

# What makes a successful (and famous) entrepreneur? Historical evidence from Italy (XIX-XX centuries)

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## Abstract

In this article, we employ a “quantitative” prosopographical approach to study the nature and the determinants of entrepreneurial success in Italy during the XIX-XX centuries. Our main source is the *Biographical Dictionary of Italian Entrepreneurs*, which contains very detailed biographies of 608 major Italian entrepreneurs. Our findings indicate the multidimensional nature of entrepreneurial success, comprising both a strictly economic and a “celebrity” dimension. Concerning the determinants of success, our findings point to the “political” nature of Italian capitalism.

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## 1. Introduction

Entrepreneurship is a complex activity involving a wide array of talents, abilities, and skills and characterized by different performance outcomes. As such, it has been the object of a variety of fields of research—from economics to sociology, to history, management, psychology, anthropology, and even humanities.

In general terms, entrepreneurs can be defined as economic agents characterized by their ability to exploit opportunities arising in the market. This at least is the conclusion which can be drawn by a comprehensive recognition of the “classical” literature, ranging from Cantillon (1735) to Stevenson and Jarrillo (1990), from Baumol (1968) to Casson (1982, 2000), and from Schumpeter (1934, 1939, 1943) all the way to Shane and Venkataraman (2000). Building on this, it can be said that entrepreneurship refers to the complex set of activities through which innovations (new products, processes, markets, material resources, and organizational structures)—in practice, the range of “new” production functions evoked by Schumpeter—are introduced into the market. Because of information asymmetries and different cognitive capabilities, only some individuals are able to identify and exploit successfully these opportunities, while the nature of the economic environment (sector, demand, etc.) and specific individual attitudes (education, motivation, personality, etc.) are likely to explain why only a few succeed.

Given these premises, it is really not surprising to notice that the theme of entrepreneurship is highly intricate and, for sure, despite the huge literature on the subject, still not entirely sound out. Almost half a century has elapsed since

Baumol (1968) defined the entrepreneur “at the same time as one of the most intriguing and one of the most elusive characters that constitutes the subject of economic analysis.” Since then, an increasing stream of literature, both economic and managerial, has contributed to clarify some of the relevant issues, such as the origins, performance, quality, and impact of entrepreneurship on economic growth.

In this perspective, economic history offers an intriguing viewpoint to approach the study of entrepreneurship. While economic and management studies are typically constrained to observe the phenomenon using cross-sectional or panel data with a relatively narrow time horizon, economic historians have the possibility of adopting broader time scales comprising the whole life span of the entrepreneurs and, in some cases, even of entire dynasties (Landes, 2006). For this reason, it is not surprising that the biographical study of entrepreneurs represents one of the most fortunate “genres” of the business history literature. To name just few well-known examples, we can mention the classical biographies of Pierre Dupont (Chandler and Salsbury, 1971) and John D. Rockefeller (Nevins, 1953) and the study of the proto-entrepreneur Richard Arkwright (Fitton and Wadsworth, 1958). Vices and virtues of this approach have been widely discussed (for an exhaustive survey, see Corley, 2008).<sup>1</sup> In fact, although biographical investigations have the advantage to offer a very detailed analysis of the formation, motivations, and strategies of individual entrepreneurs, they inevitably suffer from the shortcomings of both a somewhat natural tendency to underestimate broader contextual factors and to prompt speculative generalizations from non-representative case studies.

Recently, an intriguing line of research that seems to offer the opportunity of combining the detailed insights of the biographical approach with the potential for providing accurate representative characterizations of entrepreneurship is the approach of “quantitative” or “statistical” prosopography, which is becoming increasingly popular among economic and business historians. An early example of this type of approach is Jeremy (1984), which provided a quantitative overview of the sample of entrepreneurs included in the first volume of the (British) *Dictionary of British Biography*. Since then, quantitative prosopographical studies of entrepreneurship are progressively gaining momentum, so that today, we have a remarkable set of studies comprising Great Britain (Nicholas, 1999; Mokyr, 2010), France (Foreman-Peck *et al.*, 1998), Spain (Tortella, Quiroga and Moral-Arce, 2010), and Italy (Toninelli and Vasta, 2010, 2014; Toninelli *et al.*, 2013). For instance, in what can be regarded as one the pioneering contributions in the field, Nicholas (1999) has attempted to establish a systematic framework for analyzing entrepreneurship by utilizing lifetime rates of wealth accumulation as a synthetic index of entrepreneurial success. Nicholas has employed a model based on rate of return calculations to distinguish between large values of wealth due to inheritance and large values of wealth determined by (successful) entrepreneurial activities. The application of this method to a large sample of British entrepreneurs shows that sector of activity, region, and religious dissent did not account for performance differences. Education and entrepreneurial type (firm founders and managers versus inheritors) were instead important determinants of success. Third-generation entrepreneurs (and firm inheritors more generally) experienced relatively low lifetime rates of wealth accumulation compared to entrepreneurs who founded firms. An education at a public school or an Oxbridge college was also associated with an inferior business performance.

This article expands on this stream of literature by focusing on the Italian case. Toninelli and Vasta (2010) have provided a first quantitative taxonomic exercise of Italian entrepreneurs. Their exercise shows the limited role played by genuine Schumpeterian/innovative entrepreneurs in the Italian historical context. Subsequently, Toninelli *et al.* (2013) have provided a first exploratory assessment of the factors underlying entrepreneurial success (defined in terms of firm’s growth).

In this article, we expand on these previous contributions and we adopt a broader notion of entrepreneurial success encompassing both an economic and a “reputational” dimension. The economic dimension of entrepreneurial success is captured by considering, following a traditional business history perspective, the pattern of growth of the firm. The “reputational” dimension of entrepreneurial success is instead articulated by focusing more on individual attributes of the entrepreneur, such as popularity and social recognition. The rest of the article is structured as follows: In Section 2, we discuss the economic literature on entrepreneurial success, and in Section 3, we provide a brief

1 It is worth noticing that “Entrepreneurial history” rather than “Business history” was the original denomination for the field of history devoted to the systematic study of firms and entrepreneurs when introduced at Harvard by Norman Gras. Furthermore, the root *entrepreneur* up to the 1960s characterized all the scientific activities connected with the history of the firm, such as, for instance, the *Center for Entrepreneurial Research* at Harvard and the main journal of the sector *Explorations in Entrepreneurial History*.

sketch of previous research on this issue in the Italian business history literature. Section 4 introduces the sources and the construction of the data set. In Section 5, we use factor analysis to provide an assessment of the multifarious dimensions of entrepreneurial success as emerging from our data. Section 6 focuses on the determinants of entrepreneurial success. Section 7 concludes.

## 2. Entrepreneurial success and economic growth

The most recent literature concerns the relationship between individual entrepreneurial success and economic growth and particularly when and how the statement “more entrepreneurship is good for growth” works. In this perspective, as it has been suggested, “business history needs to place more emphasis on the individual and less upon the firm as the key business actor” (Casson and Casson, 2014). Actually, the association between growth and the successful entrepreneur, aligned with the “first” Schumpeter, remains still appealing, as shown by the title “Global Heroes” of a special issue of *The Economist* (2009). But does this mean that just the presence of a successful entrepreneurial class is the necessary and sufficient condition to foster economic growth? Some stimulating considerations by Baumol and his associates can add clarity on this issue. In distinguishing between “innovative” and “replicative” entrepreneurs, they maintain that only the first type would promote “Good capitalism” as contrasted to “Bad capitalism,” that is, the almost static economic environment stemming from the excessive interaction between state and monopoly capitalisms (Baumol *et al.*, 2007). Lately, Baumol (2010a) has proposed a further useful distinction, the one between “productive” and “redistributive” entrepreneurs, whose respective influence depends primarily on the historical, institutional, and normative context. The concept emphasizes the fundamental distinction between the entrepreneur facing new processes and products and the one who is active primarily on markets, that is, just searching for new sale and/or production markets.

Furthermore, a number of solid empirical studies have discussed the *nature versus nurture* issue, trying to determine whether successful entrepreneurship is related more to innate talents or to the environment and the background of the individual. This touches also upon the issue of the decision to undertake an entrepreneurial activity. Somewhat paradoxically, it has been shown that the rate of self-employment is inversely correlated to GDP; therefore, it should not come as a surprise that entrepreneurship is actually more intense in less developed countries (Reynolds *et al.*, 2001; Wennekers *et al.*, 2005). In this perspective, high levels of entrepreneurial activity represent an adverse selection phenomenon, where are the ones unable to resort to any other prospect who take the leap into the unknown (Naudé, 2009, 2010). Recently, a research team coordinated by Simeon Djankov surveyed thousands of individuals—almost equally categorized between entrepreneurs and non-entrepreneurs—in some developing and transition countries, such as Russia, Brazil, and China. Their aim was testing three different hypotheses on the origin and success of entrepreneurs: the institutional, the sociological, and the psychological one. According to these surveys, sociological characteristics appeared to have the strongest influence on becoming an entrepreneur, while conversely, social network effects did not play a significant part in determining success once the business starts operations. In fact, entrepreneurial success turned out as primarily determined by the individual’s cognitive abilities and higher education in the family (Djankov *et al.*, 2006). Indeed, as maintained by Vivarelli (2013, p. 5), only when entrepreneurs are motivated by innovative and progressive drivers (therefore distinguished from “necessity entrepreneurs”), “a positive linear relationship between economic development and entrepreneurship is restored.”

The issue of entrepreneurial success is further complicated by the difficulty to draw a neat line between the success of the entrepreneur *per se* and that of the firm, that is, between the subject and the object of the entrepreneurial activity. As for this distinction, the literature has mainly focused on the economic performance of the firm, although there is scarce theoretical consensus even on the definition of firm’s performance (profits, successful introduction of innovation, survival, etc.), arising from the different approaches to the issue from various fields of economics and, more generally, other social sciences. Incidentally, the focus on firm’s performance is the approach privileged by the business history literature, mainly devoted to reconstruct and evaluate diachronically firms’ changes of strategy and structure.

## 3. Entrepreneurs and economic growth in Italy in a long run perspective

But for few exceptions, until the end of the 1970s, contemporary economic history in Italy was characterized mostly by a “macroeconomic” approach dealing with issues such as economic growth and development, structural change,

economic backwardness, regional divide, and so on. The very few business-oriented historical studies were concerned with big companies, either private or public.

Still in the early 1990s, in what at the time was a comprehensive bibliographical essay on Italian business history, Bigazzi (1990) complained that the backwardness of Italian business history did not allow an accurate historical reconstruction of Italian entrepreneurship. The first factor accounting for the backwardness and indolence of Italian entrepreneurial history was the ambiguous attitude toward the figure and the role of the entrepreneur which runs throughout the country's economic and social history. In large sections of the socio-political as well as cultural establishment, entrepreneurship has long been scarcely legitimized, its function not being considered as important in the modernization of the country as happened in the other countries (Gramsci, 1949; Gerschenkron, 1962). Alas, some entrepreneurial reluctance to compete "fairly" on the market accepting both risks and benefits of the economic game might have contributed to this sentiment of distrust. In this respect, it seems highly instructive to compare two different cultural attitudes toward entrepreneurship: the British and the Italian. In the first case, Mokyr (2010) points at the "atmosphere" of dignity and trust surrounding the XVIII-century British entrepreneurial class as one of the fundamental informal institutions forging the cultural climate propitious to the Industrial Revolution. As for Italy, as noted by Garruccio (2008), as late as in the interwar period, entrepreneurs were struggling for the attainment of a widespread social recognition.

However, over the past 30 years or so, the focus increasingly shifted toward a more microeconomic approach containing a large amount of details on the micro-behavior of the economic *actors* and their strategic interactions. Generalization was substituted by a focus on detailed case studies dealing with specific issues or even with specific *events* (for a discussion of these issues, see Giannetti and Vasta, 2006). This was the result of two converging factors: on the one hand, the dramatic breakdown of the Fordist paradigm based on the centrality of big business as engine of economic growth, which implied a strong connection between macro trends and the dynamics of few prominent large firms; on the other hand, the concomitant change of focus, from macro to micro, in economic theory, which increasingly emphasized the need of grounding explanations of aggregate phenomena in sound micro-foundations. In the light of this broad interpretative context, historiography turned its attention to small firms and their putative role in economic growth, its organizational systems, and its strategies for expansion (Bagnasco, 1977; Becattini, 1987). Until the 1970s, in fact, the small firm had been mainly considered as residual or subordinate to the dynamics of large enterprise and, at any rate, less efficient and innovative. Somewhat paradoxically, a first contribution marking this "micro" methodological turn in Italian industrial history was the paper by Amatori (1980), which, although still concerned with big business, contained a preliminary attempt to identify a general comprehensive set of "entrepreneurial typologies" characterizing Italian industrial history.<sup>2</sup> Amatori suggested a simple scheme, that outlines an enduring threefold structural character of the Italian entrepreneurship: "private," "supported," and "public" entrepreneurs. Later contributions largely built upon the 1980 Amatori's essay, often dwelling on sector, individual firms, or clusters (Amatori and Brioschi, 1997; Doria, 1998; Amatori and Colli, 1999). Subsequently, new insights into the categories of entrepreneurial networks, family entrepreneurs, and/or outward-looking entrepreneurs had been developed (Colli, 2002, 2003; Federico and Toninelli, 2006). On the other hand, more limited progresses have been made in unraveling the relationship between entrepreneurship and economic growth in the Italian context. Although Doria (1999) has provided a preliminary qualitative assessment to the contribution of different sectors and categories of entrepreneurs to Italy's economic development, later on, Colli (2002), for the more recent period, has pointed to the role played in the economic growth of the country by the "aggressive" middle-sized firms of the so-called Italian "fourth capitalism."<sup>3</sup>

- 2 Later Amatori (2011) updated his previous review article, adding some typologies for the most recent period, but the structure of the scheme remained substantially unchanged.
- 3 The term *quarto capitalismo* ("fourth capitalism") was introduced in Italy during the late 1990s by the business journalist Turani (1996) to identify the newly emerging export-oriented middle-sized firms. The label "fourth" was used in order to distinguish them from the traditional categories of the first capitalism (big business), second (state owned enterprises), and third (small firms). For a recent quantitative analysis which emphasizes the performance of this type of firms over the period 1989–2004, see Dosi *et al.* (2012). For a more skeptical appraisal of the heuristic potential of this category, see Lavista (2010).

In the early 2000s, a substantial effort to tackle this research gap was made with the *Biographical Dictionary of Italian Entrepreneurs (BDIE)* (*Dizionario Biografico degli Imprenditori Italiani*) project.<sup>4</sup> The idea was to leverage on the fragmented existing research on Italian entrepreneurship in historical perspective, especially the one emerged during the 1990s thanks to the active solicitation of ASSI,<sup>5</sup> and, at the same time, attempting to cover the widest gaps. In this perspective, the *BDIE* represented a major effort to further consolidate business history research in Italy.

#### 4. Sources and data

The *BDIE* project was extremely ambitious and the ultimate goal was the publication of a comprehensive biographical dictionary comprising all noteworthy Italian entrepreneurs living in the period 1800–2000. Unfortunately, for unexpected budgeting reasons, the preparation and collection of the biographies had to stop at the letter N, leading to the completion of about 600 entries. The *BDIE* collection of biographies is the main source of this study.

According to the *BDIE* project, entrepreneurs were considered as those individuals responsible on “the allocation of resources at the highest level” inside the firm.<sup>6</sup> This criterion implies that rather than the ownership of the firm, what matters for inclusion is the power of making strategic decisions, irrespectively of his/her “formal” role. In this way, also top managers are considered eligible for the *BDIE*. Furthermore, in order to be included in the dictionary, entrepreneurs were to be considered relevant for national or local history. The editors decided to include both successes and failures (and honest as well as dishonest actors). The entire work was designed to be representative of all Italian entrepreneurial history by geographical areas, by sectors, and by typologies. All Italy’s regions were considered and it was also decided to single out special categories such as bankers, traders, technicians, women, fashion and movie industries, and managers of state-owned enterprises. It was decided to cover only entrepreneurs that were dead at the moment of the compilation. This was motivated by the opportunity of giving to the authors a sufficient amount of historical perspective in the writing of the biographical entries. This approach, of course, determines a relative underrepresentation of the entrepreneurs of the youngest cohorts. However, this is not likely to represent a major bias for the sample, as it is plausible to assume that the death event will be randomly distributed among the entrepreneurs of the latest cohorts, and not related with entrepreneurial success and its determinants, or, for that matter, to other features of entrepreneurial activities.

The main merit of the *BDIE* as a source for business historians is the comprehensive nature of the information provided. In this respect, the *BDIE* offers a very insightful and extremely detailed record of the life and activities of Italian entrepreneurs. Furthermore, the editors of the *BDIE* have made an effort to ensure that each biography contained, in a relatively homogeneous way, a certain amount of key information on each entrepreneur.

In particular, the following aspects have been considered:

- i. “demographic” variables (such as gender, dates and location of birth and death, age at which the entrepreneurial activity began);
- ii. background (social class, family relations);
- iii. human capital formation (level and field of education, travels and training abroad);
- iv. networking (membership of various association, involvement in politics); and
- v. evidence on the firm and its performance at different points in time (its size, major activities in national and international markets, innovative performance in terms of product, process and organizational innovations).

As a result, the structure of the biographical entries of the *BDIE* allows for the systematic coding of a wide array of categorical variables, whose significance has been highlighted both by history and theory.

Of course, even though the *BDIE* was characterized by comprehensive criteria for inclusion prescribing the consideration of both successful and unsuccessful actors, those considered are likely to have been characterized, at least for some time span, by a relatively good performance (leading to the attainment to sufficient level of

4 The project directed by Franco Amatori has been widely described in [Amatori \(2011\)](#).

5 That is the Italian “Association for the history of enterprise,” which promoted a series of monographs on business and industrial history, and edited two journals—*Archivi e Imprese*, which later on changed its title to *Imprese e Storia*, and *Annali di Storia dell’ Impresa*. Besides, it was the original main sponsor of *Industrial and Corporate Change*.

6 [Amatori \(2011\)](#), p. 162).

“noteworthiness” prompting their consideration for the *BDIE*). In this sense, our data set of entrepreneurs extracted from the *BDIE* suffers from an almost unavoidable bias toward relatively successful entrepreneurs (with respect from what would have resulted from the “ideal” but clearly impossible construction of a fully representative random sample). Still, we believe, that this issue does not rule out the use of the dictionary for studying the determinants of entrepreneurial success. As we have already argued, entrepreneurial success is inherently multidimensional and is characterized by different levels of attainments. Hence, our exercise is aimed at unraveling the factors accounting for being in the very “upper tail” of entrepreneurial success in a sample of relatively successful entrepreneurs. This approach is actually fully in line with the recent discussion of entrepreneurship by *Kerr, Nanda, and Rhodes-Kropf (2014)* which highlights the extremely skewed nature of entrepreneurial success.

Moreover, we integrate the data taken from the *BDIE* with additional information extracted from both the Italian and the English versions of Wikipedia.<sup>7</sup> In particular, we use the relative “visibility” of each entrepreneur as an indicator of public noteworthiness or “celebrity.” We regard this as one important, albeit often neglected, dimension of entrepreneurial success. This is in line with the view of entrepreneurial activity proposed by Schumpeter in *The Theory of Economic Development*. As known, *Schumpeter (1934)* argued that entrepreneurs are driven by a peculiar combination of utilitarian and non-utilitarian motives. Among non-utilitarian motives, the attainment of a celebrity status (the creation of a “private kingdom”) and social mobility feature prominently. The critical role of non-pecuniary motivations has also been emphasized by recent research on entrepreneurship. Interestingly enough, many empirical studies show that most entrepreneurs actually earn relatively low returns for their activities, notwithstanding working often more hours than wage workers. A plausible interpretation for these somewhat puzzling findings is precisely that non-pecuniary factors such as a preference for autonomy and independence, for creative work, or for obtaining public recognition represent important motivational drivers (see *Astebro et al., 2014*, for a discussion of this recent literature on non-pecuniary motivations).

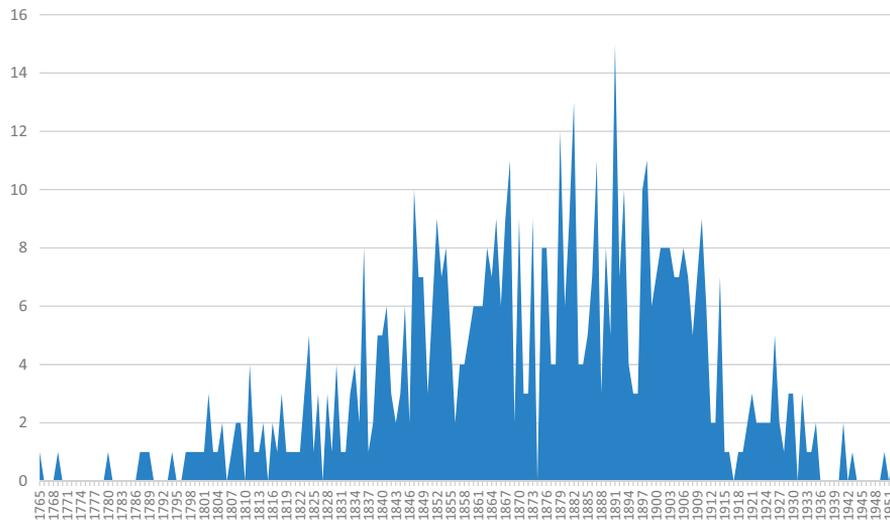
We consider the inclusion in Wikipedia, both in the Italian and the English versions, and the length of their entries (in terms of number of words) as proxies for the relative “celebrity” of each individual entrepreneur (this is also complemented by the size of the biographical entry in the *BDIE* measured in terms of rows of text). Before moving to our study of entrepreneurial success and its determinants, it is useful to consider some key descriptive statistics of the *BDIE* sample of entrepreneurs. Overall the total sample comprises 608 entrepreneurs. *Figure 1* displays the birth year of the entrepreneurs of the sample. As *Figure 1* indicates, the sample is characterized by a very broad historical scope covering the XIX and a significant part of the XX century and, as expected, there is a significant underrepresentation of the later cohorts, about since the 1940s.

*Table 1* sets out the statistics of the main variables employed in our exercise. All these variables have been extracted from the *BDIE* by coding the information contained in the biographies as categorical variables. Not surprisingly, the data set includes predominantly males (only 10 entrepreneurs in our sample are women).<sup>8</sup> The geographical scope (in terms of birth places) of the sample is biased toward the northern regions and, in particular, toward the north west, while the south has a relatively small share. Also, this feature is hardly surprising taking into account that the dualism north/south is one lasting feature of the long-run development of the Italian economy. One plausible interpretation of this pattern is that the more rapid growth of the northern regions has provided them with more opportunities to exert entrepreneurial talents. More controversially, an alternative interpretation would posit that the casual linkage runs in the opposite direction, by arguing that the larger size of entrepreneurship of the northern regions is actually one of the factors accounting for the different long-term economic performance of the different regions.<sup>9</sup> Here we will remain agnostic on this issue. In terms of educational attainments, the sample is relatively balanced. Considering the traditional historical low levels of human capital in Italy, it is a bit surprising to note that

7 On the use of Wikipedia as a source for ranking historical figures, see *Skiena and Ward (2014)*.

8 These are Ada Armaroli (1914–1992), founder of the *La Perla* brand; Marisa Bellisario (1935–1988), active in the telecommunication industry; Lina Bianconcini (1863–1942), “humanitarian” entrepreneur in lacemaking; Maria Bigarelli (1914–1991), a pioneer of the textile industry; Anna Bonomi (1910–2003), the only noteworthy Italian female financier; Cecilia Danieli (1943–1999), steel production; Marietta Diena (1903–1994), producer of stationery; Zoe Fontana (1911–1977), founder of the Fontana haute-couture brand; Maria Concetta Giuntini Spinola (1921–1979), wine producer; and Elvira Leonardi (1906–1999), better known as Biky, one of the most famous Italian dressmakers.

9 This would be in line with the research stream pioneered by *Putnam, Leonardi, and Nanetti (1993)* highlighting the critical role played by long-lasting socio-cultural factors in shaping the economic divide by north and south.



Source: our own elaboration on BDIE.

**Figure 1.** Entrepreneurs by year of birth.  
 Source: Our own elaboration on BDIE.

more than 30% of the entrepreneurs in our sample enjoyed a university education.<sup>10</sup> The main business activity of the entrepreneurs in the sample is industry (more than 70%); however, it is interesting that the sample includes also a not irrelevant number of entrepreneurs active in agriculture and services.

### 5. Measuring entrepreneurial success

As we have noted, the *BDIE* contains a relatively rich and detailed set of information that can be coded in a series of categorical variables. We use factor analysis to shed light on the relationship between these variables and to construct measures of entrepreneurial success that appear susceptible of a relatively straightforward interpretation. We start by considering a set of eight variables, whose descriptive statistics are reported, in capital letters, in *Table 1*. These variables can be regarded as capturing entrepreneurial success along various dimensions. First we include a set of measures capturing the ability of the entrepreneur to develop successfully his/her business. This is in line with the recent literature on industrial dynamics which regards the growth of firms as one fundamental feature of the capitalist process of competition (*Dosi, 1997*). Accordingly, the variable *GROWTH* measures the ability of the entrepreneurs to expand the activity of their firms in terms of employment. In case of entrepreneurs inheriting or purchasing their business, only the additional growth from the starting level is considered. The variable is coded on a scale of 0, 1, 2, and 3 broadly correspondingly to the following orders of magnitude: 0 representing no growth, 1 meaning the reach of a size up to about 100 employees, 2 of about 1000 employees, and 3 strong growth, i.e. a size of more than 1000 employees. It must be considered that this information, in the *BDIE*, is not always available in an explicit form and thus we have resorted to some degree of interpretation. The variable *GEO\_GROWTH* measures the ability of entrepreneurs to expand their business at various geographical levels, and this variable is coded on a scale of 0 (no growth), 1 (local), 2 (national), and 3 (international). Notably, one-fourth of the entrepreneurs of the sample were able to successfully expand their businesses abroad. Next we construct a variable indicating whether the entrepreneur, throughout his/her career, was responsible for the introduction of a successful brand or product (*BRAND*).<sup>11</sup> This variable is coded as a 0, 1 dummy, with 1 indicating the introduction of a long-lasting brand. In the sample,

- 10 For a recent historical account of the role of human capital formation in fostering innovative activity in Italy, see *Nuvolari and Vasta (2017)*.
- 11 Product “branding” has been pointed out as one of the important drivers of the success of Italian exports. For a useful discussion in historical perspective, see *Molteni (2016)*.

**Table 1.** The sample of Italian entrepreneurs in the BDIE: descriptive statistics

	No.	%
Gender		
Male	598	98.4
Female	10	1.6
Total	608	100.0
Area of birth		
North west	218	35.9
North east	139	22.9
Center	115	18.9
South	96	15.8
Abroad	40	6.6
Total	608	100.0
Education (EDUCATION)		
Illiterate/Primary education	93	15.3
Middle school	113	18.6
High school	211	34.7
University degree (Laurea)/PhD	191	31.4
Total	608	100.0
Main macro sector of activity		
Agriculture, fishing, and mining	37	6.1
Industry	442	72.7
Service (no financial)	78	12.8
Financial service	51	8.4
Total	608	100.0
Employment growth (GROWTH)		
No growth	46	7.6
Little growth	179	29.4
Average growth	239	39.3
Strong growth	144	23.7
Total	608	100.0
Expansion of business at geographical level (GEO_GROWTH)		
No growth	33	5.4
Local growth	132	21.7
National growth	294	48.4
International growth	149	24.5
Total	608	100.0
Introduction of successful brand or product (BRAND)		
No	438	72.0
Yes	170	28.0
Total	608	100.0
Social class improvement (SOC_MOBILITY)		
From upper to upper class	78	12.8
From middle to upper class	342	56.3
From lower to upper class	188	30.9
Total	608	100.0
Entrepreneurial type (ENTR_TYPE)		
Founder	277	45.6
Purchasing	34	5.6
Inheritance	205	33.7
No owner (manager)	92	15.1
Total	608	100.0
Innovation intensity (INNOV_INT)		
0	321	52.8

(continued)

Table 1. Continued

	No.	%
0.5	88	14.5
1	77	12.7
1.5	54	8.9
2	27	4.4
2.5	17	2.8
3	24	3.9
Total	608	100.0
Involvement in politics (POLITICS)		
No	322	53.0
Yes	286	47.0
Total	608	100.0
Education or training in science or engineering (SCIENTIST)		
No	499	82.1
Yes	109	17.9
Total	608	100.0
Education or experienced abroad (EXP_ABROAD)		
No	377	62.0
Yes	231	38.0
Total	608	100.0

Source: our own elaboration on BDIE.

only 170 entrepreneurs (28%) have introduced such a brand. Notably, some of these brands have become international icons of the *Made in Italy* lifestyle, such as Campari, Ferrari, Gucci, and Lavazza. Therefore, these first three variables refer to the firm, that is, the object of the entrepreneurial activity. Besides, we include a variable describing the social mobility of the entrepreneur throughout his life. This variable (SOC\_MOBILITY) is coded, according to “initial” social class of the entrepreneur, on a scale of 0 (no improvement), 1 (from middle to upper class), and 2 (from low to upper class). Additionally, we have constructed a variable that aims at capturing various types of entrepreneurs. This variable is essentially based on the process of the (main) company acquisition by the entrepreneurs (ENTR\_TYPE). In this case, we distinguish between founders, inheritors, entrepreneurs that purchase the company by means of market acquisition, and non-owners (managers).

In Table 2 we report the descriptive statistics concerning the relative visibility of the entrepreneurs in Wikipedia and in the *BDIE*. These variables are the number of rows of each entry in the *BDIE* (ROWS\_BDIE), the number of words in the Italian edition of Wikipedia (WIKL\_IT), and the number of words in the English edition of Wikipedia (WIKL\_EN). It can be noted the rather skewed nature of these variables (especially with regard to Wikipedia) with a relatively restricted number of entrepreneurs having a very high visibility, while a large bulk of the sample is characterized by a relatively low or zero visibility.

Using these eight variables, we carry out a factor analysis with the principal component factor estimation method which is relatively robust to different assumptions concerning the underlying distribution of the data. In order to take into account the possible existence of some possible correlation among the underlined factors, we employ the more flexible promax rotation in the construction of the loadings. The results of this exercise are set out in Table 3. The so-called Kaiser criterion suggests to use as synthetic variables all factors with eigenvalue > 1 (Figure 2). In our case this implies to consider the first three factors accounting for about 60% of the variance. This result may be interpreted as indicating that entrepreneurial success is indeed a complex phenomenon characterized by different dimensions.

Table 4 shows the factor loadings of the three factors retained. The first factor is characterized by relative high loadings of the variables measuring the visibility of the entrepreneur on the various sources. Accordingly, we suggest to interpret this factor as a proxy for the visibility of the entrepreneur in the public domain and we label this factor as celebrity (CELEBRITY). The second factor is characterized by relative high loadings of the variables measuring the growth of the business of the entrepreneur both quantitatively and geographically and by a high loading of the

**Table 2.** The celebrity of Italian entrepreneurs

	No.	%
No. of rows in BDIE (ROWS_BDIE)		
0–100	61	10.0
101–200	200	32.9
201–300	203	33.4
301–400	74	12.2
401–500	33	5.4
>500	37	6.1
Total	608	100.0
<i>Min</i>	21	
<i>Max</i>	1,273	
<i>Mean</i>	248	
No. of words in it.wikipedia (WIKI_IT)		
0	423	69.6
1–200	37	6.1
201–400	57	9.4
401–600	31	5.1
601–1000	30	4.9
>1000	30	4.9
Total	608	100.0
<i>Min</i>	0	
<i>Max</i>	9,877	
<i>Mean</i>	202	
No. of words in en.wikipedia (WIKI_EN)		
0	554	91.1
1–200	17	2.8
201–400	10	1.6
401–600	13	2.1
601–1000	5	0.8
>1000	9	1.5
Total	608	100.0
<i>Min</i>	0	
<i>Max</i>	2,297	
<i>Mean</i>	50	

Source: Our own elaboration on *BDIE* and on it.wikipedia.org and en.wikipedia.org. Last access October 2014.

**Table 3.** Factor analysis of entrepreneurial success indicators (eigenvalues)

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.233	0.865	0.279	0.279
Factor2	1.369	0.082	0.171	0.450
Factor3	1.286	0.318	0.161	0.611
Factor4	0.968	0.283	0.121	0.732
Factor5	0.685	0.048	0.086	0.818
Factor6	0.637	0.075	0.080	0.897
Factor7	0.562	0.301	0.070	0.968
Factor8	0.260		0.033	1.000

BRAND variable. This factor clearly is related with variables capturing the economic performance of the entrepreneur. Accordingly we label this factor as economic success (EC\_SUCCESS). The third factor loads relatively high on the two variables measuring social mobility and entrepreneurial type. We suggest to interpret this factor as proxy for the “social mobility” (SOC\_MOBILITY) dimension of entrepreneurial success.

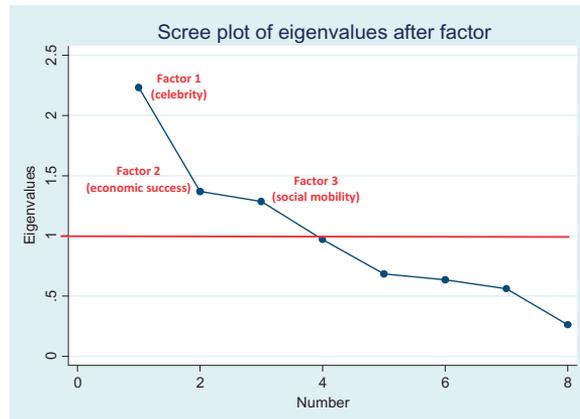


Figure 2. Eigenvalues of factor analysis.

Table 4. Factor analysis of entrepreneurial success indicators (factor loadings and unique variance)

Variable	Factor1 CELEBRITY	Factor2 EC_SUCCESS	Factor3 SOC_MOBILITY	Uniqueness
GEO_GROWTH		0.8028		0.3769
BRAND		0.5585		0.6866
ROWS_BDIE	0.5921			0.4968
WIKI_IT	0.9311			0.1596
WIKI_EN	0.8634			0.2737
SOC_MOBILITY			0.8081	0.3361
GROWTH		0.7424		0.4157
ENTR_TYPE			0.7865	0.3666

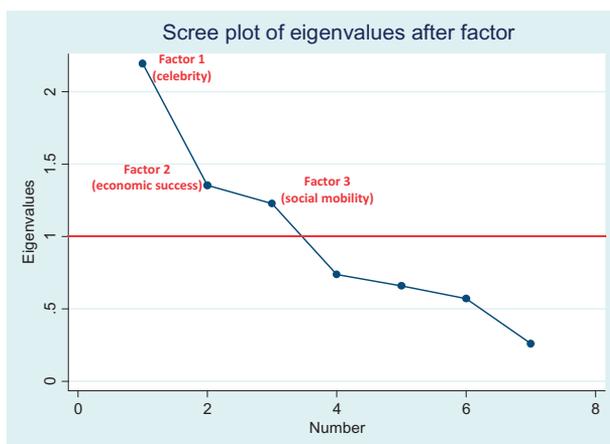
The results we have obtained are robust to the use of different techniques (e.g. principal factor, maximum likelihood) and to the inclusion or exclusion of different variables in the analysis. One variable that is probably measured with a relative high degree of uncertainty is the introduction of one or more successful brands. Table 5, Figure 3, and Table 6 present the results of the factor analysis not considering this variable. Again the Kaiser criterion suggests to retain three factors and the loadings on each factor prompts an interpretation of entrepreneurial success as characterized by “celebrity,” “economic success,” and “social mobility.”

Tables 7–9 report the rankings of the top 20 entrepreneurs for each dimension of entrepreneurial success, namely, “celebrity,” “economic success,” and “social mobility.” The top three names in Table 7 (celebrity)—Enrico Mattei<sup>12</sup>, Gianni Agnelli, and Enzo Ferrari<sup>13</sup>—are not unexpected, even though the predominance of Gianni Agnelli, the jetsetter, over his grandfather Giovanni (ranked 10th), the founder of the FIAT automobile company, clearly

- 12 Enrico Mattei (1906–1962) was born in Acqualagna, a village in The Appennini mountains in the Marche region. After his training in a small dyeing plant swept away by the 1929 crisis, he moved to Milan, where in a few years he became a successful chemical entrepreneur. A protagonist of the antifascism struggle, after the WWII, he was appointed Commissioner of the state-controlled oil company Agip, which in a few years he transformed in *Ente Nazionale Idrocarburi* (ENI), a major player on the world oil market. Mattei died in an air crash, whose circumstances remained still unclear.
- 13 Enzo Ferrari (Modena, 1898–1988), formerly a pilot and a sales representative of Alfa Romeo, founded his firm in Maranello, in the Modena’s outskirts in 1939. Already in the 1950s, speed (thanks to the excitement of the repeated victories in the Formula One World Championships) and elegance (Pininfarina innovative design) had made Ferrari one of the most world-famous brand for luxury cars.

**Table 5.** Factor analysis of entrepreneurial success indicators excluding BRAND (eigenvalues)

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.193	0.840	0.313	0.313
Factor2	1.353	0.127	0.193	0.507
Factor3	1.226	0.490	0.175	0.682
Factor4	0.737	0.077	0.105	0.787
Factor5	0.659	0.088	0.094	0.881
Factor6	0.571	0.311	0.082	0.963
Factor7	0.260		0.037	1.000

**Figure 3.** Eigenvalues of factor analysis without BRAND.**Table 6.** Factor analysis of entrepreneurial success indicators excluding BRAND (factor loadings and unique variance)

Variable	Factor1 CELEBRITY	Factor2 EC_SUCCESS	Factor3 SOC_MOBILITY	Uniqueness
GEO_GROWTH		0.8083		0.3801
ROWS_BDIE	0.5153	0.4026		0.4619
WIKI_IT	0.9371			0.1481
WIKI_EN	0.8908			0.2404
SOC_MOBILITY			0.8076	0.3334
GROWTH		0.8277		0.3227
ENTR_TYPE			0.8041	0.3404

explains the nature of this variable. Not surprisingly, Giovanni Agnelli<sup>14</sup> stands at the top of Table 8 (economic success), while his nephew Gianni does not even appear in the first 20 ranks of this table. Mattei stays at the top of the

- 14 Giovanni (1866–1945) and Gianni (1920–2003) represented the first and the third generation of the Torinese dynasty. The first, a cavalry officer and the son of a rich landlord, was among the founders (1899) and later became CEO of FIAT. Strategic vision and direct political involvement combined to bring the brand to international success already in the 1920s. The grandson Gianni grew under his tutorship and after an extended *jeunesse dorée*, during which the supervision was attributed to a reputed manager, Vittorio Valletta, he was appointed CEO in 1963. Under his direction, FIAT grew to a leading role in the car world market.

**Table 7.** Top 20 entrepreneurs for "Celebrity"

Ranking	Name	Place of birth	Date of birth	Place of death	Date of death	Education level	Main sector of activity	Ways of company acquisition	Short bio
1	Mattei, Enrico	Acqualagna (Pesaro)	1906	Bescapè (Pavia)	1962	High school	DF	Founder	The founder of ENI, a major player on the world oil market, killed in a mysterious air-crash
2	Agnelli, Gianni	Torino	1921	Torino	2003	University degree	DM	Inheritance	The nephew of the founder of the Torinese dynasty, he drew FIAT to a leading role in the car world market
3	Ferrari, Enzo	Modena	1898	Modena	1988	Middle school	DM	Founder	A former pilot, founded the famous car brand
4	Calvi, Roberto	Milano	1920	London (United Kingdom)	1982	High school	J	No owner	Chairman of the Banco Ambrosiano, involved in a big financial scandal, and tragically dead
5	Feltrinelli, Giangiacomo	Milano	1926	Milano	1972	High school	DE	Founder	A publisher worldwide famous for the publication of Pasternak's <i>Doctor Zhivago</i> and tragically dead
6	Cuccia, Enrico	Roma	1907	Milano	2000	University degree	J	No owner	The long-lasting patron of Mediobanca, the main post-war financial center of the Italian economy
7	D'Ascanio, Corradino	Popoli (Pescara)	1891	Pisa	1985	University degree	DM	Co-founder	The designer and creator of the first helicopter and of the Piaggio's Vespa
8	Beneduce, Alberto	Caserta	1877	Roma	1944	University degree	J, E	No owner	The first outstanding public manager, founder of IRI
9	Donegani, Guido	Livorno	1877	Bordighera (Imperia)	1947	University degree	C, DG	No owner	Manager-entrepreneur and politician, architect of the interwar growth of Montecatini
10	Agnelli, Giovanni	Villar Perosa (Torino)	1866	Torino	1945	High school	DM	Co-founder	Cofounder and first president of the FIAT company
11	Fortuny, Mariano	Granada (Spain)	1871	Venezia	1949	High school	DB	Founder	An artist and the founder of the company "Tessuti Artistici Fortuny"
12	Dell'Amore, Giordano	Il Cairo (Egypt)	1902	Milano	1981	University degree	J	No owner	A banker, for long president of the main Italian saving bank and of Bocconi University
13	Caproni, Giovanni Battista	Massone (Trento)	1866	Roma	1957	Post university degree	DM	Co-founder with family	An aircraft engineer and a pioneer of the Italian aviation
14	Ginori Conti, Piero	Firenze	1865	Firenze	1939	University degree	DG	Inheritance	The head of the boric acid extraction firm in Lardarello who introduced the use of natural steam to produce electricity

(continued)

Table 7. Continued

Ranking	Name	Place of birth	Date of birth	Place of death	Date of death	Education level	Main sector of activity	Ways of company acquisition	Short bio
15	Castiglioni, Camillo	Trieste	1879	Roma	1957	Middle school	J, DK	Purchasing	An Italian-Austrian financier and banker, heavily invested in the aircraft and car (BMW) industries
16	Albertini, Luigi	Ancona	1871	Roma	1941	University degree	A	Purchasing	The most famous director/entrepreneur of the main Italian newspaper, the <i>Corriere della sera</i>
17	Abarth, Carlo	Vienna (Austria)	1908	Vienna	1979	High school	DM	No owner	An automobile designer born in Austria, creator of the Abarth brand
18	Alberione, Giacomo	S. Lorenzo di Fossano (Cuneo)	1884	Roma	1971	University degree	DE	Purchasing	A presbyter and publisher, founder of the <i>Edizioni paoline</i>
19	De Ferrari, Raffaele Luigi	Genova	1803	Genova	1876	High school	J	Founder	A financier and a protagonist of the creation of the railways systems both in Italy and France
20	Bugatti, Ettore	Milano	1881	Paris (France)	1947	High school	DK	Founder	The creator of the famous car brand

Legend of Sector of activity: A: Agriculture; C: Mining; DA: Food and tobacco; DB: Textiles and textile products; DC: Leather and leather products; DE: Paper products, publishing, and printing; DF: Coke and petroleum products; DG: Chemicals and chemical products; DI: Other non-metallic products; DK: Machinery and equipment; DL: Electrical and optical equipment; DM: Transport equipment; DN: Other manufacturing; E: Utilities; F: Construction; G: Commerce; I: Sports; J: Financial intermediation; O: Other public services.

**Table 8.** Top 20 entrepreneurs for "Economic success"

Ranking	Name	Place of birth	Date of birth	Place of death	Date of death	Education level	Main sector of activity	Ways of company acquisition	Short bio
1	Agnelli, Giovanni	Villar Perosa	1866	Torino	1945	High school	DM	Co-founder	Cofounder and first president of the FIAT company
2	Mattei, Enrico	Acqualagna (Pesaro)	1906	Bescapè (Pavia)	1962	High school	DF	Founder	The founder of ENI, a major player on the world oil market, killed in a mysterious air-crash.
3	Costa, Angelo	Genova	1901	Genova	1976	University degree	I	Inheritance	Ship-owner, founder of "Costa crociere" twice president of the Italian Industrial Federation
4	Gori, Leopoldo	Siena	1897	Arezzo	1994	Middle school	G, DN	Co-founder	A protagonist of the gold industry, cofounder of UnoAerre, a top Italian firm of the sector
5	Breda, Ernesto	Campo S. Martino (Padova)	1852	Milano	1918	University degree	DK	Founder	An engineer who founded the mechanical engineering firm Società Italiana Ernesto Breda per Costruzioni Meccaniche
6	Buzzi, Luigi	Casale Monferrato (Alessandria)	1907	Casale Monferrato	1992	University degree	DI	Inheritance	An engineer who transformed the family firm in a primary group of the cement industry
7	Fumagalli, Eden	Cambiago (Milano)	1891	Monza	1971	High school	DL	Founder	A self-made man who in 1945 produced <i>Camdy 50</i> , the first washing machine entirely made within the country
8	Gucci, Aldo	Firenze	1905	Roma	1990	Middle school	DB	Inheritance	A leather artisan, founder of the homonymous famous brand
9	Guzzini, Virgilio	Recanati (Macerata)	1929	Macerata	2003	Middle school	DN	Co-founder with family	A protagonist of the plastic and lighting industry, co-founder of many brands such as Iguzzini, Telma, Teuco
10	Cirio, Francesco	Nizza Monferrato (Asti)	1836	Roma	1900	Primary education	DA, G	Founder	The man who introduced the canning industry and created the famous Cirio brand
11	Caproni, Giovanni Battista	Massone (Trento)	1866	Roma	1957	Post university degree	DM	Co-founder with family	An aircraft engineer and a pioneer of the Italian aviation
12	Burgo, Luigi	San Saturnino di Moneglia (Genova)	1876	Torino	1964	University degree	DE	Co-founder	An electric engineer and a senator who successfully acted both in the paper making and the electric industries

(continued)

Table 8. Continued

Ranking	Name	Place of birth	Date of birth	Place of death	Date of death	Education level	Main sector of activity	Ways of company acquisition	Short bio
13	Astaldi, Sante	Sannazzaro de' Burgondi (Pavia)	1895	Cortina d'Anpezzo	1982	University degree	F	Founder	The initiator of the Astaldi group, worldwide active in the building and construction activities
14	Fila, Ettore	Biella	1895	Biella	1982	Middle school	DB	Founder	An entrepreneur in the wood and apparel industry, creator of the famous sport brand Danilo transformed the family canning firm in a worldwide producer of bouillon cube
15	Fossati, Danilo	Monza	1927	Lugano (Switzerland)	1995	High school	DA	Inheritance	A physician and entrepreneur, founded with his brothers one of the world's most prestigious motorcycle manufacture.
16	Cavalieri Ducati, Adriano	Bologna	1903		2001	University degree	DK, DL	Co-founder with family	A pioneer of the aircraft industry, after WW2 he moved into the production of motorcycles, creating the MV Agusta
17	Agusta, Domenico	Palermo	1907	Gallarate (Milano)	1971	High school	DM	Inheritance	Politician and entrepreneur (Magneti Marelli) gained great prestige during the fascist period
18	Benni, Antonio Stefano	Cunco	1880	Losanna (Switzerland)	1945	Middle school	DL	Purchasing	A major entrepreneur of the cotton industry (printed fabric) cofounded with Ernesto De Angeli the De Angeli-Frua firm
19	Frua, Giuseppe	Milano	1855	Milano	1937	High school	DB	Co-founder	Cofounder of the BTicino company, a major producer of electrical equipment
20	Bassani, Luigi	Gallarate (Milano)	1912	Casciago di Varese (Varese)	1968	High school	DL	Co-founder with family	

Legend: see Table 7.

