The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Educational Qualification, Work Status and Entrepreneurship in Italy an Exploratory Analysis

Fabio Sabatini

NOTA DI LAVORO 87.2006

JUNE 2006

KTHC - Knowledge, Technology, Human Capital

Fabio Sabatini, *Dipartimento di Scienze Economiche, Università di Cassino*

This paper can be downloaded without charge at:

The Fondazione Eni Enrico Mattei Note di Lavoro Series Index:
http://www.feem.it/Feem/Pub/Publications/WPapers/default.htm

Social Science Research Network Electronic Paper Collection:
http://ssrn.com/abstract=907455

The opinions expressed in this paper do not necessarily reflect the position of Fondazione Eni Enrico Mattei
Corso Magenta, 63, 20123 Milano (I), web site: www.feem.it, e-mail: working.papers@feem.it

Educational Qualification, Work Status and Entrepreneurship in Italy an Exploratory Analysis

Summary

This paper provides an exploratory analysis on the relationship between educational qualification and work status in Italy, with a particular focus on entrepreneurs and self-employed workers. Rough data are drawn from four waves (1995, 1998, 2002, and 2004) of the *Survey of Household Income and Wealth* (SHIW) carried out by the Bank of Italy. Stylised facts emerging from the empirical evidence are the surprisingly low level of educational qualification exhibited by employers and the tendency of workers holding higher levels of educational qualification not to choose to undertake an entrepreneurial activity. Such workers generally become members of the arts and professions, or take up a career as high-level employees.

Keywords: Education, Work Status, Employment, Self-employment, Entrepreneurship, Human Capital

JEL Classification: I21, J23, J24, M13

This paper is a preliminary outcome of a research project on "Social capital, human capital and local development" supervised by Prof. Francesco Ferrante and funded by the University of Cassino. I am deeply indebted to Francesco Ferrante for his guidance and advice. I wish to thank also Elisabetta Basile, Claudio Cecchi, Roberta De Santis, Giuseppe Garofalo, Claudio Gnesutta, Benedetto Gui and Alberto Zuliani for helpful comments and suggestions on my research work. Needless to say, usual disclaimers apply.

Address for correspondence:

Fabio Sabatini
Department of Economics
University of Cassino
Località Folcara, Via S.Angelo
03043 Cassino (FR)
Italy
E-mail: sabatini@fastwebnet.it

1. Introduction

From the late 70s, a generation of theoretical models described the individual choice to become an entrepreneur instead of being an employee by partitioning the workforce into two ideal categories, respectively shaped by entrepreneurs and wage-earners, or, in other terms, employers and employees. Since the beginning of the 90s, mostly due to precious spurs coming from the fields of sociology and political science, the empirical research has particularly lingered over the importance of the entrepreneurial climate, as shaped by factors like social capital and financial development.

In these strands of the literature, the entrepreneurial talent has in most cases been modelled as depending from a generic "human capital variable" synthesizing very diverse concepts like the educational qualification and family background, risk aversion and the extension of social networks involving individuals. Besides some notable exceptions, the multidimensional nature of human capital has been generally undervalued, and scarce attention has been given to the specific human capital possessed by entrepreneurs.

The aim of this research work is to carry out a more in depth analysis on the human capital-related determinants of entrepreneurship, thus accounting for the role that variables like the educational qualification, the orientation of tertiary studies, the family background, and the degree of risk aversion play in determining the entrepreneurial success. This paper attempts to constitute a first step in the improvement of our understanding by providing a first glance at the Italian labour market – with a special focus on entrepreneurs - with the aim to design guidelines for the following stages of the work. More in particular, the paper provides an "exploration" of the educational qualification of Italian workers, by means of a detailed descriptive analysis, and carries out a first assessment of the role played by qualification in shaping workers' careers.

Rough data are drawn from the *Survey of Household Income and Wealth* (SHIW) carried out by the Bank of Italy. The SHIW began in the 1960s with the aim of gathering data on the incomes and savings of Italian households. Over the years, the scope of the survey has grown and now includes wealth and other aspects of households' economic and financial behaviour such as, for example, which payment methods are used. Actually, the survey's sample comprises about 8,000 households (24,000 individuals), distributed over about 300 Italian municipalities. The survey investigates in depth into the individual endowments of human capital through the collection of items regarding the work status, the educational qualification, and patterns of high-school, tertiary and post-degree studies of workers and of their family members.

The empirical evidence clearly shows that human capital endowments of entrepreneurs are particularly poor. In Italy, there is a gap dividing the employers' educational qualification, on the one side, and employees' and self-employed workers' studies, on the other side. For a long time,

individual entrepreneurs and owners of family businesses have played a leading role in the Italian model of development, largely based on the dynamism of small and medium enterprises (SMEs). Historically, the skills possessed by these agents were relational in nature and largely related to environmental factors like the existence of social networks, as the extensive literature on the industrial districts have widely shown. Today, Italian SMEs are experiencing a period of structural crisis. The empirical evidence in this paper suggests that, given the deterioration of the favourable entrepreneurial climate caused by globalization dynamics and by Italian specific circumstances, entrepreneurs do not hold the human capital endowments necessary to overcome the crisis. Dynamic trends draw an even more discouraging scenario, since the educational qualification of entrepreneurs have not registered significant changes (both from a quantitative and qualitative point of view) in the last decade: not only employers show to hold quite inadequate educational qualifications, but they also seem to be unable to improve their skills over time, in order to carry out an appropriate reaction to changing environmental conditions. Moreover, SHIW data clearly show that workers holding higher educational qualifications generally do not chose to undertake an entrepreneurial activity, preferring to take up an apparently less risky career as managers, senior officials, or members of the arts and professions. The outline of the paper is as follows: section 2 presents a brief review of the debate on factors influencing the workers' choice to become an employer or an employee. Section 3 carries out an in-depth investigation into the educational qualification of Italian workers. Section 4 focuses on advanced educational qualifications, exploring the orientation of studies carried out by graduate workers and the professional choices undertaken by various kinds of graduates.. Section 5 presents a descriptive analysis of the professional choices of workers holding different types of educational qualification. Section 6 analyzes the distribution of job opportunities for every kind of bachelor's degree The paper is closed by some concluding remarks and guidelines for further researches.

2. The roots of entrepreneurship

At the macro level, a growing field of studies addresses the socio-cultural roots of entrepreneurship, mostly focusing on the role of infrastructures, the entrepreneurial climate and social capital (Florida, 1995, Fountain, 1997, Morgan and Nauwelaers, 1999, Maskell, 2000, Gabbay and Leenders, 2001). At the micro level, several models have described the individual choice to become an entrepreneur instead of being an employee by partitioning the workforce into two ideal categories, respectively shaped by entrepreneurs and wage-earners, or, in other terms, employers and employees. In his seminal paper, Lucas (1978) traces the roots of this division to the distribution of individual characteristics: each member of the workforce is endowed with a specific

entrepreneurial talent which varies across individuals. Kanbur (1979) stresses also the importance of risk aversion, while Kihlstrom and Laffont (1979) add to these factors also the possibility to gain access to the capital required to start the firm, although focusing on risk aversion as the main root of entrepreneurship.

This literature basically founds the "entrepreneurial choice" on the critical economic role of the entrepreneur as a risk-bearer. This view dates back to Cantillon (1755) who characterized the economy as consisting of two classes of inhabitants (aside from the Prince and Landowners): "hired people" on fixed wages, and "undertakers" who purchase inputs (including labour) at fixed prices without assurance of profits.

However, the contemporary empirical literature has consistently proved that entrepreneurs' risk profiles are quite indistinguishable from those of wage earners. When there are differences in risk propensity, they can be mostly attributed to the fact that entrepreneurs exhibit greater risk aversion than wage earners (Brockhaus, 1982, Masters and Meier, 1988, Sarasvathy, Simon and Lave, 1998, Miner and Raju, 2004). For example, Cramer, Hartog, Jonker, and van Praag (2002) compare individuals' valuations for a lottery ticket and find that subjects who had ever been self-employed exhibited lower risk tolerance than wage earners even after controlling for wealth effects: the self-employed tend to have greater wealth and therefore bear less relative risk than wage earners.

According to Van Praag and Cramer (2001), whether a member of the labour force becomes an entrepreneur or an employee depends on the associated utilities. These in turn depend on ability and on the individual attitude towards risk. The authors add a relevant hint to the previous debate on workers' choices stressing the importance of uncertainty regarding the entrepreneurial talent: 'When choosing occupations, individuals are not certain of their entrepreneurial talent: they chose the occupation that renders the highest expected utility'. More specifically, the individuals' perception of their own ability relies upon a series of individual characteristics, like education, gender and family background. Following Kanbur (1979), such characteristics are modelled as an unique variable generically representing entrepreneurs' human capital.

The point of departure of this research work is the acknowledgement of the multidimensionality of human capital, and the emerging need to carry out a more in depth analysis of the influence that its various dimensions exert on the choice to become an entrepreneur or to undertake other different careers. My purpose is to provide a contribution to the identification of the particular configuration of workers' human capital which fosters the probability to start up a successful enterprise.

This paper attempts to constitute a first step for the improvement of our understanding by means of a preliminary, exploratory, analysis on the Italian data. The main aim is to assess the workers'

choice to become an employer or an employee through the lenses given by human capital personal endowments, as represented by the degree and orientation of worker's education.

3. The educational qualification of Italian workers

As a first step in the description of the Italian workforce's human capital endowments, we have observed the educational qualification attained by different types of workers, drawing on four waves (1995, 1998, 2002, and 2004) of the SHIW[1]. In this section, Bank of Italy's micro data have been treated in order to compute the percentage composition of each workforce's category in terms of 8 levels of educational skills, ranging from the absence of qualification to postgraduate studies. Percentage values are reported in table 1.

Table 1. Educational qualification of different types of workers in 2004 (percentage values)

Work status \ Educational qualification	None	Elementary school	Middle school	Professional secondary school	High school	Associate's degree	Bachelor's degree	Postgraduate qualification	Total
Factory worker	1,12	13,89	53,84	11,01	19,06	0,22	0,82	0,04	100,00
White-collar worker	0,04	1,56	18,65	8,19	58,74	2,00	10,64	0,18	100,00
School teacher	0,00	0,00	0,68	1,36	42,27	2,27	53,18	0,23	100,00
Junior manager/Cadre	0,00	0,00	6,69	3,34	55,52	2,01	31,44	1,00	100,00
Manager, senior official, principal, headmaster, university teacher, magistrate	0,00	0,00	1,48	1,48	28,89	0,74	62,96	4,44	100,00
Member of the arts or professions	0,00	0,32	6,39	3,51	35,78	2,24	49,52	2,24	100,00
Sole proprietor	0,68	6,85	28,08	8,90	41,78	2,05	11,64	0,00	100,00
Free-lance	0,00	15,49	46,97	8,42	26,77	0,84	1,52	0,00	100,00
Owner or member of a family business	0,43	19,48	39,83	9,96	25,54	0,43	4,33	0,00	100,00
Active shareholder, partner	0,00	4,29	36,43	6,43	45,71	0,71	6,43	0,00	100,00
First-job seeker	0,16	3,76	34,21	4,75	36,66	1,80	18,49	0,16	100,00
Unemployed	2,16	19,05	48,27	8,44	18,83	0,22	3,03	0,00	100,00
Homemaker	6,46	36,26	36,37	4,42	14,46	0,27	1,77	0,00	100,00
Well-off	5,26	26,32	15,79	10,53	31,58	5,26	5,26	0,00	100,00
Job pensioner	10,60	46,93	20,18	4,52	12,90	0,33	4,47	0,07	100,00
Non-job pensioner (disability, survivors', social pension)	25,69	54,30	15,06	1,15	3,37	0,00	0,44	0,00	100,00
Student (from primary school up)	23,32	19,75	31,80	0,91	21,90	0,45	1,82	0,06	100,00
Conscripted soldier	0,00	5,26	31,58	15,79	42,11	5,26	0,00	0,00	100,00
Contingent worker (Co-co-co)	0,00	6,93	19,80	8,91	38,61	1,98	23,76	0,00	100,00

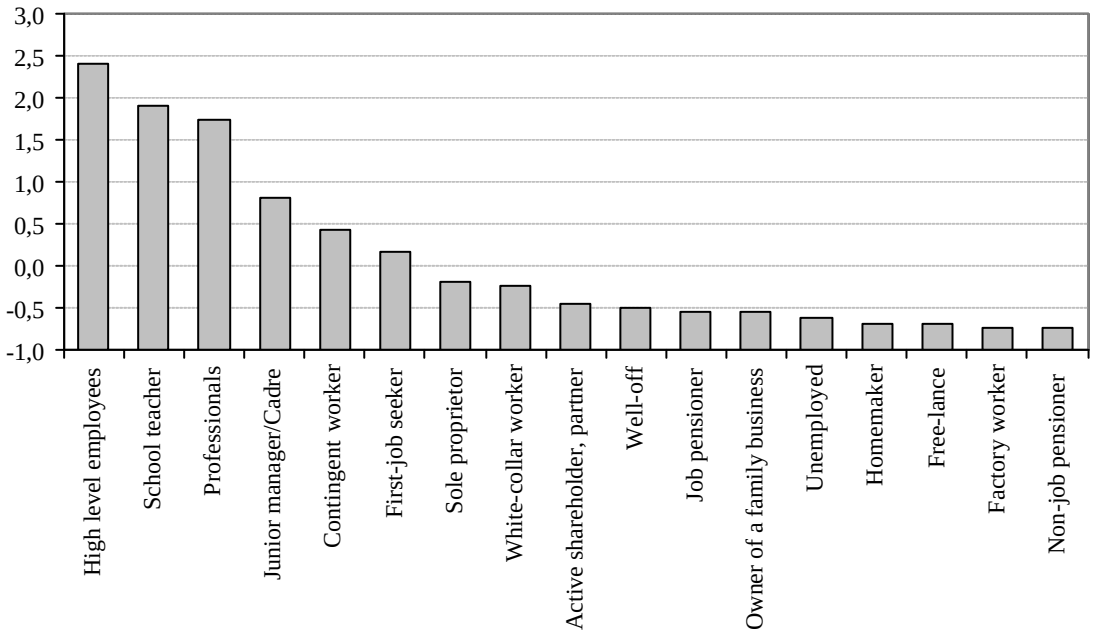
Source: author's elaboration on Bank of Italy's (2006) data.

