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The Effect of Regional Policy on
Formation of New Firms in Southern Italy

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1. INTRODUCTION

Regional policy geared towards attracting large-scale mobile investments into the depressed areas has come under growing criticism in recent years. The main criticism concerns the failure of the branch plants to have stimulated the growth of local firms through productive linkages. It also concerns, in some cases, the new inward investment pushing smaller local firms out of the market. This problem of external integration and dependent development in the depressed regions has caused a shift in policy attention towards stimulating the growth of local firms.

The purpose of this paper is to evaluate the impact of regional policy on the start-up of local firms in southern Italy. We will attempt to verify the criticism that branch plants location has a negative effect on new-firm foundation in the Mezzogiorno.

The paper will be divided into three sections. In the first section we will analyze mechanisms through which branch plants could affect the birth and death rates of local firms. At the end of the section we will build a model that will help us to understand the relationship between the location of non-local plants and the supply of entrepreneurship in depressed regions. The characteristics of regional policy in the South in the period 1951-1985 will be discussed in the second section. The third section

will focus on the impact of regional policy on new-firm formation. In the first part we will present the results of a survey on the effect of financial incentives on the start-up of local firms. The second part will examine, using an econometric exercise, the impact of regional policy on the start-up of local firms and on the location of non-locally-owned branch plants in the Mezzogiorno.

SECTION I

2. NON-LOCAL FIRMS AND THE DEVELOPMENT OF ENTREPRENEURSHIP

As shown in existing literature, there are several ways through which non-locally-owned branch plants affect birth and death rates of local firms. Among them are:

- a) Changes in factor prices;
- b) Changes in the level of demand;
- c) Reduction of the supply of resources available to local firms;
- d) Reduction in the supply of entrepreneurship.

A well-known criticism of branch plant location concerns the competition that local firms must sustain on the labor market. In southern Italy, the location of large plants led to an increase in wages, and movement of a specialized labor force from local to non-local plants; see Graziani (8). This caused an increase in costs and in the death rate of local firms.

Increased competition in the labor market also affects the birth rate thus: the location of large firms decreases the supply of labor for local firms. The equilibrium wage in the local sector increases, and, ceteris paribus, the number of people willing to become entrepreneurs diminishes. Branch plants reduce the difference between entrepreneurial reward and the real wage, thereby decreasing the number of active entrepreneurs. This model has been applied by Grossman (10; p. 607) to underdeveloped countries.

"The inflow of foreign enterprises does indeed have the effect of crowding out local ventures. The supply of domestic entrepreneurs must shrink so as to release the individuals needed to serve as workers in foreign firms. Although this shift in the occupational distribution has no direct consequences for welfare it does imply a decline in national income for the less developed country, since the wages earned by the (new) labourers are less than the sum of profits of the 'former entrepreneur'."

Following Grossman's analysis, foreign enterprises reduce both the number of local entrepreneurs and national income. We do not agree with the last part of this statement, based on the assumption that supply of labor at the wage prevailing before the location of foreign firms is infinitely elastic. Foreign firms' demand for labor shifts the supply of labor in the local sector upward, and also increases the equilibrium wage in the whole economy. If the new wage is higher than the average product that was the entrepreneurial reward before the location of foreign

firms, the total effect on national income will be positive and not negative as stated by Grossman.

Effects of the location of branch plants on the local firms' costs other than those mentioned below are considered in the existing literature. The most relevant ones are:

- a) A growth of external dis-economies (increasing housing rentals, traffic congestion, etc.).
- b) A decreasing share of public resources is used to build infrastructures for local firms; more and more public resources are used to fulfill the branch plants' need for infrastructure, services, and financial incentives.

Non-local firms could have a negative impact on local firms through mechanisms working on the demand side. This happens when branch plants produce for the local market competing with local firms. In the sixties and seventies, local firms in southern Italy were expelled from the market by the more efficient northern Italian firms by means of large plants located in the Mezzogiorno. In this case, we must not forget that branch plants replaced production of local firms, some of which would have been pushed out of the market anyway by more efficient producers located in other areas. In this situation, branch plants have mitigated the negative effects of the displacement of local firms.

The above discussion confirms the hypothesis that branch plants could decrease birth and increase death rates of local firms. It is less clear that a negative impact exists with regard to the level of total income.

The above analysis concentrates on the negative effects of branch plants location; the following part of this section will explore the positive impact of non-local establishments. In 1958, MacDougall (13; p. 15) listed the following external economies caused by foreign investments:

- a) The reduction of bottlenecks existing in the area.
- b) The transfer of know-how from non-local firms to the environment.

Point b) partially coincides with the problem of the transfer of technology from non-locally-owned branch plants to local firms. More generally, it could be seen as a positive "demonstration effect", which does not imply a direct action by non-local plants. A positive "demonstration effect" regarding organization and production methods of local firms has been shown to exist in northern regions of England; see Northern Region Strategic Team (16). On the other hand, this study shows that due to weak linkages of these plants with local firms, this effect is not very strong.

