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Opening the black box of Entrepreneurship:
the Italian case in a historical perspective

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Abstract: The main objective of this paper is to shed light on the Italian entrepreneurship between the beginning of the Second industrial revolution and the end of the XX century. It is based on a new dataset concerning the profiles of 386 entrepreneurs. The results are twofold: first, by proposing an empirical based-taxonomy of Italian entrepreneurs not exclusively based on intuitions and qualitative judgments, we provide valuable interpretative elements; second, we put forward some hypothesis about the relationship between entrepreneurship and Italian economic growth. In particular we perform a Cluster Analysis which singles out five different entrepreneurial typologies characterized by a widespread tendency to searching for new markets, yet a scarce attitude towards innovation. Further we suggest that the evolution of the institutional context slowed down the development of the entrepreneurial abilities and virtues necessary to grow.

JEL classification: N83, N84, L26

Keywords: History of Entrepreneurship; Italian capitalism

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1. Introduction

Western economies' recent troubles did not hurt the renewed interest towards entrepreneurship that followed the fresh, unexpected flowering of the "new entrepreneurial economy" stimulated by the ICT revolution (Audretsch and Thurik 2001; Freeman and Louçã 2001): by lowering transaction costs and uncertainty, this bunch of technologies re-launched market coordination at the expense of the visible hand (Langlois 2003). Because of the essentially technological matrix of these changes, attention has been increasingly focusing upon the role played by innovation in determining entrepreneurship and, more generally, on the relationship between the latter and economic growth, therefore revitalizing and implementing Schumpeter's original intuitions (Schumpeter 1934, 1939; Baumol 1990, 2010b). A new sentiment seems to peep out also in those economic approaches luring at an ideal-type market economy where the entrepreneurial role was not even hypothesized.¹

According to William Baumol (2010b) only a microeconomic approach is likely to cope with these questions by setting the Schumpeterian entrepreneur in the right position within the economic analysis. But do the innovative capabilities exhaust the traits of the entrepreneur? Probably they don't. In the economic literature there are at least two other main concepts which influenced the fine-tuning of his character: the first is an ancient one, risk and arbitrage, more recently developed both in the neoclassical and the neo-Austrian schools (see especially: Kirzner 1973, 1997); the latter is coordination, with reference of course to factors of production, which seems to have inspired also Alfred Marshall (1920) in his definition of organization as the fourth factor of production.

As difficult as it can appear at the analytical level, a promising approach would be merging the foresaid different research perspectives, by defining entrepreneurship in terms of its ability to exploit opportunities from time to time arising in the market. Entrepreneurial opportunities refer to those situations where new products, processes, markets, material resources and organizational structures – in practice the "new" production functions already evoked by Schumpeter – can be introduced into the market and sold at a price greater than their cost. Because of information asymmetries and different cognitive capabilities, only some individuals are able to detect these opportunities, whilst the nature of the opportunity (sector, demand, etc.) and specific attributes (context, motivation, personality, etc.) explain why only a few succeed in exploiting them (Casson 1982; Shane and Venkataraman 2000).

¹ For instance, in a special supplement of *The Economist* devoted to the new entrepreneurial drive, the question if entrepreneurship was becoming mainstream was provokingly and repeatedly asked. See *The Economist* (2009).

The second largely debated theme concerns the role of entrepreneur in economic growth and particularly when and how the statement “more entrepreneurship is equal to more growth” works (see for instance Audretsch and Keilbach 2006). On the one side, the association between growth and the single successful entrepreneur, therefore aligned with the “first” Schumpeter, keeps on being appealing, as shown by the title – “Global Heroes” – of the recent special issue of *The Economist* (2009). On the other a number of solid empirical studies have shown the impact of breeding grounds of entrepreneurship, either self-employment or the grey zone which stands between this and the mid/top level firms (Shane 1996; Djankov et al. 2006; Tortella, Quiroga, and Moral-Arce 2009). But does this mean that just the presence of an entrepreneurial class is the necessary and sufficient condition to attain economic growth? Baumol’s recent remarks can add clarity. In distinguishing between *innovative* and *replicative* entrepreneurs, he maintains that only the first would foster “Good capitalism” as contrasted to “Bad capitalism”, that is the almost static capitalism stemming from the excessive interaction between state and monopoly capitalisms (Baumol, Litan, and Schramm 2007). Lately the same author – adding on his by now classical 1991 contribution - has proposed a further useful distinction, the one between *redistributive* and *productive* entrepreneurs, whose respective influence depends primarily on the institutional and normative context: obviously the ones who implemented the productive capacity during the industrialization process are the latter, while the first best expressed themselves in the preindustrial period (Baumol 2010a; Henrekson and Sanandaji 2010).

The role played by entrepreneurship in economic growth has been increasingly evaluated in historical perspective (Foreman-Peck 2005; Landes, Mokyr, and Baumol 2010; Garcia-Ruiz and Toninelli 2010), emphasizing the role played by institutional and cultural factors (Mokyr 2010; Foreman-Peck and Zhou 2010), by innovation (Graham 2010; Lamoreaux 2010; Wengenroth 2010) and by choices of investment (Casson and Godley 2010).

Turning to the Italian case, the issue of entrepreneurship has long been rather overlooked primarily because of the scarcity of historical material, particularly of the analytical type (Bigazzi 1990; Friedman and Tedlow 2003).² Until the late 1970s, in fact, Italian historiography focused mostly on the “macro-level” topics such as economic growth and development, structural change, backwardness, North-South dualism and so on (Giannetti and Vasta 2006). Second, because of the ambiguous attitude toward the figure and the role of the entrepreneur running throughout the country’s economic and social history (Gramsci 1949, 1966; Gerschenkron 1962).

² On the contrary such a topic has been long considered in other countries. See for instance Friedman and Tedlow (2003) and Corley (2006).

There was however a major exception, the 1980 path breaking contribution by Franco Amatori (1980), whose title explicitly referred to “entrepreneurial typologies” of Italian industrial history. He suggested a very simple scheme, that outlines an enduring threefold structural character of the country’s entrepreneurship: “private”, “supported” and “public” entrepreneurs.³ Recently Amatori (2011) updated his previous essay on the basis of the ample literature of the last thirty years: he reformulated his statements and added new entrepreneurs’ typologies.

On the one hand, Amatori better defined the first two typologies above mentioned. The private one was best represented by the “Milanese” entrepreneur, open to international markets: Lombard capitalism in fact was fertile ground for foreign entrepreneurs and capable to absorb flows of foreign direct investments. The “supported” typology – the “Genoan” – was now split in three sub-categories: the one which mixed “patriotism and business”, the “negotiators”, able to mediate with politics, and the “samurai”, acting exclusively in the interest of the State. The “public” typology remained substantially unchanged. Moreover, Amatori, who had hypothesized a “hybrid” category as a fusion of the first two typologies, epitomized by Giovanni Agnelli, the Fiat tycoon, added to him the head of Montecatini, Guido Donegani.

In addition, Amatori, trying to cope with the different phases of Italian capitalism, identifies new emerging typologies. The two decades after the WWII, the “Glorious years”, are in fact associated with the rise of the “Real Schumpeterian” typology, the entrepreneur able to move along the mass production trajectory. The 1970s big crisis, with the decline of the State entrepreneur, went along with the rise of criminal entrepreneurs in the Southern regions. At the same time, the Northern and the Centre regions saw the astonishing affirmation of the industrial districts, characterized by widespread entrepreneurship exploiting flexible production and the existence of strong local and family relations. Finally, Amatori focused on single heroes. On one side, the “ephemeral condottieri” of the 1980s such as Gianni Agnelli and Raul Gardini, whose success was short-lived also as consequence of the anarchic (that is unregulated) nature of Italian capitalism. On the other side, “the entrepreneur who took the state”: Silvio Berlusconi.

In a nutshell we can say that Amatori’s typologies, although proposing an interesting frame of Italian capitalism, mix up many variables and use different schemes. For the period prior to WWII, focus is on the attitude towards the market whilst the simple dichotomy state/market is given a strong explanatory power. For the following phase, Amatori proposes a flowering of typologies

³ Later contributions largely built upon the 1980 Amatori’s contribution, often dwelling on sector, individual or cluster initiatives (Amatori and Brioschi 1997; Doria 1999). Only in recent times new insights into the categories of entrepreneurial networks, family entrepreneurs and/or outward looking entrepreneurs had been added (Colli 2002, 2003; Federico and Toninelli 2006).

identified on the basis of different interpretative lenses such as forms of enterprises, institutional context, fluctuations of economic cycle and so on.