[1] See Banca d'Italia (1997, 2000, 2004, 2006), cited in bibliography.

According to the 2004 wave of the survey, the category registering the highest educational qualifications is those of high-level employees composed by managers, senior officials, principals, headmasters, university teachers, and magistrates: 62.6% of such workers are graduates. This figure is partly predictable due to the mandatory nature of tertiary studies for taking up certain professional careers, like those of magistrates and university teachers. This composite category also exhibits the highest percentage of workers holding a postgraduate qualification (4.44%).

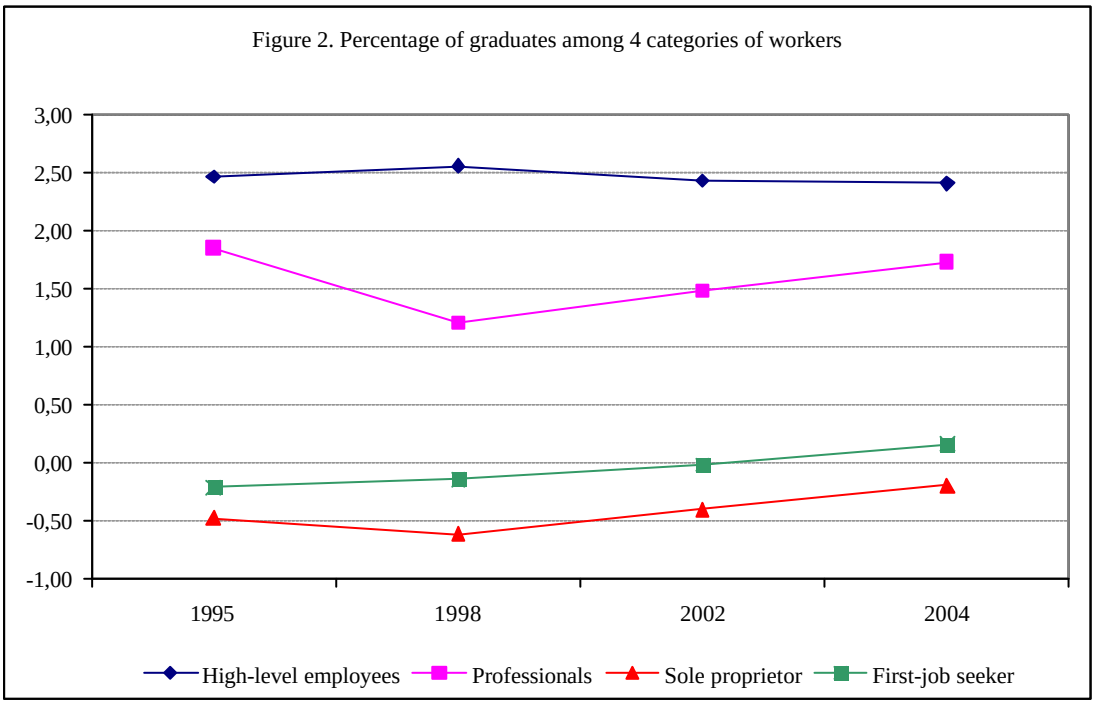
The percentage of workers with a bachelor's degree falls to 53.18% for school teachers and to 49.52% for members of the arts and professions. Behind these three leading categories, we find a surprisingly relevant gap. More in depth, two interesting facts emerge. Firstly, the graduation rate of entrepreneurs is particularly low. Only 11.64% of sole proprietors have completed university studies. This percentage is even lower for active shareholders and partners in enterprises (6.43%) and for owners or members of family businesses (4.33%). On the contrary, the share of precarious and disadvantaged workers holding a bachelor's degree exhibits a relatively high level: 23.76% of contingent workers (the so-called *co-co-co, collaboratori continuati e coordinati*) are graduates, as well as 18.49% of first-job seekers. The situation in 2004 is represented in figure 1, where percentages have been standardized for comparison purposes. Values for entrepreneurs are almost the same as for white and blue-collar workers, pensioners, unemployed and homemakers. The category of "high-level employees" refers to the composite set of managers, senior officials, principals, headmasters, university teachers and magistrates.

Figure 1. Percentage of different types of workers holding a Ba



The observation of dynamic trends for these categories' graduation rates in the last two years provides a quite more comforting scenario. The percentage of sole proprietors holding a bachelor's degree has increased of more than 5 points from 2002 to 2004 (from 6.4 to 11.64%), and slight increases have been registered also for active shareholders and owner or members of family businesses. On the other side, since the 2002 wave of the survey, the percentage of graduate contingent workers has registered a slight decrease (from 25% to 23.76%), while graduates among first-job seekers have raised from 13.78% in 2002 to 18.49% in 2004. Interestingly, the percentage of professionals holding a bachelor's degree has significantly raised from 42.11% in 2002 to 49.52% in 2004. The last decade's dynamic trends of graduation rates for 4 representative workers' categories are reported in figure 2, highlighting the significant distance sorting high level-employees from employers.

Figure 2. Percentage of graduates among 4 categories of workers



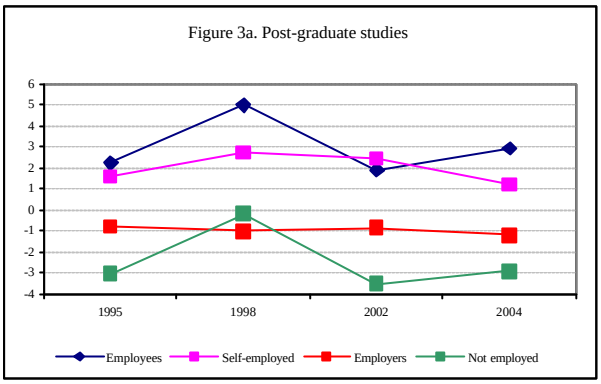
In order to have an overall view, we have grouped similar categories of workers and compared their composition in terms of educational qualification's levels. Aggregation criteria are described in table 2 and are adopted in all the other comparisons carried out in the rest of the paper.

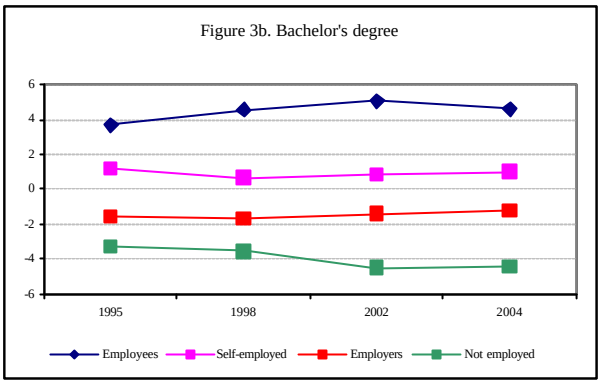
Even if, from a legal point of view, contingent workers (*co-co-co*s) have to be considered as a particular category of self-employed workers, they have been included in the "employees" category, since everyday life experience widely shows that, in most cases, such workers are temporary employees at the lowest level of their professional career.

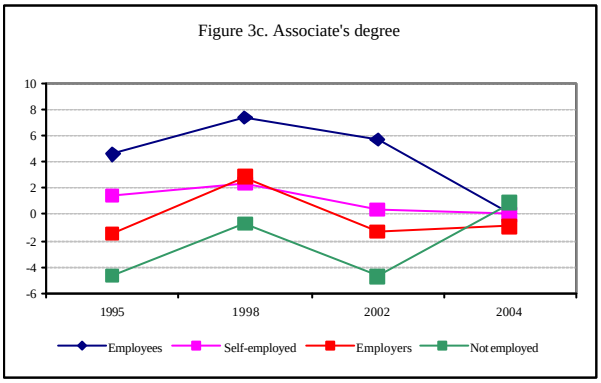
Table 2. Aggregated categories of workers	
Employees	Factory workers, White-collar workers, School teachers, Junior managers and cadres, Manager, senior officials, principals, headmasters, university teachers, magistrates, contingent workers.
Self-employed	Members of the arts and professions, free-lance.
Employers	Sole proprietors, Active shareholders and partners, owner or members of family businesses.
Not employed	First-job seekers, Unemployed, Homemakers, Well-off, Job pensioners, Non-job pensioner (disability, survivors', social pension), Students (from primary school up), Conscripted soldiers

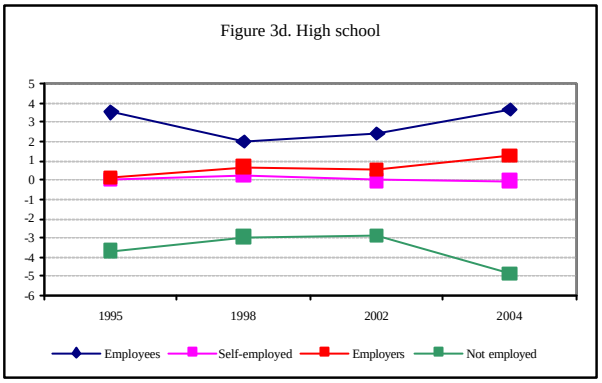
The main evidence emerging from trends represented in figure 3 is the particularly low level of educational qualification exhibited by employers, specially in respect to employees and self-employed workers. Moreover, employers seem to be unable to improve their skills over time, since trends (see the red lines in each graph) are almost all stagnating. Secondary professional diploma is the only kind of educational qualification exhibiting a significantly positive trend among entrepreneurs from 1995 to 2004. Interestingly, the trend representing the percentage of employers not overcoming compulsory studies is stagnating too. This fact is particularly worrying, specially if we take into account the extremely high percentages of entrepreneurs holding just a middle school degree (28.08% for sole proprietors, 39.83 for owner or members of family businesses, and 36.43 for active shareholders or partners in 2004). In other terms, Italian entrepreneurs seem not to be able to enrich their personal human capital. All graphs show the disadvantaged condition of the "not employed" category. However, respective trends are decisively influenced by pensioners and homemakers. If we substitute this category with the narrower one composed by first-job seekers, generally including a high percentage of young people, the employers' category exhibits the worst performance in each graph.

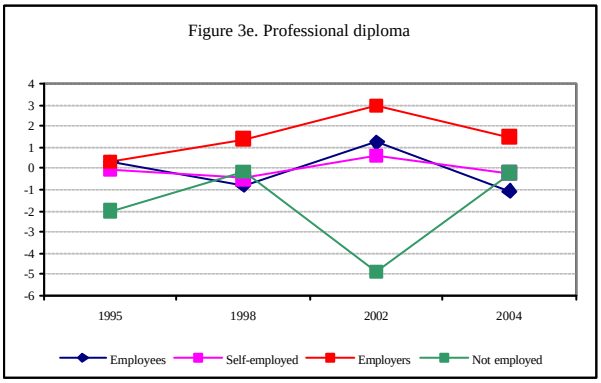
The observation of 1995-2004 trends related to each category shows that employees have registered a decrease in professional secondary studies and short-course university degrees, and a slight increase in post-graduate studies, while the percentage of people holding a bachelor's degree has remained quite constant and relatively high. Self-employed workers have registered significant decreases both in post-graduate studies and short-course university degrees, partially counterbalanced by a slight increase in the percentage of graduates.