Non-local firms could have a very important positive effect on the supply of entrepreneurship through the

"spin-off" of managers and technicians once working in large plants. We must recognize that this phenomenon is much more important in the developed regions than in the depressed ones. In the latter, non-local firms have only production facilities, and therefore it is very difficult to develop the skills needed to create new firms from within the old. In southern Italy, where most plants have only production facilities, there are no known cases of relatively important spin-off. In other areas, where non-local firms have also R & D, marketing facilities, etc., the phenomenon exists but is not necessarily very important. In Scotland there have been some interesting spin-off cases in the electronics industry; see Segal (18). It seems, from the existing empirical literature, that the spin-off phenomenon depends very much on the kinds of functions that non-local branch plants perform in the different regions.

The analysis that was developed shows that non-local branch plants have both positive and negative impacts on the supply of entrepreneurship and on the death rate of local firms in depressed regions; it is not possible to determine a priori the net impact.

Now we will develop a model that could help to clarify the relationship between non-local firms and supply of local entrepreneurship.

3. THE MODEL

Following the analysis of the last paragraphs, we could assume that the number of local entrepreneurs at time T is a function of gross income (as we assume that entrepreneurial reward is a monothonic function of gross output). It can also be seen that, ceteris paribus, entrepreneurial activity is affected by non-local firms. Thus we can assume that the number of local firms existing at a given moment is a function of gross output and the number of non-local firms:

$$N(t) = N[Y(t), I(t)]$$

(1)

$$N_Y > 0; N_I \begin{matrix} \geq \\ \leq \end{matrix} 0$$

Where subscripts denote derivatives

$N(t)$ = Number of local firms at time t

$Y(t)$ = Gross output at time t

$I(t)$ = Number of non-local firms at time t

We also assume that gross output is a function of existing firms, both local and non-local. This hypothesis implies that the size of all local firms is the same and all non-local plants have the same size; then

$$Y(t) = f[N(t), I(t)] \quad (2)$$

$$f_N > 0; f_I > 0$$

The equilibrium values of Y and N as functions of I are found solving equations (1) and (2).

$$(3) \quad Y^* = g(I)$$

$$N^* = f(I)$$

If we differentiate implicitly in a neighborhood of the equilibrium values with respect to I , we get

$$(4) \quad \begin{vmatrix} 1 & -N_Y \\ -f_N & 1 \end{vmatrix} \begin{vmatrix} \partial N^* / \partial I \\ \partial Y^* / \partial I \end{vmatrix} = \begin{vmatrix} N_I \\ f_I \end{vmatrix}$$

Using the Cramer rule and assuming that the Jacobian is non-singular, we have:

$$(5) \quad \begin{aligned} \frac{\partial N^*}{\partial I} &= \frac{N_I + N_Y f_I}{1 - N_Y f_N} \\ \frac{\partial Y^*}{\partial I} &= \frac{f_I + N_I f_N}{1 - N_Y f_N} \end{aligned}$$

from the non-singularity condition.

$$(6) \quad 1 \neq N_Y f_N$$

For the stability of equilibrium values, we must assume that the values of derivatives are sufficiently small, such that

$$(7) \quad 1 > N_Y f_N$$

This means that a change in the level of income causes a change in the number of local firms, and that this has a

smaller impact on the level of income maller than the initial change.

If (7) is satisfied and if $N_I > 0$, because of the positive sign of the other derivatives, the total effect on the number of local firms and on the level of income is positive.

$$(8) \quad \frac{\partial N^*}{\partial I} > 0 \quad \frac{\partial Y^*}{\partial I} > 0$$

If the direct effect of a change in the number of non-local firms is negative ($N_I < 0$), it is not possible to say anything about the total effect of this change on income and on the number of local firms.

$$(8a) \quad \frac{\partial N^*}{\partial I} > 0 \quad \frac{\partial Y^*}{\partial I} > 0 \text{ if } \frac{N_Y}{f_I} < -N_I < \frac{f_I}{f_N}$$

$$(8b) \quad \frac{\partial N^*}{\partial I} > 0 \text{ and } \frac{\partial Y^*}{\partial I} > 0 \text{ if } \begin{cases} (N_Y, f_I) > -N_I \\ \frac{f_I}{f_N} > -N_I \end{cases}$$

AND $\frac{\partial N^*}{\partial I} < 0$ and $\frac{\partial Y^*}{\partial I} < 0$ if $\begin{cases} (N_Y, f_I) < -N_I \\ \frac{f_I}{f_N} < -N_I \end{cases}$

Equations (8a) and (8b) together with the stability condition $1 > N_Y P_N$ show that

$$\frac{\partial Y^*}{\partial I} > 0 \text{ and } \frac{\partial Y^*}{\partial I} < 0$$

cannot simultaneously hold.

If the total effect of non-local firms on the number of local firms is positive, the effect on the level of income will also be positive. The interesting result that we get from equation (8b) is that it is possible to have a total positive effect on the number of local firms by a change in the number of non-local firms, also if the direct effect N_I is negative.

While it is not possible a priori to say what situation is more likely, we could guess that in more developed regions $N_I > 0$, and in the less developed regions $N_I < 0$. But in the latter case we could not predict without an empirical investigation into what would be the total effect. In the next paragraphs we will try to give an empirical answer with reference to southern Italy.

