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**What makes a good candidate?
The preferences of HR Managers about new graduated job-
seekers**

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Abstract

Information regarding skills that foster employability of University graduates is of particular interest in Italy, where youth unemployment remains high in spite of an increase of tertiary education enrolment. This paper analyzes a survey of human resource managers' preferred job-seeker characteristics. A conjoint analysis of hypothetical new-graduated job seeker ratings indicates that English language skills, final degree grade, and work experience are the most important attributes of candidate profiles. Age reduces the attractiveness of a candidate, while the difference in preferences between *laurea triennale* and *laurea magistrale* is so small as to be offset by two years of work experience. Interactions between firm and vacancy characteristics indicate that gender preferences depend on features of specific jobs.

JEL Codes: I23, M51,

Keywords: Tertiary education, recruitment, job search, HR managers

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Introduction

The expansion of enrolment in tertiary education in many OECD countries has led to increasing interest by researchers and policy-makers in the transition from education to work of new graduates. The 'school-to-work transition' has been associated with the concepts of change, waiting and uncertainty (Ryan 2001). One of the sources of uncertainty regards the duration of the transition itself. An important reason that has been identified for the prolongation of the individual transition process is that young people often lack information about which skills are rewarded the most on the labour market (Tchibozo 2002). On the other hand it is widely recognized that changes in the nature of work and in firms' organization transform the skills and competences needed for succeed in the labour market.

Duration of the school-to-work transition depends on the extent to which graduates are readily 'employable' (Teichler 2000; Lindberg 2007). From the perspective of employers, 'employability' has been related to the possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organisational objectives soon after commencing employment (Mason et al. 2009).

Empirical evidence about skills needed at the workplace comes from different sources. A review by Berryman (1993) indicates five methods used in the literature to identify skills requirements: surveys of employers (skills required) or employees (skills used), case studies of firms and industries, ethnographic studies of work, job analysis methods, and analyses of trends in variables treated as indicators of changes in skill demand or supply (e.g., changes in wage returns to different levels of education).

Although in the literature there is not a general consensus on terminology, definitions or measurements of skills required, at least three broad groups of skills can be identified as necessary for young people in order to succeed in work: 'technical' skills (e.g. information technology and foreign languages), 'applied' skills (e.g. working in a team, problem solving) and the 'Understanding of the world of work', which typically refers to knowledge about the ways in which organisations work².

All these issues are of particular interest in Italy, where enrolment in tertiary education has increased substantially in recent decades³ and where, despite the fact that today's young cohorts are

² See Stasz (2001) and Hoo et al. (2009) for a review of literature findings about graduate skills and competencies required by employers.

³ The share of people holding an University degree in the 25-39 age group has moved from 7.1% in 1993 to 20.2% in 2009.

smaller in number and better educated than their older counterparts, high youth unemployment remains a serious problem⁴.

There is a consolidated literature on the analysis of the transition from universities to the labour market for the Italian case. These studies focus mostly on the supply side and analyse issues such as the ease and speed of transitions into jobs or the role of personal characteristics, background and degree course on graduates' employment outcomes using data from specific universities (Brunello - Cappellari 2008, Checchi *et al.* 2004, Checchi 2002, Staffolani - Sterlacchini 2001) or from the ISTAT's Graduates' Employment Survey (Ballarino - Bratti 2009, Pozzoli 2009, Di Pietro - Cutillo 2006, Boero *et al.* 2004, Biggeri *et al.* 2001).

However, less is known from the demand side, and in particular which are the characteristics of younger graduates that increase their employability. An exception is the work of Colombo (2006) which, using a factorial survey matched with some qualitative interviews, analyses which are the most important characteristics of a candidate in the selection process made by recruitment consultants.

The aim of this paper is to investigate the requirements and the preferences of human resource (HR) managers with respect to new graduated job-seekers who apply for a vacancy.

These preferences are analysed using data from a survey held among members of AIDP (*Associazione Italiana per la Direzione del Personale*) which is one of the two main associations of HR managers. In order to measure preferences, we use the conjoint analysis method which has been used in marketing research and sociology for several decades and which is increasingly applied in various fields of economic research. Respondents were asked to give a rating from one to ten to five hypothetical graduate job-seekers profiles with randomly varying personal characteristics.

