

## Work in progress, please do not quote

Strategy, risk and survival: financing industrial districts in Italy, 1971-91

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### Introduction

Industrial Districts (IDs) or geographical concentrations of small and medium-sized firms (SMEs) involved in the production of similar, or related, goods and exploiting external economies of scale and economies of specialisation, are one of the best known features of the Italian economy. IDs, not only in Italy but also in other European countries, in Japan, the US and more recently in developing countries,<sup>1</sup> have been studied from several perspectives, with the focus ranging from their production system and strategy (the flexible specialisation approach)<sup>2</sup> to their economic and socio-political characteristics.<sup>3</sup> It has been stressed that clusters enable firms to generate a critical mass, to address jointly their disadvantages vis a vis large enterprises (e.g. technology acquisition and marketing), develop collaborative projects

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<sup>1</sup> Among recent works concerning IDs in various countries see K. Odaka and M. Sawai (eds), *Small Firms, Large Concerns: the Development of Small Business in Comparative Perspective* (New York, 1999); A. Giunta, A. Lagendijk and A. Pike (eds), *Restructuring Industry and Territory: the Experience of Europe's Regions* (2000); R. Rabellotti and H. Schmitz, 'The Internal Heterogeneity of Industrial Districts in Italy, Brazil and Mexico', *Regional Studies*, 33/2 (1999), pp. 97-108; M. C. J. Caniels and H. A. Romijn, 'Dynamic Clusters in Developing Countries: Collective Efficiency and Beyond', 31/3 (2003), pp. 275-92.

<sup>2</sup> The milestones of this approach are M.J. Piore and C.F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York, 1984), passim and especially pp. 213-216, 226-229; P.Q. Hirst and J. Zeitlin, *Reversing Industrial Decline: Industrial Structure and Policy in Britain and Her Competitors* (Oxford, 1989), pp. 22-28, 205-211.

<sup>3</sup> M. Granovetter, 'Economic Action and Social Structure: the Problem of Embeddedness', *American Journal of Sociology*, 91 (1985), pp. 481-510; I. Paniccia, *Industrial Districts. Evolution and Competitiveness in Italian Firms* (Cheltenham, 2002); F. Pyke, G. Becattini and W. Sengerberger (eds), *Industrial Districts and Inter-firm Co-operation in Italy* (Geneva, 1990); W. Sengerberger, G. W. Loveman and M. J. Piore (eds), *The Re-emergence of Small Enterprises* (Geneva, 1990).

(bulk buying, sharing freight costs, assistance for R&D and institutional support) and improve overall industry competitiveness.

This paper focuses on one of the least-studied aspects of Italian IDs, the sources of finance of companies therein. According to Conti and Ferri, the scant attention paid to sources of finance within IDs has allowed long-held assumptions – that such firms relied entirely on internal sources of finance – to pass unchallenged.<sup>4</sup> The common wisdom claims that as small firms are unable to access the financial market, their sources of finance must be either internal, or from banks. However, due to the high interest rates and the requirement of collateral, the only channel of finance left available to such firms is the private one, particularly self-financing by reinvesting profits.<sup>5</sup> Self-financing is considered crucial not only in the initial stage but also in later stages of the trading life of small and medium-sized companies.<sup>6</sup>

Studies have challenged such assumptions and focused on the importance of local banks for the development of IDs. Their importance is due not only to the extent of their capital provision, but also to the fact that such banks played a role in the coordination of the local financial system.<sup>7</sup> Local banks were particularly suited to play such a role - due to the information advantage they enjoyed. As banks and firms belong to the same regional economic fabric, it is much less costly for the former to

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<sup>4</sup> G. Conti and G. Ferri, 'Banche locali e sviluppo economico decentrato' in: F. Barca (ed.), *Storia del capitalismo italiano dal dopoguerra a oggi* (Rome, 1997), pp. 429-465; G. Dei Ottati, 'Trust, interlinking transactions and credit in the industrial district', *Cambridge Journal of Economics*, 18 (1994), pp. 529-546.

<sup>5</sup> A. Saba, *Il Modello Italiano* (Milan, 1995), p.132; in other studies the importance of self-financing is implicit, see for instance G. Fuà and C. Zacchia (eds), *Industrializzazione senza fratture* (Bologna, 1983); A. Bagnasco, *Tre Italie. La problematica territoriale dello sviluppo italiano* (Bologna, 1977).

<sup>6</sup> The possession of land is considered of particular importance in the transformation of the agricultural family into an entrepreneurial unit, as the sale of the land provides the initial capital to invest in the family business, see for instance M. Paci, *La Struttura Sociale Italiana* (Bologna, 1982), p. 118; A. Bull and P. Corner, *From Peasant to Entrepreneur* (Oxford, 1993), pp. 144-145.

<sup>7</sup> Conti and Ferri, 'Banche locali e sviluppo economico'.

acquire non-formalised information on the latter, thus reducing transaction costs and information asymmetries.<sup>8</sup>

Yet another type of finance should be mentioned when discussing Italian IDs: state subsidies to SMEs. Weiss explained the success of Italian SMEs in terms of government support and investigated in particular government subsidies to artisan firms. Other work has focused on government finance to SMEs within the framework of regional and national industrial policies.<sup>9</sup> Furthermore, government support to SMEs, which expresses itself also in the structure of the banking system, has been proposed as a key explanatory factor in the success of SMEs in Italy and other continental European countries, something that did not happen in Britain.<sup>10</sup>

This paper brings this debate forward. It tests the importance of those sources of finance from the perspective of firms within IDs and assesses their impact on the investment strategy and profitability of such firms.

## II The dataset

The comparative analysis of the importance and impact of the sources of finance is based on a sample of firms located in two IDs, the Southern ID of Barletta and the North-eastern ID of San Mauro Pascoli (henceforth San Mauro). Both IDs emerged in

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<sup>8</sup> F. Carnevali, 'Between Markets and Networks: Regional Banks in Italy', in Godley and Ross, *Banks, Networks*, in A. Godley and D.M. Ross, *Banks, Networks and Small Firm Finance* (London, 1996), pp. 84-100.

<sup>9</sup> L. Weiss, *Creating Capitalism. The State and Small Business since 1945* (Oxford, 1988); G.M. Longoni and A. Rinaldi, 'Industrial policy and artisan firms', in A. Colli and M. Vasta (eds), *Forms of enterprises in 20th Century Italy. Boundaries, structures and policies*, E. Elgar, Cheltenham UK-Northampton MA (forthcoming); A. Spadavecchia, 'State Subsidies and the Sources of Company Finance in Italian Industrial Districts, 1951-1991' (Ph.D. Thesis, University of London, 2003).

<sup>10</sup> F. Carnevali, *Europe's Advantage. Banks and Small Firms in Britain, France, Germany and Italy since 1918* (Oxford, 2005).

the 1950s and specialise in the production of footwear, clothing and textiles - with the San Mauro ID later developing a further specialisation in engineering.<sup>11</sup> In order to assess the importance and impact of the various sources of finance it is important to compare a Southern ID with an ID located in the North-east, the classical area of IDs or the so-called Third Italy, as the diverse economic conditions of the two Italian regions might have important consequences on the type of finance used by firms within the two IDs.