SECTION II

4. REGIONAL POLICY IN THE SOUTH IN THE PERIOD 1951-1981

Regional policy in the South has passed through several stages. In the years from 1947 to 1957 the support action of the Cassa del Mezzogiorno, the principal instrument for regional policy, concentrated on the agricultural sector and on infrastructural works, some of which connected with agriculture and some with civic infrastructure (aqueducts, improvement of roads, etc.). In this period, the policy of public works was mainly of a benevolent nature--intended essentially to alleviate the

unemployment problem--rather than propulsive. One cannot therefore speak of an infrastructure policy with pre-industrialization characteristics, as the public works in question were not directly connected with a plan for future industrial development.

A determined policy of industrialization in the South did not begin until 1957. The goal of this policy was to stimulate industrial investments in the South. The main instruments that were used in that period were:

- 1) Fiscal incentives;
- 2) Subsidies, capital grants, and loans at a subsidized rate;
- 3) Direct investments from state-controlled enterprises.

During this period the policy for aiding the South was characterized by large investments made by state-controlled enterprises. Under the 1950 Act No. 646, 60 percent of the investments of state-controlled enterprises were to have been made in the South. In fact in the fifties this act was largely ignored, because the greater part of the investments of state-controlled enterprises was directed at modernizing existing enterprises, situated primarily in north and central Italy. The 1957 Act No. 634 reiterated the provisions of the previous act and this time provoked a positive response in public enterprise. From a strictly political point of view, expansion of public enterprises

met with less resistance, because it was carried out when industrialization of the South had become the principal aim. This marked the beginning of the process that was to make state-controlled industries the principal industrial group in the southern economy.

The following years brought modifications, both in administrative procedures and in certain features of the rules of law governing incentives, but it was in 1965 that the more important changes were made. Act No. 717 of that year attempted to coordinate support action in the South--and therefore the activities of the Cassa del Mezzogiorno--and national economic policy. The plan coordinating public support action in the South was to become part of the country's general economic program. And, further, certain sectors were indicated as being of particular interest in incentive policy: chemical, mechanical, and food industries. Support for small and medium firms was confirmed and increased incentives provided. But this guideline was not, in fact, ever applied, and the larger concerns received the greater part of the benefits.

Between 1969 and 1973 the policy in favor of industrialization in the South became more incisive. The main points of this policy were as follows:

- a) The percentage of profits reinvested in the South, tax-free, increased from 50 percent to 70 percent.
- b) The state took over part of the burden of payment (about 20 percent) of social charges for industrial workers engaged in the South after 1968.
- c) A system of consultations was proposed between the government and industrialists in order to examine, on the one hand, the initiatives that the latter were planning in the South, and on the other hand, the infrastructural works the government was prepared to finance. The aim was to negotiate, according to economic plan policy, "blocks of investments" in the South, in industrial areas well-supplied with the necessary facilities, and to concentrate industrialization policies in these areas.
- d) More active support in the South came from state-controlled enterprises. Their investments increased very rapidly between 1969 and 1973. Quota of investments by state-controlled enterprises in the South with regard to the national total rose from 44 percent in the period 1957-68 to 58 percent in the period 1969-73.

A new phase in the industrialization of the South began in 1974, when a negative trend for investments in the South by state-controlled enterprises developed. Both specifically and compared with national totals, investments in the South of state-controlled enterprises began to decrease rapidly.

In 1976 a new Act was issued, No. 183, that lasted until 1985, when it was replaced by Act No. 64*. The main characteristics of Act No. 183 were the following:

- a) A very noticeable simplification of procedures for grants.

*Two laws have recently been passed to support the supply of entrepreneurship, particularly in the south and among young people. Act No. 49 (the "Marcora Law") finances cooperatives in projects for (a) increasing productivity and/or employment through technical, commercial, and administrative services; (b) restructuring and remodelling plants. More substantial incentives are provided under Act No. 44 (Legge de Vito) of February 28, 1986. This provides assistance to cooperatives and companies located or operating in southern areas, provided their members are primarily young people between 18 and 29 years. Assistance includes:

- a) Sixty percent grant on plant and machinery at start-up;
- b) Subsidized interest rate loans at 30 percent of the reference rate for up to 30 percent of the expenditure for facilities and equipment;
- c) Gradually decreasing contributions to the extent of 75, 50, and 25 percent of the operating expenses respectively in the first three years of activity.

It is impossible to appraise the effectiveness of these laws, since they are not yet in force, and the law in support of the young self-employed is still arousing much controversy.

- b) Cutting of credit facilities. The interest rate for credit facilities was fixed in a proportion of 7 percent of the market rate; in the past it had been a fixed and predetermined figure. Financing by means of credit facilities was reserved for modest investments. Plans for investing more than 15 billion lire were excluded.
- c) Payment by the state of all social charges for workers engaged after July 1, 1976, and in excess of the labor force employed as of June 30, 1976.

Two indicators of the intensity of policies for industrial growth in the South have been considered. The first is an indicator of an absolute nature. This has been obtained by adding together capital grants and subsidized interest rate loans for the industrialization of the South, and dividing the result by the value added in the manufacturing industry of the South. (There were no substantial subsidies in southern Italy before 1957.) This indicator has been calculated for the period 1957-81. The second indicator has been obtained by dividing the financial aid for the industrial development of the South, plus the industrial investments of state-controlled enterprises in the South, by the result of the same aggregate calculated on a national basis. The first serves to indicate the intensity of policies for the South

compared with national industrial policy. The first indicator (see Table 1) shows a positive trend from 1957 to 1972 and a negative trend from 1973 to 1981. The second indicator gives a similar indication: a positive trend from 1957 to 1972 and a negative trend from 1972 to 1981.

The only type of incentives that show different trends are capital grants. The proportion of capital in respect to the value added in the manufacturing industry rose to a peak in 1975, and then decreased in the following years at a much slower rate than the other two indicators. We have, finally, considered an indicator of the intensity of policies for the South from a general point of view, not only relating to industrial policies. The numerator of this indicator consists of state-controlled enterprises and public consumption in the South. We divided the result by a similar sum at a national level (see Table 1). This indicator also confirms the trends shown by the two indices. The maximum value is reached in 1972 and then decreases in the two years following. Taken all together, these indicators demonstrate that development policy in the South, after increasing progressively from the 1950s to 1972, has become much less aggressive as a result of worsening national economic conditions.

TABLE 1. Indicators of Intensity of Regional Policy, 1951-1981

<u>Year</u>	<u>IIP</u>	<u>IIPN</u>	<u>G/Vm x100</u>	<u>IIPR1</u>	<u>IIPR2</u>
1951	-	-	-	33.42	138.5
1952	-	-	-	34.46	144.7
1953	-	-	-	35.74	142.9
1954	-	-	-	34.96	143.0
1955	-	-	-	34.97	146.0
1956	-	-	-	36.61	146.9
1957	-	23.20	-	32.15	131.0
1958	-	26.05	-	32.84	136.7
1959	-	30.32	-	32.54	137.8
1960	-	42.72	-	33.26	144.1
1961	-	29.45	-	32.65	142.7
1962	-	33.32	-	33.36	148.8
1963	-	41.72	-	35.30	147.5
1964	11.7	39.43	0.6	33.98	146.9
1965	13.0	40.79	2.0	34.07	140.6
1966	0.6	33.36	1.3	33.89	142.6
1967	12.4	28.15	2.9	33.61	140.6
1968	10.6	21.45	2.5	32.07	141.1
1969	10.0	25.48	3.1	32.30	139.8
1970	14.9	37.72	3.6	35.69	151.1
1971	26.2	44.88	1.3	37.15	151.5
1972	32.1	52.88	2.9	38.59	155.5
1973	14.4	39.19	2.7	35.95	149.5
1974	15.3	42.00	2.4	36.37	148.0
1975	18.5	41.12	3.9	36.17	145.2
1976	9.7	25.80	3.2	36.39	158.7
1977	7.1	22.27	2.9	33.63	146.1
1978	5.2	20.93	3.0	33.45	145.0
1979	4.2	20.88	3.3	32.59	141.2
1980	3.3	25.94	2.6	25.33	147.2
1981	3.1	24.76	2.6	24.40	142.8

Indicators of Intensity of Regional Policy (Key to Table 1)

G	= Investment grants
F	= Subsidized interest rate loans
Fm	= Subsidized interest rate loans for the development of southern Italy
I	= Investment in public and semi-public enterprises
Im	= Investment in public and semi-public enterprises in southern Italy
Vm	= Value added in manufacturing in southern Italy
V	= Value added in manufacturing in Italy
C	= Public consumption in Italy
Cm	= Public consumption in southern Italy
IP	= Investment in public works in Italy
IPm	= Investment in public works in southern Italy
IIP	= Index of intensity of regional industrial policy: $(G+Fm)/Vm \times 100$
IIPN	= Index of intensity of regional industrial policy in relation to national industrial policy: $[(Im+Fm+G)/(I+F+G)] \times 100$
IIPR1	= Index of intensity of regional policy: $[(Im+Fm+G+Cm+IPm)/(I+F+G+C+IP)] \times 100$
IIPR2	= Index of intensity of regional policy: $[(Cm+Im+IPm)/Vm]/[(C+I+IP)/V] \times 100$

SECTION III

5. FINANCIAL INCENTIVES AND THE GROWTH OF SMALL FIRMS

Regional policies for the South have always been based on the role of small enterprises--at least as far as intentions were concerned--in promoting the development of the South. However, it was mostly the large and medium-scale enterprises that benefited as a whole from the policy of financial aid. This is fairly understandable. Investment decisions of medium- and large-scale non-locally-owned firms are not as greatly influenced by financial aid possibilities as are the locations of branch plants. The possibility of financial assistance can induce a northern or foreign firm to establish branch plants in regions which would otherwise have been avoided. Financial incentives, from this point of view, play a very important part in attracting investments into depressed regions. The case of small local enterprises is different: in this instance financial incentives are supposed to stimulate the creation of firms that, without this help, would not have come into being due to lack of financial means.

In the literature, it has been argued that capital grants, as well as credit facilities, are the best form of financial aid for small and medium-sized local firms; they have, indeed, the advantage, compared with other forms of assistance (for instance, tax relief), of being obtained before the plant becomes operative and in all cases within

the first year of activity, when the enterprise's need for liquid assets is greater. In practice, financial facilities have been of essential importance only at a later stage of the firm's activity. Before turning to this point, we wish to examine the results of an inquiry, sponsored by EEC, carried out for EEC in 124 enterprises in four southern regions: Abruzzi, Campania, Basilicata, and Calabria. The inquiry took place in 1982; the sample was formed by local firms that could be considered successful from the point of view of size, markets, rate of growth, etc. When asked about the problem of localization, all the firms interviewed stressed the importance of the existence of incentives. More specifically, out of 90 enterprises interviewed in Campania and in Abruzzi, more than 50 percent considered the existence of incentives as one of the three main reasons to choose that particular location. In Calabria and Basilicata, instead, only five firms out of 34 had taken this into account when choosing the location for their plant.

More uniform answers appear when we evaluate the elements that are considered positive today. In this case we find an increase in the number of firms that have taken into account the existence of financial facilities among the positive present-day characteristics of certain localities.

The existence of financial facilities is considered a positive element both in the setting up of a firm and during its life; it appears, however, to be more important during the life of the enterprise than at the moment of its birth. In practice only 34 firms out of 124 (of which only 20 are in Calabria and Basilicata) actually benefited from capital grants when they were set up, while on the other hand nearly all had received contributions during the activity of the firms.

The answers given by the firms with regard to the influence of internal and external sources of financing in the first five years of their activity clarify this argument. They show that the importance of internal sources was much greater at the beginning of the firm's activity than when it had been in operation for some time. No less than 55 enterprises out of 90 in Campania and Abruzzi, and 14 out of 34 in Calabria and Basilicata, possessed funds of their own, representing 90 percent of the initial capital, when they started, and only 16 firms out of 90 and 13 out of 34 owned less than 50 percent of the necessary initial capital. However, only a few years later the situation changed. As shown in the answers, in the first five years of activity, 44 enterprises out of 124 had financed 80 percent of their investments using their own funds, and only 35 firms out of 124 had financed less

than 50 percent of their investments by means of the above-mentioned sources.

On the other hand, the importance of financial facilities in funding investments is undoubtedly great. If we consider among the sources of finance not only proprietary funds and venture capital but also financial facilities (contributions in the form of capital grants and credit facilities), the number of firms that has financed more than 80 percent of its investments from these sources rises from 44 to 100.

These data clearly prove that incentives for small and medium-size enterprises in the South played a role much more important during the life of a firm than at the moment of its birth. This point should be examined with care. We do not believe that financial incentives are unimportant when the enterprise is created. The fact is that similar concessions are dependent, in Italy, on the behavior of special credit banks, which are much more conservative when the enterprise is being formed than when it is already developed and successful. It should also be noted that there has been a great difference in the way the various sectors have been treated, with regard to financial facilities, at the beginning of their operation. All chemical industries, for instance, received contributions when they were set up. This can be explained by the fact that, as these industries require a great amount of

capital, promoters cannot take full financial responsibility for them without outside help. In other words, the contributions were necessary to the birth of the enterprise.

Table 2 shows another interesting aspect of southern regional policy: traditional industries were particularly favored with respect to modern sectors. The special credit banks examine requests from enterprises with which they already have experience because there are plenty of such enterprises in the area considered, and it is easier to evaluate previous clients. The canning industry is an exception to this general tendency; very few canning enterprises received an initial grant. This can be explained, however, by the fact that many of the industries interviewed existed before contributions were provided. They were born either before or at the end of the 1950s.

Less traditional sectors such as mechanical industries, electronics, and transport--which are often born as a result of the inventiveness and initiative of individuals and often do not require a great amount of capital--did not benefit from initial grants. One must bear in mind that these enterprises are often set up by people who do not possess great assets, and therefore the bank is very prudent in its evaluation. In sectors such as clothing, foodstuffs, etc., the owners are often tradesmen or sons of entrepreneurs and therefore possess sufficient

TABLE 2. Firms that Obtained Capital Grants and Credit Facilities at the Beginning of their Activity (Southern Italy)

	<u>CAPITAL GRANTS</u>	<u>CREDIT FACILITIES</u>
Chemicals	6/6	5/6
Tanning	1/7	4/7
Clothing	4/13	6/13
Footwear	1/11	4/11
Others	3/8	4/8
Foodstuffs	4/17	4/17
Canning	1/7	1/7
Paper	1/4	1/4
Transport	1/4	1/4
Mechanical (non-		
electrical)	6/22	5/22
Electronics	1/7	0/7

Source: Our own survey.

property securities. This confirms the difficulties encountered in the past (and which are still encountered) by special credit banks in granting facilities to enterprises in new sectors, or to entrepreneurs who cannot give adequate securities on property.

6. IMPACT OF REGIONAL POLICY ON THE START-UP OF LOCAL FIRMS AND ON THE LOCATION OF BRANCH PLANTS: AN ECONOMETRIC EXERCISE

Data Set

Data on the number of births for both local and non-local firms in the South of Italy were provided by the courtesy of IASM-CESAN, the most complete source of industrial data for the South of Italy. The data set consists of annual data from 1951 to 1981. Unfortunately, the only available series of data are for firms with at least ten employees which were still surviving in the year 1981. The series available obviously underestimate the actual number of firms born in each year by an amount which can be expected to be a direct function of time elapsed between the years of birth and 1981. Other sources of data were the Annual Statistical Report by Svimez (20), and Rosa Giuseppe and Siesto Vincenzo (18), which provide series of industrial investments in Italy. All monetary variables are expressed at constant 1970 prices.