The aim of this paper is to shed further light on Italian entrepreneurship going beyond Amatori's typologies. To us it seems that the most useful way to investigate Italian entrepreneurship is proceeding through a feedback between theory and analysis, between deductive and inductive methods in a way that hypothesis and generalizations produced by the first could then be verified, corrected and adapted through field investigation. Based on an original collection of empirical data, our research will be oriented by suggestions coming from the conceptual elaborations stimulated by the renewed interest toward entrepreneurship. Its primary objective will be a taxonomy of the country's entrepreneurship which, being empirically supported, could catch its basic tendencies and go well behind schemes and typologies so far produced by historiography. We believe that the construction of lengthy diachronic taxonomies must follow a homogenous framework implying the same theoretically based explanatory variables.

Finally, our taxonomy will hopefully contribute to answering some big questions concerning the nature of Italian capitalism: to what extent Italy's winding road to growth and prolonged backwardness are to be explained by her structural absence of those Schumpeterian (and Kirznerian) virtues – innovative capacity and risk-taking – which were at the basis of the Anglo-American or German success? How much of the ancient creativity and talent, universally recognized as the essential elements of the Renaissance success, survive in contemporary Italy, so to act as substitutive factors of those frailties?

This essay is organized as follows: Section 2 describes the source utilized in this study, while Section 3 gives some details on the descriptive statistics which provides the main characteristics of the entrepreneurs. In Section 4 the descriptive approach is refined by introducing the statistical techniques – multiple correspondence analysis and cluster analysis – which produce the entrepreneurial typologies presented in Section 5. Few concluding remarks are offered in Section 6.

2. *The source*

The main source of this research is a collection of entrepreneurial biographies prepared for an ongoing Dictionary of Italian Entrepreneurs, which unfortunately, for budgeting reasons, had to stop at the letter N: it has so far processed about 600 "gross" entries⁴. Such a number however is comprehensive of figures which might stand out for political more than entrepreneurial reasons or

⁴ The research has already produced a first contribution (Toninelli and Vasta 2010), which however were based on a smaller sample of entrepreneurs (matching with the entries of the first volume of the Dictionary, which gathers individuals with surnames between the letters A and D).

that acted primarily as managers. From a practical point of view this means that such a rough estimate has to be depurated from spurious entries, but at the same time increased by the variable number of characters that have been taken into consideration in the dynastic biographies referred not to a single entrepreneur, but to an entrepreneurial family.

Moreover, to give more diachronic substance to the evolution of the country's entrepreneurship, the data set has been divided in two subsections – before and after the Second Industrial Revolution. The divide was fixed at the year 1870 on the hypothesis that all the entrepreneurs active before that date could not have felt the influence of that great wave of innovations yet nor of the effervescent and dynamic climate around it. As a consequence the individuals born before 1850 have been eliminated from the sample, thus further reduced to 462 entrepreneurs. Finally as the aim of the research is not just the detection and classification of those who exert the entrepreneurial function, but rather of the “pure entrepreneurs” (much in the tradition of the “first” Schumpeter), 76 managers, identified as such by a specific cluster, have been isolated: therefore 386 is the final number of the biographies used in this work.

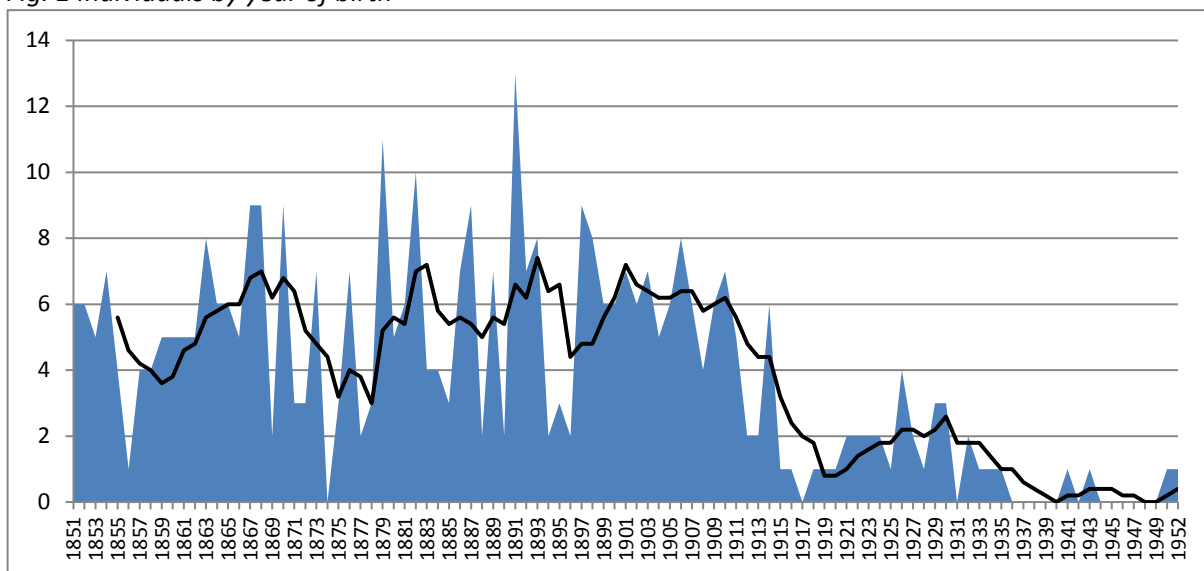
These biographies were classified according to a great number of variables chosen on the basis of the suggestions coming both from history and theory: the most significant are presented in Table 1. The following aspects have been considered: demographic variables (such as gender, dates and location of birth and death, age at which the entrepreneurial activity began), background (social class, family relations), human capital formation (level and field of education, travels and training abroad), networks (affiliation, involvement in politics). Moreover, following theoretical suggestions, we took into consideration the propensity to innovate, with the fundamental distinction between *productive* innovations – process and product – and *redistributive* innovations – new sale and/or production markets –, the ways of company acquisition, the macro sector of activity. Finally, in order to evaluate entrepreneurial success, other variables have been examined: for instance, the innovation levels, the rate of growth of the firm as well as the invention and the life of a successful brand.

3. The data

As mentioned before, the sample covers a large period of the Italian economy: all individuals are born in a time span of one hundred years, that is between 1851 – ten years before the unification of the country – and 1952, the beginning of the “economic miracle”. As we can see in Figure 1, the date of birth of the entrepreneurs of the sample is well distributed amongst the various decades up to the 1910s, less so after WWI.

To make the journey through the sample easier, we present descriptive statistics of the 386 entrepreneurs (Table 1). First of all we can notice that for what concerns gender, the number of female within the sample is really negligible: there are only 9 (2.3% of the total). This however should not surprise considering the social, cultural and institutional backwardness of the country. A neat majority of our sample of entrepreneurs originates from the North-West region (124, corresponding to about 32% of the total), the area which, as known, was the forerunner of Italian industrialization; more than 28% (109 entrepreneurs) from the North-East, the region bound to become one of the most important of post-1970 Italian capitalism. The regions of Central Italy are represented by 83 entrepreneurs corresponding to 21.5% of the total. The South and the Islands (61 individuals corresponding to 15.8% of the total) stay at the bottom, whilst a small value (9 and 2.3%) concerns entrepreneurs born outside Italy⁵.

Fig. 1 Individuals by year of birth



As far as the social class of origin is concerned, we found that the greatest part of the entrepreneurs (224, corresponding to 58% of the total) came from the middle class; a fair number (112 and 29%) from the upper class and just 50 (13%) from the lower classes. A further specification concerning their origin is related to the profession of their fathers. In this respect independent activities such as entrepreneur (51.3%), merchant (16.1%), craftsman (11.8%) and freelance (6.3%) largely prevail.