The candidates' good knowledge of English is found to be the most important factor in shaping preferences of HR managers. The second most important characteristic is the final grade which can be considered a proxy for technical skills, and third having had some work experience. The gender of the candidate turns out not to be relevant in the aggregate analysis, while it matters when disaggregating the analysis by characteristics of the vacancy. Male candidates are preferred by HR managers if the vacancy is in the production and technical functional units or if managers look for a candidate with scientific or technical university degree. On the other hand female candidates are preferred when managers look for a candidate with a university degree in liberal arts.

⁴ In Italy in 2009 the unemployment rate of people with tertiary education in the 25-34 age group is 11.6%, one point higher than the average unemployment rate in the same age group (10.5%) and almost 4 points higher than the overall unemployment rate (7.8%)

Being nearly thirty reduces the attractiveness of a candidate and, finally, the difference in preferences between *laurea triennale* and *laurea magistrale* is limited and compensated by two years of work experience.

The method

Since the early 1970s, conjoint analysis is used for measuring the factors that influence consumers' purchasing decisions among multiattributed products and services (Green - Rao 1971; Johnson 1974)⁵. Products possess attributes such as price, colour, ingredients, shape, and so on. Consumers typically do not have the option of buying the product that is best in every attribute. Consumers are forced to make trade-offs as they decide which products to purchase. Conjoint analysis is used to study these trade-offs.

Recently, conjoint analysis has extended its application from marketing research to psychological and sociological studies⁶. Some applications concern labour economics as well. Conjoint analysis has been used by Van Beek et al. (1997) to measure the preferences of employers for gender, ethnicity, age, work experience, unemployment history with respect to job-seekers in Netherlands; by van Leeuwen - van Praag (2002) to study costs and benefits related to on-the-job training in Netherlands; by De Graaf-Zijl (2005) to analyse employers' motives for using different contract types in Netherlands, and by Pouliakas - Theodossiou (2010) to examine the contract preferences of low-skilled employees in seven EU countries: Denmark, Finland, France, Greece, the Netherlands, Spain and the UK.

In fields like economics or sociology, conjoint analysis is used in place of self-explicative methods which will sometimes lead to socially acceptable – and thus biased – answers. It is very suitable also when the analysis of preferences has to take into account the multi-dimensionality of the choice which is not easy to handle with direct evaluations methods.

In this paper the conjoint method is applied to analyse the preferences of employers with respect to new graduated job-seekers. HR managers are asked to imagine looking for a new graduate to fill a vacancy. They are asked, first, to specify in which department of the firm the vacancy is and, secondly, to state which course of studies (faculty) they would prefer the graduate has attended to. Then, a set of five hypothetical job-seeker profiles which consist of randomly varying attributes like

⁵ See Green e Srinivasan (1978, 1990) for a review.

⁶ In these cases it is also known as '*vignette approach*' or '*factorial survey approach*'.

age, gender, education, experience, etc. are presented and HR managers are asked to evaluate them on a scale from 1 (very undesirable) to 10 (very desirable)⁷.

Each of the hypothetical profiles is described by six attributes:

- Gender (male; female)
- Age (23 years; 25 years; 27 years; 30 years)
- Duration of the course of study (*laurea triennale*; *laurea quinquennale*)
- Final grade (70; 82; 94; 102; 110; 110 *cum laude*)
- Knowledge of English (none; scholastic; fluent)
- Work experience (none; 1 year; 2 years; 3 years)

Example of a profile used in the survey

Gender	male
Age	27 years
Duration of the course of study	<i>laurea quinquennale</i>
Final grade	82/110
Knowledge of English	none
Work experience.....	1 year
RATING (from 1 to 10) =	

Statistical model

Following standard conceptualization, the choice for candidates made by survey respondents is analysed using an additive utility model framework.

A candidate *j* profile *k_{jn}* is a function of six attributes *n* = 1, : : , 6 which are shown to respondents. Each attribute *n* can have *N* different characteristics.

It is thus assumed that the respondent *r* latent utility *U^{*}_{rij}*, of a candidate *j* applying for a vacancy depends on the candidate profile, *k_{jn}*, on the respondent personal characteristics, *X_r*, and on the vacancy characteristics, *X_{vr}*.

$$U_{rj}^* = U_r(k_{jn}, X_r, X_{vr})$$

It is assumed this function to be linear, thus the following latent regression model is implied:

⁷ In conjoint analyses respondents are generally asked to rank the profiles, rate them or indicate whether they would accept or not the profile. Mackenzie (1993) show that rating provides more efficient econometric estimation over the other two response modes (rankings and binary choice).

$$U_{rj}^* = \beta' k_{jn} + \delta' X_r + \gamma' X_{vr} + \varepsilon_{jr}$$

where ε_{jr} represents the random part of the evaluation that is not accounted for by the observed characteristics.