Estimation Procedure and Results

At the beginning we did not have any precise specification in mind for the model described before (see Part 3); therefore, a number of different attempts were made. We started with a simultaneous model determining jointly the number of local and non-local firms born in a given year and GNP in the South of Italy. This model performs in a way which is definitely unsatisfactory; after reducing it to a pair of linear equations with a block recursive structure, with the support of data-based evidence, we tried both logarithmics and levels specifications. The data allowed us to choose the latter one. Even the model in levels performed in an unsatisfactory way, mainly because of strong multicollinearity problems, so that in the end we resorted to the dynamic model in first differences reported in Tables 3 and 4. We tried also for the inclusion of a trend term in various forms, which did not prove significant in explaining the behaviour of firm formation. The rationale for the inclusion of a term in the trend is to allow for a supposed decaying pattern in the number of firms born in previous years and surviving in 1981, caused by either a constant or a non-constant death rate. Results from the initial procedure of model selection are not reported since they suffer from a number of specifications problems, the most important one being a very serious multicollinearity of

regressors. Notwithstanding the comparatively low value of the reported R^2 s, the adopted specification passes all the tests we tried and allow us to draw some interesting conclusions from our analysis.

Table 3 reports the results obtained from regressing the first difference of the number of non-local firms born in two successive years against the lagged value of births of non-local firms, the variation in GNP in the South of Italy, and the variation in the "intensity" of fiscal and financial policies directly designed to promote development in the southern regions. The intensity of regional policy is measured by expressing the sum of financial and fiscal incentives, investments in public constructions and infrastructures, and direct investments in industrial enterprises through the nationalized sector as a ratio to the equivalent sum computed for the rest of Italy (see Table 1). Results show that all variables contribute to explaining the actual pattern of variation in non-local firms births, and that all parameters have the expected sign.

However, the Durbin and Watson of the regression is in the inconclusive region, and the RESET test shows clear sign of mis-specification in the adopted form for the regression. Even though the Lagranger Multipliers do not show any significant path of autocorrelation in the residuals, we tried a modified version of the regression,

allowing for a first-order moving average term in the residuals. The moving average term, although marginally significant at the 5 percent level, improves the R^2 of the regression, and makes the RESET statistics not significant; it also has the advantage of allowing for a richer dynamic structure in the equation and induces only minor modifications in the parameters estimated for the other variables. According to our results an increase of 10 billion lire (at constant 1970 prices) in southern Italy GNP brings about an increase of one unit in the unconditional mean of number of births of non-local firms, while an increase of 1 percentage point in the intensity of regional policy increases the unconditional mean of the number of births of non-local firms to twelve. The most striking results were obtained, however, when we tried regressing the difference in the number of local firms born in two successive years against the lagged value of births of local firms, the variation in the number of births of non-local firms in two successive years, the variation in southern Italy GNP, and the variation in the intensity of regional policy. Since the variation in the number of births of non-local firms and the variation in the GNP of the South of Italy and in the intensity of regional policy are clearly correlated, causing multicollinearity problems, we decided to filter the variation in the births of non-local firms by subtracting from it the fitted values

TABLE 3. Regressions for Births of Non-Local Firms in Southern Italy, 1951-81.

Dependent Variable	Independent Variables				
	Const	NLF(t-1)	DSIGNP	DIIPR1	MA(1)
DNLF(t)	6.43	-.43	.025	4.08	
t-values	(.82)	(-3.26)	(2.61)	(2.50)	
Statistics	D-W=2.38 R ² =.43	Q(15)=8.95 LMT(1)=1.96	RESET(4)=2.44 LMT(2)=2.94	ARCH(2)=1.48 LMT(3)=3.23	R ² =.95 LMT(4)=4.76
DNLF(t)	1.14	-.32	.027	4.57	-.42
t-values	(.18)	(-2.51)	(2.87)	(3.07)	(-1.74)
Statistics	D-W=1.95	Q(14)=10.62	RESET(4)=1.71	ARCH(2)=.21	R ² =.49

from previous regression. After performing the regression, we tested for the significance of both the increase in southern Italy GNP and the variation in the intensity of regional policy. We were not able to reject the hypothesis that both variables do not contribute to explaining the observed pattern of growth in the number of local firms in the South of Italy. Both the variation in the number of births of non-local firms and the lagged value of birth of local firms proved to be significant. We then proceeded to restrict the regression, eliminating the two insignificant variables. When we implemented the restricted version of the regression using the filtered version of the variation of births for non-local firms, the regression passes all tests. However, when we allowed for a first-order moving average term in the residuals, although it proved to be significant only at the 10-percent level, it increased both the R^2 and the correct R^2 of the regression. When we performed the regression using the non-filtered version of the variation in births of non-local firms, the Lagrange Multiplier test showed signs of first-order autocorrelation in the residuals. Allowing for an MA(1) component in the residuals, the moving average term proved to be highly significant, due perhaps to the effect of the hidden MA component in the variation of births of non-local firms, as well as to the effect of an original MA component in the residuals of the regression for the variation in births of

TABLE 4. Regressions for Births of Local Firms in Southern Italy, 1951-81.

