

Professors' Careers in the University of Florence: a demographic Analysis

*Le Carriere del Personale docente dell'Ateneo di Firenze:
un'Analisi demografica*

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Riassunto: L'Ateneo fiorentino si è dotato di un'Area 'risorse umane' molto avanzata in termini di numerosità e competenza dei responsabili della sua conduzione, il cui primo obiettivo, perseguito e raggiunto, è stato – per quanto riguarda gli aspetti cui siamo interessati - quello di provvedere alla revisione dell'archivio del personale. In collaborazione stretta con l'Area Gestione delle risorse umane si inserisce la nostra ricerca, che ha per obiettivo generale l'analisi delle carriere del personale dell'Ateneo fiorentino. Qui presentiamo i primi risultati riguardanti la valutazione degli aspetti strutturali del personale docente e dei flussi delle assunzioni e delle successive variazioni di status che avvengono nella vita lavorativa dei docenti, come premessa per uno studio delle singole biografie attraverso la *Event History Analysis*.

Keywords: Professional Careers, University of Florence, Demographic Analysis

1. Forward and aim of the paper

The human resources area of Florence University has adjusted the data base of the staff in conformity with the dispositions set in the new collective contract (Carreras, 2000). The structure of such data base permits the complete reconstruction of the professional biography of each member of the technical, administrative and teaching staff according to the indispensable criteria for a demographic analysis (Henry, 1975; Santini, 2003). In agreement with the the Human Resources Executives of the 'Rettorato fiorentino', we began a research to verify, in quantitative terms, the age and level pyramids, to evidence their coherence with respect to a situation adequate to the target to reach, the eventual anomalies and the historical causes that have produced those forms of pyramids (in terms of engagements, advances, resignations and retirements).

The aim of this first phase of the research – to be continued thorough *Event History Analysis* - is to analyse the careers of the teaching staff of University of Florence. In particular we intend to estimate the structure of the teaching staff and the flows of the engagements and the successive variations of the status that happen in the working life of professors. Stocks and flows will be examined on the base of some discriminating factors that can determinate the advancement in career: sex, Faculty and birth cohort. After a brief description of data base characteristics, we will show some preliminary results, in terms of structural differences and of flows. We will conclude with a short description of future phases of research that, taken as a whole, aims to supply operative and decisional instruments for management and forecast of the teaching personnel.

2. Data

The data base including all University personnel's careers comprises the events verified in the period 1933-2002 and is structured with criteria that concur to reconstruct the whole working history of each Professor. The variable included recorded in the data base 'Events' are six: *identification code* (matricola) that allows to access to the individual characteristics after the elimination of sensitive data; *order number* of the events lived by each subject; *codes of categories* and *qualification levels*; *code* and *date* of the events characterizing Personnel life histories.

The data base moreover contains information on individual data (age, sex..) except (for reason of privacy) name and last name. Information on the Faculty is contained in a second data base, defined 'Stock', and relative to the teaching staff listed at the end of each year in the period 1980-2002. For the attribution of Faculty therefore, we have linked the two data bases 'Events' and 'Stock' on the base of the identification code of the single subject involved and on some assumption of 'steadiness' of permanence in the Faculty. In this preliminary study we will analyse some characteristics of Researchers, Associate and Full Professors, the categories, that is, which present the highest frequencies. As far as the events are concerned, we point out our attention on all those events that determine status variations: engagements, passages of career, resignations, retirements and transfers.

3. Gender and age differences, careers advancements

The analysis according to category, faculty and sex in 1980 has allowed to evidence the strong difference between the male presence and the feminine one. The gaps has gone diminishing in time and, in some faculties, those differences are less evident. The higher percentage of the feminine presence is equal to 33% in the faculty of Letters and Philosophy, followed by Training College and Pharmacy. All the other faculties present a percentage of female Professors less that 20%, with a minimum of 4.3% at Engineering.

In 2002 we note a distribution very similar to the 1980 one as it concerns the faculties that have a greater level of women presence, but with percentages that change remarkably: in some faculties female Professors exceed their male counterparts; it is the case, as an example, of Psychology (not present however in 1980) with a 53.7%, of Pharmacy and Letters and Philosophy. The minimal value regards once again Engineering but the percentage is gone up to 15,4% (we must underline that in the 20 years 1960-82 also students enrolled in this Faculty increase, even if for the cohorts enrolled in 1980-81 of 543 students only 18 were females). While in 1980 only six faculties out of eleven counted women as Full Professor, in 2002 women are present in all the faculties even if not in the same proportion of their male counterparts. During the years and in all the faculties we assist to a lowering in the average age at engagement (and in the age at transition from a stage to a superior one of career) of the teaching staff in all the categories: for the younger cohorts engagement is verified ten years earlier than for the older ones. To describe the process in a more detailed way, we can outline the following example. Among the 1915-30 cohort and the 1960-75 one, average age is changed: for assistants and researchers from 37.4 (F) and 36.1 (M) to 33.7 (F) and 33 (M); for full professors from 52.7 (F) and 47.8 (M) to 41.6 (F) and 38.8 (M). These

marked modifications reflect the changes in the ‘engagement rules’ due to variation of timing and types of contests. A remarkable decline in the average age at engagement into the various roles is particularly evident in the faculties of Agrarian, Architecture, Pharmacy, Economy; the situation is steady for Jurisprudence, Letters and Philosophy.

In spite of this precocity in the beginning of the career, the age pyramids of 1980, 1990 and 2002 for the three categories (researchers, associate and full professors) show a progressive aging of the personnel; in fact we assist to a thinning of the bases of the pyramids and to an increase in the central ages, chiefly as far as the associates and the full professors are concerned.

For the researchers, in particular, the process describes almost a ‘rectangular shape’ of the pyramid. We notice that there is a trend towards a ‘gender equality’, in particular in the category of the researchers (Figure 1).

The more frequent transition is the one from researcher to associate professor, with 334 women and 899 men on the total of the faculties; taking into account also the faculty of the researchers, we observe that Medicine and Surgery is the faculty showing the highest propensity to advance in career: 29% of the female researchers and 47% of the male researchers pass in the role of associate professor. The second place is occupied by Letter and Philosophy Faculty, in which 26% of the female researchers pass to the role of associate professor. Transition from researcher to associate professor are always (for all the faculties) significant, while the passages associate-full professor are more heterogeneous across the faculties. In table 1, and only as an example, we show the transitions for the three categories considered.

Table 1 – *Career’s advancement, engagements, resignations and retirements.*
University of Florence

		1995-2000		
		Females	Males	Total
Entries	Out-Researcher	103	152	255
Exit	Researcher-Out	40	88	128
Entries	Researcher-Associates	66	93	159
Exit	Associates-Out	31	91	122
Entries	Associates-Full	30	100	130
Exit	Full-Out	19	147	166

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Figure 1 – Age Pyramids of Researchers, Associate and Full Professors in the years 1980, 1990 and 2002.