Given each respondent evaluation for candidate profiles, it is thus possible to estimate the marginal effects β of the characteristics of candidates on HR managers' utility.

The data

Data used in this study were collected with an on-line survey carried out among members of AIDP (*Associazione Italiana per la Direzione del Personale*), one of the two main associations of HR managers, from November 9th to December 24th 2009. In total, 226 managers participate to the conjoint analysis⁸. Respondents belong to medium-large firms mainly in manufacturing and business activities. The average age of respondents is 44 years, two third are men and 87% hold a University degree or more (see Table 1).

Given the type of the survey, which was addressed to AIDP members only, the sample is not representative of the productive Italian structure (95% of which is composed by firms with less than 10 employees). However, the sample represents a good picture of the medium and large Italian firms: it covers all the main economic sectors and all the geographical areas (Table 1).

Data were collected asking the following question:

Imagine looking for a young graduate to fill a vacancy in your firm. Please indicate in which functional unit is located the vacancy, and which course of studies (faculty) you would prefer for the candidate. Then imagine receiving the following 5 curricula: on a scale from 1 (very undesirable) to 10 (very desirable) how would you rate a job-seeker with the characteristics listed in each profile?

Table 2 shows the distribution of the characteristics of the vacancies reported by HR managers.

The 5 hypothetical profiles shown to each respondent were randomly selected from a set of 50 orthogonal profiles. Given all the different characteristics that each of the six attributes can assume, it is possible to built 1152 different profiles. Excluding the inconceivable ones (for instance profiles where the job seeker is 23 years old with *laurea magistrale* and 3 years of work experience), 972

⁸ Among them, 12 respondents missed to provide information about the firm. These answers have been used only when firm details were not necessary for the analysis.

different profiles are left. However, given the number of respondents it was not possible to obtain a sufficient number of evaluations for each of the 972 profiles. It has been necessary to reduce the number of profiles used in the survey by means of an orthogonal set algorithm (see Green, 1974). This combinatorial technique allow to create a set of profiles uncorrelated to each other and thus to estimate all main effects of attributes, provided that all interactions can be validly assumed to be negligible. This algorithm reduced the set of different profiles to 50.

Moreover, it was imposed the further restriction that each characteristic of every attribute had to be used at least a minimum number of times on the 50 profiles. This minimum was determined using the formula $MIN_n = (50 / N_n) \cdot 0.8$ where 50 are the orthogonal profiles and N_n is the number of characteristics for attribute n. For instance, considering the two characteristics, male and female, for the attribute 'gender', at least 20 profiles with gender male and 20 with gender female have to be included in the set of the 50 profiles.

Given the number of respondents, this experiment design has the highest level of efficiency and it is generally used in this type of analysis (Van Beek et al., 1997, De Graaf-Zijl, 2005). Interaction effects can be included in the experiment design but in this case it has to be included a higher number of profiles in the set and, thus, a higher number of respondents is necessary to have a sufficient number of observations to perform the analysis.

Table 3 and Figure 1 show respectively the average rating for each characteristic of the profile and the distribution of ratings. Distribution is not far from a standard normal distribution. The only deviations are the right skewness and the high occurrence of rating 1. This is could be a signal that respondents feel the lower bound of 1 to be not low enough (similar result is also in De Graaf-Zijl 2005).

Estimation results

The variable U^*_{ij} is a latent variable, measured on a discrete scale 0, 1, . . . , 10 by the ratings given to the profiles. Traditionally in the literature such discrete choice models are analysed by means of ordered probit/logit techniques. These models treat the ratings as ordinal measure of utility and require that ratings are a positive monotonic transformation of the latent utility and that they are interpersonally ordinally comparable. This second assumption implies that respondents share a common understanding of how to translate internal feelings (utility) into a number scale.

If a third assumption is made, that ratings are interpersonally cardinally comparable, then method of ordinary least squares (OLS) or similar can be used which are easily understood. This assumption

requires that the utility distance between each unit change in ratings is constant (i.e. that the difference between a rate of a 7 and an 8 is the same as the difference between a 4 and a 5). Given that the questionnaire asks to rate profiles of newly graduated, one may argue that respondents interpret a choice of numbers as a cardinal question, much in the same way as they interpret scores or grades at the University exams.