Dependent Variable	Const	Independent Variables				
		IF(t-1)	DSIGNP	DIIPRI	DNLF(t)	FDNLF(t) MA(1)
DLF(t) t-values Statistics	67.25 (2.04) D-W=2.6	-.35 (-2.84) Q(15)=24.54	.042 (.97) R ² =.38	10.20 (1.50) R _x =.87	.	2.23 (2.56) F-test on par. 3,4=1.37
DLF(t) t-values Statistics	77.86 (2.51) D-W=2.33 IMT(1)=1.86	-.32 (-2.69) Q(15)=15.45 IMT(2)=1.78	RESET(4)=.91 IMT(3)=5.65	ARCH(2)=1.04 IMT(4)=5.59	R _x =.99	2.18 (2.47) R ² =.43
DLF(t) t-values Statistics	45.87 (1.72) D-W=1.99	-.18 (-1.71) Q(14)=13.28	RESET(4)=.44	ARCH(2)=.37	R ² =.37	1.71 (2.09) -.34 (-1.37)
DLF(t) t-values Statistics	55.66 (1.85) D-W=2.69 IMT(1)=5.84	-.23 (-1.97) Q(15)=22.82 IMT(2)=6.61	RESET(4)=.15 IMT(3)=6.47	ARCH(2)=.89 IMT(4)=6.75	1.80 (2.93) R ² =.36	R _x =.97
DLF(t) t-values Statistics	14.80 (.97) D-W=2.03	-.047 (-.74) Q(14)=10.73	RESET(4)=1.89	ARCH(2)=.03	2.29 (3.83) R ² =.52	-.63 (-2.34)

List of Variables:

IF is the number of births of local firms in the South of Italy.
 NLF is the number of births of Non-Local Firms in the South of Italy.
 SIGNP is the GNP of the South of Italy.
 IIPRI is the measure of Intensity of Regional Policy described in the text.
 FDNLF is the fitted values of the variable DNLF from second regression.
 MA is the moving average term in the residuals.
 D in front of the name of a variable indicates differencing.

local firms. In both cases, however, allowing for an MA component in the residuals strongly affects the parameters of the lagged value of births of local firms, which, in the latter case, becomes insignificant.

Although the final form of the regressions passes all tests, the low value of the R^2 and the high and significant value of the constant suggest that we were not fully able to explain the pattern of growth of local firms, so that further analysis is required. However, in all cases, independent of the final specification adopted, our results show that an increase of one unit in the births of non-local firms brings about an increase in the births of local firms ranging from 2 to 2.5.

7. CONCLUSIONS

The most important result we can infer from our analysis is that neither local "market conditions" nor the intensity of regional policy helped significantly to explain the observed pattern of growth of local firms in the South of Italy from 1951 to 1981. This is consistent with the findings of our survey (see Table 2) that shows only a slight connection between the birth of new firms and financial and fiscal policies. Regional Policy in southern Italy affected the birth of new local firms through the positive impact of large branch plants, but not through a direct effect.

Our analysis has also shown that the criticism that branch plant location has a negative effect on the birth of local firms in southern Italy is not true. According to our results, the current shift of emphasis in regional policy in Italy, i.e., the creation of a possible large number of local units, and consequently the expansion of the local entrepreneurial class contradicts past observed behavior of industrialization in the Mezzogiorno. In areas with high unemployment rates, the role of non-local enterprises in bringing about the birth and further growth of local firms cannot--and must not--be underrated.

The "new approach to regional policy" (Act No. 49, Mancora Law; Act No. 44, De Vito Law) can only rely for its success on a structural break in the process of industrialization in recent years.

Whether the structural break occurred or not will be ascertained only when more recent data are available. At present the validity of the "new approach" to regional policy can only be left to further analysis and investigation; however, the results presented in this paper cast doubts on its validity, and warn against an uncritical acceptance of this new approach.

REFERENCES

- (1) Amin, A., S. Johnson, and D. Storey. 'Le piccole imprese e il processo di sviluppo economico', Mezzogiorno d'Europa, n.4 (1986), pp. 501-531.
- (2) Contini, B., and R. Revelli. 'Natalita e mortalita delle imprese italiane: risultati preliminari e nuove prospettive di ricerca', L'INDUSTRIA, Rivista di economia e politica industriale, n.2 (1986), pp. 195-233.
- (3) Cross, M. New Firm Formation and Regional Employment Growth, Gower, 1981.
- (4) Del Monte, A. Decentramento internazionale e decentramento produttivo. Il caso dell'industria elettronica, Loescher, 1982.
- (5) Del Monte, A. 'The Effects of Regional Policy on the Industrial Development of the South of Italy', Mezzogiorno d'Europa, 4 (1984), pp. 563-583.
- (6) Del Monte, A., and A. Giannola. 'Relevance and Nature of Small and Medium-Sized Firms in Southern Italy', in D. Keeble and Wever, E. (eds.), New Firms and Regional Development in Europe, Croom Helm, 1986.
- (7) Foreman-Peck, J.S.. 'Secorn or Choff; New Firm Formation and the Performance of the Interwar Economy', The Economic History Review, Vol. XXXVIII, N.3 (1985), pp. 402-422.
- (8) Graziani, A. 'Il Mezzogiorno nel quadro dell'Economia Italiana', in A. Graziani and E. Pugliese, (eds.), Investimenti e disoccupazione nel Mezzogiorno, Il Mulino, 1979.
- (9) Gudgin, G. Industrial Location Processes and Regional Employment Growth, Saxon House, 1978.
- (10) Grossman, G. 'International Trade and Entrepreneurs', A.E.R., September (1984), pp. 605-613.
- (11) Keeble, D. 'Entrepreneurship and Manufacturing Firm Formation in Rural Regions: The East Anglian Case', in M.J. Healey and B. W. Ilberg (eds.), Industrialisation of the Countryside, Geabooks, 1985.

