

Employment and work of university graduates in Galicia: differences with Europe

Rosa María Crujeiras-Casais
Belén María Fernández-de Castro
Carlos Luís Iglesias-Patiño
Pedro Faraldo-Roca

Universidade de Santiago de Compostela (Spain), Departamento de Estatística e Investigación Operativa

José María Matías-Fernández

Universidade de Vigo (Spain), Departamento de Estatística e Investigación Operativa

Salvador Naya-Fernández

Universidade da Coruña (Spain), Departamento de Matemáticas

Antonio Navarrete-Rey

Aitor Martínez-Lafuente

Azencia para a Calidade do Sistema Universitario de Galicia (Spain)

Abstract: The transition from school to work has been a major research topic over the last ten years. Increasingly high youth unemployment rates since the eighties justify many research projects in Europe (CHEERS: Career after higher education: a European research study) and particular cases in different countries and regions. The aim of our project (Proxecto de Inserción Laboral: PIL), promoted by ACSUG (Axencia para a Calidade do Sistema Universitario de Galicia), was to analyse employment and work of graduates in Galicia during the first years after graduation. Data provided by graduates from our three universities were obtained by mail and phone interviews. The sample size (5293 graduates) was sufficient for a detailed analysis within main groups of degrees. We use a stratified sample technique. Our study includes a research about the transition to employment, analyzing different aspects such as job search, employment situation and competencies. It is in this last part where we can find substantial differences between CHEERS results and the ones we obtain, when we focus our attention on certain groups. In this paper, we show some general results concerning the employment status of Galician graduates. We also present a comparison between PIL and CHEERS involving competencies assessment.

Keywords: graduate employment, competencies, stratified random sampling, ranking.

1 Introduction

The great petroleum crisis caused the problem of the transition from high education to labour market to arise, due to the fact that, after Second World War, the labour market in developed countries used up all the labour force (more or

less slowly) above all, qualified workers. Maybe, it was consequence of previous situations where qualification was a scarce resource. Nevertheless, this crisis led to structural changes in the productive net and the youth unemployment evinced. The increasing in unemployment rates among young people has given rise to multiple research studies. Usually, the main goal is to describe and understand the transition period from University to labour market. