables used in estimating model (1) Variable Description SUBSIDY Dummy = 1 if financing is subsidised = 0 if financed by market GROWTH Growth rate of per-capita income (1995) of host nation PER-CAPITA GNP absolute GNP per-capita 1995 (OECD data) of host nation DEAST **Dummy East European nations** SHARE Share of JV held by the parent company in 1997 LOG EMPLOYEES Parent company employees logarithm MKT value attributed by the firm to market penetration as motivating factor LC value attributed by the firm to reduced labour costs as motivating factor EMPTURN Labour intensity (employees/turnover) of the JVcompared

with the parent firm

As regards the host nation, we consider the income growth rate, the average per-capita GNP and a geographic and cultural proximity dummy (DEAST). The lower the per-capita income and its growth, the lower the nation's ability to attract new investments, and therefore the greater the importance of the subsidy in redirecting foreign investments towards development objectives. Indeed, this is not the case: both variables have little influence, with GROWTH having a significant and positive influence on the likelihood of getting a subsidy; in other words, the subsidised firms do not seem to be directed towards nations different from those in which companies using finance provided by the market invest.

Another important factor when considering the development of the host nation is the share of capital provided by the local partner. The higher this share is, the more local workers can take part in the management of the firm and accelerate the process of knowhow transfer. The coefficient of this variable has the expected sign and is partially significant. In this case the subsidy seems to have a positive function in favour of the host nation.

From the parent company's point of view, we can imagine that a typical market failure is linked with the size of the investing firm (higher finance costs and lack of managerial skills, see Paragraph 1). In fact, the LOG EMPLOYEES variable enters the Probit estimate with the expected negative coefficient and is highly significant. The subsidy seems therefore to compensate for market failure linked with small size. However, this result should be viewed with caution. If one reasons - as one should in these estimates - in terms of the number of firms with credit facilities, it is true that many of them are medium-small. If however one

reasons in terms of investment volume, a large majority of the credit facilities go to large firms (see Barba Navaretti, 1997).

Table 5: Subsidy determinants

Dependent Variable:

| SUBSIDY               |                       |          |          |
|-----------------------|-----------------------|----------|----------|
|                       | (a)                   | (b)      | (c)      |
| CONSTANT              | 1.82***               | 2.18***  | 2.05***  |
|                       | (0.70)                | (0.79)   | (0.80)   |
| GROWTH                | 0.04**                | 0.04**   | 0.04**   |
|                       | (0.03)                | (0.03)   | (0.03)   |
| PER-CAPITA GNP        | 0.00                  | 9.19E-05 | 7.16E-05 |
|                       | (0.00)                | (0.00)   | (0.00)   |
| DEST                  | -0.51                 | -0.544   | -0.49    |
|                       | (0.35)                | (0.35)   | (0.37)   |
| SHARE                 | -0.01*                | -0.01*   | -0.01*   |
|                       | (0.01)                | (0,01)   | (0.01)   |
| LOG EMPLOYEES         | -0.37***              | -0.36*** | -0.37*** |
|                       | (0.10)                | (0.10)   | (0.10)   |
| MKT                   |                       | -0.09    | . ·      |
|                       | lating program of the | (0.12)   |          |
| LC                    | -                     | -        | -0.04    |
|                       |                       |          | (0.14)   |
| EMPTURN               | -0.74                 | -0.799   | -0.81    |
|                       | (0.79)                | (0.81)   | (0.80)   |
| Pseudo-R <sup>2</sup> | 0.18                  | 0.189    | 0.185    |
| Log-likelihood        | -52.11                | -51.10   | -51.34   |
| Observations          | 104                   | 104      | 103      |

Note: Standard error in brackets; \* = 90% significant; \*\* = 95% significant; \*\*\* = 99% significant;

Finally, the variables linked with the strategy pursued by the firm by means of the JV are not significant. The fact that a firm is stimulated by market seeking and/or (labour) cost reducing is not reflected in a higher (or lower) probability of obtaining a subsidy. This result means that some caution is necessary when drawing conclusions on the basis of the descriptive comparisons given in table 3. Similarly, a strategy of decentralisation of labour-intensive activities (EMPTURN) does not discriminate.

