

# **The Determinants of the Transition from the University to Work: the Case of the Graduates in Economics at the University of Naples “Parthenope”<sup>(1)</sup>**

*Determinanti della Transizione dall’Università al Lavoro: il Caso dei Laureati in Economia dell’Università di Napoli “Parthenope”*

Claudio Quintano, Rosalia Castellano, Antonella D’Agostino  
Istituto di Statistica e Matematica, Università degli Studi di Napoli “Parthenope”  
Via Medina 40 - 80133 Napoli  
[claudio.quintano@uniparthenope.it](mailto:claudio.quintano@uniparthenope.it)

**Riassunto:** Le prospettive occupazionali dei laureati possono considerarsi un importante indicatore della capacità del sistema universitario di *interagire* con il mercato del lavoro. Pertanto, l’analisi dei fattori individuali e di contesto che influenzano la transizione università-lavoro assume un ruolo determinante. Qui, focalizziamo l’attenzione su quattro coorti di laureati della facoltà di Economia dell’Università “Parthenope”, con l’obiettivo di valutare, tra l’altro, l’effetto coorte anche ponendo uno sguardo di insieme alle posizioni professionali ottenute dopo il raggiungimento del titolo.

**Keywords:** Graduates, Labour market, Multinomial choice model.

## **1. Introduction**

The university system capability to interchange with the labour market is an interesting theme for the Italian university public policy. It is therefore necessary to evaluate the quality of university education considering graduates occupational perspectives (Smith *et al*, 2000; Ortu *et al*, 2000; Grilli e Rampichini, 2003). For this reason it becomes very important for the Italian universities to hold graduates data base in order to know and monitoring their occupation and professional patterns. The aim of the paper is to contribute in the development of such theme focusing on faculty of economics graduates at the University of Naples “Parthenope”, where the Authors works. The greatest student gravitation area is metropolitan Naples, one of the largest in Europe. The faculty is characterized by fast growing matriculation rate. The first issue of the survey has been conducted in February 2003 on four graduates cohorts. It means that the smallest temporal distance between the degree and the actual working condition is almost six months. Most students comes from the hinterland but the presence of students coming outside the city is not an exception. The University gravitation, belonging to Southern Italy, is not characterized by a bright professional perspectives because of the considerable lacks of balance of high quality labour supply. So, it is important to study the determinants of the transition from the university to the labour

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market. In fact, the analysis can be considered as a preliminary study of the external efficacy of that economic faculty evaluating social-economic factors in term of the *possibility* to find a job after the degree. A peculiarity of this study is that we consider four possible professional students outcomes after the degree: i) employee, ii) trainee, iii) student in post-graduate course, iv) unemployed. Alternative ii) and iii) can be considered both as a failure versus case i) if the choice is bounded on the impossibility to find a job and not if it is an effective choice taken considering own interests. Clearly, to determine the two cases is quite hard, even if graduates have indicated the prevalent working condition and only a negligible percentage of graduates (8%) say that they continue studying as they don't find a job. Anyway, we think that considering trainees as a professional category is important in this context as a percentage of graduates declare belonging to this state. In this study we observe four different cohorts of graduates and we try to explain determinants of the outcomes. We would expect a very strong cohort effect and we will observe that the probability to have a work gets higher as the time starting from the degree increases. Paper is organized as it follows: Section 2 describes briefly data and statistical background, Section 3 presents main results obtained.

## 2. Data and statistical background

*Data base* for the analysis is derived from a telephone survey carried out in February 2003 on four cohorts of graduates from 1999 to 2002 in every year May, June and July sessions as due to a preliminary analysis these graduates may be considered representative of the all population of graduates in the year. The percentage of response is quite high 80% (651 respondents on 813 *sample* units) and preliminary analysis of structural variables shows that the observed sample is not affected by selection bias. Variables considered in this research are deriving from the merging's results of sample survey and university administrative register information, so we know the careers, social background together with information coming from this graduates' survey. The statistical background refers to multinomial logit regression, where the dependent variable  $y_i$  is the working condition at the present (graduates having a job before the degree are dropped from the analysis, the sample units number is therefore 603) for graduates  $i$ -th ( $i = 1 \dots N$ ). Variable  $y_i$  can assume the four ( $j = 1..4$ ) alternatives described in Sect.1 and the reference category is assumed to be employed ( $j=1$ ). The model is:

$$\Pr(y_i = k | \mathbf{x}_i) = \exp(\mathbf{x}_i \boldsymbol{\beta}_k) / \sum_{j=1}^4 \exp(\mathbf{x}_i \boldsymbol{\beta}_j) \quad \text{where } \boldsymbol{\beta}_1 = 0. \quad (1)$$

