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QUADERNI DEL DIPARTIMENTO
DI ECONOMIA POLITICA E STATISTICA

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What Makes a Successful Entrepreneur?
Historical Evidence from Italy (XIX-XX Centuries)

n. 727 – Gennaio 2016



WHAT MAKES A SUCCESSFUL ENTREPRENEUR? HISTORICAL EVIDENCE FROM ITALY (XIX-XX CENTURIES)

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ABSTRACT: in this paper we employ a “quantitative” prosopographical approach to study the nature and the determinants of entrepreneurial success. Our main source is the *“Biographical Dictionary of Italian Entrepreneurs”* which contains very detailed information on 608 major Italian entrepreneurs active over more than two centuries. 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.

JEL codes: N73-74; N83-84; L26

Acknowledgement: we would like to thank Sara Pecchioli for outstanding research assistance. The authors thank Franco Amatori, coordinator of the project of the *Dizionario biografico degli imprenditori italiani*, for having shared with us the preprint version of the Dictionary. Financial support from CISEPS (Centre for Interdisciplinary Studies in Economics, Psychology and Social Sciences) is acknowledged.

January 2016

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.

As a general statement 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 cross-checking all 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) to Shane and Venkataraman (2000). Building on this, it can be said that entrepreneurship refers to those situations in 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, whilst 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” and an increasing stream of literature, both economic and managerial, has contributed to clarify some of the relevant issues, such as origins, performance, quality, impact of entrepreneurship on economic growth.

In this regard, success appears as the most critical issue: in particular, how to define it, how to detect it and then how to measure it. Similarly it seems not a secondary problem to draw a neat line between the success of the entrepreneur *per se* and that of the enterprise, that is between the subject and the object of the entrepreneurial activity. As an example of the first case, the ability to adapt, according to Schultz (1975), Kirzner (1997), Casson and Godley (2010) and many others, has been identified as one of the key entrepreneurial abilities. Accordingly, in the literature, one can point to contributions attempting to empirically operationalize the notion of adaptation in terms of “versatility”, defined as the ability in transferring factors from one sector to

another (Tortella, Quiroga and Moral-Arce 2010). In the second case, the literature is focused on the economic performance of the firm, although there is scarce theoretical consensus even on the definition of firm's performance, arising from the different approaches to the issue of the different sub-disciplines of social sciences: incidentally this is the approach privileged by what is commonly defined "business history", mainly devoted to reconstruct and evaluate diachronically firms' changes of strategy and structure.

A strictly related issue tackled by the most recent literature concerns the role of entrepreneur in economic growth and particularly when and how the statement "more entrepreneurship is equal to more 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, therefore aligned with the "first" Schumpeter, remains 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 attain economic growth? Some recent Baumol's stimulating 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 economic environment stemming from the excessive interaction between state and monopoly capitalisms (Baumol, Litan and Schramm 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 vs. 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, entrepreneurship growth represents 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, China. Their aim was testing three different hypothesis 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".

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, economic historians have the possibility of adopting a broader time scale 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 represent 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), of 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).¹ In fact, although biographical investigations have the advantage to offer a very detailed analysis of the formation, motivations, strategies of individual entrepreneurs, they inevitably suffer from the shortcomings of both a somewhat natural tendency to "narrowness" 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

¹ It is worth noticing that "Entrepreneurial history" rather than "Business history" was the original appellation 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*.

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, Boccaletti and Nicholas 1998), Spain (Tortella, Quiroga and Moral-Arce 2010) and Italy (Toninelli and Vasta 2010; 2014; Toninelli, Vasta and Zavarrone 2013). For instance in what can be regarded as the pioneering essay in the field, Tom Nicholas has attempted to establish an objective criterion for analyzing entrepreneurship by utilizing lifetime rates of wealth accumulation as an index of 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) entrepreneurship. 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) are important determinant 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 Oxbridge college was also associated with an inferior business performance.

This paper expands on this stream 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, Vasta and Zavarrone (2013) have provided a first exploratory assessment of the factors underlying entrepreneurial success (defined in terms of firm’s growth).

In this paper, consistent with some recent literature, we adopt a broader notion of entrepreneurial success encompassing both an economic and a “reputation” dimension: that is on the one side the success evaluated in terms of growth of the firms (therefore in the business history perspective), on the other in terms of more individual qualities, such as popularity and social recognition. The rest of the paper is structured as follows. In section 2 we introduce the sources and the construction of the data-set. In section 3, we use factor analysis to provide an

assessment of the multifarious dimensions of entrepreneurial success as emerging from our data. Section 4 focuses on the determinants of entrepreneurial success. Section 5 concludes.

2. Sources and data

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, backwardness, dualism and so on. The very few business-oriented historical studies were concerned with big companies, either private or public. However, over the last 30 years or so, the focus increasingly shifted towards 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 the single case, the single problem or even the *event* (for a discussion of these issues, see Giannetti and Vasta 2006). This was the result of converging factors. On the one hand, the dramatic breakdown of the Golden age/Fordist paradigm based on the centrality of big business as engine of economic growth; on the other hand, the concomitant change of focus in economic theory which increasingly emphasized the establishment of sound micro-foundations of aggregate phenomena. In the light of this broad interpretative context, historiography turned its attention to the small enterprise and its 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 prevalently considered residual or subordinate to the dynamics of large enterprise and, at any rate, less efficient and innovative.

Somewhat paradoxically, a first contribution marking this methodological turn was the paper by Amatori (1980), which, although still concerned with big business, contained a preliminary attempt to identify a coherent set of 'entrepreneurial typologies' characterizing of Italian industrial history.² Notwithstanding Amatori's attempt, ten years later, in his comprehensive bibliographical essay on Italian business history, Bigazzi (1990) noticed that the remarkable backwardness and poverty of Italian entrepreneurial history did not allow at the time an accurate reconstruction of Italian entrepreneurship.³

² Recently, Amatori (2011) has updated his previous essay on the basis of the literature of the last thirty years adding new entrepreneurs' typologies.

³ Later contributions largely built upon Amatori's, often dwelling on sectoral individual or cluster initiatives (Amatori and Brioschi 1997; Doria 1998, 1999; Amatori and Colli 1999). Afterwards new insights into the category of family entrepreneurs and/or outward looking entrepreneurs had been added (Colli 2002, Federico and Toninelli 2006).

Another factor helps to explain the backwardness and indolence of Italian entrepreneurial history: 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 towards 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 un-formal 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.

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.⁴ 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,⁵ 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. The 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. Precisely this BDIE collection is the main source of this study.

In BDIE, entrepreneurs were defined as 'those who allocated resources at a maximum level of a company regardless of ownership'⁶. In order to be included in the dictionary, entrepreneurs

⁴ The project directed by Franco Amatori has been widely described in Amatori (2010).

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

⁶ In the industrial organization literature the answer is unequivocal: entrepreneurship is the process by which new enterprises are founded and become viable (Vivarelli 2012, p.4)

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 under-representation of the entrepreneurs of the latest cohorts. However, this is not going to represent a major issue for our study, since it is plausible to assume that death event is likely to be randomly distributed among the entrepreneurs of each given cohort, and, in any case, is not likely to be related in a systematic fashion with entrepreneurial success and its determinants.

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);
- 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 codifying a wide array of categorical variables based both on 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 “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 towards 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 it is characterized by different levels of attainments. Hence, our exercise is aimed at unravelling 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.⁷ 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 a 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 finding 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

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

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.

Figure 1 about here

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).⁸ The geographical scope (in terms of birth places) of the sample is biased towards the Northern regions and, in particular, towards 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 their populations with more opportunities to exert their entrepreneurial talents. More controversially, an alternative interpretation would posit that the causal 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. 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 more than 30% of the entrepreneurs in our sample enjoyed a university education. 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. Finally, 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. In this

⁸ These are Ada Armaroli (1914-1992), Marisa Bellisario (1935-1988), Lina Bianconcini (1863-1942), Maria Bigarelli (1914-1991), Anna Bonomi (1910-2003), Cecilia Danieli (1943-1999), Marietta Diena (1903-1994), Zoe Fontana (1911-1977), Maria Concetta Giuntini Spinola (1921-1979) and Elvira Leonardi (1906-1999).

way, we can distinguish between founders, inheritors, entrepreneurs that purchase the company by means of market acquisition and non-owners (managers).

Table 1 around here

In table 2 we report the descriptive statistics concerning the relative visibility of the entrepreneurs in Wikipedia and in the BDIE. 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.

Table 2 around here

3. 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 in our sample. 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 broad set of 8 variables that can be regarded as capturing entrepreneurial success along various dimensions. Firstly, we include a set of measures capturing the ability of the entrepreneur of making his/her business grow. This is in line with the recent literature on industrial dynamics which regards the growth of firms as one fundamental features of the capitalist process of competition (Dosi 2007). 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. The variable (GEO_GROWTH) measures the ability of the entrepreneurs to expand their business at various geographical levels and this variable is coded on a scale 0 (no growth), 1 (local), 2 (national) and 3 (international). Second we contemplate a variable indicating whether the entrepreneur considered, throughout his/her career, was responsible for the introduction of successful brand or product (BRAND). This

variable is coded as a 0, 1 dummy. Therefore the first three variables refer to the firm, that is to the object of the entrepreneurial activity.

Then we introduce a set of variables measuring the relative visibility of each entrepreneur. These variables are the number of words in the Italian edition of Wikipedia (WIKI_IT), the number of words in the English edition of Wikipedia (WIKI_EN) and the number of rows of each entry in the dictionary (ROWS_BDIE). 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 0 (lower class), 1 (middle), and 2 (upper). Finally, we include a variable (ENTR_TYPE) which describes the typology of the entrepreneur in question: i) founder; ii) inheritor; iii) purchaser of a company and iv) manager.

Using these variables, we carry out a factor analysis with the principal component factor estimation which is relatively robust to different assumptions concerning the underlying distribution of the data. 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 3 and Figure 2 around here

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 on 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 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” dimension of entrepreneurial success.

Table 4 around here

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 5 and 6 and Figure 3 around here

Table 7 reports the rankings of the top 20 entrepreneurs for each dimension of entrepreneurial success. The first three names of column 1 (celebrity) – Enrico Mattei, Gianni Agnelli and Enzo Ferrari - are not a surprise even though the predominance of Gianni Agnelli, the jetsetter, over his grandfather Giovanni, the founder of the FIAT automobile company, clearly explains the nature of this variable. Not surprisingly, Giovanni Agnelli stands at the top of column 2 (economic success), whilst his nephew Giovanni does not even appear in the first 20 ranks. Mattei stays at the top of the two columns owing both to his entrepreneurial success as a “public sector industrialist” and to the notoriety he gained through his fight 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 column is likely to be explained almost exclusively by the tragic finale of his life.⁹ As for column 3, the one reporting the entrepreneurs characterized by a social mobility, it contains mostly self-made men which perhaps better epitomize “Schumpeterian” types of success.¹⁰ In the first position we find Antonio Borsci, an immigrant from Albania who in 1840 created the Liquore San Marzano; Luigi Lavazza, a grocer from Turin and the founder of the company bound to became the market leader of espresso (who, contrary to the preceding one, reached also a remarkable international celebrity); Innocente Binda, a clock seller from a small village on the Lake Maggiore,

⁹ Roberto Calvi (1920-1982) 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.

¹⁰ 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.

who in the 1930s started assembling and selling Swiss parts and watches and gained the monopoly on a few very successful brands.

Table 7 around here

4. 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:

- i) innovation intensity (INNOV_INT): a variable capturing the ability of entrepreneurs to introduce product and process innovations (defined on a scale 1-7);
- 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);
- 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 8 reports the results for the determinants of the “celebrity” success score. In this case there are two significant variables: the involvement in politics and the education level. Strikingly the variable innovation intensity 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). 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 8 around here

Table 9 and table 10 report the results of regressions accounting for the “economic success” score. The regression in table 9 employs as dependent variable the factor scores for economic

success obtained including the variable BRAND in the factor analysis, whereas the regression of table 10 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 (2012).

Tables 9 and 10 around here

5. Conclusions

We can summarize the main results of this paper 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 to which we have made reference in the first Section.

Table 1. The sample of Italian entrepreneurs in the BDIE: individual characteristics

	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
Centre	115	18.9
South	96	15.8
Abroad	40	6.6
Total	608	100.0
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
Entrepreneurial type		
Founder	277	45.6
Purchasing	34	5.6
Inheritance	205	33.7
No owner (manager)	92	15.1
Total	608	100.0

Source: our own elaboration on BDIE.

Table 2. The celebrity of Italian entrepreneurs

No. of rows in BDIE	no.	%
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	no.	%
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	no.	%
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

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

Variable	Factor1	Factor2	Factor3	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

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

Table 6. Factor analysis of entrepreneurial success indicators excluding BRAND (factor loadings and unique variance)

Variable	Factor1	Factor2	Factor3	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

Table 7. Top 20 entrepreneurs for different dimensions of entrepreneurial success

Ranking	Celebrity	Economic success	Social mobility
1	Mattei, Enrico	Agnelli, Giovanni	Borsci, Antonio
2	Agnelli, Gianni	Mattei, Enrico	Lavazza, Luigi
3	Ferrari, Enzo	Costa, Angelo	Binda, Innocente
4	Calvi, Roberto	Gori, Leopoldo	Borsalino, Giuseppe
5	Feltrinelli, Giangiacomo	Breda, Ernesto	Hoepli, Ulrico
6	Cuccia, Enrico	Buzzi, Luigi	Alberini, Filoteo
7	D'Ascanio, Corradino	Fumagalli, Eden	Luciani, Giovanni
8	Beneduce, Alberto	Gucci, Aldo	Bagnoli, Romeo
9	Donegani, Guido	Guzzini, Virgilio	Armaroli, Ada
10	Agnelli, Giovanni	Cirio, Francesco	Girombelli, Arnaldo
11	Fortuny, Mariano	Caproni, Giovanni Battista	Fabbri, Gennaro
12	Dell'Amore, Giordano	Burgo, Luigi	Bianchi, Edoardo
13	Caproni, Giovanni Battista	Astaldi, Sante	Lozza, Lucio
14	Ginori Conti, Piero	Fila, Ettore	Borghi, Giovanni
15	Castiglioni, Camillo	Fossati, Danilo	Brambilla, Ercole Mario
16	Albertini, Luigi	Cavalieri Ducati, Adriano	Gazzoni, Arturo
17	Abarth, Carlo	Agusta, Domenico	Morini, Alfonso
18	Alberione, Giacomo	Benni, Antonio Stefano	Macerata, Emidio
19	De Ferrari, Raffaele Luigi	Frua, Giuseppe	Laverda, Pietro
20	Bugatti, Ettore	Bassani, Luigi	Alemagna, Gioacchino

Table 8. Determinants of entrepreneurial success (celebrity)

celebrity	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
INNOV_INT	.0476892	.0484232	0.98	0.325	-.0474096 .1427881
POLITICS	.252276	.0831559	3.03	0.003	.0889652 .4155869
EDUCATION	.1619001	.0467467	3.46	0.001	.0700936 .2537065
EXP_ABROAD	.1179776	.0837802	1.41	0.160	-.0465593 .2825146
SCIENTIST	-.2003087	.1227579	-1.63	0.103	-.4413944 .040777
cons	-.6135847	.1291565	-4.75	0.000	-.8672367 -.3599327