#### 4. Subsidy and performance of subsidised firms

A further research query involves investigating the measure in which investment promotion programmes are able to select investments with good growth potential. On the basis of the data gathered by means of the questionnaires, the performance of the firms studied can be measured either in terms of turnover or in terms of employees. We chose the latter for two reasons. Firstly, the data regarding the JVs' turnover suffers from intra-firm flows and

complex internal price dynamics; secondly, the Italian firms made their investments in nations with different tax systems which may have influenced turnover data (see King and Fullerton (1984)). We thus chose to take as the JV performance proxy the annual employment growth rate between the initial year and 1997.

The regression analysis followed a stepwise procedure, so that the JV features (size, size of parent firm, industry sector, geographical area, host country's GNP, JV capital shares, existence of subsidy, motivation listed in table 3) were evaluated in accordance with their impact on the JV's employment growth. The selection of significant variables and necessary checks (fixed effects) led to the definition of the following model, estimated using White's correction for heteroskedasticity.

(2) 
$$\Delta EMP = \beta_0 + \beta_1 DSUBS + \beta_2 LC + \beta_3 DACQUI + \beta_4 DMEC + \beta_5 DTEX + \beta_6 DCLO + \beta_7 DEAST + \beta_8 DLAT + \beta_9 DFAR + u$$

Table 6 describes the variables used and table 7 gives the regression results.

Three estimates were made (Table 7): in the first, (a), only industry specific effects were checked for; in the second, (b), geographical areas were also considered, to include the impact of the economic cycle and institutional features of the host nations on JV employment growth patterns; in the third, (c), the LC variable was omitted. From 172 the number of observations is reduced to 67 (70 in (c)), mainly because of the exclusion of initiatives for which it was not possible to calculated the annual growth rate of employment due to a lack of data or because they started up in 1997. The diagnostics of the three estimates is satisfactory, with acceptable values for both the R squared and the F test.

The results highlight a possible positive role of the subsidy, which has a highly significant coefficient in all the estimates. The selection procedure for firms entitled for a subsidy thus seems to identify those with the best growth potentialities (the annual employment growth rate is 28% if all 72 firms for which the figure is available are considered, and rises to 64% when considering the subset of 30 subsidised firms). Nevertheless, the fact that the subsidised firms are those with the best dynamics reinforces the presumption that market financing and subsidised financing are interchangeable. Indeed, it can be supposed that performance in terms of growth is positively related to the probability that the firm can finance its foreign investments on market conditions. This result therefore has a double interpretation: on the one hand, the presence of a subsidy seems to increase the chance of employment growth in the

IV and therefore increases the benefit for the host nation; on the other hand, the good performance found in the subsidised firm creates doubt that the subsidy may contain a deadweight component (the firm could have obtained the same results with market finance).

Tabella 6: Key to variables used in estimating model (2)

| Variable | Description  |
|----------|--|
| ΔΕΜΡ     | annual employment growth rate in the JV between startup and 1997                                 |
| DSUBS    | dummy = 1 if the firm obtained a subsidy, 0 otherwise  |
| rc       | value attributed by the firm to the reduction in labour costs as motivating factor               |
| DACQUI   | dummy = 1 if the JV was started up by the takeover of an existing firm or 0 if it was a new firm |
| DMEC     | dummy = 1 if the JV is in the mechanical industry,<br>0 otherwise                                |
| DTEX     | dummy = 1 if the JV is in the textile industry, 0 otherwise                                      |
| DCLO     | dummy = 1 if the JV is in the clothing industry,<br>0 otherwise                                  |
| DEAST    | dummy = 1 if the JV is in Eastern Europe,<br>0 otherwise   |
| DLAT     | dummy = 1 if the JV is in Latin America,<br>0 otherwise  |
| DFAR     | dummy = 1 if the JV is in the Far East, 0 otherwise.   |

The negative, significant (even if only at the 95% level) coefficient for the DACQUI variable indicates better employment prospects for the JVs which give rise to new firms rather than those resulting from the takeover of existing firms. This result is consistent with what is stated in the literature regarding post-entry performance of firms (see for example Audretsch et al., 1999); newly formed firms are usually smaller than the best minimum size for the sector and therefore survive only if they manage to grow rapidly during the first years of activity.

