

Students' careers at risk: a multivariate analysis of the drop out from university

I fattori di rischio nei percorsi universitari: una analisi multivariata degli abbandoni

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Riassunto: il fenomeno delle interruzioni universitarie caratterizza i percorsi formativi del sistema accademico italiano. Dall'indagine ISTAT condotta nel 2004 sui diplomati di scuola secondaria di secondo grado del 2001 risulta che il 62% si è iscritto all'università nei tre anni successivi al conseguimento del titolo, ma di questi più dell'11% ha abbandonato gli studi. Per esplorare le determinanti del fenomeno degli abbandoni universitari sono stati utilizzati modelli di regressione logistica binomiale.

Keywords: Dropping out, University, Survey on graduates, Logistic regression.

1. Data and methods

In this paper, we analyse the effect of structural and demographic variables on dropping out from university to highlight differences between 'pure' and working students. The analysis is based on micro-data from ISTAT survey on high school graduates (ISTAT 2006). This survey is carried out every three years with young students interviewed approximately three years after their upper secondary school graduation. We built up different logistic models based on 'pure', 'working', and the whole students, analysing the probability to conclude a tertiary course or to drop out from university (Lam 1984). We applied regression models based on stepwise selection strategy. Variables related to both individual characteristics of graduates and the features of the attended courses were included in the model as descriptors. The choice of the independent variables included in the models was based on results of the descriptive analysis and on the understanding of the phenomenon. Variables considered can be classified into three groups: (i) variables relative to the individual characteristics (gender, school experience, and type of diploma obtained), (ii) variables relative to the social and economic context (social extraction, and geographical area), (iii) variables relative to the characteristics of the attended course, and to student satisfaction concerning the university system.

2. Results and discussion

In 2004 survey¹, among three years after graduation, at least 62% of young were enrolled in university courses but more than 11% dropped out from them in the same

¹ A total of 20,408 graduates (on a population of about 455,000 graduates) selected from a sample of 1,802 schools.

period. ‘Too difficult courses’ is the reason to leave university for more than one third of the graduates (35%), and many other students drop out because of they have found a job (22%) or to maintain the actual job position (9%). The probability to drop out from university increases for students with a vocational education, and more in general for graduates with low high final marks. However, also performances in the university path play a key role on the choice to leave tertiary education. By gender, the analysis confirms that women have a higher probability to successfully conclude their university path. For the ‘pure’ students, the most important factors affecting the choice to stop studying include social and demographic determinants like education type and high final mark (Table 1). Moreover, students from Southern Italy tend to leave university more frequently than those from the North. Students not attending lessons - or attending but showing a low satisfaction on teaching quality - show a higher risk to drop out.

Table 1: *Stepwise logistic regression: summary statistics*

Variables	Base profile	All the students		Working students		'Pure' students	
		Estimate	P	Estimate	P	Estimate	P
Intercept		1.82	< 0.001	0.10	< 0.001	1.16	< 0.001
Condition ('pure' student)	Working student	-1.19	< 0.001	not included		not included	
School type (technical school)	Professional	-0.81	< 0.001	-0.70	< 0.001	-0.99	< 0.001
School type (general high school)	Professional	-1.85	< 0.001	-1.32	< 0.001	-2.12	< 0.001
School type (teaching and art school)	Professional	-0.98	< 0.001	-0.38	0.18	-1.18	< 0.001
Geographical area (north)	Centre and south	-0.38	< 0.001	not entered		-0.86	< 0.001
Sex (female)	Male	-0.26	0.005	-0.32	0.03	not entered	
Parent's education level (high)	Low	-0.34	0.009	not entered		not entered	
Diploma exam mark (high: $\geq 80/100$)	Low (< 80/100)	-0.96	< 0.001	-0.51	< 0.001	-1.27	< 0.001
Attendance to university courses (yes, but not satisfied)	Not attending	-0.93	< 0.001	-0.39	0.11	-1.15	< 0.001
Attendance to university courses (yes and satisfied)	Not attending	-1.47	< 0.001	-0.75	< 0.001	-1.71	< 0.001
Satisfaction level (high)	Low	-0.62	< 0.001	-0.50	< 0.001	-0.82	< 0.001
Job contract type (temporary)	Permanent	not included		-0.51	< 0.001	not included	
Working time (part time)	Full time	not included		-2.00	< 0.001	not included	
Hourly wage (high)	Low	not included		-0.37	0.02	not included	

Working students stop studying more frequently than ‘pure’ ones. Among them, the most important factors to stop studying are generally related to job features, such as hourly wage, contract type (temporary vs permanent), and working time (part time vs full time). The model including the whole students confirms the importance of demographic (e.g. gender, geographical area) and educational (e.g. school type, high final mark, parents’ education) determinants, as already stated by the ‘pure student’ model. Such results also point out that attendance to university courses as well as satisfaction on teaching quality significantly affect dropping out risk (Ottaviani 2005).

References

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