Map around here: The case studies: Barletta and San Mauro IDs

The analysis is based on two, relatively small, samples of companies (54 overall), the records of which were collected at the relevant Chambers of Commerce (Bari for the Barletta ID; and Forlì for the San Mauro ID). The samples consist only of limited liability and public share companies, as these are the only ones legally obliged to deposit their balance sheets at the local Chamber of Commerce. Of course, the inclusion of those companies alone creates some biases in the samples, as the smallest companies in the IDs are not likely to go public and their records would therefore not be included in the collected dataset.<sup>12</sup>

At various points in time, the first sample includes 32 manufacturing companies located in Barletta and the second sample includes 21 manufacturing companies located in San Mauro. The two samples provide 681 observations – annual balance sheets – over time, 460 for Southern companies and 221 for the North-Eastern samples. The smaller number of companies in the North-Eastern sample is related to

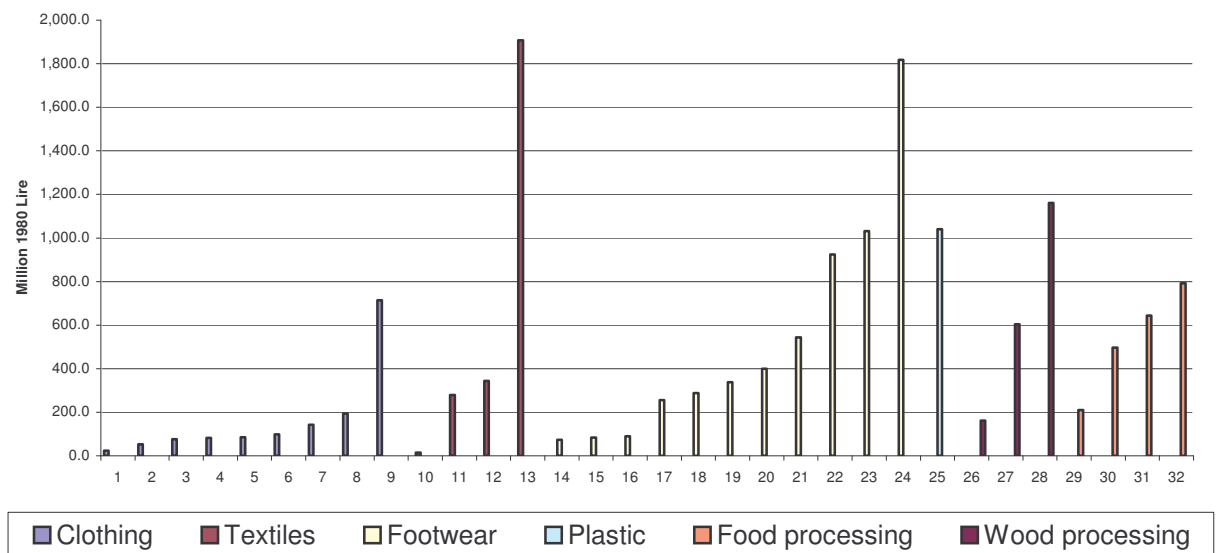
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<sup>11</sup> For the development of the Barletta and San Mauro IDs see A. Spadavecchia, 'Financing Industrial Districts in Italy, 1971-1991. A Private Venture?', *Business History*, vol.47, No.4. (October, 2005), pp. 569-593.

<sup>12</sup> For a detailed discussion of the biases in the sample see Spadavecchia, 'Financing Industrial Districts'.

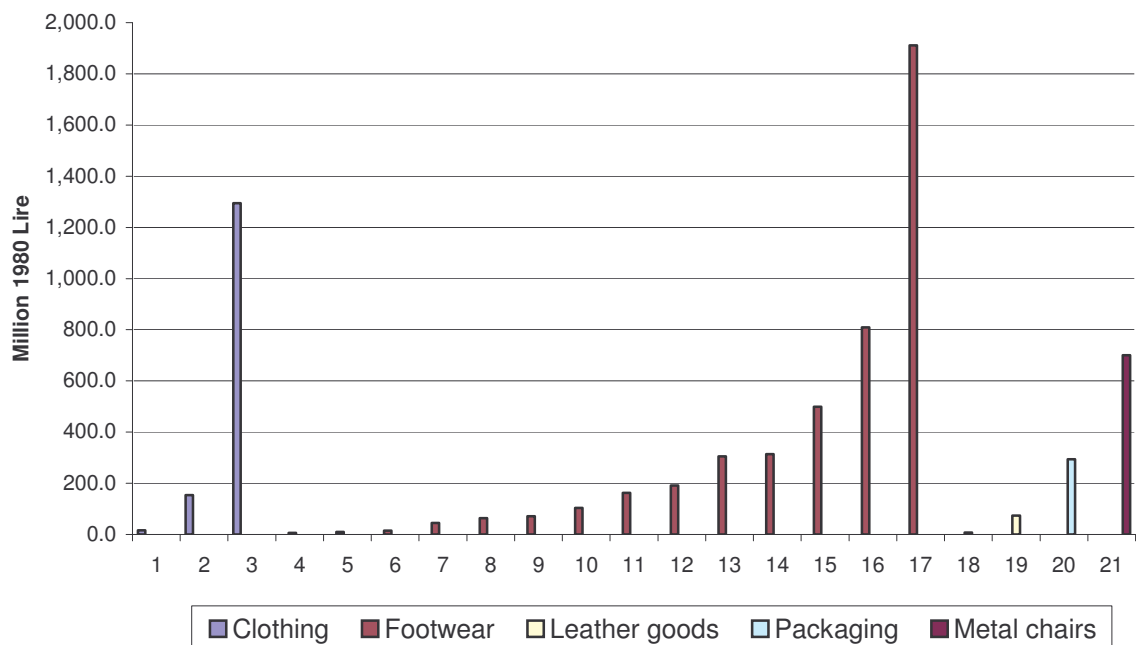
the smaller size of the manufacturing sector in the SMP ID. The smaller number of annual observations was also determined by the fact that these companies did not have public status or were not trading during the whole 1971-91 period; most were established as public companies or went public in the 1980s.

Graph 1: Companies in the Barletta sample, by manufacturing sector and fixed net assets



Source: Chamber of Commerce in Bari (henceforth CCB) company records, Chamber of Commerce in Forlì (henceforth CCF) company records, for full archival reference see the Appendix.

Graph 2: Companies in the San Mauro sample, by manufacturing sector and fixed net assets



Source: CCB and CCF, company records.

Graphs 1 and 2 show the distribution of companies in the sample by sector and size of fixed net assets. The footwear sector is better represented in the San Mauro sample, with 14 companies out of 21; whereas the opposite applies to the clothing sector. The samples include companies not only in the sectors of specialisation. This is due to the scarcity of available records, to overcome which it seemed appropriate to collect records of companies in comparable manufacturing sectors, with records starting before 1984 in the case of Barletta, and before 1988 for San Mauro, to provide a sufficiently long period of analysis.