A further feature of conjoint analysis is that multiple evaluation responses are collected per individual, which violates the assumption of independent errors, hence panel econometric techniques have to be used in order to take the potential unobserved heterogeneity into account.

Ferrer-i-Carbonell - Frijters (2004), in analysing self-reported satisfaction data, show that results are far more sensitive to the way multiple observations per individual are treated than to whether utility is treated as a cardinal or ordinal measure. To overcome this problem fixed effects OLS are adopted.

In addition, in order to take into account that ratings are bounded between 1 and 10, a Tobit model with random effects is also applied. This estimation method is particularly suitable when respondent feel the bounds as a restriction, as it could be in this case with the lower available rate (see figure 1). Finally, Baetschmann et al. (2011) very recently have proposed a new consistent estimator for the ordered logit model with fixed effect. This estimator, called BUC (Blow-Up and Cluster), overcomes the shortcomings of the existing estimation methods based on Conditional Maximum Likelihood. These methods (Ferrer-i-Carbonell - Frijters, 2004) dichotomize cut-point endogenously, leading to inconsistent estimators. The BUC estimator has been shown to be consistent and efficient.

Table 4 gives an overview of the results using the different estimation techniques discussed above. In the first column of the table the results of an ordered Logit model which relaxes the assumption of cardinal utility and do not control for respondent fixed effect is presented.

Next random effects Tobit results are presented. This estimation takes into account that ratings are bounded between 1 and 10 and includes respondent random effects. The third column presents results from fixed effects OLS estimation. In the fourth column results using the BUC estimator are reported. The first two estimations, which do not allow for the introduction of individual fixed effects, include also variables related to respondent and vacancy characteristics.

For all the 4 models coefficients are nearly of the same order of magnitude, and the statistical significance of the coefficients is almost the same: cardinal utility turns out to be a reasonable assumption and the lower and upper bounds do not seem to play a major role. Moreover individual

characteristics and the characteristics of vacancy seem to have a limited role in the evaluation of candidate profiles.

Even though the Hausman test indicates that fixed-effects analysis has to be preferred⁹, in economic terms, comparing random-effects Tobit, fixed-effects OLS and fixed-effect Logit, results do not appear too much sensitive to random versus fixed effect analysis.

The candidates' good knowledge of English is the most rewarding factor in their curriculum. HR managers prefer by far candidates speaking English fluently. The importance of a good knowledge of English in the labour market outcomes of graduates can be found also in previous studies. In particular Mazzotta (2010) reports that the ability to speak English fluently is as an important factors in reducing unemployment, while Colombo (2006) indicates that graduates who have spent some period abroad (for instance within the *Erasmus* project) are more likely to be selected by recruiters.

The second most important attribute for selecting a job-seeker is the final grade of the University degree which is still considered a good proxy of candidates' possession of technical skills and competences. When comparing the coefficients associated to the different final grades, it turns out that the "*cum laude*" evaluation adds very little to the candidate profile and that the higher increase in the ratings given by HR managers occurs with grades over 100. However, the good knowledge of English more than compensates a lower degree grade. Biggeri *et al.* (2001) and Pozzoli (2009) found that the final grade has a low influence on the probability of finding a job for graduates. This results however might be explained by the existence of a "ceiling effect" due to the highly right skewed distribution in the real Italian Universities final marks.

Third important factor in HR managers' preferences is work experience. In particular the highest improvement in managers' evaluation is obtained in moving from no experience to one year of work experience.

In the hypothetical profiles evaluated by HR managers interviewed there were no details about the type of work experience hold by the candidate. Thus, different interpretations of this result can be put forward. The first is in line with the human capital theory: previous work experience allow individuals to accumulate some forms of training which may increase their productivity and enhanced their employability. The second refers to the signalling theory: if the individual has some work experience this means that s/he has been already selected, thus screened, by another firm and this may act as a signal of the individual's higher ability. Finally, a third explanation, which has been underlined also by some existing findings, can coexist with the previous ones. The positive

⁹ The Hausman test on the appropriateness of the same fixed effect model estimated with random effects rejects the hypothesis that the difference in coefficients is not systematic.

effect of (general and unspecified) work experience can be interpreted as the existence of a particular skill, the ‘Understanding of the world of work’ which increases the attractiveness of a job-seeker. This is for instance what has been reported by Mason *et al.* (2009) that underline the importance of the knowledge about the ways in which organisations work, what their objectives are and how people in those organisations do their jobs, in improving graduate employability. On the same line are the results for Italy by Colombo (2006) who shows that recruitment consultants favourable evaluate job-seekers if they had, though seasonal or occasional, job experiences while attending University courses. These experiences are read as a signal of responsibility and of knowledge ‘of the world of work’ even if it is just limited to the relationship with the job-mates. Similarly, Mazzotta (2010) finds that work experience is a factor “which appears to reduce unemployment duration among young Italians irrespective of where they live and the kind of education they have received”, and Biggeri *et al.* (2001) report that “graduates who have previous working experience are more likely to obtain a job”.