## 3. Empirical analysis

The model specified in (1) has been estimated first with all available variables. But some variables in the model are not significantly different from zero, so they have been dropped. It is interesting to note that we do not find both a gender and a professional condition parents effect. So the variables included are: three dummies for *cohort origin*; two for *secondary school education*; three for the *degree economic course* chosen by

the student; three for *origin residential area*, two dummies for a *vocational course and a previous work between the degree proclamation day and the survey reference time*, a dummy for a *previous work during the university, not in time student career*, and the *final degree mark*. We clarify empirical analysis interpretation, rather than estimated coefficient, calculating for each category differences of predicted probabilities changing graduates characteristics one by one. The benchmark graduate is named BASE in Table 1 and he has the following characteristics: degree in 2002, the achievement university degree in four years, never attended a vocational school during university, never worked during university, medium parents education, technical diploma as secondary education, dependent student's father work, no previous working experience from the proclamation degree day to the present, attended the university course in *International Management* of the Economic faculty, at the degree proclamation day he lived in the hinterland of Naples, a medium final degree mark. First of all we note as the predicted probability to be a student for the *BASE* case is high (0.40) and the probability to be unemployed is 0.20 (persons interviewed are graduates in 2002, so the distance between the interview and the university degree is very short). The probability of the occupation is 0.17. The 22% of graduates that are trainee. The cohort effect is very strong as it possible interpret differences in the probability between cohort 1999 and 2002 *id est*: to be employed is +0.49, to continue with studies is -0.34, and to be unemployed -0.17. Coherent diversifications with this last circumstance are emerging comparing 2002 cohort *analysis* with 2000 and 2001 confirming on the whole a positive outline. In fact, the differences in the probability between cohort 2000 and 2002: to be employed is +0.40, to continue with studies is -0.32, and to be unemployed -0.17; the differences in the probability between cohort 2001 and 2002: to be employed is +0.28, to continue with studies is -0.22, and to be unemployed -0.09. This suggests that the entrance of the graduates in labour market increases as years from degree proclamation day increase. Leaving aside the multinomial logit regression, an overview, only in terms of percentages of graduates across cohort for contractual condition<sup>2</sup>, shows that the employment permanent position is quite high across years respect to the other items, and the cohort effect plays a determinant role. For the cohort of 1999, the percentage of worker on indeterminate contract is 44% and the percentage of worker on limit time contract only 14%. The percentage of worker on indeterminate contract is smaller for cohort of 2001 (23%), even if it is always greater than the percentage of worker on limit time contract (6%). For cohort 2002 the pattern is strongly influenced by the presence of a high percentage of trainees (52%) even if workers on indeterminate contract remain more than workers on limit time contract. In every cohorts we also note that the percentage of self-employed workers is in average 5%. These results suggest that these graduates are able to find a stable position in the labour market even if they live in an area rather disadvantaged according to the social-economic point of view. But the observation of the effects of covariates is to be required in order to optimise the use of the logit model. So the effect of covariates, may afford some interesting results that we are going to submit. First of all the probability to continue studying increases as the parents education and the university performance increase and this phenomenon has a high probability if graduates are from other provinces of Campania and other Italian regions. Moreover, the probability of being trainee increases if graduates are from the hinterland of Naples and they have a degree in *economics & commerce* first (and then in *business economics*). On the other side, the probability of being unemployed is *very*

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<sup>2</sup> The Table with results is available nearby the Authors.

*dependent* by the length of the university course. In fact, such a probability increases of 0.18 if the years of not in time students career are equals to the sample average, that is, more or less 3 years. Further, it is not to be ignored that the probability to be unemployed increases of 0.07 if the parent education is low; if the secondary title is the *liceo diploma* is reported a little disadvantage. A favourable factor, even if quite soft, is if the graduates has been a student worker, as the probability of being unemployed decreases of 0.03. But considerable is the favourable factor of the *extraction* of graduates, as the probability of being unemployed decreases of 0.10 if they come from out of region Campania and of 0.08 if they live in the province, that is a category of people that perhaps is well disposed to accept any position. Finally, the differences in the probability to be employed, as the most important way to have relationship with labour market we can assert that the strongest effect is to be imputed to the cohort, the other factors play a very marginal role.

**Table 1:** *Differences of the predicted probabilities for each category*

Category	Employed	Training in a office	Student	Unemployed
BASE (predicted probabilities)	0.17	0.22	0.40	0.20
Characteristics changed	Difference in predicted probabilities for each category			
Cohort 1999	+0.49	+0.01	-0.34	-0.17
Cohort 2000	+0.40	+0.04	-0.32	-0.11
Cohort 2001	+0.28	+0.04	-0.22	-0.09
Not in time career =average	+0.02	-0.03	-0.17	+0.18
Worker during university	+0.08	-0.05	-0.01	-0.03
Parent education low	+0.06	+0.13	-0.26	+0.07
Hold a liceo diploma	+0.03	+0.02	-0.05	+0.01
Self-employed student's father work	-0.01	+0.04	0.06	-0.10
<i>Business economics</i> degree	+0.05	+0.17	-0.22	-0.02
<i>Economics &amp; Commerce</i> degree	-0.01	+0.22	-0.17	-0.05
Other Italian Regions	-0.05	-0.18	+0.34	-0.10
Provinces of Campania	-0.10	-0.06	+0.24	-0.08
City of Naples	+0.01	+0.02	-0.01	-0.02
Final degree mark=110	-0.07	-0.15	+0.27	-0.05

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