Both samples include mainly small companies, in terms of fixed net assets, although

the average size of companies in the Barletta sample is larger. A systematic comparison of company size in terms of employment is not feasible as only scant information about labour force is provided in the companies' annual reports.

### **III Capital structure**

This section provides an overview of the sources of finance utilised by companies in the two ID samples. Each type of finance has been calculated as a percentage of total liabilities. The various sources of finance displayed in graph 3 below include: short-term bank credit (STB); commercial debts (CD); market long-term credit (M LTC, including loans from financial institutions and bonds); internal funds (IF, including paid-up capital, contributions from directors and reserves) and government subsidies (GS, including subsidised loans and grants). Some components of total liabilities have not been included in the overview of the capital structure. These are various debts and provisions. Various debts include debts to employees, administrators, partners and tax payments. Provisions or contingency reserves are funds set aside to cover risk, uncertain liabilities and future expenses.<sup>13</sup>

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<sup>13</sup> The literature has different approaches to the interpretation of such funds. See Edwards, J. and K. Fisher, *Banks, Finance and Investment in Germany* (Cambridge, 1994), p. 58; J. Corbett and T. Jenkinson, 'The Financing of Industry, 1970-1989: An International Comparison', *Journal of the Japanese and International Economies*, 10 (1996), p. 73.

The components of liabilities displayed in graph 3 below have been calculated as a weighted average. The share in total liability of each source of finance has been computed for each district in each sub-period using the following formula:<sup>14</sup>

$$\text{e.g. 1971-75: } \frac{\sum_{t=1971}^{t=1975} i^j_t}{\sum_{t=1971}^{t=1975} I_t}$$

n

Where  $i^j_t$  denotes the amount of finance of type  $j$  in year  $t$ ,  $I_t = \sum_{j=1}^n i^j_t$

(there are  $n$  different types of finance).

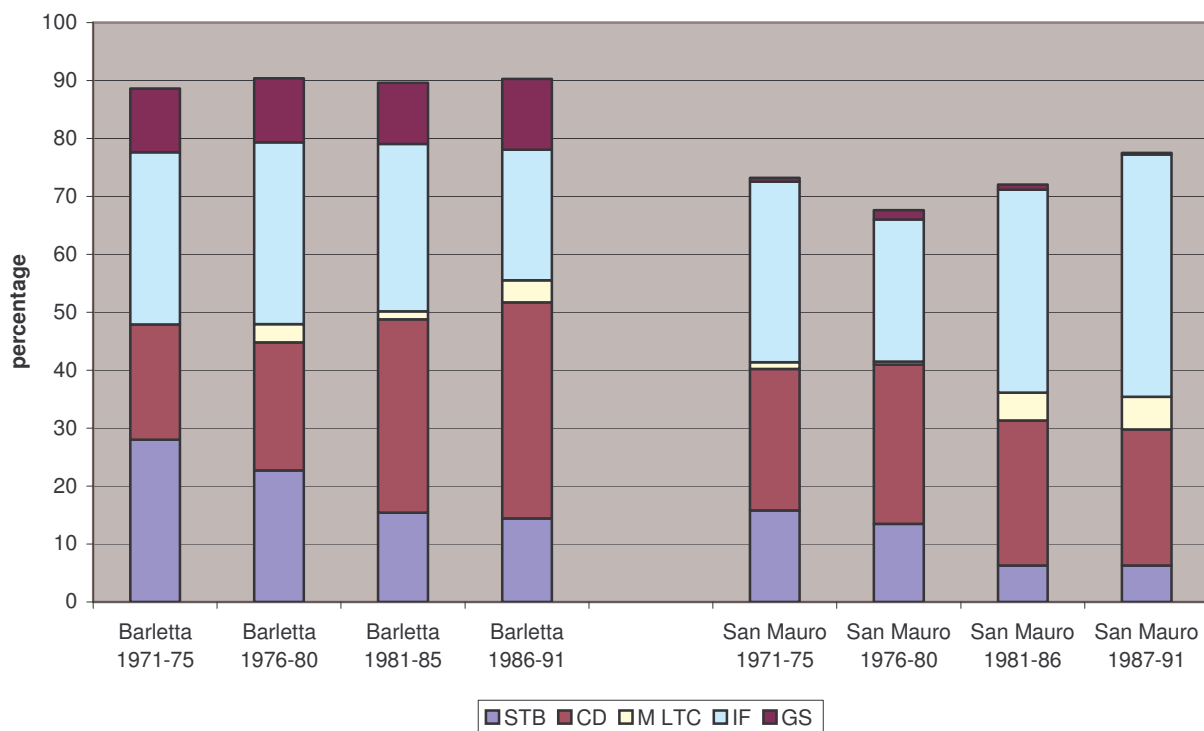
The analysis covers the 1971-91 period. It has been broken into sub-periods in an attempt to identify possible changes in the capital structure of these companies. Moreover, as not all 54 companies in the two samples traded or remained public from 1971 to 1991, breaking the period of analysis into sub-periods allows a clear identification of the number of company records available in each sub-period.

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<sup>14</sup> Edwards and Fisher, *Banks, Finance*, p. 60.



Graph 3: Capital structure of the Barletta and San Mauro samples



Keys: STB= short-term bank credit; CD= commercial debts; M LTC= market long-term credit; IF = internal funds including paid-up capital, contributions from directors and reserves; GS = government subsidies including subsidised loans and grants.

Source: CCB company balance sheets and CCF company balance sheets.

Graph 3 provides an assessment of the relative importance of the sources of finance mentioned in the introduction. The capital structure clearly shows the importance of commercial debts, mainly due to the long period of time over which firms can pay their suppliers, varying from a minimum of 3 months to a maximum of above 6.<sup>15</sup> In market practice, commercial debts are not considered proper debts, as they do not bear any interest. In spite of the high relative weight of commercial debts, these have a very limited importance when analysing firms' investment activity, whereas they are important for the firms' short-term liquidity.

<sup>15</sup> For details see Spadavecchia, 'Financing Industrial Districts', p. 581; F. Siracusano and C. Tresoldi, 'Le piccole imprese manifatturiere nel Mezzogiorno: diseconomie esterne, incentivi, equilibri gestionali e finanziari', in: Banca d'Italia, *Il sistema finanziario nel Mezzogiorno*, Numero speciale dei *Contributi all'Analisi Economica* (Rome, 1990), p. 136.