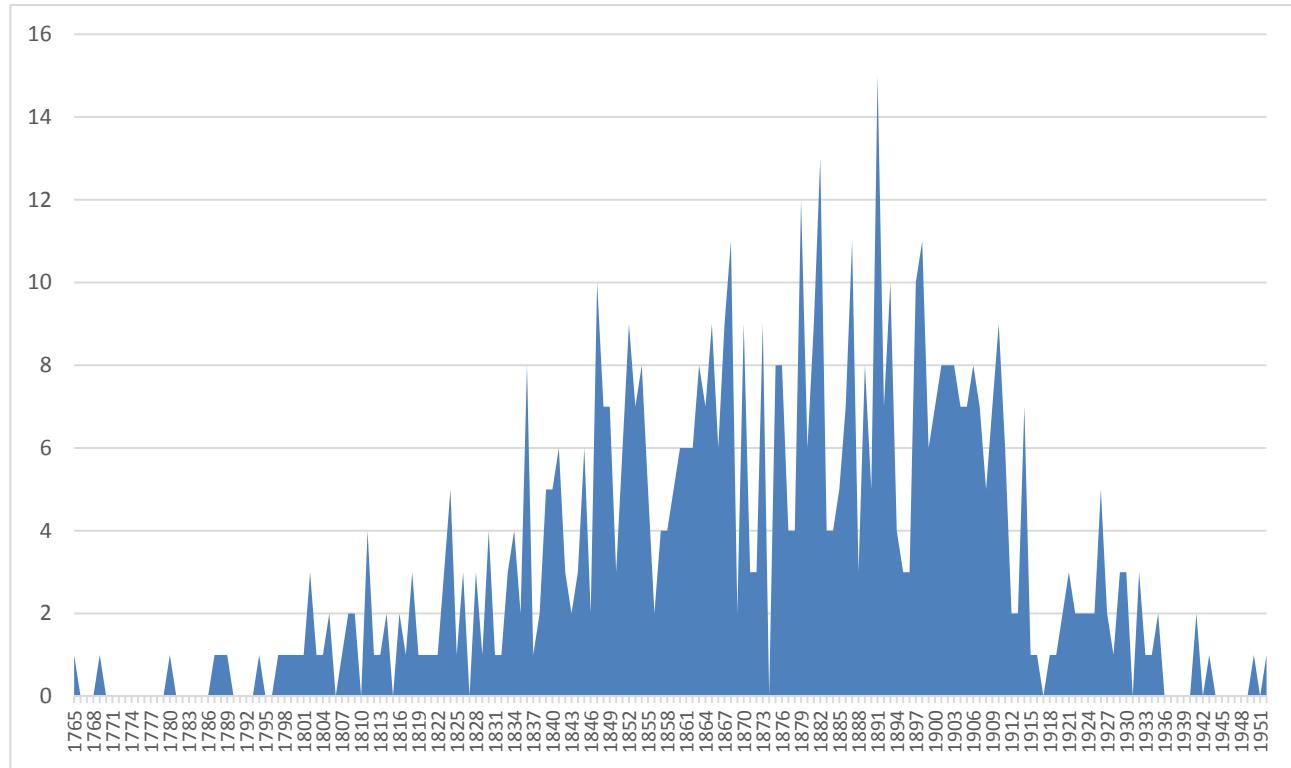
Table 9. Determinants of entrepreneurial success (economic success)

economic success	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
INNOV_INT	.2411377	.0479466	5.03	0.000	.1469748 .3353005
POLITICS	-.1038389	.0823374	-1.26	0.208	-.2655424 .0578645
EDUCATION	.0335521	.0462866	0.72	0.469	-.0573507 .1244549
EXP_ABROAD	.3027469	.0829556	3.65	0.000	.1398294 .4656644
SCIENTIST	-.0326535	.1215496	-0.27	0.788	-.2713663 .2060593
cons	-.3019642	.1278852	-2.36	0.019	-.5531197 -.0508088

Table 10. Determinants of entrepreneurial success (economic success without brand)

economic success (without brand)	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
INNOV_INT	.1941781	.0479964	4.05	0.000	.0999173 .2884389
POLITICS	.12019	.082423	1.46	0.145	-.0416817 .2820616
EDUCATION	.0774623	.0463347	1.67	0.095	-.013535 .1684597
EXP_ABROAD	.3142884	.0830419	3.78	0.000	.1512014 .4773753
SCIENTIST	.0025331	.1216761	0.02	0.983	-.236428 .2414943
cons	-.5133543	.1280183	-4.01	0.000	-.7647709 -.2619376

Figure 1. Entrepreneurs by year of birth



Source: our own elaboration on BDIE.