English, final grade and work experience are by far the most important attributes of a preferred candidate. Other curricula attributes are relevant for decisions, but to a smaller extent: increasing age reduces the attractiveness of the candidate, especially if s/he is nearly thirty¹⁰; *laurea magistrale* is slightly preferred to *laurea triennale* but this difference is fully offset by two years of work experience.

Since the experiment design does not include interaction effects between profile attributes, it is not possible to investigate the combined roles of candidate characteristics. However firm and vacancy characteristics might be expected to influence the evaluation of job-seekers profiles. This implies we could expect some attributes to be more important in some firms than in others. A series of regressions with candidate attributes interacted with firm and vacancy characteristics have been run to investigate this issue. The aspects included are sector of economic activity and location of firms, firm size, functional unit and course of studies preferred for the candidate (Table 5).

Most of the results discussed above are confirmed by this analysis and aggregate findings result in general to be robust to the interactions. Firm characteristics (geographical location, sector and size) do not seem to influence candidate profiles evaluation, the only difference detected is that managers working in firms of the industry sector give higher importance to the final grade with respect to

¹⁰ The importance of age at the date of the degree was reported also by Biggeri *et al.* (2001) who find that graduates over 30 years of age seem to be at a disadvantage with respect to the young graduates, and by Mazotta (2010) who shows that young male graduates who finished their degree courses without a delay were unemployed for shorter periods.

those working in the services sector. Regarding vacancy characteristics, instead, some interesting differences come out: if HR managers look for a candidate with a university degree in liberal arts (Law, Education, Philosophy, Literature, History, Arts, Political and Social Science, Psychology) they have a clear preference for female candidates, while the age of the candidate turns out not to be significant. On the other hand, age matters if managers look for a candidate with scientific or technical degree and in this case the preference goes to male graduates. Male candidates are also preferred to female ones if the vacancy is in a technical or production functional unit (Planning, R&D, technical services, Quality, ICT, Production of goods or services, Supply chain: purchase, logistics, retail, Security and Environment); no gender differences are detected if the vacancy is in the Commercial and Organization area of the firm (Marketing and Sales, HR Management, Legal, Administration, Finance and Control, Secretary, Staff and General services, Customer care, Manager's office, Communication and Public relations). The presence of stereotypes with regards to gender in the Italian labour market emerges also in the interviews to male recruitment consultants reported in Colombo (2006): according to them, female employees are preferred for jobs in the administration and marketing sector, while for IT jobs male workers are preferred.

Conclusions

There is an increasing interest about what makes graduates readily employable, especially in those countries, like Italy, where, despite an increase in enrolment in tertiary education, youth unemployment is still high. The information about which skills are requested the most on the labour market can help universities to tailor their courses in order to enhance the employability of graduates and thus to reduce the duration of the transition from school to work.

The aim of this paper is to identify the preferences of HR managers with respect to the characteristics of new graduated job-seekers. Using information from a survey held among AIDP-members, preferences are measured using the conjoint analysis approach with hypothetical candidate profiles randomly generated.

Knowledge of English, final degree grade and work experience are the most important attributes in the HR managers evaluation of candidate *curricula*, while the remaining attributes age, gender, duration of the course of study (*laurea triennale* or *quinquennale*) are less important for the decision. As with regard to values of attributes, managers prefer by far candidates with a good knowledge of English and at least one year of work experience. The possession of these two attributes can offset a lower final grade. Being nearly thirty reduces the attractiveness of a candidate, while the difference in preferences between *laurea triennale* and *laurea magistrale* is limited and compensated by two years of work experience. These results are coherent with previous

literature findings that show that the skills needed to enhance graduate employability include academic skills and what is commonly defined the 'Understanding of the world of work'.