Short-term bank loans are current liabilities taken into account in the analysis of the capital structure. According to conventional financial criteria, these debts should be used to finance assets with a short-term life. Nevertheless they are relevant to this analysis as the literature points out that small companies are more reliant on short-term bank loans and overdrafts than large companies. Moreover, due to a lack of long-term capital in underdeveloped areas, companies in the Southern sample might show an even higher reliance on short-term capital. For instance, some companies in the Barletta ID sample clearly state in their reports that short-term bank capital was used to finance investment, which happened particularly when their application for subsidies had already been approved but the subsidised loans and/or grants had not yet been extended. Thus, short-term bank capital was used to bridge the gap.<sup>16</sup>

Long-term capital, including market long-term credit, government subsidies and internal funds are key elements of the analysis of the capital structure. These are the types of finance (long-term finance) that, according to conventional financial criteria, should be used to finance the purchase of fixed assets. Assets and liabilities should be kept in equilibrium according to their duration, as it would be risky to finance a long-term investment with a bank overdraft, which might have to be repaid at short notice.<sup>17</sup>

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<sup>16</sup> Siracusano and Tresoldi, 'Le piccole', p. 136; A. Cosh and A. Hughes, 'Size, Financial Structure and Profitability: UK Companies in the 1980s', in: A. Hughes and D.J. Storey (eds), *Finance and the Small Firms* (1994), p. 36; Chamber of Commerce in Bari (henceforth CCB), company SRO, Report 1984; company SBI, Report 1974 and 1979.

<sup>17</sup> J. Harnold, T. Hope and A. Southworth, *Financial Accounting* (1985), p. 200.

Market long-term credit, including loans from financial institutions and bonds, is a small proportion of the capital structure of firms in both samples. However, the relative weights of market long-term credit and short-term bank loans are comparable in the North-Eastern sample in the 1980s. This is not the case in the Southern sample, where market long-term credit is consistently smaller than its short-term counterpart. This is not surprising considering that the lack of long-term capital is one of the characteristics of underdeveloped areas that the regional policy, via incentives, intended to tackle.

Internal funds include various types of internally generated funds. They include reserves built with undistributed profits, paid-in capital, and loans and funds from directors. This is the type of finance traditionally believed to play an “exhaustive role” in the financing of firms within IDs. The capital structure of the two ID samples demonstrates that internal funds are important, but they are far from playing an exhaustive role.

Lastly, government subsidies, including grants and subsidised loans, are clearly more important for firms in the Southern sample than for the North-eastern counterpart. Such subsidies were available to Southern SMEs within the framework of the regional industrial policy and to firms in the rest of the country within the framework of the national industrial policy, since the 1950s. The tables below provide details of the major grants and soft loans schemes operating in the period under analysis.

Table 1: Grants by size of investment, Southern Italy, 1976

Investment (bn current lire)	Coverage (%)
0.2-2	40
2-7	30
7-15 <sup>a</sup>	20
> 15 <sup>a</sup>	15
> 7 <sup>b</sup>	20 (on the quota exceeding 7 bn)

a: until 1978

b: from 1979

Source: S. Pergolesi, *Il Credito Agevolato alle Imprese Industriali. Le Incentivazioni Gestite dal Ministero dell' Industria, 1962-1984* (Milan, 1988), p. 61.

Table 2: Soft loans scheme 902/76

Area	Firm size <sup>a</sup>	Max. invest..	Coverage <sup>b</sup>	Period	Interest (% R. R) <sup>c</sup>
South		15 bn <sup>d</sup>	40%	15	30
Centre <sup>e</sup>	< 5 bn	7 bn	60%	10	40
North <sup>e</sup>	<4 bn	3 bn	60%	10	40
Elsewhere	<2 bn	4 bn	50%	10	60

Keys:

a: firm size expressed in fixed assets

b: coverage as percentage of investment

c: interest rate as percentage of the reference rate

d: limit abolished in 1977

e: underdeveloped areas

Sources: Pergolesi, *Il Credito*, p. 63 (columns 1 to 4); S. Ronzani, 'Regional Incentives in Italy', in: D. Yuill, K. Allen and C. Hull (eds), *Regional Policy in the European Community* (1980), pp. 142-144 (columns 5 and 6).

Grants (table 1) were envisaged only for firms investing in the South, whereas soft loans (table 2) were for firms investing in the whole country, with preferential terms for the South and underdeveloped areas of the Centre and North.<sup>18</sup> Moreover, grants were more favourable to small firms whereas soft loans were intended particularly for firms undertaking large investments.

<sup>18</sup> The system of subsidies within the framework of the regional and national industrial policies was rather convoluted, with rationale and priorities frequently changing over time. For a more comprehensive discussion see A. Spadavecchia, 'Regional and national industrial policies in Italy, 1950s-1993. Where did the subsidies flow?', *Reading Business School Discussion Papers* (2007).

As mentioned in the introduction, recent studies, referring to Linda Weiss's thesis of non-neutrality of the Italian state in the development of SMEs, have focused on government subsidies for SMEs in Italy.<sup>19</sup> The works of Weiss and Rinaldi focus on government subsidies to artisan firms and analyses those from an institutional perspective. Weiss, in particular, found that mainly North-eastern regions benefited from government subsidies. The analysis of the capital structure undertaken in this section does not support Weiss's results as firms in the Southern ID benefited of government subsidies to a greater extent than the North-eastern counterpart.<sup>20</sup>

#### **IV The importance of subsidies for the investment activity and profitability of recipient firms.**

The previous section has shown the importance of government subsidies as a source of finance particularly for Southern firms. However, nothing has been said about the importance of subsidies for the growth of those firms, and in particular for their profitability and investment activity. In order to analyse this issue, this paper applies a methodology designed by Bagella and Caggese, according to which subsidies should increase the profitability of the recipient firms not only when firms receive subsidies, but also in the later stage of their trading life, when they are no longer subsidised.<sup>21</sup> If that is not the case, it might be argued that subsidies generate dependency and that firms could perform well only when subsidised.

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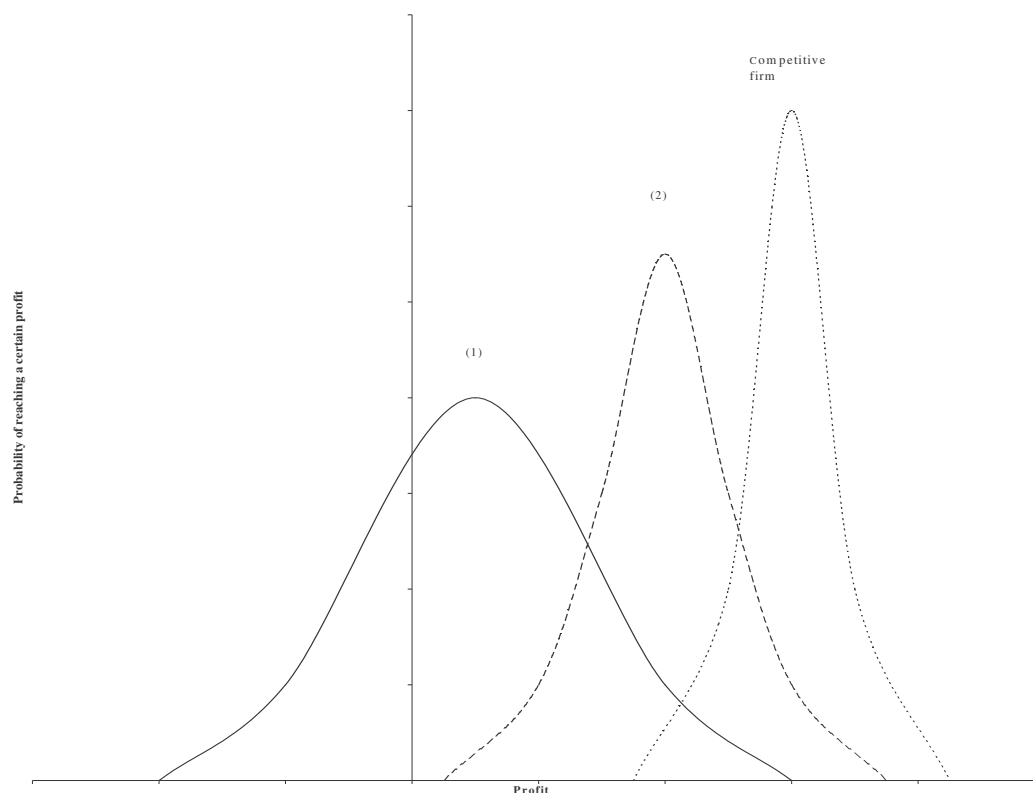
<sup>19</sup> Weiss, *Creating Capitalism*; Rinaldi, 'Industrial policy and artisan firms'.