Table 9. Top 20 entrepreneurs for "Social mobility"

Ranking	Name	Place of birth	Date of birth	Place of death	Date of death	Education level	Main sector of activity	Ways of company acquisition	Short bio
1	Borsci, Antonio	San Marzano di S. Giuseppe (Taranto)	1879	San Marzano di S. Giuseppe (Taranto)	1950	Primary education	DA	Founder	An artisan of remotely Caucasian origin, he transformed the receipt of an oriental liqueur in the well-known San Marzano bitter
2	Lavazza, Luigi	Alessandria	1859	Alessandria	1949	Middle school	DA	Co-founder with family	A grocer from Turin and the founder of the homonymous coffee company
3	Binda, Innocente	Monvalle (Milano)	1886	Milano	1965	Primary education	DK	Founder	A clock seller from a village on the Lake Maggiore that became a major entrepreneur in the watchmaking sector
4	Borsalino, Giuseppe	Pecetto di Valenza (AL)	1834	Alessandria	1900	Primary education	DB	Co-founder with family	A pioneer in the apparel industry, he created the famous Borsalino hat
5	Hoeppli, Ulrico	Turtwil (Switzerland)	1847	Milano	1935	Middle school	DE	Founder	A shop boy of humble Swiss origin who founded in Milan the innovative homonymous publishing house
6	Alberini, Filoteo	Orte (Roma)	1867	Roma	1937	Middle school	O, DL	Co-founder	A pioneer of the movies industry who created in Rome CINES, the first Italian motion-picture company
7	Luciani, Giovanni	Canale D'Agordo (Belluno)	1866	Belluno	1942	Primary education	DA	Co-founder with family	Cofounder with his brothers of one of the first major Italian beer company, Pedavena
8	Bagnoli, Romeo	Empoli (Firenze)	1897	Empoli (Firenze)	1965	Primary education	DA	Co-founder with family	A former peasant who during the war pursued a dairy, later transformed in a big ice-cream producer (Sammontana)
9	Armaroli, Ada	Bologna	1914	Bologna	1992	Primary education	DB	Founder	An enterprising Bolognese housewife who after ww2 started producing lingerie under the LA PERLA brand
10	Gitrombelli, Arnaldo	Ancona	1932	Ancona	1980	Primary education	DB	Co-founder with family	A dressmaker who gained worldwide fame in the fashion sector with the GENNY brand
11	Fabbri, Genmaro	Bologna	1860	Bologna	1935	Primary education	DA	Founder	An enterprising grocer who underwent the production of liqueurs, syrups and particularly black cherry preserves

(continued)

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Table 9. Continued

Ranking	Name	Place of birth	Date of birth	Place of death	Date of death	Education level	Main sector of activity	Ways of company acquisition	Short bio
12	Bianchi, Edoardo	Milano	1865	Varese	1946	Primary education	DK	Founder	An innovative mechanic producing famous velocipede, sport bicycles and later automobiles
13	Lozza, Lucio	Calalzo di Cadore (Belluno)	1887	Calalzo di Cadore (Belluno)	1954	High school	DL	Co-founder with family	A blacksmith who was increasingly and successfully involved in the production of glasses
14	Borghi, Giovanni	Milano	1910	Comerio (Varese)	1975	Primary education	DL	Founder	An innovative entrepreneur who in the 1960s became the greater European producer of refrigerators
15	Brambilla, Ercole Mario	Milano	1882	Roma	1957	Middle school	DA	Co-founder	An innovative entrepreneur in the wine production and trade
16	Gazzoni, Arturo	Bologna	1868	Bologna	1951	Primary education	DG	Founder	A pioneer of marketing, he was able to gain success with pharmaceutical products such as pastilles and idrolitina
17	Morini, Alfonso	Bologna	1898	Bologna	1969	Primary education	DM	Founder	A mechanic and a famous moto driver founded one of the most successful motor-cycle company
18	Macerata, Emidio	Ascoli Piceno	1916	Ascoli Piceno	1996	Primary education	DC	Co-founder with family	A humble cobbler founded a well-known factory mainly producing children footwear (Mirella brand)
19	Laverda, Pietro	S. Giorgio di Perlina (Vicenza)	1845	Breganze (Vicenza)	1930	High school	DK	Founder	Founder of an artisan business bound to become one of the main country's producer of farm machinery
20	Alemagna, Gioacchino	Melegnano (Milano)	1892	Milano	1974	Middle school	DA	Founder	An artisan candy maker became one of the main producer of the Italian <i>panettone</i>

Legend: see Table 7.

rankings of Tables 7 and 8 owing both to his entrepreneurial success as a “public sector industrialist” and to the notoriety he gained through his struggle against the oil majors and the innovative deals he pursued with the producing countries. It has also to be considered that a highly controversial actor such as Roberto Calvi, included at the fourth position of the celebrity Table 7, is likely to be explained almost exclusively by the tragic finale of his life.<sup>15</sup> As for Table 9, it contains mostly self-made men which perhaps better epitomize “rags to riches” types of success, including several “necessity” entrepreneurs typical of less developed countries (Vivarelli, 2013).<sup>16</sup> In the first position, we find Antonio Borsci<sup>17</sup>, who in 1840 created the *Liquore San Marzano*; second, Luigi Lavazza<sup>18</sup>, a grocer from Turin and the founder of the homonymous company; and third, Innocente Binda<sup>19</sup>, a rather innovative entrepreneur in the watchmaking and trade sector. It is remarkable to note that the three rankings of the top 20 entrepreneurs by the different dimensions of success show only a very limited degree of overlapping, none of the top 20 by social mobility appears among the top 20 by celebrity and economic success, whereas only two (Enrico Mattei and Giovanni Agnelli) of the top 20 by celebrity are also in the top 20 by economic success. This suggests that the three facets we have identified show a considerable degree of “orthogonality” capturing the multidimensional nature of entrepreneurial success. In particular, the dimension celebrity seems to capture both individuals for who their success was linked to specific roles in the Italian economic history, such as Alberto Beneduce, the first top manager of *Istituto per la Ricostruzione Industriale* (IRI), and Luigi Albertini, the historical director of the leading Italian newspaper *Corriere della Sera*, and to the creation of iconic *Made in Italy* products, such as Vespa (Corradino D’Ascanio) and Ferrari (Enzo Ferrari). Interestingly enough, the analysis of these data shows a limited presence of managers among the top-ranking entrepreneurs for economic success (with the exception of Enrico Mattei) and for social mobility. On the other hand, in the celebrity dimension, it is possible to count six managers, among which two bankers and two financiers. Overall, these findings are in line with the contribution emphasizing the structural weakness of managerial capitalism in the Italian context (Barca, 1994).