Education turns out as probably the most interesting and crucial variable, particularly if the general low level of education of the country is considered. In fact, a large share of entrepreneurs shows a high level of formal education: 98 (25.4%) have a university degree (laurea) and 4 of them

⁵ Yet it has to be considered that this distribution is not representative of the real geographical allocation of entrepreneurs, as the initial choice of the names to be inserted in the list was purposely biased in order to cover all the national territory.

also a post-doc degree, whereas 140 (36.3%) possessed a high-school degree. Moreover, 80 (20.7%) have a middle school degree. Conversely only one entrepreneur was illiterate, whereas 67 (17.4%) had attended just the primary school. Amongst the entrepreneurs with a university degree, we found a clear preference for the techno-scientific curricula: 62.1% *vis-à-vis* 21.1% of the law ones, 10.5% of the business students and just 6.3% of humanities. Interesting enough is the fact that often the process of human capital formation didn't stop with the formal education. A good part of entrepreneurs (126 out of 386, about a third of the total) had training experiences abroad, mostly in more industrialized countries. Since the 1880s this had become quite a familiar tradition among young Italian entrepreneurs, particularly (but not exclusively) in the case of wealthy and/or already consolidated entrepreneurial dynasties.

A fundamental question of the theory of entrepreneurship is how the entrepreneurial activity began: in other terms, whether the entrepreneur created the new activity from scratch, or whether he inherited the activity or acquired it from someone else. Our evidence does not offer a neat answer. At a very aggregate level the beginnings of entrepreneurship can be divided almost equally in two classes: the first groups 206 individuals (53.4%) who were founders of a new firm, the second 180 (46.6%) who acquired it: 153 (39.6%) by inheritance, 27 (7%) by purchase. It is worth noting that most of the entrepreneurs started their activity very early: 264 (70.4%) began their activity within the age of 30 years and only 22 (5.8%) after 40. The first working activity might be indicative of their future entrepreneurial destiny. If we take into account the two larger categories we realize that 132 (34.8%) began as entrepreneurs already, 31 (8.2%) as merchants, 24 (6.3%) as artisans and 23 (6.1%) as freelance. Moreover, it has to be underlined that 49 (12.9%) move from managerial positions to entrepreneurial activities.

It is well known that another central feature of the historical and theoretical debate on entrepreneurship is the role of family. Our survey offers some interesting evidence on this point. Let's first consider whether the entrepreneur had job relations with his own family, a much debated issue in the literature on family business (Colli 2003; Howorth, Rose, and Hamilton 2006). Well, 247 out of 386 entrepreneurs (64%) maintained job relations with members of their families; much less (only 45, i.e. 11.7%) however with members of the partner's family. Further information help to understand the social and cultural *milieu* of the sample: political commitment, affiliations and honorary rewards. About a quarter of the individuals of the sample (100) was directly involved in politics: more than 60% had commitments at the local level and 26% at the national level. With regards to affiliations, about a third (132 that is 34.2%) belonged to entrepreneurial associations, while a good number (137, that is 35.5%) could see their entrepreneurial activity rewarded with the appointment to the honour of Knighthood (*Cavaliere del lavoro*).

Table 1. Descriptive statistics

Variables		Number	%
Date of birth	between 1851 and 1870	111	28.8
	between 1871 and 1890	98	25.4
	between 1891 and 1910	126	32.6
	after 1910	51	13.2
Gender	Male	377	97.7
	Female	9	2.3
Area of birth	North East	109	28.2
	North West	124	32.1
	Centre	83	21.5
	South	61	15.8
	Abroad	9	2.3
Social class	Lower (farmer)	50	13.0
	Middle (small entrepreneur, merchant, craftsman)	224	58.0
	Upper (big entrepreneur, freelance, noble)	112	29.0
Father main activity*	Farmer	9	3.0
	Labourer	16	5.3
	Manager	8	2.6
	Technician	3	1.0
	Craftsman	36	11.8
	Entrepreneur	156	51.3
	Freelance	19	6.3
	Employee	8	2.6
Merchant	49	16.1	
Education level	Illiterate	1	0.3
	primary education	67	17.4
	middle school	80	20.7
	high school	140	36.3
	laurea/post laurea	98	25.4
Field of laurea degree	<i>Law/Economics/Art</i>	36	37.9
	Laws	20	21.1
	Economics	10	10.5
	other Arts	6	6.3
	<i>Sciences</i>	59	62.1
	Engineering	40	42.1
	Chemistry/Pharmacology	7	7.4
	other Sciences	12	12.6
Education abroad	yes	50	13.0
	no	336	87.0
Experience abroad	yes	118	30.6
	no	268	69.4
Experiences (education or training) abroad	yes	126	32.6
	no	260	67.4
Ways of company acquisition	founder	206	53.4
	inheritage	153	39.6
	purchasing	27	7.0
Age of starting activity**	11-20	62	16.5
	21-30	202	53.9
	31-40	89	23.7
	41-50	20	5.3
	>50	2	0.5
Typology of the first activity***	farmer	4	1.1
	labourer	50	13.2
	manager	49	12.9
	technician	39	10.3
	craftsman	24	6.3
	entrepreneur	132	34.8
	freelance	23	6.1
	employee	27	7.1
merchant	31	8.2	
Family job relationships	yes	247	64.0
	no	139	36.0
Job relations with the partner family	yes	45	11.7
	no	341	88.3

Indirect involvement in politics	yes	97	25.1
	no	289	74.9
direct involvement in politics	yes	100	25.9
	no	286	74.1
Indirect or direct involvement in politics	yes	156	40.4
	no	230	59.6
Level of involvement in politics	local level	61	61.0
	national level	26	26.0
	international level	4	4.0
	Local and national level	9	9.0
Honor of Cavaliere del lavoro	yes	137	35.5
	no	249	64.5
Affiliation to employers' associations	yes	132	34.2
	no	254	65.8
Financial public support	yes	38	9.8
	no	348	90.2
Relations with banks	yes	103	26.7
	no	283	73.3
Participation in other companies board of directors	yes	118	30.6
	no	268	69.4
Starting macro sector	agriculture, fishing & mining	27	7.0
	financial service	6	1.6
	industry	295	76.4
	service	58	15.0
Main macro sector of activity	agriculture, fishing & mining	24	6.2
	financial service	8	2.1
	Industry	311	80.6
	service	43	11.1
Main macro sector mobility	macro sector mobility	29	7.5
	no macro sector mobility	357	92.5
Main sector mobility	sector mobility	49	12.7
	no sector mobility	337	87.3
Product innovation	yes	153	39.6
	no	233	60.4
Product innovation level	no innovation	233	60.4
	low innovation	56	14.5
	moderate innovation	61	15.8
	high innovation	36	9.3
Process innovation	yes	134	34.7
	no	252	65.3
Process innovation level	no innovation	252	65.3
	low innovation	59	15.3
	moderate innovation	48	12.4
	high innovation	27	7.0
New sale markets	yes	277	71.8
	no	109	28.2
Geographical area new sale markets	no new sale market	109	28.2
	only Italy	89	23.1
	abroad	188	48.7
New markets of production	yes	142	36.8
	no	244	63.2
Geographical area new production markets	no new product market	244	63.2
	only Italy	80	20.7
	abroad	62	16.1
New raw material	yes	41	10.6
	no	345	89.4
New organisational models	yes	84	21.8
	no	302	78.2
Level of innovation	no innovation (score=0)	48	12.4
	low innovation level (score=1)	89	23.1
	medium innovation level (score=2-3)	192	49.7
	high innovation level (score=4-6)	57	14.8

* 82 missing values; ** 11 missing values; *** 7 missing values.

Moreover, we can notice that 118 entrepreneurs, that is 30.6% of the total, were members of the board of directors of other companies. On the other hand quite few were the entrepreneurs (38 individuals and 9.8%) who during their activity could avail themselves of the direct financial support from the state. The widespread family business which characterizes the sample seems to be consistent with the extensive preference for self-financing showed by the data concerning the bank-firm relationship: 283 (73.3%) entrepreneurs didn't show to have clear links with the bank-system.

Another interesting point to be clarified is the one concerning the start-up sectors of the various business initiatives. Industry firms were the clear majority (76.4%), followed at a long haul by services (15%), agricultural (7%) and so on. Not very different values are shown by the evidence concerning the macro-sectors in which the core activity of the sample of firms specialized after their start-ups. The industry sector stays again clearly at the top (80.6%), followed by services (11.1%) and agriculture (6.2%). Such outcome could be consistent with the one related to the sector mobility of the firms in the sample, or in other terms, the versatility of the entrepreneurs, a proxy sometimes used to evaluate their success (Tortella, Quiroga, and Moral-Arce 2009). In fact, as far as the macro-sectoral mobility is concerned, only 7.5% of them abandoned their initial area of activity to move into a new one. This is true even if we consider the mobility within macro sectors (f.e. from textile to food industry): in fact, only 12.7% of the entrepreneurs changed their activity.

An important part of our database is devoted to innovation which is considered one of the key factors of the entrepreneurial success. In order to follow Schumpeterian suggestions, we have selected six different kinds of innovative capacity. The first two are the traditional proxies: innovation product and innovation process; then we have picked up the entrepreneur's ability to innovate with regard to sale and production markets within and outside the country. Finally we have considered the introduction of new raw materials in the process of production and of new organisational models in the firm. The results obtained are quite surprising: if we consider as innovative entrepreneur the individual who has at least one positive answer to the six variables related to innovation, we have that 338 individuals (87.6%) can be attributed to such a typology. Yet this outcome is probably too optimistic with regard to Italian entrepreneurship. Therefore the modality innovation deserves some further specification. For instance, if we take into consideration each variable, we have that about 40% of the sample has introduced product innovation and 34.7% process innovation. The capacity to move towards new sale markets concerns 71.8% of the entire sample, but much less (48.7%) outside Italy. As for the new markets of production, a phenomenon not very common in the past, we have positive answers in 36.8% of the total. The introduction of new raw materials regards only 10.6% of the total and the introduction of new organisational models about 22%. Finally, we have aggregated all the answers and attributed one point to each positive ones: thus we obtained a score between 0 (all negative answers) and 6 (all positive

answers). In this way we have got a more reliable proxy of innovation, which allows us to distinguish among ‘no innovation’ (12.4% of the total), ‘low level’ (23.1%), ‘medium level (49.7%) and ‘high innovation’ (14.8%).

4. *The multidimensional analysis*

The methodology used to analyze our sample is based on two different techniques very well known in statistics, yet not very familiar to scholars in economic and/or business history. These techniques are the Multiple Correspondence Analysis (MCA) and the Cluster Analysis (CA); the latter is used on the dimensions obtained from the MCA⁶. In order to obtain results (taxonomies) with a really explicative value, these techniques, even though typically quantitative, entail a previous reflection on the choosing criteria of the variables. In fact the MCA requires choices concerning both the explicative variables (either active or supplementary) and the number of dimensions which are crucial in determining future solutions. In other terms, to downsize the problem of the number of variables to be considered in the dendograms as well as increase the interpretative capacity of the CA, it is frequently suggested to complete preliminarily a factorial analysis (MCA). In this way the observed variables are substituted by a reduced number of latent variables utilized as inputs in the cluster analysis.

Ten active variables have been selected for the MCA, while other variables have been used as supplementary (illustrative) ones. The former are fundamental to individuate the latent dimensions (see Table 2), the latter are mainly related to the status and personal characteristics of the entrepreneur or do not offer a primary contribution to the explanation: therefore we will not dwell on them anymore.

Table 2. List of active variables used for the MCA

Active variables
Social class
Education level
Experiences (education or training) abroad
Ways of company acquisition
Indirect involvement in politics
Affiliation to employers’ association
Main macro sector of activity
Product-process innovation level
Geographical area new sale markets
Growth in size

⁶ The SPAD version 5 is the software used in the analysis. For these elaboration, the procedures CORMU – Analyse de Correspondances Multiples-, RECIPI – Classification hierarchique sur facteurs – and PARTI-DECLA – Coupe de l’Arbre et Description des Classes- had been used. The related outputs are available from the authors upon request. For what concerns cluster analysis, see Everitt (1993).

Seventeen Eigen values had been identified by the MCA, each of them can account for very low proportion of inertia because of the high number of categories involved in the analysis. That is the reason why the proportion of inertia each Eigen value accounts for had been calculated using the correction of Benzecri, which takes into account the number of categories involved⁷. Thanks to this correction, the first 3 Eigen values add up to about the 94% of the variance: this means, in other terms, that three latent dimensions have been individuated, each defined by two opposing quadrants contrasting the values assumed by the significant active variables. These have been selected every time they account for a proportion of inertia higher than the average inertia, that is when the contribution of each variable is higher than the total of inertia (100) divided by the number of active variables (10). The items of the significant active variables belong to a dimension when their contribution is high and the values of the squared cosine, which represent the quality of the graphical representation, are around 0.20 (see Table 3). As for the illustrative variables, their categories are significant for one dimension when the value test is higher than 2.0 (absolute value)⁸.

*Table 3.a Dimension I – Status**

I quadrant			
Active variables	Categories	Contributions	Squared cosine
Indirect involvement in politics	None	3.87	0.33
Education level**	Illiterate/primary	12.02	0.32
Affiliation to employers' association	None	4.97	0.31
Ways of company acquisition**	Founder	6.37	0.30
Social class	Lower class	7.82	0.19
Main macro sector of activity**	Industry	0.91	0.10
Experiences (education or training) abroad	None	1.37	0.09
II quadrant			
Active variables	Categories	Contributions	Squared cosine
Main macro sector of activity**	Agriculture, fishing & mining	3.10	0.07
Experiences (education or training) abroad	Yes	2.83	0.09
Education level**	Laurea/post laurea	6.05	0.18
Ways of company acquisition**	Inheritance/purchasing	7.29	0.30
Affiliation to employers' association	Yes	9.56	0.31
Indirect involvement in politics	Yes	11.52	0.33
Social class	Upper	11.35	0.35

Note: * For what concerns the first quadrant, we have considered, among others, the following supplementary variables (with their categories) and test value: Successful brand/product (Yes) -5.78; Father main activity** (Employee) -5.29; Participation in other companies board of directors (No) -5.25; Relations with banks (No) -5.23. For the second quadrant, we have considered, among others: Father main activity** (Self-employed) 6.39; Successful brand/product (No) 5.78; Participation in other companies board of directors (Yes) 5.25; Relations with banks (Yes) 5.23. ** aggregate values.

⁷ The formula used for the correction of inertia is the following (considering lambda as the proportion of inertia each eigenvalue accounts for and s equal to the number of variables involved):

$$p(\lambda) = \left(\frac{s}{s-1} \right)^2 * \left(\lambda - \frac{1}{s} \right)^2$$

The computing involves only eigenvalues with a proportion of inertia higher than the average (Bolasco 1999, 156).

⁸ A value test higher than 2 means that the categories place themselves with statistical significance around the dimension, that is in non-casual way (Bolasco 1999, 152-3).

On the basis of the corrections suggested by Benzecri (1979), the first dimension turns out to explain 67% of the inertia and is characterized (see Table 3.a), in particular, by active variables concerning social class (high versus low), education level (laurea & post laurea versus illiterate and primary school), ways of company acquisition (founder versus inheritance), indirect involvement in politics (yes versus none), employer association (yes versus none). We have called this dimension “Status” because it shows the relevance of a bunch of variables related to the social condition of entrepreneurs.

The second dimension, shown in Table 3.b, explains more than 20% of the inertia and is clearly linked to the Schumpeterian attitude in its broadest meaning. In particular, this dimension is characterized by the ability (inability) to open new sale markets abroad, by the propensity to innovate (high versus low) in both products and processes and by the capacity to have (not have) experience abroad. Moreover, it is linked to the capacity (incapacity) to grow at national or international level. Therefore we have labelled this dimension “Innovation and openness”.

*Table 3.b Dimension II – Innovation and openness**

I quadrant			
Active variables	Categories	Contributions	Squared cosine
Geographical area new sale markets	Abroad	16.72	0.54
Growth in size	National-international	6.24	0.46
Product-process innovation level	High	11.59	0.22
Experiences (education or training) abroad	Yes	8.10	0.20
Social class	Upper	2.22	0.05
Main macro sector of activity**	Industry	0.46	0.04
Product-process innovation level	Moderate	0.94	0.02
II quadrant			
Active variables	Categories	Contributions	Squared cosine
Product-process innovation level	Low	1.16	0.02
Main macro sector of activity**	Agriculture, fishing & mining	2.41	0.04
Education level**	Illiterate/primary	2.37	0.05
Product-process innovation level	None	2.79	0.09
Experiences (education or training) abroad	None	3.93	0.20
Growth in size	No/local	21.75	0.46
Geographical area new sale markets	No/Italy	15.87	0.54

Note: * For what concerns the first quadrant, we have considered, among others, the following supplementary variables (with their categories) and test value: Level of innovation (High) -7.30; Successful brand/product (Yes) -5.11; Area of birth** (North) -3.65; Merging with other companies (Yes) -3.47. For the second quadrant, we have considered, among others: Level of innovation (No) 5.82; Successful brand/product (No) 5.11; Strategies (No) 4.16; Level of innovation (Low) 4.11. **aggregate values.

The third dimension, shown in Table 3.c, explains just 7% of the inertia. Despite its low contribution to variance, this factor has to be considered because of a few aspects which appear useful in grasping the characters of the Italian entrepreneurship. First of all, the educational level appears to be significant: the middle school level is active on one side while ‘laurea & post laurea’ plus ‘illiterate’ and ‘primary school’ still on the other. Social class is another active variable and it distinguishes between medium class versus low class. The same has to be said of the participation (no participation) to proprietary associations as well as of the sector of activity (services versus

industry). Consequently, we have thought that term “Bourgeois spirit” could give an appreciable idea of its nature.

*Table 3.c Dimension III – Bourgeois spirits**

I quadrant			
Active variables	Categories	Contributions	Squared cosine
Education level**	Middle school	14.02	0.24
Main macro sector of activity**	Services	14.73	0.23
Social class	Medium	4.40	0.14
Affiliation to employers' association	None	3.36	0.14
Main macro sector of activity**	Financial services	6.81	0.10
Ways of company acquisition**	Inheritance/purchasing	3.51	0.09
Indirect involvement in politics	None	0.98	0.05
II quadrant			
Active variables	Categories	Contributions	Squared cosine
Indirect involvement in politics	Yes	2.92	0.05
Ways of company acquisition**	Founder	3.07	0.09
Education level**	Illiterate/primary	6.70	0.11
Main macro sector of activity**	Industry	1.75	0.12
Affiliation to employers' association	Yes	6.46	0.14
Education level**	Laurea/post laurea	8.75	0.16
Social class	Lower	11.34	0.18

Note: *For what concerns the first quadrant, we have considered, among others, the following supplementary variables (with their categories) and test value: Apprenticeship (No) -4.26; Father main activity** (Self-employed) -3.95; Family job relationship (Yes) -3.23; Level of innovation (Low) -2.74. For the second quadrant, we have considered, among others: Apprenticeship (Yes) 4.26; Family job relationship (No) 3.23; Father education (High school) 3.20; Father main activity** (Employee) 3.07. **aggregate values.

5. The cluster analysis

On the whole, the cluster analysis offers quite an irregular picture of Italian entrepreneurship as it does not show a homogenous diffusion of those virtues and attitudes which both theory and history deem necessary to improve the growth's potentialities of a country. In fact the differences revealed by the CA have led to the individuation of five clusters (see Figures 3 and 4), which define five entrepreneurial typologies, that is:

- I. “First generation entrepreneurs” (FGE), to where converge 64 cases, that is 16.6% of the entire sample;
- II. “Schumpeterian entrepreneurs” (SE), 83 cases, that is 21.5%;
- III. “Traditional entrepreneurs” (TE), 94 cases, that is 24.3%;
- IV. “Internationalized traditional entrepreneurs” (ITE), 67 cases, that is 17.4%;
- V. “Well-established entrepreneurs” (WEE), 78 cases, that is 20.2%.

Fig. 2. Five clusters in three dimensions

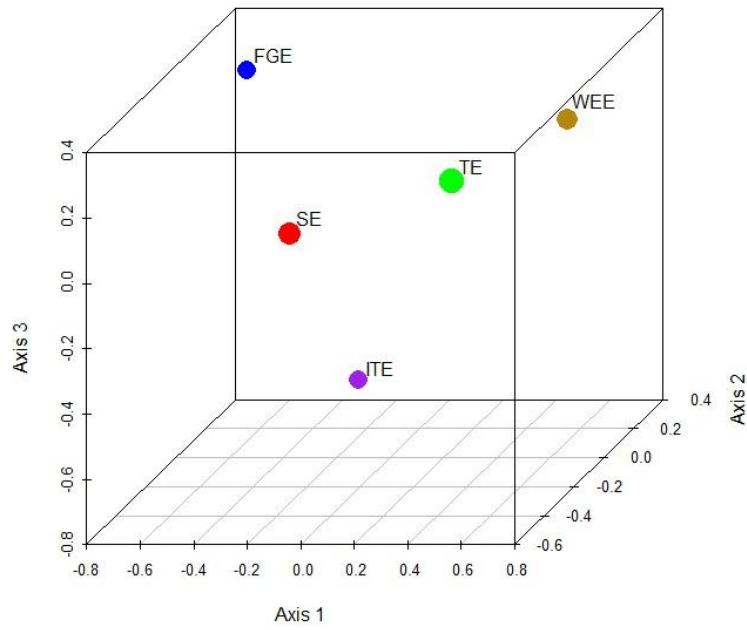
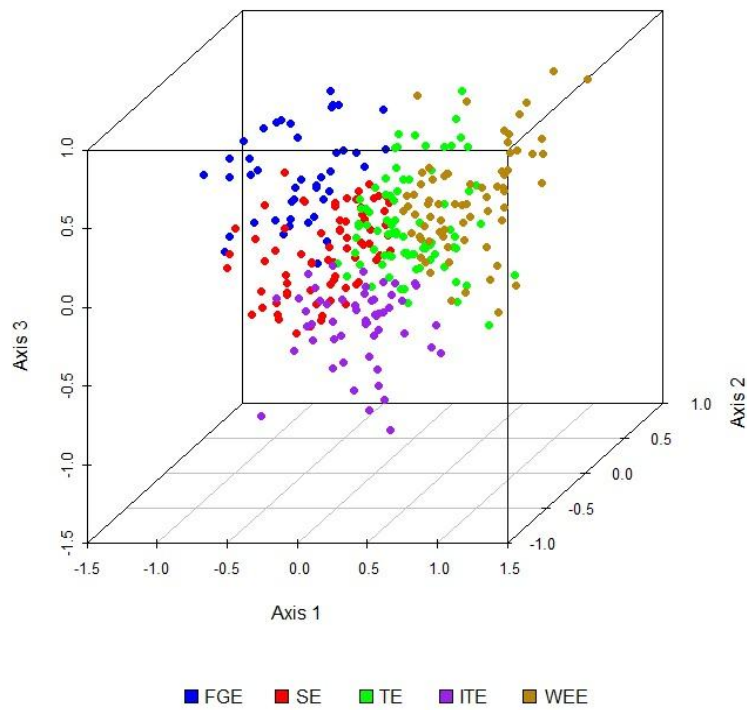


Fig. 3. Entrepreneurs of the five clusters in three dimensions



Each cluster, formed by significant groupings of responses, is identified by the objective characteristics of the individuals involved. All items in each cluster had been selected according to their value within the cluster (MOD/CLA), as compared to their value in the global population (Total), as well as to the percentage of those in the cluster with a certain modality on all individuals having that modality in the sample (CLA/MOD) (Lebart 1994). Table 4 displays the shares of the most relevant modalities for each cluster (columns 2-6) and for the entire sample (column 7), while the full results are detailed in Table A1 in the Appendix.

Table 4. The five cluster

Variables	I (FGE)	II (SE)	III (TE)	IV (ITE)	V (WEE)	Total
% entrepreneurs in the sample	16.6	21.5	24.4	17.4	20.2	100.0
% South (area of birth)	9.4	7.2	24.5	20.9	14.1	15.8
% lower social class	54.7	8.4	7.4	-	1.3	13.0
% middle class	43.8	56.6	77.7	77.6	30.8	58.0
% upper class	1.6	34.9	14.9	22.4	67.9	29.0
% illiterate/primary education	75.0	8.4	12.8	1.5	-	17.6
% medium education	21.9	53.0	70.2	95.5	41.0	57.0
% laurea/post laurea	3.1	38.6	17.0	3.0	59.0	25.4
% education abroad	-	19.3	4.3	13.4	26.9	13.0
% experiences abroad	9.4	56.6	10.6	35.8	50.0	32.6
% apprenticeship	39.1	22.9	11.7	4.5	17.9	18.7
% founder	100.0	69.9	39.4	38.8	26.9	53.4
% inheritance/purchasing	-	30.1	60.6	61.2	73.1	46.6
% indirect involtment in politics	6.3	14.5	16.0	14.9	71.8	25.1
% direct involtment in politics	18.8	12.0	26.6	26.9	44.9	25.9
% honour of cavaliere del lavoro	25.0	34.9	31.9	32.8	51.3	35.5
% affiliation to employers association	10.9	31.3	30.9	9.0	82.1	34.2
% relations with banks	12.5	22.9	22.3	34.3	41.0	26.7
% industry	98.4	97.6	78.7	56.7	70.5	80.6
% services	-	-	12.8	32.8	11.5	11.1
% no product-process innovation	39.1	10.8	58.5	61.2	64.1	46.6
% high product-process innovation	9.4	42.2	1.1	4.5	3.8	12.4
% no innovation	7.8	-	18.1	4.5	29.5	12.4
% low innovation level	15.6	8.4	33.0	29.9	26.9	23.1
% medium innovation level	64.1	45.8	45.7	56.7	41.0	49.7
% high innovation level	12.5	45.8	3.2	9.0	2.6	14.8
% national or international growth	81.3	97.6	51.1	94.0	71.8	77.7
% no new sale market	25.0	3.6	44.7	9.0	53.8	28.2
% new sale market abroad	42.2	91.6	7.4	85.1	26.9	48.7

The tag of the first cluster – First generation entrepreneurs – is likely to symbolize at best the features of the founders of new enterprises in a backward local environment, such as the one which characterizes large areas of Italy for most of its economic history. All of its members (100%) are of course new founders: this compares with the 53.4% share of the same modality within the entire sample while the cluster’s share of all the founders corresponds to about 1/3. Most of them (98.4%) operate in the industry sector, whilst such a modality has a global value of 80.6%. As for the social origin, 54.7% come from the lower class against a value of 13% of the entire population, whereas

the cluster contains almost 3/4 of the individuals labeled by the same modality; further evidence is offered by two even more specific social categories: 'partner high class' and 'father's high level of education' for which both the values are zero. Three quarters show a low (or nil) level of formal education, a modality which in the sample accounts for less than 18%. Many other indicators give support to the 'self-made' man characterization of the components of this cluster: the fair percentage (39.1%) of those in the cluster who began as apprentice (versus 18.7% for the entire population), the almost complete absence of any sort of experience abroad (90.6% versus 67.4% of the global sample), the very limited participation to employers' associations (10.9% versus 34.2%), the very low level of involvement, even indirect, in politics (about 6.3% versus 25.1%). Finally the cluster shows the lowest percentage of entrepreneurs who do not have direct bank connections (12.5% versus about 27% of the entire sample). Among the most representative entrepreneurs of this cluster a number of humbly born protagonists of the post WWII Italian economic boom has to be signaled, such as for instance, Giovanni Borghi (white goods), Cesare Cassina (furnishing) and Gioacchino Alemagna (confectionery, especially *panettone*).

The entrepreneurs of the second cluster have been called 'Schumpeterian' because their peculiar prevailing modalities roughly refer to the characteristics attributed by Schumpeter to his innovative entrepreneur. In fact the most negative modality, that is "no innovation", which records a global value of 12.4%, in the cluster has a zero value, meaning that in a way or another all the elements included were interested to some form of innovation. Besides, the lowest level of innovation assumes quite a negligible value (8.4% versus 23.1% of the total). Conversely a good 45.8% of the cluster concentrates at the highest level of innovation – a stage which adds up at least four out of the six categories of innovation mentioned above – vis-à-vis a global value of 14.8%, while almost 3/4 of the entire modality is included in this cluster. More specifically pretty greater values than the sample are registered by the categories "high level innovation in process and product" (42.2% versus 12.4%, that is 3/4 of the entire sample), "new sale markets abroad" (91.6% vs. 48.7%), growth in size at national and/or international level (97.6% vs. 77.7%), as well as "experiences abroad" (56.6% vs. 32.6%, with a sample share of 37.3%). Here too the largely prevailing sector of activity is "industry" (97.6%) in comparison with 80.6% of the entire sample. Further distinctive elements concern the "level of education" which register a high level of university graduates and postgraduates (38.6% versus a global 25.4%) and conversely only 8.4% of "low education" versus 17.6%, as well as the low grade of involvement in politics as compared to the modality values in the sample, both direct (12% vs. 25.9%) and indirect (14.5% vs. 25.1%). The largest part of these entrepreneurs is more or less directly connected with the bunch of innovations of the Second Industrial Revolution: for instance Giovanni Agnelli, the founder of FIAT, the company bound to become one of the protagonist of the world market of automobiles, but also Ettore

Bugatti still in the same sector, together with Carlo Guzzi in the motorcycles and Giovanni Caproni in the aircraft productions, and then Ercole Marelli, the pioneer of the electro-mechanic industry, Roberto Lepetit and Riccardo Gualino in chemicals. Yet representatives of the more traditional industries - food and beverages, textiles and apparel - were not missing: among them founders of firms which would become world-wide known symbols of the made in Italy tradition, such as Piero Barilla (pasta), Giulio Ferrari (sparkling wine), Enrico Coveri and Aldo Gucci (clothing and fashion).

The third and fourth clusters share a few common aspects, first the one concerning the sectors of activity. In fact their entrepreneurs were active mostly in “traditional sectors”, those more distant from the technological frontier: food and beverages, textiles, apparel, printing, large scale retailing, pottery, glass, jewels, furnishings and fittings. The main difference between the two clusters is that the first one, ‘traditional entrepreneurs’, includes individuals active primarily on the local or, at most, on the national market, the latter, ‘Internationalized traditional entrepreneurs’, individuals active outside the country. Among the most significant variables of the third cluster, there is the way of company acquisition: almost 61% of its members got their activity through “inheritance” against a global value of 46.6% and a cluster share in the sample of less than one third. Yet what perhaps appears as the most interesting aspect is the low propensity to innovate as well as grow: the cluster registers fairly high values of the modalities “no innovation” (18.1% versus 12.4%) and “low innovation” (33% vs. 23%). Conversely the modality high “innovation level product and process” shows lower values: just 1.1% versus a global 12.4%. With respect to the sample, this cluster offers a lower propensity to grow up to national and/or international markets (51.1% vs. 77.7%). What is impressive is the scarce propensity to be open towards the external environment: the searching of new markets abroad are striking low, 7.4% versus 48.7%, and a cluster share of just 3.7%; very few are the individuals with experiences abroad (only 10.6% vs. 32.6% of the entire sample). On the whole are to be found in this group essentially “middle-class” entrepreneurs (32.6% is the cluster’s share in such modality and 77.7% the value assumed within the cluster versus 58% of the entire sample), with a medium level of formal education (70.2% vs. 57%). Most of the individuals were born in Southern regions (almost 40% of the entire sample are in this cluster with a cluster value of 24.5% versus a global value of 15.8%): among these, producers of well-known brands of wine and coffee, such as Sebastiano De Corato, and members of the Lavazza family. However the cluster includes also outstanding figures of the publishing and communication world, who for linguistic reasons were mainly concentrated on internal market, such as Giulio Einaudi and Mario Cecchi Gori.