<sup>20</sup> For a more detailed analysis of this point see Spadavecchia, 'Financing Industrial Districts'.

<sup>21</sup> Bagella, M. and A. Caggese, 'Struttura del capitale, finanziamenti agevolati e redditività delle imprese manifatturiere italiane', *Rassegna Economica*, 59 (1995), pp. 813-837.

According to the Bagella and Caggese methodology, firms' profitability should increase when they are subsidised, and therefore firms should move from position (1) in the graph below, characterised by low and highly variable profit, to position (2), with higher and less variable profit, when receiving subsidies. This should happen because subsidies increase the recipient companies' profits and decrease the variability of profits – an indicator of risk – by providing an additional fixed component to their profits. However, in order to assess the impact of subsidies it is crucial to study the position occupied by the company in the post-subsidy stage.<sup>22</sup>

Graph 4: Profitability and risk of subsidised and non-subsidised firms: the ideal scenario.



Source: Bagella and Caggese, 'Struttura del Capitale', p. 836.

For companies in the post-subsidy stage, to return to position 1 would mean that their

<sup>22</sup> *Ibid.*, p. 836.

profitability could be improved only by constant subsidies, which would entail a permanent capture of government funds, the breaking of the link between firms' performance and their efficiency, and in extreme cases the bailing out of troubled firms.<sup>23</sup> Moreover, if the profitability of a company in the post-subsidy stage goes back to position 1, the company will be perceived by banks as a 'bad company' and therefore will be credit-rationed, whereas if it remains in position 2 or moves to the 'competitive firm' position it should not experience credit rationing again. Therefore, for subsidies to be considered effective, it is crucial that companies not only move from position 1 to position 2 when subsidised, but also that companies in the post-subsidy stage at least remain in position 2, or preferably, move even further to the right on the graph, closer to the ideal position of a 'competitive firm'. This should happen because as the firm is a learning organisation the recipient company should learn how to conduct its business better while in the subsidised stage.<sup>24</sup>

Bagella and Caggese were unable to perform that analysis in full as their dataset, including balance sheet indicators and qualitative information on 3,852 manufacturing firms trading between 1989 and 1991, allowed them only to assess whether or not the company had been subsidised in that period, and from which scheme it benefited.<sup>25</sup> It was not possible for them to isolate companies that had been subsidised in the years prior to the survey or to know whether or not companies that were not subsidised between 1989 and 1991 had received subsidies in the past.

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<sup>23</sup> C.W. Calomiris and C. P. Himmelberg, *Government Credit Policy and Industrial Performance: Japanese Machine Tool Producers, 1963-1991*, World Bank Policy Research Working Paper, no 1434 (Washington, 1995), p. 5.

<sup>24</sup> This aspect of a firm is captured by works on learning by doing. See for instance N. Lamoureaux, N.R., D.M.G. Raff and P. Temin (eds), *Learning by Doing in Markets, Firms and Countries* (Chicago, 1999).

<sup>25</sup> Mediocredito Centrale Osservatorio sulle Piccole e Medie Imprese, *Indagine sulle Imprese Manifatturiere* (Rome, 1995).

The two ID samples used in this analysis have been constructed with companies' raw records over time, and therefore it has been possible to identify the subsidies and their timing, and divide accordingly the companies' life into stages, i.e. before receiving subsidies, while subsidised and after receiving subsidies, and separate them from companies that were never subsidised. This subdivision reduces considerably the number of observations available for each group, and therefore the division of observations into sub-periods, applied in graphs 3 and 4, has been abandoned and the observations have been aggregated for the whole 1971-91 period. Due to the small size of the samples, the results of this analysis should be considered as indicative, nevertheless it seemed worthwhile to throw some light on a hitherto unexplored issue.



Table 3: The effectiveness of subsidies on promoting investment, Barletta and San Mauro samples, 1971-91.

	Firms <sup>a</sup>	Age (average)	InvR <sup>b</sup> (w.a.)	Net investment (mill. 1980 Lire)	FNA%TA <sup>c</sup> (w.a.)
<b>Barletta</b>					
Pre-subsidy	16	3.5	0.35	116.3	32.2
Subsidised	26 (3)	12.1	0.23	145	37.3
Post-subsidy	6 (2)	17.9	0.14	32.1	37.9
Never subsidised <sup>d</sup>	6 (4)	7.6	0.29	42.9	26.8
<b>San Mauro</b>					
Pre-subsidy	4	9.0	0.36	36.9	37.4
Subsidised	11 (2)	18.0	0.19	81.7	17.1
Post-subsidy	4	19.7	0.16	148.0	17.5
Never subsidised <sup>d</sup>	9 (4)	7.9	0.25	22.7	15.5

Keys: a: number of companies in each groups, number of failed companies in brackets;

b: investment ratio (weighted average); the investment ratio was computed as net investment divided by existing net capital stock;

c: fixed net assets as a percentage of total net assets (weighted average);

d: 'never subsidised' companies (excluding bankrupt companies' final year of activity).

Source: CCB company balance sheets and CCF company balance sheets.

The three sub-samples - pre-subsidy, subsidised and post-subsidy - portray a hypothetical life cycle of companies in the two samples, from younger when unsubsidised to older in the subsidised stage. The more advanced age of companies in the subsidised stage indicates the difficulty of securing subsidies in the early stage of a firm trading life, which is confirmed by previous studies and is explained with the involvement of credit institutions in handling subsidies. These are cautious in

extending loans to new businesses, rather than to companies with a proven track record.<sup>26</sup>

As shown in tables 1 and 2, the direct aim of the government subsidies was to promote firms' investment activity. Therefore the Bagella and Caggese methodology has been applied to study investment in the sample firms. The results of the analysis are displayed in table 3 above. Firms in the pre-subsidy stage in both samples display the highest value of investment ratio – i.e. new investment divided by the existing net capital stock. This is likely to be due to the small size of the total assets, which these firms are in the process of building up.