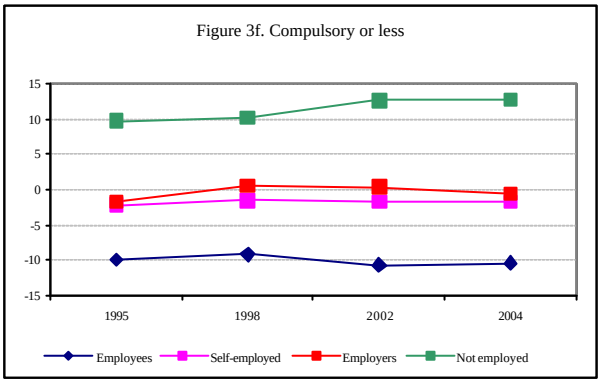




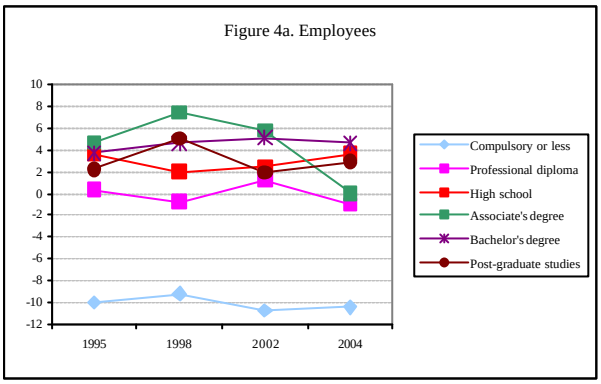


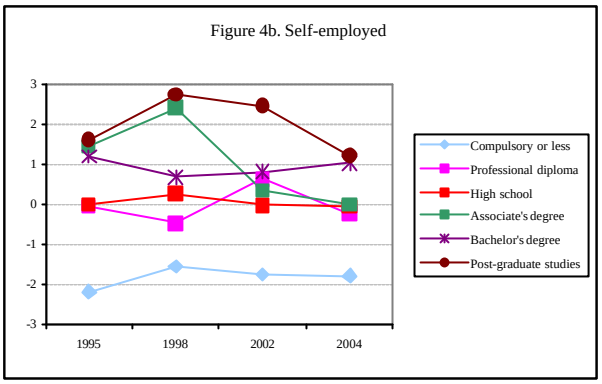


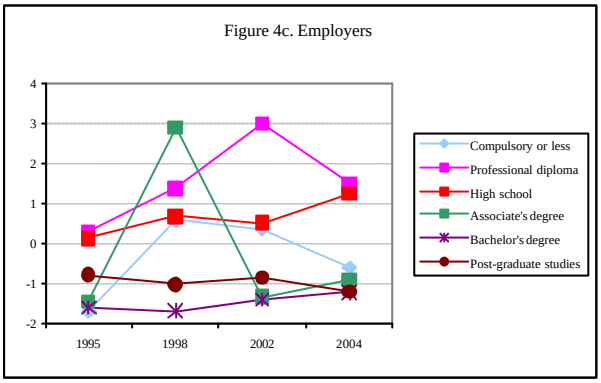


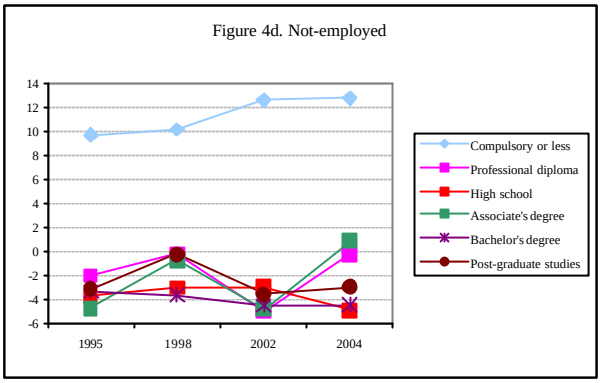


The figure for employers is completely different. There is a significant increase in secondary, post-compulsory schooling, as represented by high school and professional diploma attainments. On the contrary, the percentage of entrepreneurs holding tertiary educational qualifications is particularly low and stagnant (exception made for a peak in associate's degrees that has been registered in the 1998 wave of the survey). The blue line representing the percentage of people holding a middle school license or less constantly lies over those ones representing tertiary studies.









The educational qualification of entrepreneurs certainly deserves a more in depth reflection. This category presents the lowest rate of workers completing university and postgraduate studies (about 11.64% for sole proprietors, 6.43% for active shareholders and partners, and about 4.33% for owner or members of family businesses). Moreover, the attainment of most entrepreneurs is limited to the completion of compulsory education, since respectively 59.64% and 35.62% of owners or members of family businesses and of sole proprietors hold just an elementary or middle school degree. These facts are synthesized in figures 5a, 5b and 5c, where qualifications have been grouped into three main categories as reported in table 3.

Table 3. Aggregated categories of educational qualifications	
Compulsory (or less)	None, Elementary school, Middle school
Secondary	Professional secondary school diploma, High school
Tertiary	Associate's degree or other short-course university degree, Bachelor's degree, Post-graduate studies

Figure 5a. Sole proprietor, 2004

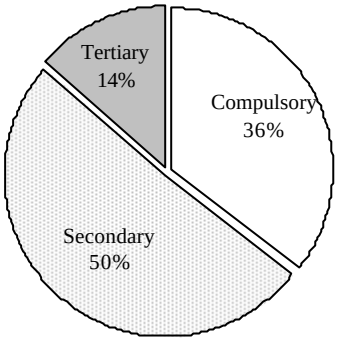


Figure 6a. Sole proprietors

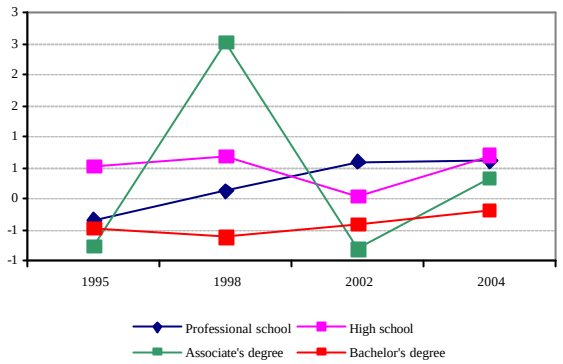


Figure 5b. Family businesses, 2004

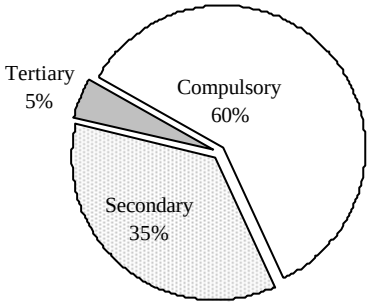


Figure 6b. Family businesses

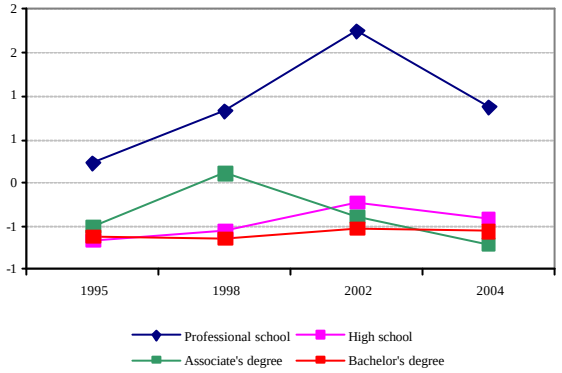


Figure 5c. Shareholders, 2004

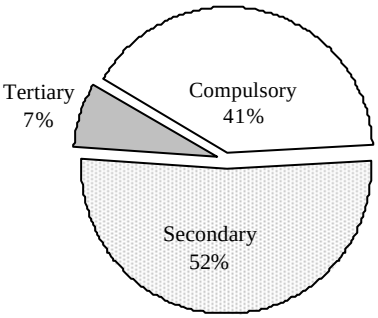
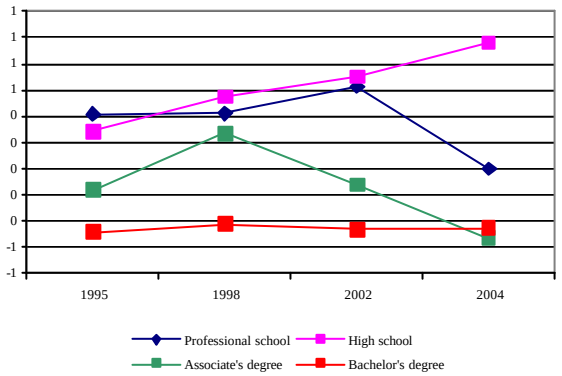


Figure 6c. Shareholders



Dynamic trends show an increase in the percentage of entrepreneurs attaining a secondary professional diploma from 1995 to 2002, from 3.33% to 7.26% for sole proprietors, from 5.07% to 11.07% for owners or members of family businesses, and from 5.68% to 7.33% for active shareholders and partners. This trend is followed by a new decline in 2004 for the latter two categories, which is only partially compensated by the continuous and significant increase in the percentage of active shareholders holding a high school degree (from 1.53% in 1995 to 44.67% in 2002 and 45.71% in 2004). Bachelor's degree remains the less favourite educational qualification

for all of the three types of entrepreneurs. Interestingly, after a peak in 1998, short-course university degrees have constantly declined in the employers' preferences. Such trends are presented in figures 6a, 6b and 6c, where percentage values have been standardized.

4. The bachelor's degree of graduate workers

This section offers a closer glance at the composition of tertiary studies carried out by Italian workers. Four waves of the Bank of Italy's micro data (1995, 1998, 2002, and 2004) have been transformed in order to compute the percentage distribution of each kind of degree for every category of graduate workers. This is meant just as an exploratory analysis, in that, in certain categories, the amount of graduates is too low to allow us to hazard any interpretation of data. Percentage values are presented in table 4.

Table 4. The bachelor's degree of graduate workers in 2004

Work status \ Bachelor's Degree	Mathematics and sciences	Agricultural sciences	Medicine or dentistry	Engineering	Architecture or Urban planning	Economics or statistics	PolSci, Sociology	Law	Arts, Philosophy, Languages	Other	Total
Blu-collar	3,45	6,90	3,45	10,34	3,45	17,24	3,45	3,45	34,48	13,79	100
Office worker	13,19	3,82	7,99	11,11	2,78	16,67	9,03	6,25	11,11	18,06	100
School teacher	14,29	0,82	0,41	4,08	2,86	2,45	2,45	2,86	57,14	12,65	100
Junior manager, cadre	11,65	1,94	15,53	16,50	4,85	12,62	7,77	17,48	7,77	3,88	100
Manager, senior official, magistrate, university teacher	8,70	5,43	25,00	15,22	7,61	11,96	4,35	10,87	4,35	6,52	100
Members of the arts and professions	1,78	4,14	18,34	12,43	10,65	11,24	3,55	19,53	7,10	11,24	100
Sole proprietor	10,00	5,00	5,00	10,00	15,00	20,00	0,00	10,00	0,00	25,00	100
Free-lance	0,00	0,00	7,14	0,00	7,14	35,71	7,14	7,14	14,29	21,43	100
Owner or member of family business	36,36	0,00	0,00	27,27	0,00	0,00	27,27	9,09	0,00	0,00	100
Active shareholder, partner	10,00	0,00	20,00	0,00	10,00	30,00	0,00	10,00	0,00	10,00	100
First-job seeker	11,20	1,60	4,00	4,80	3,20	11,20	10,40	22,40	12,80	18,40	100
Unemployed	20,00	0,00	0,00	13,33	6,67	13,33	0,00	13,33	6,67	26,67	100
Homemaker	11,32	0,00	5,66	3,77	5,66	13,21	5,66	15,09	33,96	5,66	100
Job pensioner	8,65	2,88	7,69	7,21	0,96	9,13	5,29	10,10	37,50	10,58	100
Non job pensioner	40,00	0,00	0,00	0,00	0,00	0,00	0,00	20,00	40,00	0,00	100
Student	10,39	2,60	11,69	15,58	1,30	11,69	1,30	15,58	15,58	14,29	100
Contingent worker	11,54	11,54	7,69	0,00	3,85	11,54	11,54	3,85	15,38	23,08	100

Source: my elaboration on Bank of Italy's (2006) data

Interesting facts emerging from data are as follows: among junior managers and cadres, most popular degrees are in law (17.48%), engineering (16.50), medicine or dentistry (15.53), and

economics or statistics (12.62%). High-level employees exhibit a similar composition, with a prevalence by degrees in medicine or dentistry (25%), engineering (15.22%), and economics or statistics (11.96%). As expected, the three most popular courses of studies among professionals are medicine or dentistry (18.34%), law (19.53%), and engineering (12.43%). Any consideration on graduate entrepreneurs must be handled with a certain caution, since their number is particularly low (just 20 cases among sole proprietors, and 11 and 10 respectively for owners or members of family businesses and active shareholders and partners), and percentage values may not be representative. Most sole proprietors' degrees belong to the "other studies" category (25%). Other popular degrees are those in economics or statistics (20%), and architecture and urban planning (15%). Graduate owners or members of family businesses are almost all partitioned into three main categories: mathematicians and natural scientists (36.36%), engineers (27.27%), political scientists and sociologists (27.27%). Most popular degrees among active shareholders and partners are economics or statistics (30%), and medicine or dentistry (20%).

Figure 7 present dynamic trends from 1995 to 2004. In respect to previous figures, the "not-employed" category has been replaced by the "unemployed" category, shaped by first-job seekers and unemployed. Degrees are grouped as reported in table 5.

Table 5. Bachelor's degrees categories

Label	Degrees	Label	Degrees
Sci	Mathematics and Sciences	Arch	Architecture and Urban planning
Agr	Agricultural Sciences	Eco	Economics or Statistics
Med	Medicine or dentistry	Pol-Soc	Political Sciences or Sociology
Eng	Engineering	Arts	Arts, Philosophy and Languages

The most notable trends are as follows: degrees in economics and statistics exhibit an increase among self-employed workers. Entrepreneurs register a constant decline in the percentage of degrees in agricultural sciences, political sciences and sociology on the one side, and a constant increase in the percentage of people of undertaking tertiary studies in economics and statistics, architecture and urban planning, medicine and dentistry on the other side. In the period between the last two waves of the SHIW, there is also a sudden increase of the percentage of engineers among graduate entrepreneurs. Another interesting trend is the fall of engineering studies for employees, accompanied by a concurrent rise in the percentage of employees holding a degree in agricultural sciences and in political sciences and sociology. Law, mathematics and natural sciences register an unenviable primacy among unemployed and first-job seekers, and this negative figure is confirmed

by the analysis of the percentage distribution of job opportunities for every kind of bachelor's degree presented in section 6.

Figure 7a. Employees

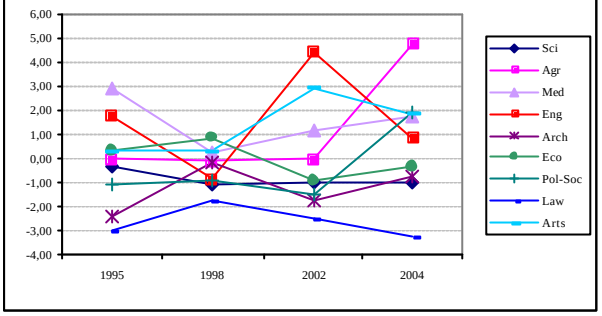


Figure 7b. Self-employed

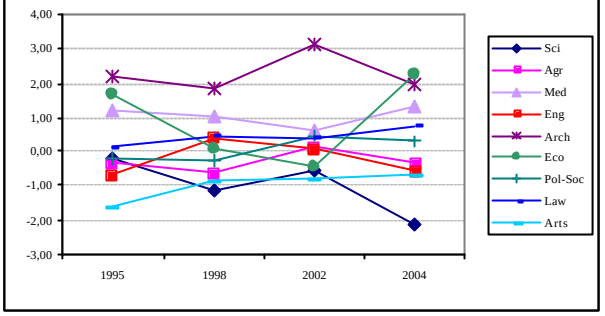


Figure 7c. Employers

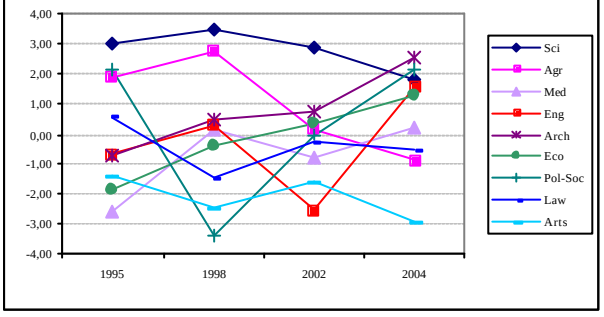
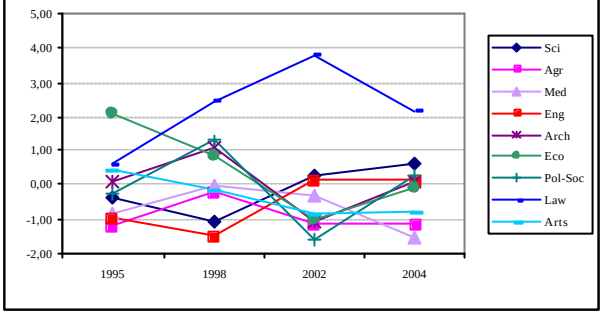


Figure 7d. Unemployed



A closer glance at employers seems not to be able to shed more light on this category educational choices, probably due to the scarce representativeness of the set of graduate entrepreneurs included in the Bank of Italy's sample. In 2004, sole proprietors' most appreciated degrees were in economics or statistics (20%) and architecture and urban planning (15%). The share of graduates in these subjects also shows a constant increase from 1995 to 2004. A clearly negative trend characterizes studies in agricultural sciences. Most owners or members of family businesses are graduates in mathematics and natural sciences (37%), even if this percentage has constantly declined from 1995 over time. On the contrary, degrees in political sciences, sociology and engineering exhibit a significant positive trend, respectively from 0% and 8.33% in 1995 to 27.27% for both in 2004. In 2004, most graduate active shareholders and partners held a degree in economics or statistics (43%) or in medicine or dentistry (29%). Trends for these two kinds of degrees are constantly positive from 1995 to 2004. On the contrary, the percentage of active shareholders and partners holding a degree in engineering has constantly fallen over time, until reaching 0% in 2004.

Figure 8a. Sole proprietors, 2004

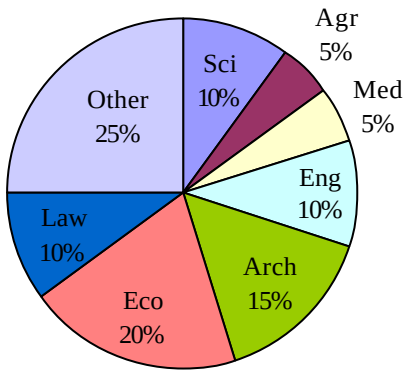


Figure 8b. 1995-2004

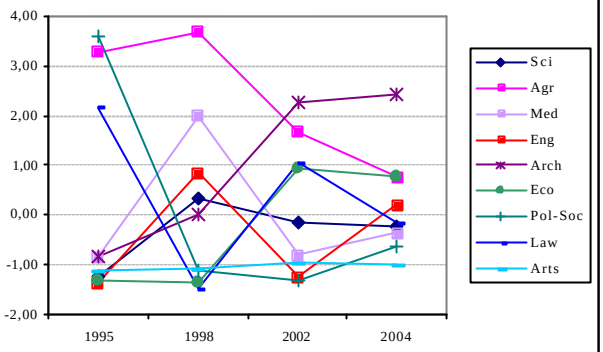


Figure 9a. Family businesses, 2004

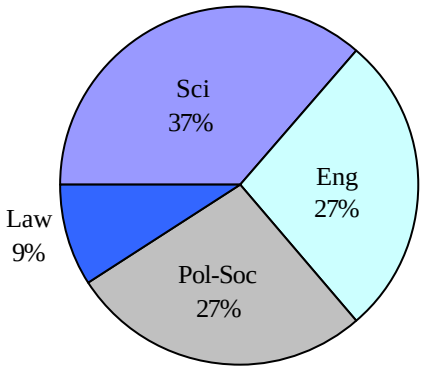


Figure 9b. 1995-2004

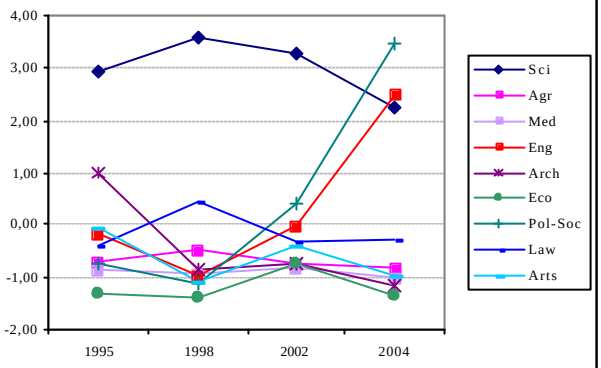


Figure 10a. Shareholders, 2004

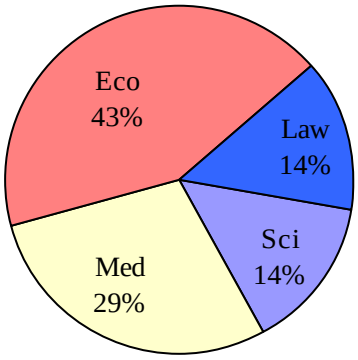
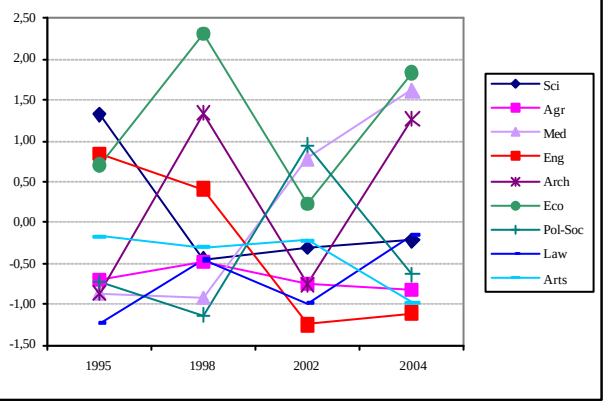


Figure 10b. 1995-2004



5. Educational qualification and workers' careers

An exploratory analysis of the distribution of job opportunities among the different degrees of qualification provides further information on the role played by education in shaping professional careers. In this section Bank of Italy's micro data have been treated in order to compute, for every degree of educational qualification, the percentage of people belonging to each professional category, in order to provide some hints on the possible influence of educational qualification on workers' professional choices. The main fact emerging from data is that, in 2004, only 2.71% of graduates were employers; more in particular, 1.28% were sole proprietors, 0.75% were owners or members of family businesses, and 0.68% were active shareholders or partners. Percentage values for 2004 are reported in table 6.

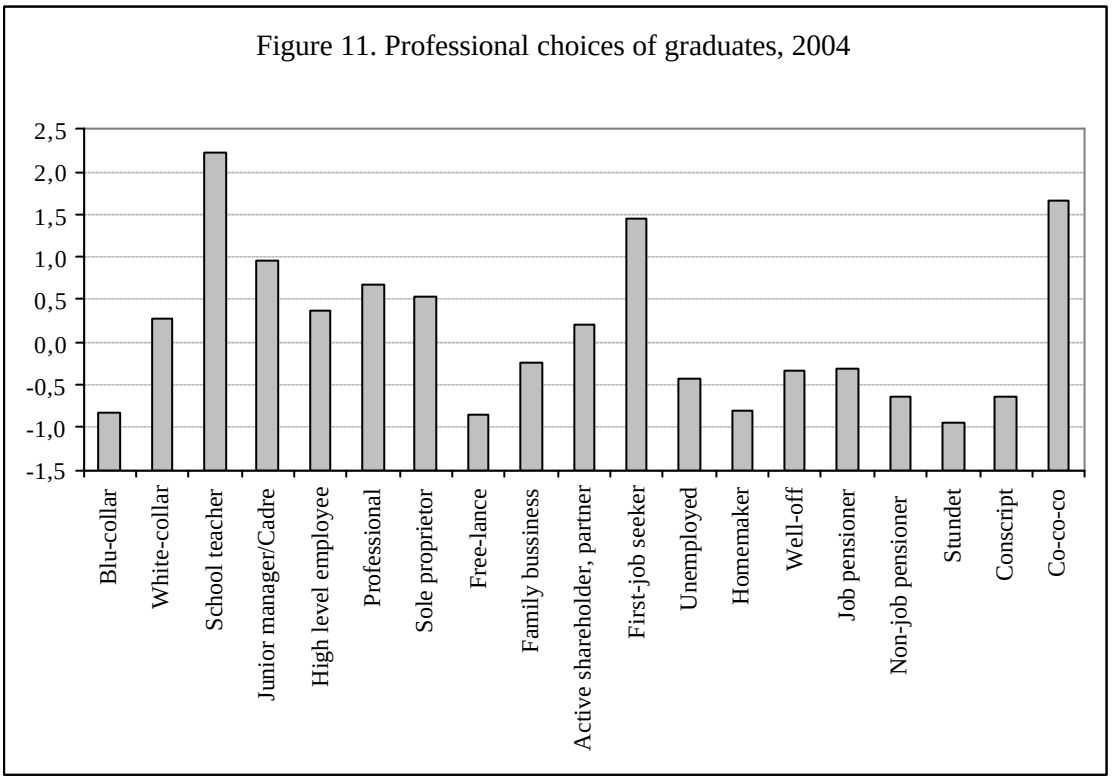
Table 6. Professional choice of workers holding different qualifications in 2004.

Work status \ Educational qualification	None	Elementary school	Middle school	Professional secondary school	High school	Associate's degree	Bachelor's degree	Postgraduate qualification
Factory worker	1,17	7,58	24,56	28,41	10,77	4,38	1,66	3,57
White-collar worker	0,04	0,71	7,16	17,78	27,92	32,85	18,00	14,29
School teacher	0,00	0,00	0,05	0,58	3,93	7,30	17,62	3,57
Junior manager/Cadre	0,00	0,00	0,34	0,97	3,51	4,38	7,08	10,71
Manager, senior official, principal, headmaster, university teacher, magistrate	0,00	0,00	0,03	0,19	0,83	0,73	6,40	21,43
Member of the arts or professions	0,00	0,02	0,34	1,06	2,37	5,11	11,67	25,00
Sole proprietor	0,04	0,20	0,70	1,26	1,29	2,19	1,28	0,00
Free-lance	0,00	1,88	4,77	4,83	3,36	3,65	0,68	0,00
Owner or member of a family business	0,04	0,92	1,57	2,22	1,25	0,73	0,75	0,00
Active shareholder, partner	0,00	0,12	0,87	0,87	1,35	0,73	0,68	0,00
First-job seeker	0,04	0,47	3,57	2,80	4,74	8,03	8,51	3,57
Unemployed	0,39	1,80	3,81	3,77	1,84	0,73	1,05	0,00
Homemaker	6,52	19,26	16,16	11,11	7,95	5,11	3,46	0,00
Well-off	0,04	0,10	0,05	0,19	0,13	0,73	0,08	0,00
Job pensioner	17,59	40,94	14,72	18,65	11,66	10,22	14,38	10,71
Non-job pensioner	11,26	12,52	2,90	1,26	0,80	0,00	0,38	0,00
Student (from primary school up)	29,90	13,31	17,94	2,90	15,30	10,95	4,52	7,14
Conscripted soldier	0,00	0,02	0,10	0,29	0,17	0,73	0,00	0,00
Contingent worker (Co-co-co)	0,00	0,14	0,34	0,87	0,83	1,46	1,81	0,00

Source: my elaboration on Bank of Italy's (2006) data

The educational qualification exhibiting the greatest share of employers is the professional secondary school diploma (4.35%), in turn partitioned into owners or members of family businesses (2.22%), sole proprietors (1.26%), and active shareholders and partners (0.87%). In 2004, most of Italian graduates were employed as white-collar workers (18%), school teachers (17.62%) and members of the arts or professions (11.67%), while 14.38% were job pensioners. A quarter of people holding a postgraduate qualification were professionals, probably due to the fact that some kind of tertiary specialization is generally required to become a member of the arts or professions. It is noteworthy that workers holding a postgraduate qualification *never* chose to undertake an entrepreneurial career. The distribution of Italian graduates is represented in figure 11, where values have been standardized.

Figure 11. Professional choices of graduates, 2004



Dynamic trends of employers are not particularly comforting, since the share of graduates choosing to undertake an entrepreneurial activity has risen only of 0.66 percentage points since 1995 to date. The percentage of employees among graduate workers has registered a slight decline, from 55.2% in 1995 to 52.57% in 2004, while percentages regarding self-employed and unemployed workers have remained almost the same. Such trends are described in detail in figures 12 and 13, where workers categories have been aggregated according to criteria reported in table 2, exception made for “unemployed workers”, which now include only first-job seekers and unemployed, thereby excluding students, homemakers well-off and pensioners. Values in the right side graphs have been

standardized for comparison purposes. The red line of employers lies above the other ones in graphs representing the job opportunities of workers holding a middle school degree or a secondary diploma (professional or high school). From 1995 to 2004, the entrepreneurial career constantly remains the less favourite option for graduate workers.

Figure 12a. Middle school 2004

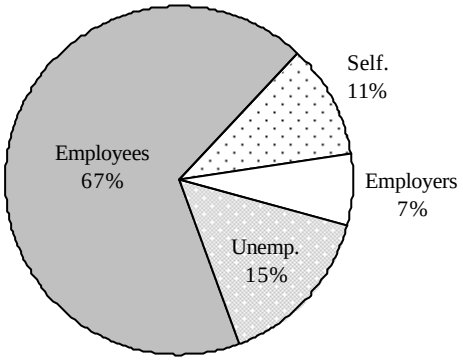


Figure 13a. 1995-2004

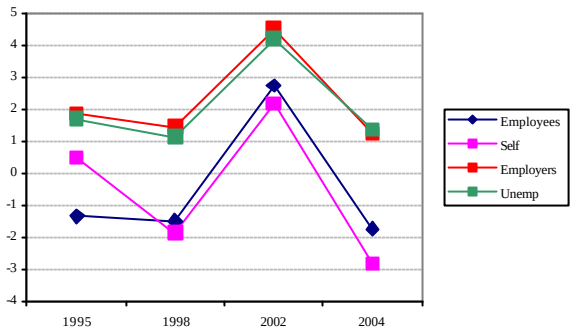


Figure 12b. Professional diploma 2004

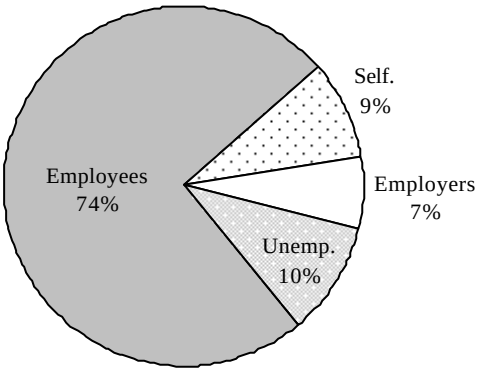


Figure 13b. 1995-2004

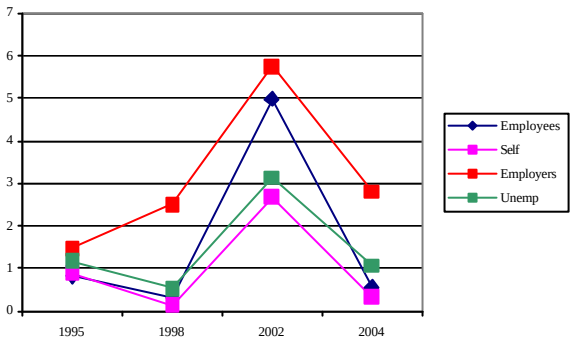


Figure 12c. High school 2004

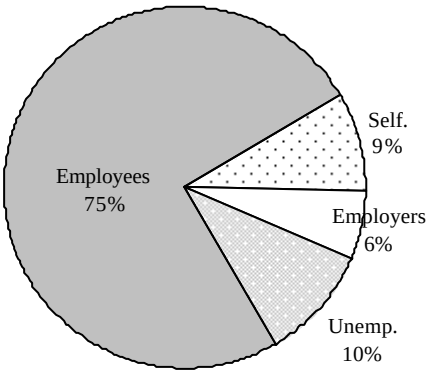


Figure 13c. 1995-2004

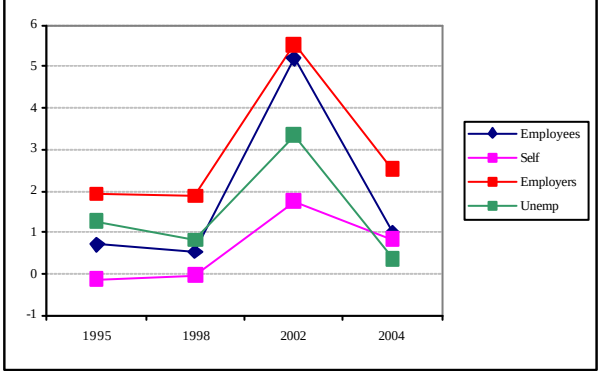


Figure 12d. Short degree 2004

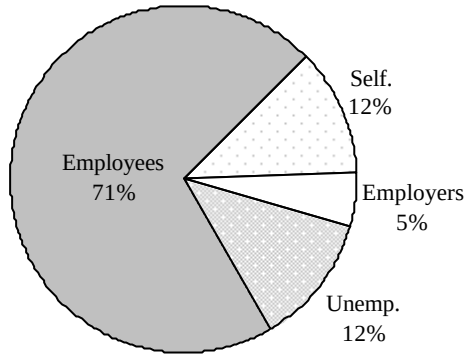


Figure 13d. 1995-2004

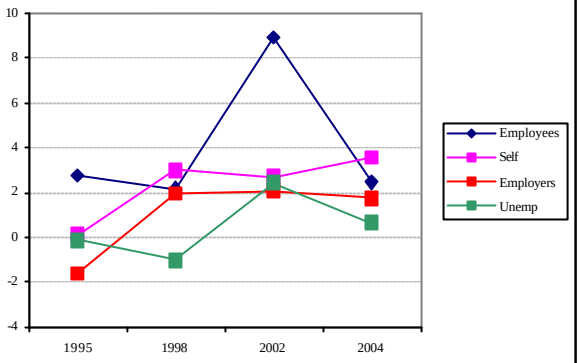


Figure 12e. Bachelor's degree

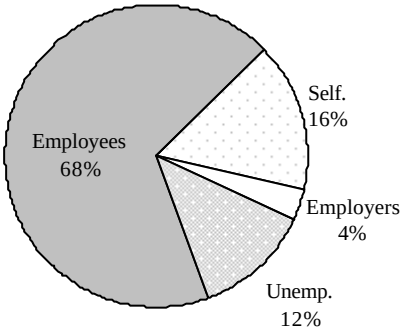


Figure 13e. 1995-2004

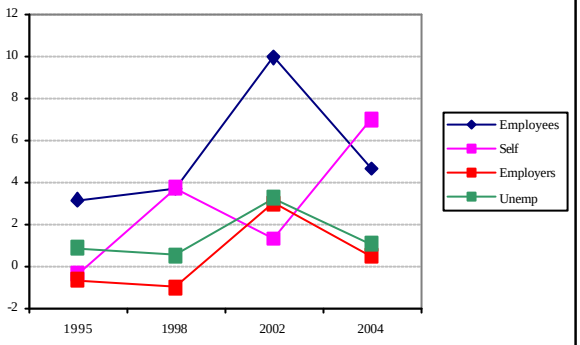


Figure 12f. Postgraduate

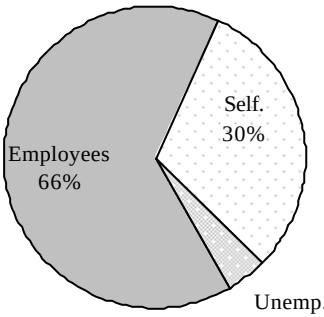
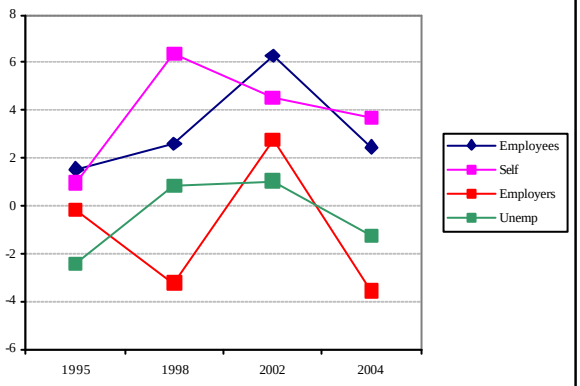


Figure 13f. 1995-2004



On the other side, self-employment seems to be the first choice for workers holding higher levels of educational qualification. The share of graduates undertaking a career as members of the arts or professions has exhibited a significant increase from 1995 to 2004, as the pink line in figure 13e shows. It is noteworthy that figure 12f (on the percentage composition of workers holding a postgraduate qualification) completely misses employers. In figures 12, percentages are slightly

different from those reported in table 6 because several categories (such as pensioners, students, and conscripts) have been neglected to the seek of brevity.

6. The professional choices of graduates

In this section Bank of Italy's micro data have been treated in order to compute the percentage distribution of job opportunities for every kind of bachelor's degree. Such elaboration may help in improving our understanding on the role played by tertiary studies in shaping workers' careers. Particular attention will be paid to engineers and economists, in that these two categories of graduates generally play a significant role in the technological and organizational innovation of firms. Globalization and technological change reduce the importance of economies of scale in many activities, thereby increasing the potential contribution of small and medium enterprises (SMEs) to growth and local development, but also raise definite crisis factors for such firms, which now have to compete in a widely deregulated global market requiring an improved ability to acquire information and promote rapid technical and organizational changes. In 2004, more than half of Italian engineers (54.29%) were employees, mostly belonging to the lowest categories, like not-directive white collar workers (22.86%) and junior managers or cadres (12.14%). 15% of engineers were members of the arts or professions, while only 4.29% where employers, with a prevalence of owners or members of family businesses (2.14%) over sole proprietors (1.43%) and active shareholders and partners (0.71%). The share of unemployed and first-job seekers was significantly low (5.71%), specially if compared with those affecting other kinds of graduates, ranging from 3.70% for medicine or dentistry (the lowest level) to 10.76% affecting graduates in mathematics and sciences, 15.12% for graduates in political sciences and sociology and 18.18% for workers holding a degree in law (the highest level). The figure for graduates in economics or statistics was similar to those described above for engineers, exception made for a higher level of unemployment (9.47%) counterbalancing the lower share of economists and statisticians working as employees (50.89%). In 2004 the entrepreneurial career was particularly popular among workers holding a degree in architecture or urban planning (6.35%) and mathematics or sciences (4.43%). Bachelor's degrees registering the higher share of employees are those in mathematics and sciences (61.39%), mostly due to the relevant number of school teachers (22.15%), immediately followed by degrees in arts, philosophy and languages (58.41%, with a 41.30% of school teachers), and agricultural sciences (58.14). Political sciences and sociology register the highest level of not executive office workers (30.23%). On the other side, degrees exhibiting the higher shares of self-employed workers were architecture and urban planning (30.16%), medicine or dentistry (23.70%), and law (20.61%). Percentage values for 2004 are presented in table 7.

Table 7. Professional choices of graduates, 2004

Work status \ Bachelor's Degree	Mathematics and sciences	Agricultural sciences	Medicine or dentistry	Engineering	Architecture or Urban planning	Economics or statistics	PolSci, Sociology	Law	Arts, Philosophy, Languages	Other
Blu-collar	0,63	4,65	0,74	2,14	1,59	2,96	1,16	0,61	2,95	2,05
Office worker	24,05	25,58	17,04	22,86	12,70	28,40	30,23	10,91	9,44	26,67
School teacher	22,15	4,65	0,74	7,14	11,11	3,55	6,98	4,24	41,30	15,90
Junior manager, cadre	7,59	4,65	11,85	12,14	7,94	7,69	9,30	10,91	2,36	2,05
Manager, senior official, magistrate, university teacher	5,06	11,63	17,04	10,00	11,11	6,51	4,65	6,06	1,18	3,08
Members of the arts and professions	1,90	16,28	22,96	15,00	28,57	11,24	6,98	20,00	3,54	9,74
Sole proprietor	1,27	2,33	0,74	1,43	4,76	2,37		1,21	0,00	2,56
Free-lance	0,00	0,00	0,74	0,00	1,59	2,96	1,16	0,61	0,59	1,54
Owner or member of family business	2,53	0,00	0,00	2,14	0,00	0,00	3,49	0,61	0,00	0,00
Active shareholder, partner	0,63	0,00	1,48	0,71	1,59	1,78	0,00	0,61	0,00	0,51
First-job seeker	8,86	4,65	3,70	4,29	6,35	8,28	15,12	16,97	4,72	11,79
Unemployed	1,90	0,00	0,00	1,43	1,59	1,18	0,00	1,21	0,29	2,05
Homemaker	3,80	0,00	2,22	1,43	4,76	4,14	3,49	4,85	5,31	1,54
Job pensioner	11,39	13,95	11,85	10,71	3,17	11,24	12,79	12,73	23,01	11,28
Non job pensioner	1,27	0,00	0,00	0,00	0,00	0,00	0,00	0,61	0,59	0,00
Student	5,06	4,65	6,67	8,57	1,59	5,33	1,16	7,27	3,54	5,64
Conscript	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,51
Contingent worker	1,90	6,98	1,48	0,00	1,59	1,78	3,49	0,61	1,18	3,08
Total	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Source: my elaboration on Bank of Italy's (2006) data

A quick glance at trends registered in the last decade shows that the share of engineers choosing to undertake an entrepreneurial career has raised from 2.56% in 1995 to the already cited 4.29% in 2004, as well as the percentage regarding economists and statisticians (from 1.39% in 1995 to a quite more comforting 4.14% in 2004). Overall, the share of employees has declined from 60.68% in 1995 to 54.29% in 2004 for engineers, and from 52.08% to 50.89% for economists and statisticians. The share of self-employed engineers has slightly declined from 16.67% in 1995 to 15% in 2004, while such decline has been particularly significant for economists, whose self-employed share has fallen from 33.33% in 1995 to 14.20% in 2004, due to the strong fall of free-lance workers (from 22.22% to 2.96%).

Figures 14 and 15, presenting the distribution of job opportunities respectively among graduates in engineering and economics or statistics, allow us to point out that certain categories of employers

exhibit a relatively high share of graduates in engineering (this is the case for owner or members of family businesses) and in economics or statistics (active shareholders or partners).

Figure 15. Engineering 2004

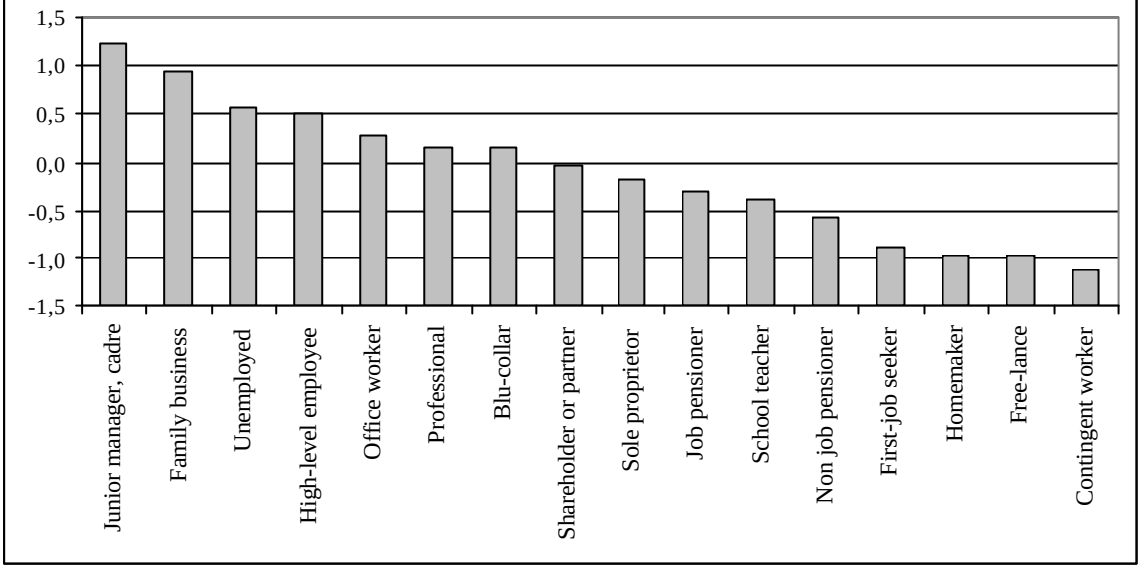
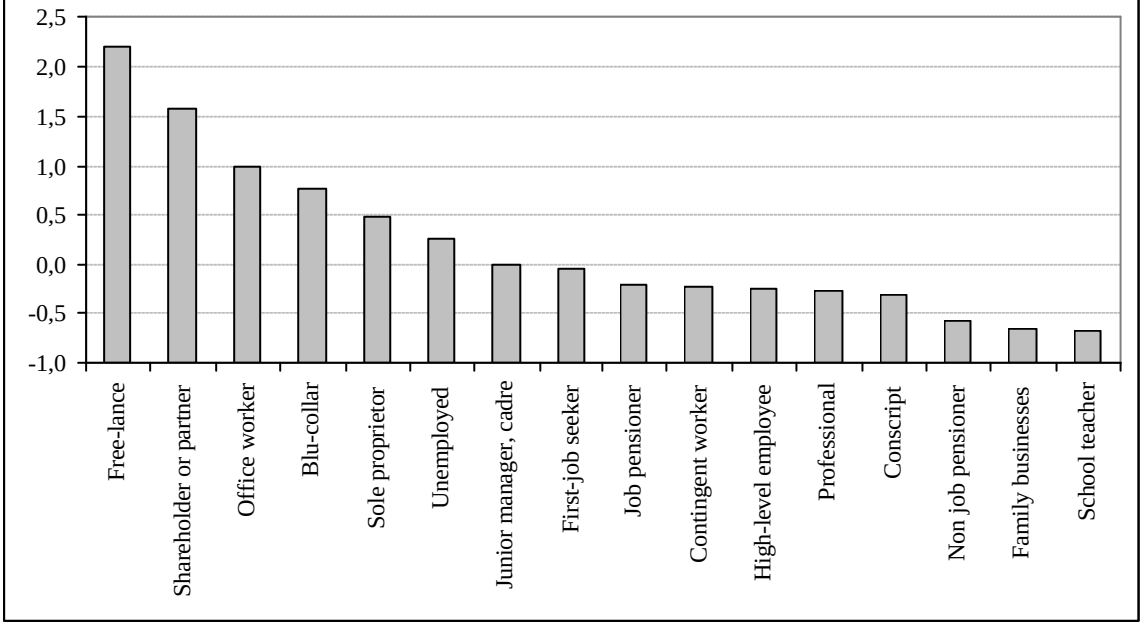


Figure 16. Economics or statistics, 2004



Figures 17 and 18 respectively show the partition of graduates in engineering and economics into the 4 macro-categories described in table 2 (exception made for the not employed category, now including only first-job seekers and unemployed workers) and dynamic trends registered during the last decade. In right-side graphs values have been standardized to the purposes of comparison.

Percentages represented in the left-side graphs have been computed as the share of considered categories in respect to the active labour force (thereby excluding several categories of not employed workers).