The coefficients of interactions between firm and vacancy characteristics show that there is a gender preference according to the type of vacancy to be filled: a female candidate is preferred when personnel managers look for a graduate with a university degree in liberal arts. On the other hand if the vacancy is in a technical or production functional unit, or if looking for a candidate with scientific or technical degree, then male graduates are preferred to female ones.

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Table 1. Sample characteristics

Firm characteristics:	N. of observations	% on total sample
Sector		
D - Manufacturing	95	44.39
F – Construction	3	1.40
G - Wholesale and retail trade; repair of motor vehicl., motorcycl. and other goods	15	7.01
J - Financial intermediation	17	7.94
K - Real estate, renting and business activities	56	26.17
M+N+O - Education; health and social work; other service activities	11	5.14
ICT-Telecommunications	17	7.94
Firm size		
1—9 employees	18	8.41
10—49 employees	23	10.75
40—249 employees	67	31.31
250 and more employees	106	49.53
Geographical area		
North-West	85	39.72
North-East	54	25.23
Centre	44	20.56
South and Islands	31	14.49
TOTAL	214	100
Respondent characteristics:		
	N. of observations	% on total sample
Gender		
Women	76	35.51
Men	138	64.49
Age		
18-39 years	83	38.77
40-59 years	115	53.72
60 and more years	16	7.48
Education		
Secondary education	26	12.15
University degree or more	188	87.85
Years of experience as HR Manager		
1 to 15	139	64.95
16 to 30	60	28.04
More than 30	15	7.01
TOTAL	214	100

Table 2a. Characteristics of the vacancy reported by surveyed HR Managers – Functional Unit

Vacancy characteristics	N. of observations	% on total sample
Planning, R&D, technical services	67	29.65
Marketing and sales	48	21.24
Human Resources Management	31	13.72
Legal	16	7.08
Quality	16	7.08
ICT	13	5.75
Administration, finance and control	10	4.42
Production of goods or services	9	3.98
Supply chain: purchase, logistics, retail	4	1.77
Secretary, staff, general services	4	1.77
Customer Care	2	0.88
Security and Environment	2	0.88
Manager's office	2	0.88
Communication, public relations	1	0.44
Other	1	0.44
TOTAL	226	100

Table 2b. Characteristics of the vacancy reported by surveyed HR Managers – Course of studies (Faculty)

Course of study (faculty) preferred	N. of observations	% on total sample
Economics and Statistics	61	26.99
Industrial engineering	46	20.35
Electronic and information engineering	29	12.83
Law	21	9.29
Other fields of engineering	18	7.96
Psychology	13	5.75
Civil and environmental engineering	9	3.98
Political sciences – Sociology	9	3.98
Chemistry – Pharmaceutics	6	2.65
Education	3	1.33
Literary, Philosophy, History and Arts	3	1.33
Science, Mathematics and Physics	2	0.88
Other	6	2.65
TOTAL	226	100

Table 3. Average profile rating by characteristics (standard deviation in parenthesis)

Profile characteristics	Average rating	
All profiles	5.61	(2.22)
Gender:		
Female	5.59	(2.23)
Male	5.63	(2.22)
Age:		
23	5.66	(2.10)
25	5.73	(2.11)
27	5.47	(2.22)
30	5.55	(2.46)
Duration of the course of study:		
<i>Laurea triennale</i>	5.41	(2.19)
<i>Laurea quinquennale</i>	5.84	(2.24)
Final grade:		
70	4.85	(2.03)
82	5.31	(2.18)
94	5.40	(2.21)
102	5.70	(2.17)
110	6.23	(2.07)
110 <i>cum laude</i>	6.20	(2.37)
Knowledge of English:		
None	5.06	(2.18)
Scholastic	5.18	(2.18)
Fluent	6.64	(1.94)
Work experience:		
None	4.94	(2.33)
1 year	5.77	(2.10)
2 years	5.72	(2.07)
3 years	6.03	(2.23)