According to the two indicators of investment activity in table 3, i.e. investment ratio and absolute value of the investment, Southern companies reach the highest level of investment when they are subsidised, with the investment activity declining sharply in the post-subsidy period. This can be due either to the high level of fixed assets reached in the subsidised stage, which would reduce the scope for further profitable investment in the post-subsidy stage (see indicator  $FNA\%TA$ ), or else to the sharp decline of the companies' profitability (see table 4) which is likely to lead to financial constraints. On the contrary, North-Eastern companies behave in the 'ideal' way, as their investment activity increases in the subsidised stage and increases even further in the post-subsidy period.

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<sup>26</sup> A. Del Monte, 'The Effects of Regional Policy on the Industrial Development of the South of Italy', *Mezzogiorno d'Europa*, 4/4 (1984), pp. 578-579; A. Del Monte and R. De Luzenberger, 'The Effect of Regional Policy on New Firm Formation in Southern Italy', *Regional Studies*, 23/3 (1989), p. 225.

In a graph similar to graph 4 above, with investment instead of profits on the X-axis, both Southern and North-Eastern companies move from position 1 to position 2 when they receive subsidies. However, when Southern companies are no longer subsidised they return to position 1, whereas North-Eastern companies would move further to the right towards the ‘competitive firm’ position. This implies that in order to promote the investment activity of Southern firms these should be subsidised constantly, which in turn indicates the ‘dependence’ of recipient firms on subsidies and a permanent capture of government funds.

Table 4: The effectiveness of subsidies on profitability, Barletta and San Mauro samples, 1971-91 (weighted averages, coefficient of variation in brackets)

	Firms <sup>a</sup>	ROE <sup>b</sup>	RR <sup>c</sup>	LTC%FNA <sup>d</sup>
<b>Barletta</b>				
Pre-subsidy	16	0.6 (3.35)	0.6 (3.4)	74.4
Subsidised	26 (3)	5.1 (2.7)	4.0 (2.4)	116.4
Post-subsidy	6 (2)	0.2 (1.02)	0.22 (0.9)	100.7
Never subsidised <sup>e</sup>	6 (4)	11.2 (7.7)	15.3 (5.8)	126.7
<b>San Mauro</b>				
Pre-subsidy	4	4.3 (1.6)	4.13 (0.4)	135.5
Subsidised	11 (2)	12.0 (1.2)	9.6 (1.2)	222.0
Post-subsidy	4	15.3 (0.7)	13.12 (0.6)	256.8
Never subsidised <sup>e</sup>	9 (4)	12.8 (1.8)	10.9 (1.6)	250.8

Keys:

a: number of companies in each groups, number of failed companies in brackets (same column as in table 3)

b: return on equities defined as profit (or losses) divided by equities (weighted average);

c: rate of return defined as profit (or losses) divided by long-term capital (weighted average);

d: Long-term capital as a percentage of fixed net assets;

e: ‘never subsidised’ companies (excluding bankrupt companies’ final year of activity).

Source: CCB company balance sheets and CCF company balance sheets.

Table 4 presents two measures of profitability: ROE or return on equity and RR or return on long-term capital. Southern companies shift from low profitability and high risk – or variability of profitability, expressed by the coefficient of variation – before subsidies to higher profitability and lower risk when subsidised. In the post-subsidy stage they become much less profitable and less risky, displaying values below those of the pre-subsidy stage. Therefore from position 2 in the graph, not only do they not progress to the ideal position of the ‘competitive firm’, but they even retreat beyond the initial position (1) occupied in the pre-subsidy stage.

On the contrary, North-Eastern companies display the ‘ideal’ behaviour, as far as their profitability is concerned. They move from position 1 before subsidies to position 2 when subsidised, and in the post-subsidy stage they move closer to the ‘competitive firm’ position. Companies never subsidised in both samples seem to opt for a high-profit and high-risk strategy, which entails a higher probability of failures, as also indicated by the high number of failed companies in the never-subsidised groups.

Southern companies with access to subsidies seem to pursue a ‘survival’ strategy, whereas unsubsidised ones pursue a ‘profit maximising’ strategy, or in the words of the sociological literature subsidised entrepreneurs prefer to reap benefits from institutions and abandon the economic rationale.<sup>27</sup> However, this might not be the case and Southern subsidised firms might also be pursuing an economic rationale.

Previous research indicated the different conditions in which companies in the two ID samples cease their activity. Southern firms fold after a long period of losses and

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<sup>27</sup> C. Trigiglia, *Sviluppo senza Autonomia* (Bologna, 1992), pp. 93-94.

when they are financially distressed, while North-Eastern firms close down as soon as their turnover and profits are decreasing and their level of capitalisation (in term of finance) is still very high.<sup>28</sup> This indicates that the priority of Southern firms is to continue trading, whereas the priority of the North-Eastern firms is making profits. Moreover, the low capitalisation of Southern companies (see indicator LTC%FNA in table 4), and particularly the scarcity of company-owned capital suggests that Southern companies would have very little capital, if any, to cover possible losses, which is not the case for their North-Eastern counterparts.

With the obvious historical differences, the low-profit and low-risk strategy of Southern subsidised firms can be compared to the behaviour of medieval English peasants as explained by McCloskey.<sup>29</sup> Before the enclosures (consolidated holdings) of the seventeenth and eighteenth centuries, farmers opted for scattered plots, despite the fact that the former provided them with a higher average income. McCloskey explains that this happened because the farmers' priority was avoiding disaster, where disaster means falling below the subsistence level. Scattered plots produced a lower but less variable income than consolidated land, therefore by choosing the former the peasants reduced their chances of incurring disaster.

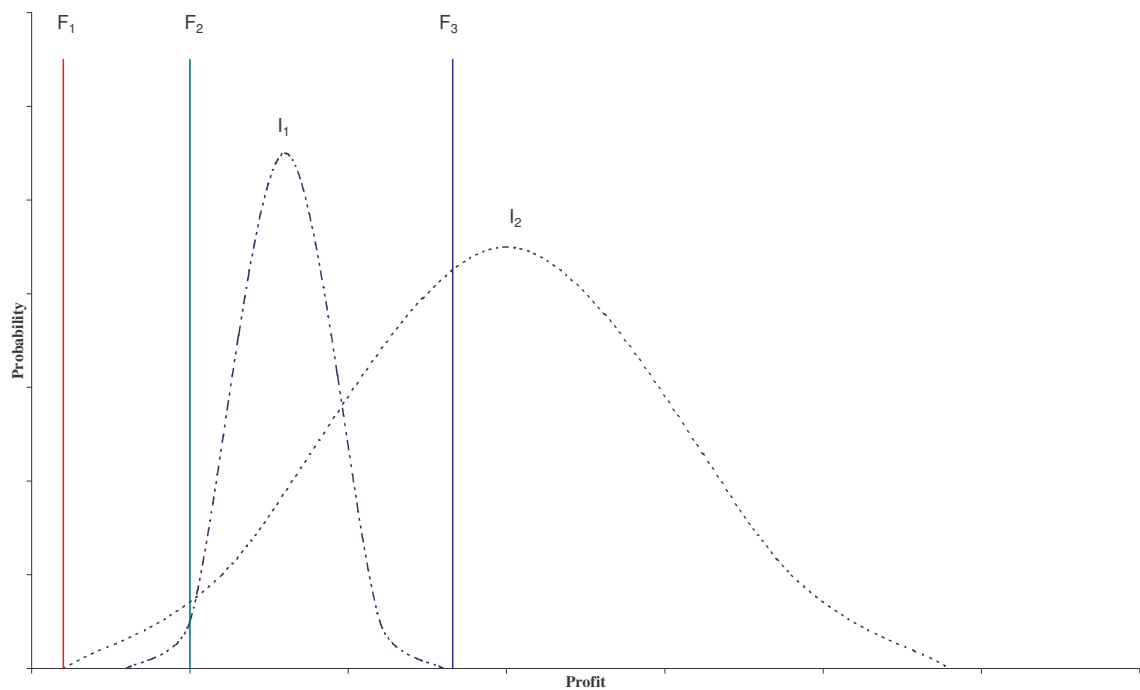
The scenario in which companies in the two ID samples operate, as far profitability is concerned, is represented in the following graph, where net profit is defined as total revenues minus total costs.