Figure 17a. Engineering 2004

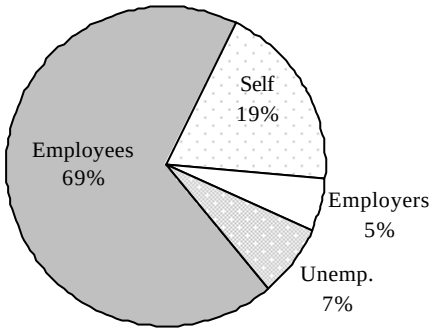


Figure 18a. 1995-2004

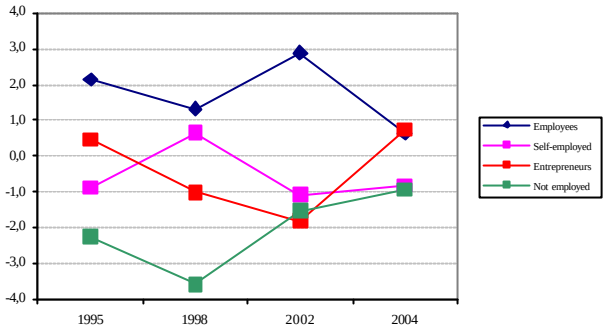


Figure 17b. Economics 2004

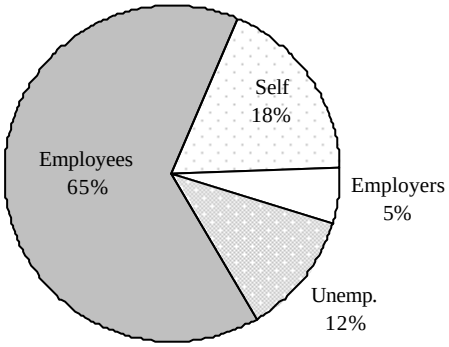


Figure 18.b. 1995-2004

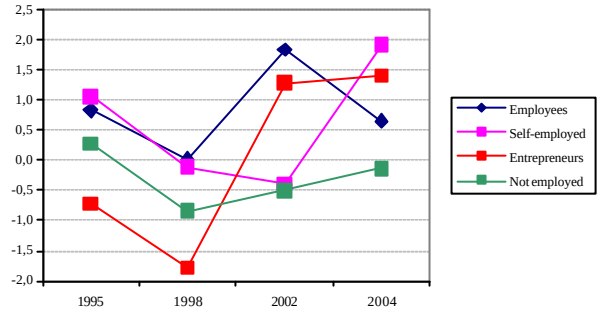


Figure 17c. Mathematics and sciences 2004

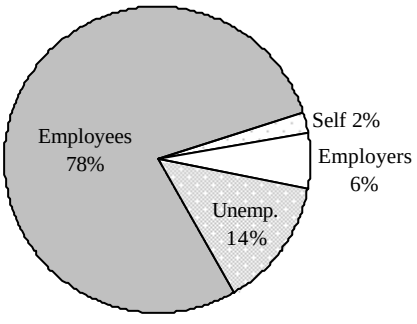


Figure 18c. 1995-2004

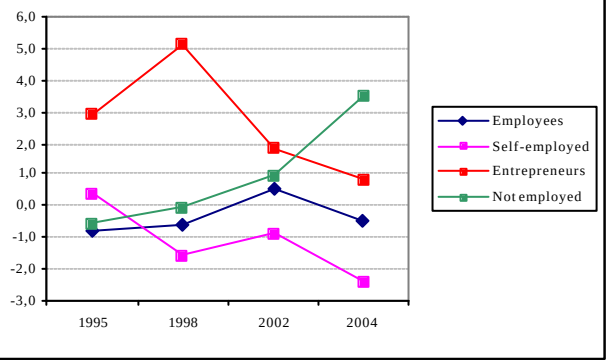


Figure 17d. AgriSciences 2004

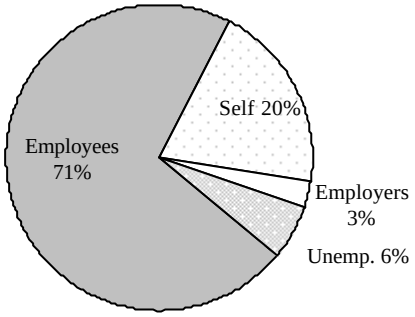


Figure 18.d 1995-2004

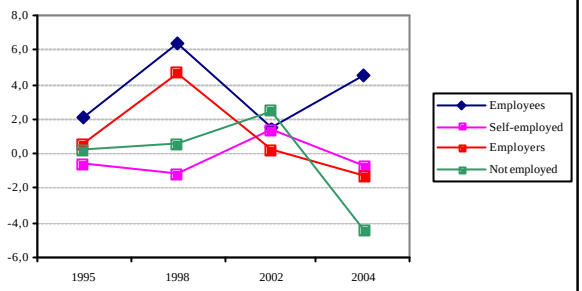


Figure 17e. Medicine 2004

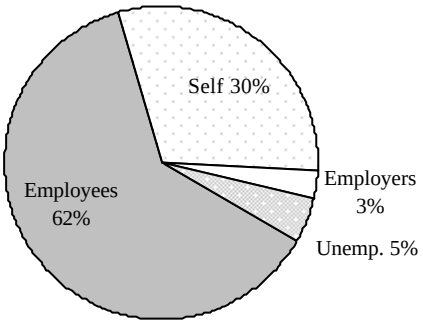


Figure 18e. 1995-2004

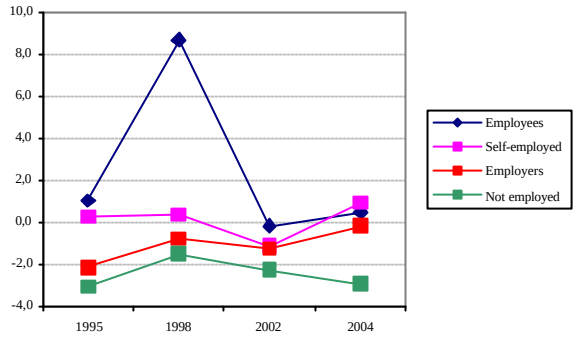


Figure 17f. Architecture 2004

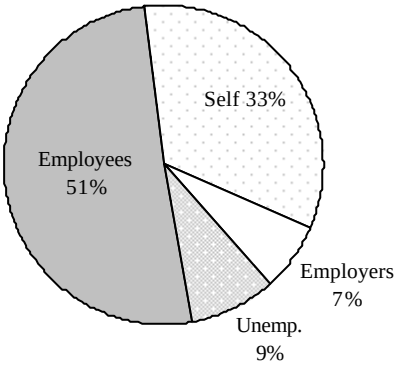


Figure 18f. 1995-2004

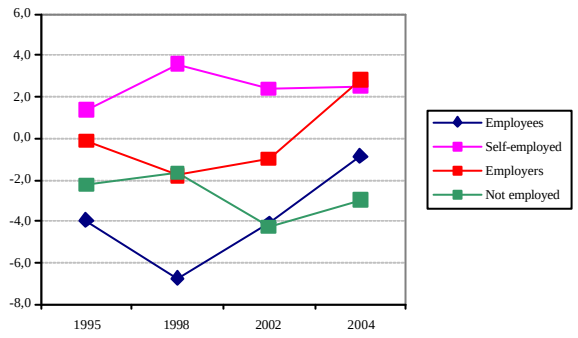


Figure 17g. Polsci & Soc 2004

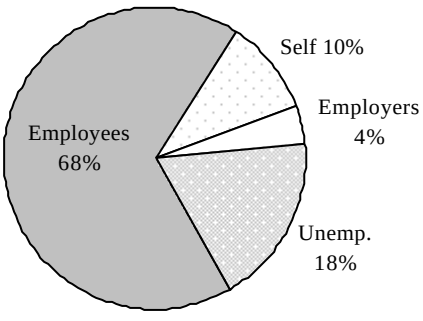


Figure 18g. 1995-2004

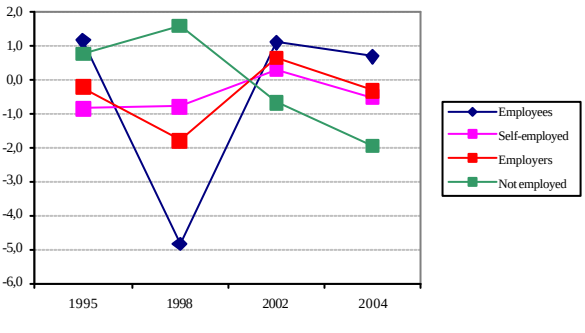


Figure 17h. Law 2004

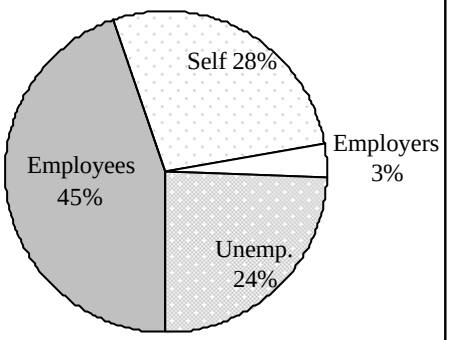


Figure 18h. 1995-2004

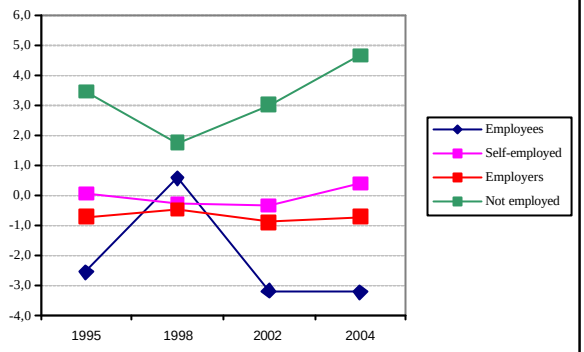


Figure 17i. Arts 2004

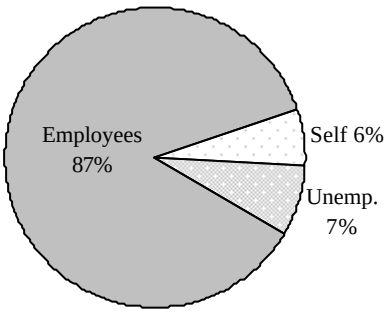
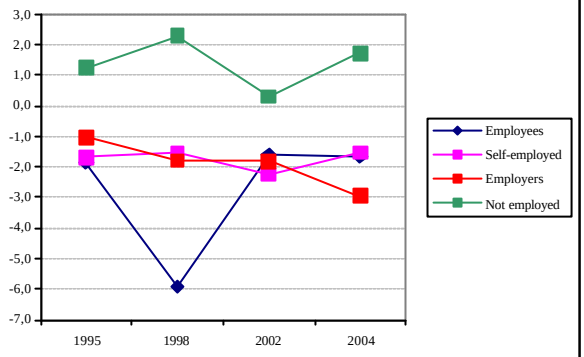


Figure 18i. 1995-2004



The main facts highlighted by dynamic trends are the slight decline in the share of engineers working as employers from 1995 to 2002 - counterbalanced by a sudden rise from 2002 to 2004 - a constant increase in the entrepreneurial choice of economists and statisticians from 1998 to 2004, the constant increase of not employed mathematicians and natural scientists over time – nurtured both by the high level of youth unemployment and by the significant amount of retired school teachers - the slight increase of the share of employers among people holding a degree in architecture or urban planning, and the high level of unemployment or exclusion by the active labour force suffered by workers holding a degree in arts, philosophy and languages.

7. Concluding remarks and guidelines for further researchers

Overall, the exploratory analysis carried out in this paper reveals that Italian employers are particularly poor in terms of human capital endowments, as measured by the level of educational qualification. The empirical evidence not only shows that the educational level exhibited by employers is surprisingly low, but also highlights the widespread tendency of workers holding higher levels of educational qualification not to be involved in an entrepreneurial activity. In other terms, workers choosing to take up a career as entrepreneurs seem not to be worried about the need

to enrich their human capital by attaining higher levels of education, and workers holding higher levels of educational qualification – such as a short course university degree, a bachelor's degree or a postgraduate qualification – prefer to undertake a career as members of the arts or professions or as high-level employees. The allocation of the "human capital" created by education is thus strongly upset towards subordinate employment and, to a lesser extent, towards self-employment.

In Italy, there is a gap dividing the employers' educational qualification, on the one side, and employees' and self-employed workers' studies. For a long time, individual entrepreneurs and owners of family businesses have played a leading role in the Italian model of development, largely based on the dynamism of SMEs. Historically, the skills possessed by these agents were relational in nature and largely related to environmental factors like the existence of social networks, as the extensive literature on the industrial districts has widely shown. Today, Italian SMEs are notoriously experiencing a moment of structural crisis. The empirical evidence in this paper suggests that, given the deterioration of the favourable entrepreneurial climate caused by globalization dynamics, entrepreneurs do not hold the human capital endowments necessary to overcome the crisis. Dynamic trends draw an even more critical scenario, since the educational qualification of entrepreneurs have not registered significant changes (both from a quantitative and qualitative point of view) in the last decade: not only employers show to hold quite inadequate educational qualifications, but they also seem to be unable to improve their skills over time, in order to carry out an appropriate reaction to changing environmental conditions.

Other interesting insights can be provided by the distribution of each kind of bachelor's degree for every workers' category and by the distribution of job opportunities for every kind of bachelor's degree. Such analyses allow us to focus on two key figures for strengthening the competitiveness of Italian enterprises, engineers and economists, who may play a significant role in the technological and organizational innovation of firms: as globalisation and technological change reduce the importance of economies of scale in many activities, the potential contribution of SMEs to local development is enhanced; however, such dynamics also raise definite crisis factors for firms, which now have to compete in widely deregulated global markets requiring an improved ability to acquire information and promote rapid technical and organizational changes. In Italy, engineers and economists generally prefer to undertake a career as high-level employees (i.e. managers, senior officials, principals, headmaster, university teachers and magistrates) and, to a lesser extent, as members of the arts or professions. Dynamic trends are not particularly comforting, in that the share of these two kinds of graduates choosing to take up a career as entrepreneurs has not been subject to significant changes during the last decade, when globalisation dynamics have become stronger and stronger. In other terms, SHIW data do not point out any sign of positive reaction of Italian

employers against the worrying crisis of the Italian model of development, largely based on the role of SMEs.

Future researches must deepen the exploratory analysis carried out in this paper by addressing through a confirmatory approach the causal nexus connecting workers' human capital and their professional choices, with a narrower focus on the characteristics, causes and consequences of the so-called entrepreneurial human capital. This could be the first step of a larger research line bringing to the elaboration of a new generation of "indirect" industrial policies, with the objective to strengthen Italy's system competitiveness by fostering Italian employers' endowments of human capital.

8. Bibliography

Banca d'Italia (1997), "I bilanci delle famiglie italiane nell'anno 1995", edited by G. D'Alessio, *Supplementi al Bollettino Statistico* (nuova serie), Banca d'Italia, n.14, Roma.

Banca d'Italia (2000), "I bilanci delle famiglie italiane nell'anno 1998", edited by G. D'Alessio and I. Faiella, *Supplementi al Bollettino Statistico* (nuova serie), Banca d'Italia, n.22, Roma.

Banca d'Italia (2004), "I bilanci delle famiglie italiane nell'anno 2002", edited by G. D'Alessio and I. Faiella, *Supplementi al Bollettino Statistico* (nuova serie), Banca d'Italia, n.12, Roma.

Banca d'Italia (2006), "I bilanci delle famiglie italiane nell'anno 2004", edited by I. Faiella, R. Gambacorta, S.Iezzi and A.Neri, *Supplementi al Bollettino Statistico, Indagini Campionarie* (nuova serie), Banca d'Italia, n.7, Roma.

Brockhaus R (1982), "The psychology of an entrepreneur", in: Kent, C, Sexton D, Vesper K (eds) *Encyclopedia of entrepreneurship*, Englewood Cli.s, NJ, Prentice Hall, pp 39–56.

Cantillon, R. (1775), Essai sur la nature du commerce en general, version edited by T.Tsuda (1979), Kinokuya, Tokyo.

Cramer J.S., Hartog J., Jonker N., Praag C.M. van (2002), "Low risk aversion encourages the choice for entrepreneurship: an empirical test of a truism", *Journal of Economic Behavior and Organization*, Vol. 48, N. 1, May 2002, pp. 29-36(8).

Florida, R. (1995), "Toward the Learning Region", *Futures*, No. 27, 527-535.

Fountain, J.E. (1997), "Social Capital: A Key Enabler of Innovation in Science and Technology", in Branscomb, L.M., Keller, J. (eds), *Investing in Innovation: Toward A Consensus Strategy for Federal Technology Policy*, Cambridge, The MIT Press.

Gabbay, S.M., Leenders, R.A.J. (eds) (2001), *Social Capital of Organizations*, Amsterdam, JAI Press, vol. 18: 2001.

Kanbur, S.M. (1979), "On Risk Taking and the Personal Distribution of Income", *Journal of Political Economy*, 87, 860-97.

Kihlstrom, R. and Laffont, J.J. (1979), "A General Equilibrium Entrepreneurial Theory of New Firm Formation Based on Risk Aversion", *Journal of Political Economy*, 87, 304-16.

Lucas, R.E. (1978), "On the Size Distribution of Business Firms", *Bell Journal of Economics*, 9, 508-23.

Maskell, P. (2000), "Social Capital, Innovation and Competitiveness", in Baron, S. (ed), *Social Capital: Critical Perspectives*, Oxford, Oxford University Press.

Masters, R and Meier, R. (1988), "Sex Differences and Risk-Taking Propensity of Entrepreneurs", *Journal of Small Business Management* 26(1): 31-35.

Miner, J.B. and Raju, N.S. (2004), "Risk propensity differences between managers and entrepreneurs and between low- and high-growth entrepreneurs: a reply in a more conservative vein", *Journal of Applied Psychology*, 89(1):14-21.

Morgan, K. (1997), "The Learning Region: Institutions, Innovation and Regional Renewal", *Regional Studies*, Vol. 31, No. 5, 491-503.

Morgan, K and Nauwelaers, C (eds) (1999) *Regional Innovation Strategies: The Challenge for Less Favoured Regions*, Routledge, London.

Sarasvathy D.K., Simon H.A, and Lave, L. (1998), "Perceiving and managing business risks: differences between entrepreneurs and bankers", *Journal of Economic Behavior and Organization*, Vol. 33, N. 2, January 1998, pp. 207-225(19).

Praag, C.M. van and Cramer, J.S. (2001), "The roots of entrepreneurship and labour demand: individual ability and low risk aversion", *Economica, 269* , 45-62.

NOTE DI LAVORO DELLA FONDAZIONE ENI ENRICO MATTEI

Fondazione Eni Enrico Mattei Working Paper Series

Our Note di Lavoro are available on the Internet at the following addresses:

http://www.feem.it/Feem/Pub/Publications/WPapers/default.html
http://www.ssrn.com/link/feem.html
http://www.repec.org
http://agecon.lib.umn.edu