- (12) Lever, W. F. 'Manufacturing Linkages and the Search for Suppliers and Markets', in F. Hamilton (ed.), Spatial Perspectives on Industrial Organization and Decision Making, John Wiley, 1974.
- (13) MacDougall, G.A.D. 'The Benefits and Costs of Private Investment from Abroad: a theoretical approach', Economic Records, Vol. 36 (1958), pp. 13-35.
- (14) McAleese, D. and D. McDonagh. 'Employment Growth and Development Linkages in Foreign-Owned and Domestic Manufacturing Enterprises', Bulletin of the Oxford Institute of Economics and Statistics, Vol 40 (1978), pp. 321-329.
- (15) Marshall, J. N. 'Ownership, Organization and Industrial Linkages: A Case Study in the Northern Region of England', Regional Studies, Vol. 13 (1977), pp. 531-557.
- (16) Northern Regional Strategic Team. Strategic Plan for the Northern Region, Vol. 2 (1977).
- (17) Richardson, G. B. 'The Organization of Industry', Economic Journal, Vol. 82 (1972), pp. 883-96.
- (18) Rosa, G., and V. Siesto. Il Capitale Fisso Industriale in Italia, Il Mulino, 1985.
- (19) Segal, Q., and Partners. The Cambridge Phenomenon, The Growth of High Technology Industry in an University Town, 1985.
- (20) Svimez. La Formazione, l'Impiego delle risorse, e l'Occupazione del Mezzogiorno e del Centro Nord dal 1957 al 1983, Quaderni Svimez, Roma (1983).
- (21) Storey, D.J. 'Manufacturing Employment Change in Northern England 1965-78: the Role of Small Business', in D.J. Storey (ed.), Small Firms in Regional Economic Development, Cambridge University Press (1985).

APPENDIX IIASM-CESAN Databank

The "IASM-CESAN" Databank covers all manufacturing establishments operating in the South that are managed by firms with a total of ten or more employees. Information on ownership comes primarily from direct interviews routinely conducted by the "CESAN", which are especially crucial in assessing the ownership of smaller plants. We have considered as "local" or "locally based" firms those having southern ownership. They include all establishments owned by southern-based firms or southern entrepreneurs, regardless of the size and articulation of the firms. Firms that are legally based in the South, but the majority of whose shares are owned by non-southern corporations or entrepreneurs, are not considered to be local firms.

APPENDIX II

The "IASM-CESAN" Databank provided us with information on the starting year and number of employees of firms located in southern Italy that were still in operation in 1986 and had more than ten employees at that time. The number of firms still in operation in 1986 depends on the total number of firms started in each year and the probability that a firm started at time $(1986-t)$ will survive at time 1986. This probability is inversely related with the value of t . The number of firms still in operation in 1986, and with at least ten employees at that time, will depend also on the probability that a firm started at time $(1986 - t)$ in the category "less than ten employees" will be shifted in 1986 to the "at least ten employees" category.

Let

$x(1986-t)$	= number of firms started at time $(1986-t)$
$x(1986-t, 1986, 0)$	= number of firms started at time $(1986-t)$ with less than ten employees at that time
$x(1986-t, 1986, 10)$	= number of firms started at time $(1986-t)$ with at least ten

employees in 1986 (IASM-CESAN
number)

$\text{Pr}(1986-t, 1986, 0, 10)$ = probability that a firm started at
time $(1986-t)$ in the class with
less than ten employees will be in
the class 10 after t years.

$\text{Pr}(1986-t, 1986, 10, 10)$ = probability that a firm started at
time $(1986-t)$ in the class with at
least ten employees will be in the
same class after t years.

Then

$$(1) \quad x(1986-t, 1986, 10) = x(1986-t, 10) \text{pr}(1986-t, 1986, 10, 10) \\ + x(1986-t, 0) \text{pr}(1986-t, 1986, 0, 10)$$

We will expect that $\text{pr}(1986-t, 1986, 10, 10)$ is a
decreasing function of t , and that $\text{pr}(1986-t, 1986, 0, 10,)$
will first increase with t , then decrease, and then it will
remain constant.

Therefore, $x(1986-t, 1986, 10)$ is not a good
approximation of the number of new firms started each year.
On the other hand, it could be a better approximation, if
not a satisfactory one, of the number of firms in the
class 10 started at time 1986-t. The first term of the
second member of equation (1) decreases with t ; the second
term increases with t , and then decreases, and then remains
constant. We would think that for a relatively low value
of t , the two members move in opposite directions and

offset each other. It is only for a high value of t that we will find a decreasing movement, and therefore an underestimation of the true value of $x(1986-t,10)$.

A second reason that we decided to use the IASM-CESAN data is that in our model, both the endogenous variable (the number of local firms started in each period) and one of the exogenous variables (the number of non-local plants started in each period) are affected by the same bias (an underestimation of the true value of $x(1986-t,10)$); therefore, the two errors, at least partially, will offset each other.