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<sup>28</sup> Spadavecchia, 'Financing Industrial Districts', pp. 584-587.

<sup>29</sup> D.N., McCloskey, 'English Open Fields as a Behaviour towards Risk', *Research in Economic History*, 1976/1 (1976), pp. 124-170.

Graph 5: Profitability, risk and failure threat in the two ID samples



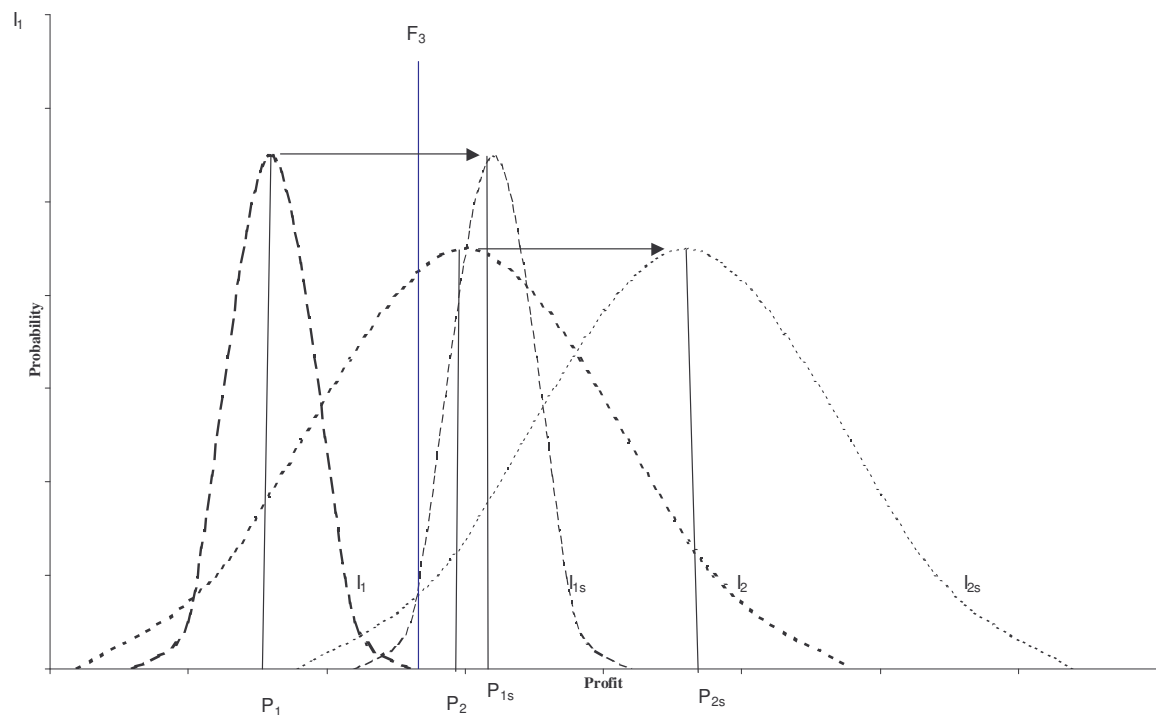
Source: adapted from McCloskey, 'English Open Fields', p. 131.

In this case the disaster is the failure of the firm and the decision rule is minimising the probability of failure. If the failure threat were in position  $F_1$  neither high-profit high-risk ( $I_2$ ) nor low-profit low-risk ( $I_1$ ) investment could endanger the company, therefore an economically rational company would choose  $I_2$ . If the failure threat were in position  $F_2$ , it would choose  $I_1$ , as this would minimise its possibility of failure. If the failure threat were in position  $F_3$  the company has no choice: it needs high profits to continue trading, and has to undertake  $I_2$ .

Therefore, if  $F_1$  represents the failure threat for North-Eastern companies and  $F_3$  for Southern companies, both groups should choose  $I_2$ : North-eastern companies to maximise their profits, and Southern companies to survive. However, there is another

element to be taken into account, namely subsidies. The following graph shows what happens when subsidies are introduced in this scenario.

Graph 6: The effect of subsidies on profitability and risk.



Source: see text.

Subsidies decrease the cost of the investment and therefore increase the net profit, moving it from  $P_1$  to  $P_{1s}$ . Similarly, subsidies move  $P_2$  to  $P_{2s}$  but  $I_{2s}$  entails a higher probability of falling behind  $F_3$ , therefore the subsidised company will choose  $I_{1s}$ .

However, in the long term, choosing  $I_{1s}$  is economically rational only if the scenario in graph 3 is permanent - after all, English peasants chose scattered plots for centuries - meaning if there is the possibility of receiving subsidies frequently. If a company knew that after its current subsidy ended it had to undertake a high-risk high-profit investment to survive, it would perceive that undertaking this investment while still

being subsidised would reduce the risk of such investment. In graph 3, the area behind  $F_3$  in the case of  $I_{2s}$  is smaller than in the case of  $I_2$ . In this case, the company would reap higher profits, which would make its financial situation sounder (for instance increasing its reserves and thus increasing its creditworthiness) and therefore push its own  $F_3$  to the left. Moreover, Southern subsidised companies will keep undertaking  $I_{1s}$  because frequent subsidies increase the potential loss that partners would face in the case of company failure, as it would mean losing the company income plus frequent and considerable subsidies. In other words, the access to frequent subsidies increases the opportunity cost of a company's failure.

Therefore, the different levels of the failure threat and the frequency of the subsidies can explain the differences in the behaviour of companies in the two ID samples. Companies in the North-Eastern sample have a failure threat level so low (see for instance their level of overcapitalisation in terms of finance in table 4, indicator  $LTC\%FNA$ ) that whether non-subsidised or subsidised they choose a high-profit and high-risk investment. Companies in the Southern ID sample, having a higher level of failure threat (see for instance their financial capitalisation) choose a high-profit and high-risk strategy if that is the only possibility to survive, i.e. if they belong to the unsubsidised group.