NOTE DI LAVORO PUBLISHED IN 2006

SIEV	1.2006	*Anna ALBERINI*: Determinants and Effects on Property Values of Participation in Voluntary Cleanup Programs: The Case of Colorado
CCMP	2.2006	*Valentina BOSETTI, Carlo CARRARO and Marzio GALEOTTI*: Stabilisation Targets, Technical Change and the Macroeconomic Costs of Climate Change Control
CCMP	3.2006	*Roberto ROSON*: Introducing Imperfect Competition in CGE Models: Technical Aspects and Implications
KTHC	4.2006	*Sergio VERGALLI*: The Role of Community in Migration Dynamics
SIEV	5.2006	*Fabio GRAZI, Jeroen C.J.M. van den BERGH and Piet RIETVELD*: Modeling Spatial Sustainability: Spatial Welfare Economics versus Ecological Footprint
CCMP	6.2006	*Olivier DESCHENES and Michael GREENSTONE*: The Economic Impacts of Climate Change: Evidence from Agricultural Profits and Random Fluctuations in Weather
PRCG	7.2006	*Michele MORETTO and Paola VALBONESE*: Firm Regulation and Profit-Sharing: A Real Option Approach
SIEV	8.2006	*Anna ALBERINI and Aline CHIABAI*: Discount Rates in Risk v. Money and Money v. Money Tradeoffs
CTN	9.2006	*Jon X. EGUIA*: United We Vote
CTN	10.2006	*Shao CHIN SUNG and Dinko DIMITRO*: A Taxonomy of Myopic Stability Concepts for Hedonic Games
NRM	11.2006	*Fabio CERINA* (lxxviii): Tourism Specialization and Sustainability: A Long-Run Policy Analysis
NRM	12.2006	*Valentina BOSETTI, Mariaester CASSINELLI and Alessandro LANZA* (lxxviii): Benchmarking in Tourism Destination, Keeping in Mind the Sustainable Paradigm
CCMP	13.2006	*Jens HORBACH*: Determinants of Environmental Innovation – New Evidence from German Panel Data Sources
KTHC	14.2006	*Fabio SABATINI*: Social Capital, Public Spending and the Quality of Economic Development: The Case of Italy
KTHC	15.2006	*Fabio SABATINI*: The Empirics of Social Capital and Economic Development: A Critical Perspective
CSRM	16.2006	*Giuseppe DI VITA*: Corruption, Exogenous Changes in Incentives and Deterrence
CCMP	17.2006	*Rob B. DELLINK and Marjan W. HOFKES*: The Timing of National Greenhouse Gas Emission Reductions in the Presence of Other Environmental Policies
IEM	18.2006	*Philippe QUIRION*: Distributional Impacts of Energy-Efficiency Certificates Vs. Taxes and Standards
CTN	19.2006	*Somdeb LAHIRI*: A Weak Bargaining Set for Contract Choice Problems
CCMP	20.2006	*Massimiliano MAZZANTI and Roberto ZOBOLI*: Examining the Factors Influencing Environmental Innovations
SIEV	21.2006	*Y. Hossein FARZIN and Ken-ICHI AKAO*: Non-pecuniary Work Incentive and Labor Supply
CCMP	22.2006	*Marzio GALEOTTI, Matteo MANERA and Alessandro LANZA*: On the Robustness of Robustness Checks of the Environmental Kuznets Curve
NRM	23.2006	*Y. Hossein FARZIN and Ken-ICHI AKAO*: When is it Optimal to Exhaust a Resource in a Finite Time?
NRM	24.2006	*Y. Hossein FARZIN and Ken-ICHI AKAO*: Non-pecuniary Value of Employment and Natural Resource Extinction
SIEV	25.2006	*Lucia VERGANO and Paulo A.L.D. NUNES:* Analysis and Evaluation of Ecosystem Resilience: An Economic Perspective
SIEV	26.2006	*Danny CAMPBELL, W. George HUTCHINSON and Riccardo SCARPA*: Using Discrete Choice Experiments to Derive Individual-Specific WTP Estimates for Landscape Improvements under Agri-Environmental Schemes Evidence from the Rural Environment Protection Scheme in Ireland
KTHC	27.2006	*Vincent M. OTTO, Timo KUOSMANEN and Ekko C. van IERLAND*: Estimating Feedback Effect in Technical Change: A Frontier Approach
CCMP	28.2006	*Giovanni BELLA*: Uniqueness and Indeterminacy of Equilibria in a Model with Polluting Emissions
IEM	29.2006	*Alessandro COLOGNI and Matteo MANERA*: The Asymmetric Effects of Oil Shocks on Output Growth: A Markov-Switching Analysis for the G-7 Countries
KTHC	30.2006	*Fabio SABATINI*: Social Capital and Labour Productivity in Italy
ETA	31.2006	*Andrea GALLICE* (lxxix): Predicting one Shot Play in 2x2 Games Using Beliefs Based on Minimax Regret
IEM	32.2006	*Andrea BIGANO and Paul SHEEHAN*: Assessing the Risk of Oil Spills in the Mediterranean: the Case of the Route from the Black Sea to Italy
NRM	33.2006	*Rinaldo BRAU and Davide CAO* (lxxviii): Uncovering the Macrostructure of Tourists' Preferences. A Choice Experiment Analysis of Tourism Demand to Sardinia
CTN	34.2006	*Parkash CHANDER and Henry TULKENS*: Cooperation, Stability and Self-Enforcement in International Environmental Agreements: A Conceptual Discussion
IEM	35.2006	*Valeria COSTANTINI and Salvatore MONNI*: Environment, Human Development and Economic Growth
ETA	36.2006	*Ariel RUBINSTEIN* (lxxix): Instinctive and Cognitive Reasoning: A Study of Response Times

ETA	37.2006	*Maria SALGADO* (lxxix): Choosing to Have Less Choice
ETA	38.2006	*Justina A.V. FISCHER and Benno TORGLER*: Does Envy Destroy Social Fundamentals? The Impact of Relative Income Position on Social Capital
ETA	39.2006	*Benno TORGLER, Sascha L. SCHMIDT and Bruno S. FREY*: Relative Income Position and Performance: An Empirical Panel Analysis
CCMP	40.2006	*Alberto GAGO, Xavier LABANDEIRA, Fidel PICOS And Miguel RODRÍGUEZ*: Taxing Tourism In Spain: Results and Recommendations
IEM	41.2006	*Karl van BIERVLIET, Dirk Le ROY and Paulo A.L.D. NUNES*: An Accidental Oil Spill Along the Belgian Coast: Results from a CV Study
CCMP	42.2006	*Rolf GOLOMBEK and Michael HOEL*: Endogenous Technology and Tradable Emission Quotas
KTHC	43.2006	*Giulio CAINELLI and Donato IACOBUCCI*: The Role of Agglomeration and Technology in Shaping Firm Strategy and Organization
CCMP	44.2006	*Alvaro CALZADILLA, Francesco PAULI and Roberto ROSON*: Climate Change and Extreme Events: An Assessment of Economic Implications
SIEV	45.2006	*M.E. KRAGT, P.C. ROEBELING and A. RUIJS*: Effects of Great Barrier Reef Degradation on Recreational Demand: A Contingent Behaviour Approach
NRM	46.2006	*C. GIUPPONI, R. CAMERA, A. FASSIO, A. LASUT, J. MYSIAK and A. SGOBBI*: Network Analysis, Creative System Modelling and DecisionSupport: *The NetSyMoD Approach*
KTHC	47.2006	*Walter F. LALICH* (lxxx): Measurement and Spatial Effects of the Immigrant Created Cultural Diversity in Sydney
KTHC	48.2006	*Elena PASPALANOVA* (lxxx): Cultural Diversity Determining the Memory of a Controversial Social Event
KTHC	49.2006	*Ugo GASPARINO, Barbara DEL CORPO and Dino PINELLI* (lxxx): Perceived Diversity of Complex Environmental Systems: Multidimensional Measurement and Synthetic Indicators
KTHC	50.2006	*Aleksandra HAUKE* (lxxx): Impact of Cultural Differences on Knowledge Transfer in British, Hungarian and Polish Enterprises
KTHC	51.2006	*Katherine MARQUAND FORSYTH and Vanja M. K. STENIUS* (lxxx): The Challenges of Data Comparison and Varied European Concepts of Diversity
KTHC	52.2006	*Gianmarco I.P. OTTAVIANO and Giovanni PERI* (lxxx): Rethinking the Gains from Immigration: Theory and Evidence from the U.S.
KTHC	53.2006	*Monica BARNI* (lxxx): From Statistical to Geolinguistic Data: Mapping and Measuring Linguistic Diversity
KTHC	54.2006	*Lucia TAJOLI and Lucia DE BENEDICTIS* (lxxx): Economic Integration and Similarity in Trade Structures
KTHC	55.2006	*Suzanna CHAN* (lxxx): "God's Little Acre" and "Belfast Chinatown": Diversity and Ethnic Place Identity in Belfast
KTHC	56.2006	*Diana PETKOVA* (lxxx): Cultural Diversity in People's Attitudes and Perceptions
KTHC	57.2006	John J. *BETANCUR* (lxxx): From Outsiders to On-Paper Equals to Cultural Curiosities? The Trajectory of Diversity in the USA
KTHC	58.2006	*Kiflemariam HAMDE* (lxxx): Cultural Diversity A Glimpse Over the Current Debate in Sweden
KTHC	59.2006	*Emilio GREGORI* (lxxx): Indicators of Migrants' Socio-Professional Integration
KTHC	60.2006	*Christa-Maria LERM HAYES* (lxxx): Unity in Diversity Through Art? Joseph Beuys' Models of Cultural Dialogue
KTHC	61.2006	*Sara VERTOMMEN and Albert MARTENS* (lxxx): Ethnic Minorities Rewarded: Ethnostratification on the Wage Market in Belgium
KTHC	62.2006	*Nicola GENOVESE and Maria Grazia LA SPADA* (lxxx): Diversity and Pluralism: An Economist's View
KTHC	63.2006	*Carla BAGNA* (lxxx): Italian Schools and New Linguistic Minorities: Nationality Vs. Plurilingualism. Which Ways and Methodologies for Mapping these Contexts?
KTHC	64.2006	*Vedran OMANOVIĆ* (lxxx): Understanding "Diversity in Organizations" Paradigmatically and Methodologically
KTHC	65.2006	*Mila PASPALANOVA* (lxxx): Identifying and Assessing the Development of Populations of Undocumented Migrants: The Case of Undocumented Poles and Bulgarians in Brussels
KTHC	66.2006	*Roberto ALZETTA* (lxxx): Diversities in Diversity: Exploring Moroccan Migrants' Livelihood in Genoa
KTHC	67.2006	*Monika SEDENKOVA and Jiri HORAK* (lxxx): Multivariate and Multicriteria Evaluation of Labour Market Situation
KTHC	68.2006	*Dirk JACOBS and Andrea REA* (lxxx): Construction and Import of Ethnic Categorisations: "Allochthones" in The Netherlands and Belgium
KTHC	69.2006	*Eric M. USLANER* (lxxx): Does Diversity Drive Down Trust?
KTHC	70.2006	*Paula MOTA SANTOS and João BORGES DE SOUSA* (lxxx): Visibility & Invisibility of Communities in Urban Systems
ETA	71.2006	*Rinaldo BRAU and Matteo LIPPI BRUNI*: Eliciting the Demand for Long Term Care Coverage: A Discrete Choice Modelling Analysis
CTN	72.2006	*Dinko DIMITROV and Claus-JOCHEN HAAKE*: Coalition Formation in Simple Games: The Semistrict Core
CTN	73.2006	*Ottorino CHILLEM, Benedetto GUI and Lorenzo ROCCO*: On The Economic Value of Repeated Interactions Under Adverse Selection
CTN	74.2006	*Sylvain BEAL and Nicolas QUÉROU*: Bounded Rationality and Repeated Network Formation
CTN	75.2006	*Sophie BADE, Guillaume HAERINGER and Ludovic RENOU*: Bilateral Commitment
CTN	76.2006	*Andranik TANGIAN*: Evaluation of Parties and Coalitions After Parliamentary Elections
CTN	77.2006	*Rudolf BERGHAMMER, Agnieszka RUSINOWSKA and Harrie de SWART*: Applications of Relations and Graphs to Coalition Formation
CTN	78.2006	*Paolo PIN*: Eight Degrees of Separation
CTN	79.2006	*Roland AMANN and Thomas GALL*: How (not) to Choose Peers in Studying Groups

CTN	80.2006	*Maria MONTERO*: Inequity Aversion May Increase Inequity
CCMP	81.2006	*Vincent M. OTTO, Andreas LÖSCHEL and John REILLY*: Directed Technical Change and Climate Policy
CSRM	82.2006	*Nicoletta FERRO*: Riding the Waves of Reforms in Corporate Law, an Overview of Recent Improvements in Italian Corporate Codes of Conduct
CTN	83.2006	*Siddhartha BANDYOPADHYAY and Mandar OAK*: Coalition Governments in a Model of Parliamentary Democracy
PRCG	84.2006	*Raphaël SOUBEYRAN*: Valence Advantages and Public Goods Consumption: Does a Disadvantaged Candidate Choose an Extremist Position?
CCMP	85.2006	*Eduardo L. GIMÉNEZ and Miguel RODRÍGUEZ*: Pigou's Dividend versus Ramsey's Dividend in the Double Dividend Literature
CCMP	86.2006	*Andrea BIGANO, Jacqueline M. HAMILTON and Richard S.J. TOL*: The Impact of Climate Change on Domestic and International Tourism: A Simulation Study
KTHC	87.2006	*Fabio SABATINI*: Educational Qualification, Work Status and Entrepreneurship in Italy an Exploratory Analysis

(lxxviii) This paper was presented at the Second International Conference on "Tourism and Sustainable Economic Development - Macro and Micro Economic Issues" jointly organised by CRENoS (Università di Cagliari and Sassari, Italy) and Fondazione Eni Enrico Mattei, Italy, and supported by the World Bank, Chia, Italy, 16-17 September 2005.
(lxxix) This paper was presented at the International Workshop on "Economic Theory and Experimental Economics" jointly organised by SET (Center for advanced Studies in Economic Theory, University of Milano-Bicocca) and Fondazione Eni Enrico Mattei, Italy, Milan, 20-23 November 2005. The Workshop was co-sponsored by CISEPS (Center for Interdisciplinary Studies in Economics and Social Sciences, University of Milan-Bicocca).
(lxxx) This paper was presented at the First EURODIV Conference "Understanding diversity: Mapping and measuring", held in Milan on 26-27 January 2006 and supported by the Marie Curie Series of Conferences "Cultural Diversity in Europe: a Series of Conferences.

2006 SERIES

CCMP	*Climate Change Modelling and Policy* (Editor: Marzio Galeotti)
SIEV	*Sustainability Indicators and Environmental Valuation* (Editor: Anna Alberini)
NRM	*Natural Resources Management* (Editor: Carlo Giupponi)
KTHC	*Knowledge, Technology, Human Capital* (Editor: Gianmarco Ottaviano)
IEM	*International Energy Markets* (Editor: Anil Markandya)
CSRM	*Corporate Social Responsibility and Sustainable Management* (Editor: Sabina Ratti)
PRCG	*Privatisation Regulation Corporate Governance* (Editor: Bernardo Bortolotti)
ETA	*Economic Theory and Applications* (Editor: Carlo Carraro)
CTN	*Coalition Theory Network*