As already mentioned, the fourth cluster – named ‘Internationalized traditional entrepreneurs’ – presents several converging aspects with the previous one: these pertain not only to the activity sectors, but also to the social origin (here too 4/5 of the cluster belong to the middle-

class), the ways of company acquisition by inheritance or purchasing (again something more than 61%) and the level of formal education, even though in this case the percentage of university graduates is smaller (3% vs. 17% of the previous cluster, and 1/4 of the entire sample). However the fourth cluster differs from the third mainly in the greater openness toward foreign markets, starting from the modality “experiences abroad” (35.8% vs. 10.6% of the third cluster). Most significantly the modality “new sale markets abroad” registers a notable 85.1%, which contrasts with the 48.7% figure of the entire sample and especially with the very small 7.4% of the preceding cluster. Conversely quite negligible is the value of the opposite modality “no new sale markets”: 9% vs. 44.7% of the third cluster and 28.2% of the entire sample. If we add the prevailing tendency of the modality “growth in size”, neatly oriented toward the largest one (94% vs. 77.7%), the remarkable commercial dynamism of these entrepreneurs cannot be denied. Yet, quite inferior to the entire sample’s behavior is the attitude towards innovation, which shows for the modality “no product and process innovation” a value of 61.2% versus a global 46.6%. One aspect which has not to be overlooked is the large presence of “services” in the sector of entrepreneurial activity (more than half of the individuals of the sample are in this cluster which yields a 32.8% cluster’s share versus a global value of 11.1%): among these maritime international traders and shipping owners such as the members of the Cosulich family, Achille Lauro and Enrico Dell’Acqua, one of the Italian pioneers of the industrial/commercial penetration in South America, better known as Luigi Einaudi’s *principe-mercante*. Here too several representative of the Southern entrepreneurship can be found, for instance, from the food (Filippo De Cecco, pasta) or the liqueur (Paolo Averna) sectors, to which are to be added founders of well known dynasties all over Italy such as Sotirios Bulgari in jewels, Carlo Feltrinelli (lumber and financial services), Danillo Fossati and Giuseppe Bertolli (foods).

Finally the fifth cluster – labeled as ‘Well-established entrepreneurs’ – looks quite clearly defined. Its qualifying aspects refer mostly to the social status as the entrepreneurs here included are mostly not founders (the “inheritance” modality scores 73.1% versus a global value of 46.6%) and well born (almost half the modality and a 67.9% within the cluster versus 29% of the entire sample): moreover they have partners coming from the same origins (the sample share is almost identical to the one of the previous modality), a high level of education (almost 60% with university degrees and/or postgraduate studies, against a global value of the sample of 25.4%); notice that none in the cluster has a level of formal education interrupted at the primary stage: this compares with the 17.6% figure of the entire sample. As much significant are the background’s characteristics: for instance the modalities concerning the involvement in politics, either direct (44.9% vs. 25.9%) or – especially – indirect (71.8% vs. 25.1%, with a sample share of 58% of the entire sample), the affiliation to employers’ associations (82.1% vs. 34.2%), the appointment to the honor of *Cavaliere del lavoro* (Knights of Labor 51.3% vs. 35.5%) and finally the close relationship with the banking

system (41% vs. 26.7%). It is almost superfluous pointing out that this cluster includes some of the outstanding personalities of the Italian entrepreneurship, such as Giovanni and Umberto Agnelli, Niccolò Antinori (wine), the Bertolli (food) and Lodigiani (building) heirs, the member of the Crespi (cotton and publishing) and Falck (iron and steel) dynasties and so on.

6. *Conclusions*

The main objective of this work was to explain the dynamics of Italian capitalism by analyzing one of its structural components, entrepreneurship. To open the black box of entrepreneurship our effort was committed to work out a taxonomy of Italian entrepreneurs not exclusively based on intuitions and qualitative judgments, but grounded on the interaction between theory and history. To this aim we have been using a methodology which combines typically quantitative techniques with historical evaluation. The results in our opinion provide valuable interpretative elements to the economic history of the country while furnishing as well a fairly sound basis for comparative analysis.

Firstly, the data-base constructed on a good number of entrepreneurial biographies points out several original and more or less surprising traits: for instance the noteworthy level of formal education of many in the sample. In fact more than one quarter of the entrepreneurs could boast a university degree and more than a further 35% a high school degree, values quite contrasting with the well-known backward condition of the country. Less surprising is the information concerning the high percentage of individuals having family job relations, which confirms once more the neat tendency of Italian capitalism toward family business, an aspect which appears indirectly corroborated also by the reluctance to sector mobility singled out by the data.

Secondly, and with regard to the taxonomy defined by the cluster analysis, at least two basic elements must be mentioned. The one is that the component of entrepreneurship opened to foreign markets – namely innovative (SE) and internationalized entrepreneurs (ITE) – has been a distinguishing trait of the country's economy. The search for new markets, therefore, was not an exclusive condition of the post-WWII period, but a consolidated feature of the entire history of modern Italy whose origins can be traced back to the Renaissance. The other attains to the aptitude to innovate, the one which, according to Baumol, discriminates – as said – between replicative and/or redistributive entrepreneurs on the one side and innovative and productive ones on the other. Well, the latter – that is the Schumpeterian component of our private entrepreneurship (SE) – seems not to have had as great a role as an intense pace of growth would have required. Quite on the contrary three/fifths of the sample converge into the share of the entrepreneurs who appeared less dynamic with regard to their attitude towards technology and growth. It includes both the

categories of the traditional entrepreneurs, regardless of their market orientation (TE and ITE) and the one of the well-established ones (WEE). All in all, the picture which emerges is that of an Italian entrepreneurship only sporadically virtuous and creative, more often, indeed, clung to defensive positions.

Does this representation contributes to explain the second issue raised in the introduction, that is the relationship between entrepreneurship and growth? Quite, in our opinion. For instance, the analysis suggests that notwithstanding the good level of formal education, the large presence of non techno-scientific degrees might not have stimulated enough the entrepreneurial search for innovation, whose level, as said, proved too low. But is this sufficient to explain their sluggishness? Was it a question of nature or nurture? On the basis of this research the answer cannot be but still impressionistic. On the one hand, one cannot escape from the impression of the foresaid natural bend: think for instance of the scarce versatility of the entrepreneurs of the sample. On the other, there is no doubt that the evolution of the institutional context of the country did not help: here it is enough to point to the permissiveness and flexibility of the legal structure, particularly with regard to firms' governance and accountability and to the scarce incentives to innovate. Ultimately one has to reflect upon the role of the state, because its remarkable presence in the Italian economy might have crowded out entrepreneurship. If that has to be considered an unavoidable intervention to substitute feeble private initiative is still an open question.

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APPENDIX

Table A.1a First generation entrepreneurs (FGE) - Cluster I/V - 64 entrepreneurs (16.58%)

Variables	Modalities	Test value	% of the modality within the cluster (MOD/CLA)	% of the cluster within the modality (CLA/MOD)	% of the modality within the sample (GLOBAL)
education level	illiterate/primary	11.56	75.00	70.59	17.62
ways of company acquisition	founder	9.23	100.00	31.07	53.37
social class	low	9.22	54.69	70.00	12.95
father main activity	employee	5.10	46.88	37.50	20.73
experiences abroad	none	4.55	90.63	22.31	67.36
employers association	none	4.45	89.06	22.44	65.80
main macro-sector	industry	4.44	98.44	20.26	80.57
apprenticeship	apprenticeship	4.12	39.06	34.72	18.65
indirect involvement in politics	none	4.03	93.75	20.76	74.87
family job relationship	none	3.21	54.69	25.18	36.01
partner social class	low	3.11	12.50	53.33	3.89
participation in other companies	none	2.81	84.38	20.15	69.43
board of directors	none	2.79	87.50	19.79	73.32
relations with banks	none	2.38	64.06	21.35	49.74
level of innovation	medium	2.37	12.50	40.00	5.18
father education	low	2.37	12.50	40.00	5.18
social class	medium	-2.38	43.75	12.50	58.03
education level	middle school	-2.42	9.38	7.50	20.73
partner social class	high	-2.43	0.00	0.00	6.74
father education	high	-2.50	0.00	0.00	6.99
relations with banks	yes	-2.79	12.50	7.77	26.68
participation in other companies	yes	-2.81	15.63	8.47	30.57
board of directors	yes	-2.81	15.63	8.47	30.57
family job relationship	yes	-3.21	45.31	11.74	63.99
main macro-sector	services	-3.48	0.00	0.00	11.14
indirect involvement in politics	yes	-4.03	6.25	4.12	25.13
apprenticeship	none	-4.12	60.94	12.42	81.35
employers association	yes	-4.45	10.94	5.30	34.20
education level	high school	-4.46	12.50	5.71	36.27
experiences abroad	yes	-4.55	9.38	4.76	32.64
education level	laurea&post	-4.95	3.13	2.04	25.39
social class	high	-6.03	1.56	0.89	29.02
father main activity	self-employed	-6.91	18.75	5.36	58.03