## **Conclusions**

This paper has investigated the sources of finance utilised by SMEs within IDs, and assessed their impact on the investment strategy and profitability of firms. The analysis confirmed the importance of internally generated funds, but it disproved their



exhaustive role, as claimed by long-held assumptions. The capital structure confirmed the importance of short-term bank credit and commercial credit, with the former being particularly important for Southern firms. However, while these sources of finance are surely important for the short-term liquidity of firms, they are less important for firms' investment activity.

Particular attention has been devoted to the role played by government finance in the growth of firms within IDs, an issue that has received renewed attention in recent work. This paper contributes to this line of research by assessing the comparative importance of subsidies from the perspective of recipient firms and their impact on the investment activity of such firms.

The analysis of the capital structure shows that subsidies have a greater relative weight for Southern firms, than for their North-eastern counterparts. However, their impact on Southern firms' investment strategy and profitability is ambiguous. Southern companies' investment activity and profitability increase during the subsidy stage, but fell when they were no longer subsidised, something that did not happen to firms in the North-eastern sample. The interpretation put forward in this paper singles out various factors that determined such an outcome, pertaining to both market and government failures. On the one hand Southern SMEs face a higher probability of failure due to a riskier economic environment and lower levels of firm capitalisation. On the other hand, the management of subsidies in the South, in particular the amount and frequency with which those were extended, made a low-profit and low-risk strategy the most economically rational choice for Southern firms.

The deterioration of the economic performance of Southern firms in the post-subsidy stage contrasts sharply with the improved performance of their North-Eastern counterparts. This clearly indicates the dependence of companies in the Southern sample on subsidies, whereas the North-eastern firms show autonomy from subsidies, as their performance improves even in the absence of subsidies. Therefore, the growth of Southern SMEs cannot be considered as self-sustaining as in the North-East.

This analysis enhances our understanding of the factors contributing to the development of Italian IDs. In particular, it confirms the contribution of the state in promoting this pattern of capitalism both in the South and in the North-East. State finance was very important to Southern firms as it represented an important source of long-term finance. It was a much smaller source of finance for North-eastern firms, but even there the importance of subsidies cannot be underestimated due to their effectiveness. Previous work had stressed the importance of state finance in the development of SMEs in the North-East on the basis of the flow of funds directed to those regions. This work confirms this importance but in terms of effectiveness rather than volume of funds.

## Appendix

### Records at the Chamber of Commerce in Bari

Folder No	Company	Legal status	Established	Records available		Product
				From	To	
826	San	Pb/Ltd (1988)	1936	1951	1991	Food processing
1,786	Sma	Pb	1959	1959	1976	Clothing
2,140	Svr	Ltd	1967	1967	1991	Food processing
2,191	Sin	Ltd	1967	1968	1989	Food processing
2,169	Ser	Ltd	1/1967	1969	1985	Wood processing
2,442	Sfi	Ltd	1/1971	1971	1991	Textiles
2,564	Sbc	Ltd	1/1972	1972	1991	Textiles
3,603	Stu	Pv/Ltd (12/1977)	3/1972	1978	1991	Wood processing
2,635	Svc	Ltd	11/ 1972	1973	1991	Food processing
2,614	Sfs	Ltd	11/1972	1973	1985	Textiles
2,674	Sab	Ltd /Pv (1986)	2/1973	1973	1986	Footwear
2,690	San	Ltd	3/1973	1973	1983	Clothing
2,645	Sbia	Pb	1973	1973	1991	Clothing
2,632	Sal	Ltd	1973	1973	1979	Clothing
2,586	Sar	Ltd	1973	1973	1988	Footwear
2,749	Sri	Pb	10/ 1973	1974	1991	Footwear
2,769	Sst	Pb	11/ 1973	1974	1990	Plastic
2,788	Spl	Pv/Ltd (4/1984)	12/1973	1984	1991	Footwear
2,840	Sca	Ltd	3/1974	1974	1987	Footwear
2,888	Sil	Ltd	6/1974	1975	1989	Wood processing
3,094	Smo	Ltd	11/1975	1976	1981	Clothing
3,400	Sga	Ltd	3/1977	1979	1991	Footwear
3,479	Sto	Ltd	10/ 1977	1978	1991	Footwear
3,546	Sbim	Ltd	11/1977	1978	1991	Clothing
3,593	Ste	Ltd	12/1977	1978	1991	Footwear
4,165	Sec	Ltd	1/1980	1980	1991	Footwear
4,427	Sja	Ltd	9/1980	1980	1991	Clothing
4,790	Sli	Ltd	6/1981	1981	1991	Footwear
4,110	Spo	Pv/Ltd (1983)	1979	1983	1988	Footwear
5,491	Sro	Ltd	1983	1983	1991	Footwear
5,475	Ssa	Ltd	2/1983	1983	1991	Footwear
4,600	Sco	Pv/Ltd (6/1984)	3/1981	1984	1991	Footwear

Keys: Pv= Private partnership; Ltd = Limited liabilities; Pb= Public share.

## Records at the Chamber of Commerce in Forlì

Folder n.	Company	Legal status	Established	Records available		Product
				from	to	
2,996	Nla	Ltd/Pv (1966-71)	1955	1956	1991*	Footwear
3,751	Nde	Pb	1962	1963	1967	Footwear
4,442	Nci	Pv/Ltd (10/1974)	7/1968	1974	1991	Metal chairs
5,676	Neu	Ltd	3/1974	1974	1991	Footwear equipment
5,212	Nrs	Pv/Pb (12/1975)	4/1967	1976	1991	Footwear
5,581	Nwi	Ltd	12/1973	1974	1979	Footwear
7,280	Nma	Ltd	2/1978	1978	1987	Footwear
8,146	Nal	Pb	9/1979	1979	1991	Clothing
8,367	Nca	Pv/Pb (2/ 1980)	9/1966	1981	1991	Footwear
4,935	Npo	Pv/Pb (12/1980)	2/1972	1981	1991	Footwear
3,484	Nfa	Pv/Pb (4/ 1981)	1/1961	1981	1991	Footwear
4,662	Nfr	Pv/Pb (6/ 1982)	2/1970	1982	1991	Clothing
10,471	Nri	Ltd	6/1982	1982	1991	Footwear
10,417	Nrf	Ltd	5/1982	1982	1991	Leather items
4,351	Nvi	Pv/Ltd (11/1982)	8/1967	1983	1985	Footwear
6,934	Nrm	Pv/Ltd (2/1983)	6/1969	1983	1987	Clothing
11,850	Npn	Ltd	4/1984	1984	1991	Footwear
5,325	Nrt	Pv/Ltd (9/1985)	4/1973	1985	1991	Paper/card boxes
12,904	Nti	Ltd	4/1985	1985	1991	Footwear
11,263	Nip	Pv/Ltd (5/1989)	9/1983	1989	1991	Packaging
13,580	Npl	Pv/Ltd (7/1989)	12/1985	1989	1991	Leather items

Keys as above; \* excluding 1966-71 and 1973.

## The case studies: Barletta and San Mauro IDs