The comparison between sub (b) and sub (a) estimates indicates some weakness in the significance of the LC variable when the geographical dummies are included; indeed, the value of the relative coefficient in estimate (b) is smaller that that in estimate (a) and only significant at the 90% level. Overall, the fact that firms started up (or taken over) as a result of the need to reduce labour costs have a higher tendency to grow (in terms of employees) than those which give less importance to this motive, is to some extent supported by the data. This result is not surprising, given that presumably a JV started up mainly with the aim of reducing labour costs should be characterised by labour-intensive processes.

Table 7: Determinants of employment growth in the JVs

Dependent Variable EMP

|                 | (a)     | (b)     | (c)      |
|-----------------|---------|---------|----------|
| CONSTANT        | -0.55*  | -0.44   | -0.11    |
| , = =           | (0.35)  | (0.37)  | (0.21)   |
| DSUBS           | 0.74*** | 0.73*** | 0.69***  |
|                 | (0.24)  | (0.24)) | (0.22)   |
| LC              | 0.17*** | 0.10*   |          |
|                 | (0.07)  | (0.06)  |          |
| DACQUI          | -0.26** | -0.39** | -0.43*** |
| - <b>.</b>      | (0.13)  | (0.17)  | (0.15)   |
| DMEC            | 0.37*   | 0.43*   | 0.39*    |
|                 | (0.27)  | (0.26)  | (0.23)   |
| DTEX            | -0.05   | 0.01    | 0.04     |
|                 | (0.25)  | (0.26)  | (0.23)   |
| DCLO            | 0.10    | 0.16    | 0.26     |
| •               | (0.26)  | (0.28)  | (0.28)   |
| DEAST           | -       | 0.32**  | 0.30**   |
| · <del>-</del>  |         | (0.17)  | (0.16)   |
| DLAT            | •       | -0.02   | -0.07    |
| •               |         | (0.16)  | (0.14)   |
| DFAR            | •       | -0.26** | -0.34**  |
|                 |         | (0.16)  | (0.15)   |
| square          | 0.30    | 0.38    | 0.36     |
| adjusted square | 0.23    | 0.28    | 0.27     |
| Test            | 4.26*** | 3.85*** | 4.23***  |
| Observations    | 67      | 67      | · 70     |

Note: Standard error in brackets, \* = 90% significant; \*\*\* = 95% significant; \*\*\* = 99% significant; estimates have been corrected for heteroskedacity (White's correction).

Concerning fixed sector effects, only the mechanical industry dummy has a relatively significant, positive coefficient in all the estimates. This result derives from an increased demand for capital goods in the LDCs and transition economies.

Of the area dummies, only that for east Europe has a significant (though only at the 95% level), positive coefficient influencing the employment growth of the JVs. When interpreting this result, perhaps the availability of low-cost skilled labour is important, being the most attractive feature of transition economies.

#### 5. Conclusions

The main results of the present study can be summarised as follows:

1) Most firms declare that the subsidy was not basic to their decision to invest and the way they invested abroad, revealing a significant deadweight component in incentive policy.

- 2) In any case, smaller investing firms (with limited access to capital markets) have more chance of obtaining a subsidy; in this sense the subsidy seems to partially compensate for market failure.
- 3) If the JV performance is measured in terms of employment growth, the subsidised firms are significantly more likely to grow. This result has a double interpretation: on the one hand, the presence of the subsidy seems to increase the JV's chance of employment growth, thus increasing the benefit for the host nation; on the other hand, the good performance of the subsidised firm increases the suspicion that the subsidy may contain a deadweight component (the firm is healthy and could probably have obtained similar results with financing obtained on the open market).
- 4) The JVs comprising new firms (which need to grow to survive) also have a higher employment performance than average, as do the (labour intensive) JVs motivated by the search for lower labour costs, and the JVs in east European countries (attractive from an employment point of view because of their endowments of skilled but cheap labour).

Among future lines of research, the most interesting involves the possibility of distinguishing the beneficial effect of the subsidy on performance from the deadweight effect, with the aim of measuring their relative importance. To this end, the construction of new ad hoc datasets is to be hoped for; These databases should have a panel structure, containing information about firms involved in joint ventures, gathered before and after the obtaining of the subsidy.

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