Figure 1. Frequencies distribution of profiles' ratings

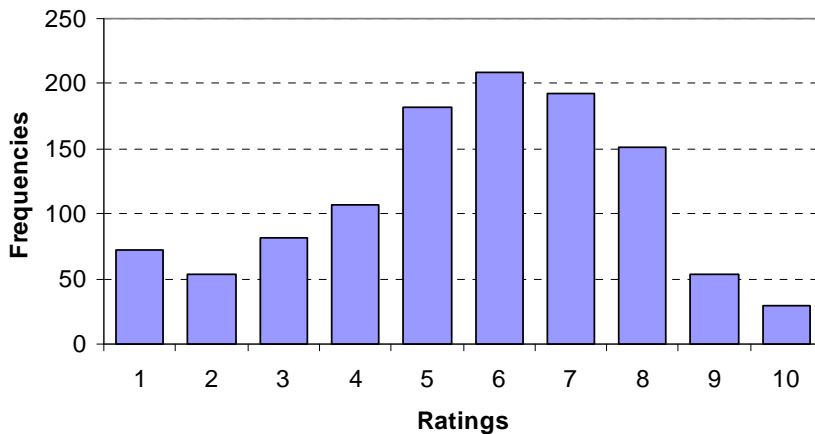


Table 4. Estimation results using different estimation techniques

	(I) Ordered logit	(II) Random effect tobit	(III) Fixed effect linear regression	(IV) Ordered logit with Fixed effects (BUC estim.)
Male	0.029 (0.112)	0.024 (0.113)	0.020 (0.105)	0.025 (0.130)
Age 25	-0.390 *** (0.163)	-0.373 *** (0.164)	-0.271 ** (0.153)	-0.291 * (0.178)
Age 27	-0.323 ** (0.169)	-0.376 *** (0.171)	-0.314 *** (0.159)	-0.415 *** (0.201)
Age 30	-0.570 *** (0.174)	-0.728 *** (0.174)	-0.541 *** (0.160)	-0.803 *** (0.237)
<i>laurea quinquennale</i>	0.634 *** (0.115)	0.832 *** (0.116)	0.845 *** (0.107)	1.140 *** (0.168)
Grade 82	0.571 *** (0.188)	0.527 *** (0.190)	0.480 *** (0.174)	0.743 *** (0.239)
Grade 94	0.614 *** (0.192)	0.759 *** (0.195)	0.763 *** (0.179)	1.095 *** (0.251)
Grade 102	1.109 *** (0.197)	1.254 *** (0.197)	1.182 *** (0.182)	1.583 *** (0.269)
Grade 110	1.371 *** (0.189)	1.619 *** (0.189)	1.511 *** (0.174)	1.997 *** (0.260)
Grade 110 <i>cum laude</i>	1.429 *** (0.199)	1.608 *** (0.196)	1.542 *** (0.181)	2.071 *** (0.301)
Knowledge of English: scholastic	0.295 *** (0.137)	0.439 *** (0.139)	0.483 *** (0.128)	0.770 *** (0.177)
Knowledge of English: fluent	1.640 *** (0.151)	1.731 *** (0.143)	1.645 *** (0.132)	2.162 *** (0.229)
Work experience 1 year	0.784 *** (0.159)	0.897 *** (0.161)	0.739 *** (0.149)	1.003 *** (0.202)
Work experience 2 years	0.697 *** (0.159)	0.991 *** (0.160)	0.926 *** (0.149)	1.322 *** (0.209)
Work experience 3 years	1.110 *** (0.165)	1.260 *** (0.165)	1.122 *** (0.151)	1.479 *** (0.234)
Constant		6.297 *** (1.104)	3.193 *** (0.205)	
Cut1	-3.919 ***			
Cut2	-3.258 ***			
Cut3	-2.602 ***			
Cut4	-1.931 ***			
Cut5	-1.008 **			
Cut6	-0.042			
Cut7	1.000 **			
Cut8	2.382 ***			
Cut9	3.569 ***			
N. Observations	1070	1070	1130	1130 (blowed up to 4560)
	Wald chi2(67) =432.86	LR chi2(67) =388.53	F (15,89) =26.66	Wald chi2(15) =178.62

Note: Dependent variable: reported ratings on profiles.

(I) and (II) include as further controls: gender, age and education level of respondent; sector of economic activity, size, typology (multinational or not) and location of respondent's firm; functional unit of the vacancy and course of study preferred. Standard errors in parentheses. *** Statistically significant at 0.01 level; ** at 0.05 level.

Table 5a. Estimation results with interaction: firm characteristics – OLS with fixed effects

	(I) Firm sector of economic activity			(II) Firm size			(III) Firm geographical location		
	Industry	Services	Equality test of coefficients	Less than 250 employees	More than 250 employees	Equality test of coefficients	North	Centre and South	Equality test of coefficients
Male	0.145 (0.143)	-0.161 (0.159)		0.117 (0.153)	-0.095 (0.150)		-0.081 (0.132)	0.184 (0.181)	
Age 25-27	-0.216 (0.207)	-0.571 *** (0.187)	F=1.61	-0.482 *** (0.200)	-0.312 ** (0.195)	F=0.37	-0.393 *** (0.171)	-0.402 ** (0.240)	F=0.0
Age 30	-0.865 *** (0.215)	-0.487 ** (0.249)	F=1.32	-0.728 *** (0.236)	-0.671 *** (0.228)	F=0.03	-0.811 *** (0.204)	-0.544 *** (0.272)	F=0.61
<i>Laurea quinquennale</i>	0.712 *** (0.152)	0.976 *** (0.160)	F=1.47	0.804 *** (0.161)	0.910 *** (0.153)	F=0.23	0.740 *** (0.139)	1.022 *** (0.186)	F=1.49
Final grade	0.388 *** (0.043)	0.276 *** (0.046)	F=3.22 *	0.374 *** (0.044)	0.294 *** (0.044)	F=1.66	0.319 *** (0.038)	0.360 *** (0.054)	F=0.39
Knowledge of English	0.919 *** (0.093)	0.710 *** (0.099)	F=2.37	0.878 *** (0.098)	0.748 *** (0.094)	F=0.92	0.863 *** (0.083)	0.708 *** (0.117)	F=1.16
Work experience	0.338 *** (0.066)	0.409 *** (0.075)	F=0.50	0.370 *** (0.070)	0.372 *** (0.071)	F=0.0	0.368 *** (0.061)	0.376 *** (0.086)	F=0.01
N. observations	1070			1070			1070		
F(12,844)	25.65 ***			24.77 ***			24.90 ***		

Note: Dependent variable: reported ratings on profiles.

Benchmark is: female, age 23, *laurea triennale*.

Covariates included in linear terms, with the exception of gender, age and duration of the course of study, and interacted with firm characteristics

Standard errors in parentheses. *** Statistically significant at 0.01 level; ** at 0.05 level.; * at 0.10 level

Table 5b. Estimation results with interaction: vacancy characteristics – OLS with fixed effects

	(I) Course of study preferred for the candidate			(II) Functional unit of the vacancy		
	Sciences	Liberal arts	Equality test of coefficients	Technical & production	Commercial & Organization	Equality test of coefficients
Male	0.203 ** (0.118)	-0.394 ** (0.223)	F=5.59 **	0.240 ** (0.148)	-0.117 (0.147)	F=2.93 *
Age 25-27	-0.503 *** (0.153)	0.113 (0.293)	F=3.47 *	-0.620 *** (0.195)	-0.137 (0.190)	F=3.15 *
Age 30	-0.874 *** (0.179)	0.193 (0.337)	F=7.84 ***	-0.920 *** (0.221)	-0.328 (0.229)	F=3.47 *
laurea quinquennale	0.790 *** (0.123)	0.871 *** (0.222)	F=0.10	0.739 *** (0.157)	0.910 *** (0.147)	F=0.63
Final grade	0.340 *** (0.035)	0.290 *** (0.059)	F=0.52	0.357 *** (0.043)	0.307 *** (0.042)	F=0.69
Knowledge of English	0.787 *** (0.074)	0.916 *** (0.141)	F=0.66	0.857 *** (0.095)	0.790 *** (0.092)	F=0.25
Work experience	0.377 ***	0.309 ***	F=0.33	0.374 ***	0.351 ***	F=0.05
N. observations	1130			1130		
F(12,844)	28.09 ***			27.35 ***		

Note: Dependent variable: reported ratings on profiles.

Benchmark is: female, age 23, *laurea triennale*.

Covariates included in linear terms, with the exception of gender, age and duration of the course of study, and interacted with firm characteristics

Standard errors in parentheses. *** Statistically significant at 0.01 level; ** at 0.05 level.; * at 0.10 level

Sciences includes: Economics and Statistics, Engineering, Chemistry – Pharmaceuticals, Science, Mathematics and Physics

Liberal arts includes: Law, Education, Philosophy, Literature, History, Arts, Political and Social Science, Psychology

Technical & production includes: Planning, R&D, technical services, Quality, ICT, Production of goods or services, Supply chain: purchase, logistics, retail, Security and Environment

Commercial & Organization includes: Marketing and Sales, HR Management, Legal, Administration, Finance and Control, Secretary, Staff and General services, Customer care, Manager's office, Communication and Public relations