## 6. The determinants of entrepreneurial success

The next step of our analysis is to provide an exploratory assessment of the determinants of the various dimensions of entrepreneurial success. Again our set of explanatory variables is distilled from the biographies of the *BDIE*. We consider the following variables, whose descriptive statistics are also reported, in capital and italic letters, in Table 1:

- i. Innovation intensity (*INNOV\_INT*): A variable capturing the ability of entrepreneurs to introduce product and process innovations (each defined on a scale 0-1.5 with 0.5 steps). This means that for getting the maximum score (3), an entrepreneur should have introduced both a highly significant product (1.5) and a highly significant process (1.5).
- 15 Roberto Calvi (Milano, 1920-London, 1982) was an Italian banker and Chairman of the Banco Ambrosiano, which collapsed in a big economic and political scandal in the 1980s. Calvi’s body was found hanging beneath Blackfriars Bridge in London in June 1982. Interestingly enough, the tragic death can also be a factor accounting for the position in the ranking of Giangiacomo Feltrinelli (Milano 1926-Milano 1972). Feltrinelli’s body was founded next to a pylon of a high-voltage power line, seemingly killed by an accidental explosion. On the other hand, Enrico Cuccia (Roma 1907-Milano 2000) was famous for his unglamorous and discreet public demeanour, paradoxically so much proverbial to become, in turn, a celebrity driver.
- 16 It is worth noticing that this ranking is characterized by a certain degree of uncertainty due to the fact that many entrepreneurs have the same score.
- 17 Antonio Borsci (San Marzano 1879–1950) was from a family of Caucasian origin, which jealously preserved for centuries the receipt of an oriental liqueur, which was initially marketed in 1840 by his father. After WWII, he succeeded in transforming the artisanal undertaking he inherited into a modern firm and a nationally famous brand.
- 18 Luigi Lavazza (Alessandria 1859–1849) moved from the country to Turin, where he got some technical formation, before opening a grocery with coffee roasting and sale. The initiative had a good success particularly with regard to the original different blends he was able to offer. After his death, the brand was to become one of the leaders in the *espresso* coffee market.
- 19 Innocente Binda (Varese 1886-Milano 1985) was a clock seller from a small village on the Lake Maggiore, who in the 1930s started assembling and selling Swiss parts and watches, moved to Milan, where in a few years, he gained the monopoly on a few very successful brands.

**Table 10.** Determinants of entrepreneurial success (celebrity)

Celebrity	Coef.	SE	<i>t</i>	<i>P</i> >   <i>t</i>	[95% CI]
INNOV_INT	0.0476892	0.0484232	0.98	0.325	−0.0474096 0.1427881
POLITICS	0.252276	0.0831559	3.03	0.003	0.0889652 0.4155869
EDUCATION	0.1619001	0.0467467	3.46	0.001	0.0700936 0.2537065
EXP_ABROAD	0.1179776	0.0837802	1.41	0.160	−0.0465593 0.2825146
SCIENTIST	−0.2003087	0.1227579	−1.63	0.103	−0.4413944 0.040777
cons	−0.6135847	0.1291565	−4.75	0.000	−0.8672367 −0.3599327

**Table 11.** Determinants of entrepreneurial success (economic success)

Economic success	Coef.	SE	<i>t</i>	<i>P</i> >   <i>t</i>	[95% CI]
INNOV_INT	0.2411377	0.0479466	5.03	0.000	0.1469748 0.3353005
POLITICS	−0.1038389	0.0823374	−1.26	0.208	−0.2655424 0.0578645
EDUCATION	0.0335521	0.0462866	0.72	0.469	−0.0573507 0.1244549
EXP_ABROAD	0.3027469	0.0829556	3.65	0.000	0.1398294 0.4656644
SCIENTIST	−0.0326535	0.1215496	−0.27	0.788	−0.2713663 0.2060593
cons	−0.3019642	0.1278852	−2.36	0.019	−0.5531197 −0.0508088

**Table 12.** Determinants of entrepreneurial success (economic success without brand)

Economic success (without brand)	Coef.	SE	<i>t</i>	<i>P</i> >   <i>t</i>	[95% CI]
INNOV_INT	0.1941781	0.0479964	4.05	0.000	0.0999173 0.2884389
POLITICS	0.12019	0.082423	1.46	0.145	−0.0416817 0.2820616
EDUCATION	0.0774623	0.0463347	1.67	0.095	−0.0135355 0.1684597
EXP_ABROAD	0.3142884	0.0830419	3.78	0.000	0.1512014 0.4773753
SCIENTIST	0.0025331	0.1216761	0.02	0.983	−0.236428 0.2414943
cons	−0.5133543	0.1280183	−4.01	00.000	−0.7647709 −0.2619376

- ii. Involvement in politics (*POLITICS*): A variable indicating whether entrepreneurs had some significant involvement in politics throughout his career (defined as a dummy variable 0-1). This means that, to be coded as 1, the entrepreneur in question either run for political office, at local or national level, or provided some significant support to political parties and movements or endorsed some specific political causes.
- iii. Education (*EDUCATION*): A variable indicating the education level attained by the entrepreneur (defined on a scale 1-4).
- iv. Scientist (*SCIENTIST*): A variable indicating whether the entrepreneur enjoyed some significant education or training in science or engineering (defined as a dummy variable 0-1).
- v. Education or experience abroad (*EXP\_ABROAD*): A variable indicating whether the entrepreneur was educated or made some significant business experience or training abroad (defined as a dummy variable 0-1).

Table 10 reports the results for the determinants of the “celebrity” success score. In this case, there are two significant variables: involvement in politics (*POLITICS*) and education level (*EDUCATION*). Strikingly the variable innovation intensity (INNOV\_INT) is not significant. Overall, this finding tends to confirm the salient role that political connections play in the history of Italian capitalism (Amatori, 1997; Colli and Rinaldi, 2015) and the historical structural weakness of the Italian innovation system (Nuvolari and Vasta 2015). The result of the education variable perhaps captures a sort of “social class” effect or may reveal a higher ability of entrepreneurs with a good education level to gain attention in the public domain.

Table 11 and Table 12 report the results of regressions accounting for the “economic success” score. The regression in Table 11 employs as dependent variable the factor scores for economic success obtained including the variable

BRAND in the factor analysis, whereas the regression of Table 12 employs as dependent variable the factor scores of economic success obtained without including BRAND. The results are very similar both in terms of size and significance of the coefficients. Overall, we find that the only two variables that appear significant determinants of economic success are innovation intensity and some form of education or experience abroad. Therefore, this finding points to the essential role that innovative activities (broadly understood) play for entrepreneurial success. This is consistent with a “Schumpeterian” vision of entrepreneurship, and, in more recent approaches, it evokes the “productive” category emphasized by Baumol (1990, 2010a, 2010b) as well as the “opportunity entrepreneurs” (those motivated by innovative and progressive drivers) suggested by Vivarelli (2013).

## 7. Conclusions

We can summarize the main results of this article with two main conclusions. The first is methodological. We believe that our study, within an emerging stream of literature of quantitative prosopography, introduces an intriguing opportunity of combining the rich detail of a biographical approach to the study of entrepreneurship with a systematic quantitative characterization of the phenomenon on a large scale. This approach involves a major work of conceptualization in order to provide an effective framework in which the details of the individual biographies can be distilled. Overall, we think that the results we have obtained in our analysis of the Italian case suggest that this methodology may be usefully applied also to other contexts.

The second conclusion refers to the determinants of entrepreneurial success which was carried out analyzing an “idiosyncratic” sample of Italian entrepreneurs recorded in a specific bibliographical collection, the *Dizionario degli imprenditori italiani*. Of course, being included in such example constitutes a first test of success. However, we have tried to identify the more successful entrepreneurs on the basis of a definition of entrepreneurial success which goes behind the pure economic proxies. In fact, our analysis of the *BDIE* has revealed a triple dimension of success, adding to the economic one, two further components, covering also the aspects of “celebrity” and of “social mobility.” The entrepreneurial dimension of economic success, measured essentially through a few proxies of firm growth, has been explained primarily by “old-fashioned” variables such as innovation and experience abroad. The explanation of the celebrity dimension emphasizes one aspect which is idiosyncratic to Italian capitalism, that is, its connection with politics, which may assume the form of direct involvement in some political activity or, more often, indirect involvement through “familism,” lobbying, and, not rarely, bribery. Finally, the third kind of success we detected evokes the success of the self-made man and seems to allude especially to the kind of entrepreneurship prevailing in the less developed countries.

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