Table A.1b Schumpeterian entrepreneurs (SE)- Cluster II/V - 83 entrepreneurs (21.50%)

Variables	Modalities	Test value	% of the modality within the cluster (MOD/CLA)	% of the cluster within the modality (CLA/MOD)	% of the modality within the sample (GLOBAL)
geographical area new sale markets	abroad	9.20	91.57	40.43	48.70
innovation level product-process	high	8.18	42.17	72.92	12.44
level of innovation	high	8.02	45.78	66.67	14.77
growth in size	national/international	5.48	97.59	27.00	77.72
experiences abroad	yes	5.00	56.63	37.30	32.64
main macro-sector	industry	4.90	97.59	26.05	80.57
innovation level product-process	moderate	3.55	34.94	37.66	19.95
successful brand/product	yes	3.48	69.88	28.57	52.59
ways of company acquisition	founder	3.32	69.88	28.16	53.37
direct involvement in politics	none	3.28	87.95	25.52	74.09
education level	laurea&post	2.89	38.55	32.65	25.39
mobility	yes	2.63	74.70	25.94	61.92
father education	high	2.59	14.46	44.44	6.99
indirect involvement in politics	none	2.47	85.54	24.57	74.87
strategies	integrat&diversif	2.40	32.53	31.76	22.02
education level	illiterate/primary	-2.44	8.43	10.29	17.62
indirect involvement in politics	yes	-2.47	14.46	12.37	25.13
mobility	none	-2.63	25.30	14.29	38.08
education level	middle	-2.81	9.64	10.00	20.73
direct involvement in politics	yes	-3.28	12.05	10.00	25.91
ways of company acquisition	inherit/purch	-3.32	30.12	13.89	46.63
successful brand/product	none	-3.48	30.12	13.66	47.41
level of innovation	low	-3.68	8.43	7.87	23.06
main macro-sector	services	-4.17	0.00	0.00	11.14
level of innovation	none	-4.48	0.00	0.00	12.44
experiences abroad	none	-5.00	43.37	13.85	67.36
growth in size	none/local	-5.48	2.41	2.33	22.28
innovation level product-process	none	-7.68	10.84	5.00	46.63
geographical area new sale markets	none/Italian	-9.20	8.43	3.54	51.30

Table A.1c Traditional entrepreneurs (TE) - Cluster III/V - 94 entrepreneurs (24.35%)

Variables	Modalities	Test value	% of the modality within the cluster (MOD/CLA)	% of the cluster within the modality (CLA/MOD)	% of the modality within the sample (GLOBAL)
geographical area new sale markets	none/Italian	9.70	92.55	43.94	51.30
growth in size	none/local	6.65	48.94	53.49	22.28
experiences abroad	none	5.45	89.36	32.31	67.36
social class	medium	4.43	77.66	32.59	58.03
ways of company acquisition	inherit/purch	3.01	60.64	31.67	46.63
education level	middle school	2.85	31.91	37.50	20.73
innovation level product-process	none	2.54	58.51	30.56	46.63
area of birth	South	2.50	24.47	38.33	15.54
level of innovation	low	2.43	32.98	34.83	23.06
year of death	dead 1911-1930	2.35	14.89	43.75	8.29
ways of company acquisition	founder	-3.01	39.36	17.96	53.37
social class	high	-3.48	14.89	12.50	29.02
level of innovation	high	-3.87	3.19	5.26	14.77
innovation level product-process	high	-4.26	1.06	2.08	12.44
experiences abroad	yes	-5.45	10.64	7.94	32.64
growth in size	national/international	-6.65	51.06	16.00	77.72
geographical area new sale markets	abroad	-9.70	7.45	3.72	48.70

Table A.1d Internationalized traditional entrepreneurs (ITE) - Cluster IV/V - 67 entrepreneurs (17.36%)

Variables	Modalities	Test value	% of the modality within the cluster (MOD/CLA)	% of the cluster within the modality (CLA/MOD)	% of the modality within the sample (GLOBAL)
geographical area new sale markets	abroad	6.65	85.07	30.32	48.70
education level	middle school	6.31	52.24	43.75	20.73
main macro-sector	services	5.32	32.84	51.16	11.14
employers association	none	5.04	91.04	24.02	65.80
growth in size	national/international	3.71	94.03	21.00	77.72
social class	medium	3.53	77.61	23.21	58.03
apprenticeship	none	3.45	95.52	20.38	81.35
main macro-sector	financial services	3.31	8.96	75.00	2.07
strategies	only diversification	3.02	46.27	26.96	29.79
mainly commissioned by PA	none	2.79	92.54	20.00	80.31
ways of company acquisition	inherit/purch	2.49	61.19	22.78	46.63
innovation level product-process	none	2.49	61.19	22.78	46.63
ways of company acquisition	founder	-2.49	38.81	12.62	53.37
mainly commissioned by PA	yes	-2.79	7.46	6.58	19.69
apprenticeship	yes	-3.45	4.48	4.17	18.65
growth in size	none/local	-3.71	5.97	4.65	22.28
social class	low	-3.99	0.00	0.00	12.95
education level	illiterate/primary	-4.26	1.49	1.47	17.62
main macro-sector	industry	-4.90	56.72	12.22	80.57
employers association	yes	-5.04	8.96	4.55	34.20
education level	laurea&post	-5.14	2.99	2.04	25.39
geographical area new sale markets	None/Italian	-6.65	14.93	5.05	51.30

Table A.1e Well-established entrepreneurs (WEE) - Cluster V/V - 78 entrepreneurs (20.21%)

Variables	Modalities	Test value	% of the modality within the cluster (MOD/CLA)	% of the cluster within the modality (CLA/MOD)	% of the modality within the sample (GLOBAL)
indirect involvement in politics	yes	9.90	71.79	57.73	25.13
employers association	yes	9.72	82.05	48.48	34.20
social class	high	8.00	67.95	47.32	29.02
education level	laurea&post	7.09	58.97	46.94	25.39
ways of company acquisition	inherit/purch	5.16	73.08	31.67	46.63
successful brand/product	none	5.01	73.08	31.15	47.41
level of innovation	none	4.53	29.49	47.92	12.44
geographical area new sale markets	none/Italian	4.25	73.08	28.79	51.30
direct involvement in politics	yes	3.99	44.87	35.00	25.91
main macro-sector	agriculture/mining	3.63	16.67	54.17	6.22
experiences abroad	yes	3.45	50.00	30.95	32.64
innovation level product-process	none	3.34	64.10	27.78	46.63
father education	medium	3.18	12.82	55.56	4.66
participation in other companies	yes	3.14	46.15	30.51	30.57
board of directors	yes	3.08	51.28	29.20	35.49
relations with banks	yes	2.98	41.03	31.07	26.68
level involvement politics	yes	2.92	15.38	46.15	6.74
partner social class	high	2.92	15.38	46.15	6.74
father main activity	self-employed	2.40	70.51	24.55	58.03
father education	high	2.36	14.10	40.74	6.99
public or private company	private	-2.48	94.87	19.42	98.70
father main activity	employee	-2.52	10.26	10.00	20.73
innovation level product-process	high	-2.59	3.85	6.25	12.44
relations with banks	none	-2.98	58.97	16.25	73.32
innovation level product-process	moderate	-3.08	7.69	7.79	19.95
cavaliere del lavoro	none	-3.08	48.72	15.26	64.51
participation in other companies	none	-3.14	53.85	15.67	69.43
board of directors	none	-3.45	50.00	15.00	67.36
experiences abroad	none	-3.45	50.00	15.00	67.36
level of innovation	high	-3.65	2.56	3.51	14.77
social class	low	-3.77	1.28	2.00	12.95
direct involvement in politics	none	-3.99	55.13	15.04	74.09
geographical area new sale markets	abroad	-4.25	26.92	11.17	48.70
successful brand/product	yes	-5.01	26.92	10.34	52.59
ways of company acquisition	founder	-5.16	26.92	10.19	53.37
social class	medium	-5.32	30.77	10.71	58.03
education level	illiterate/primary	-5.39	0.00	0.00	17.62
education level	middle school	-5.40	1.28	1.25	20.73
employers association	none	-9.72	17.95	5.51	65.80
indirect involvement in politics	none	-9.90	28.21	7.61	74.87