Figure 2. Eigenvalues of factor analysis

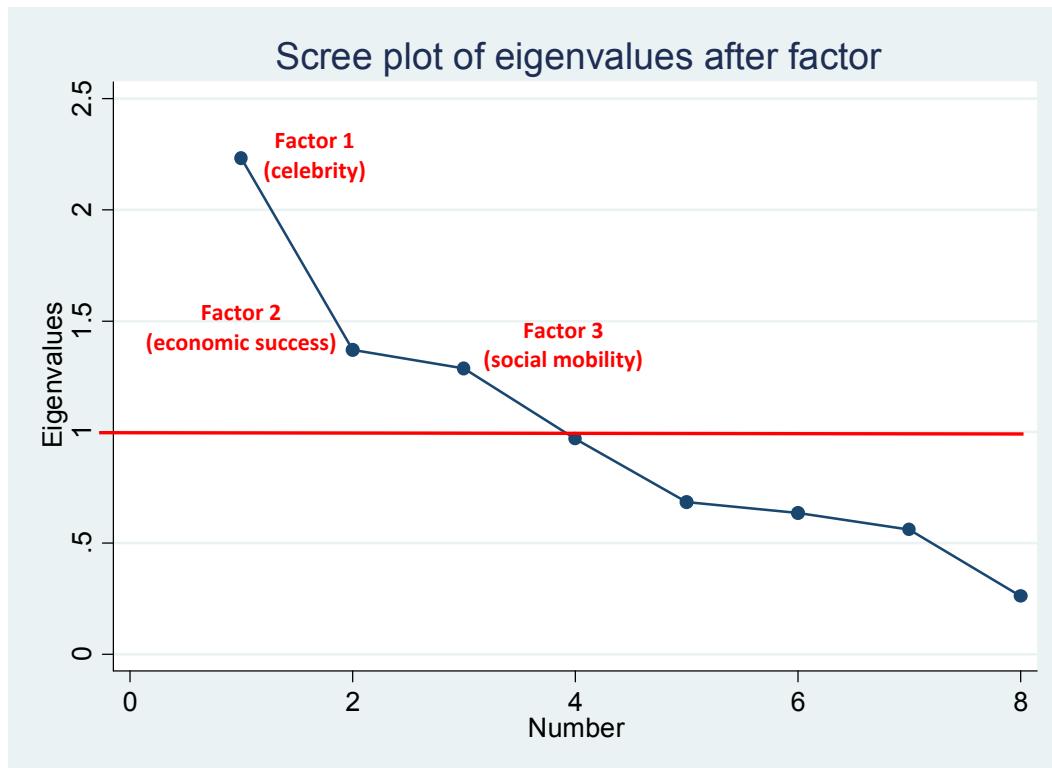
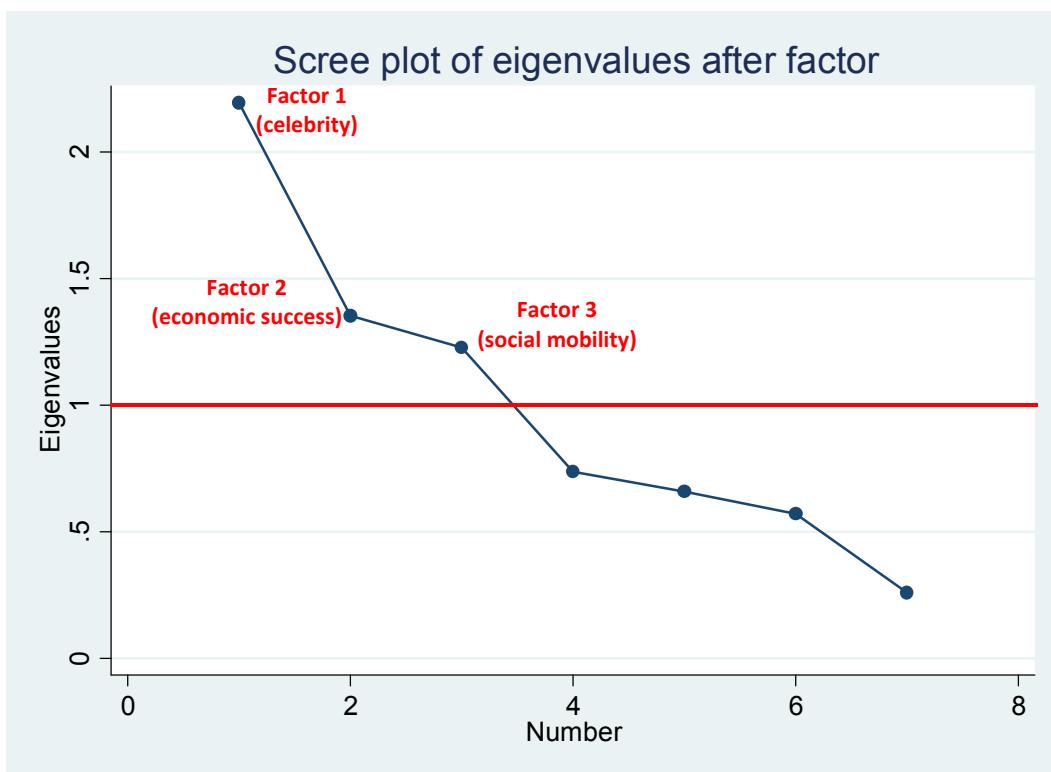


Figure 3. Eigenvalues of factor analysis without BRAND



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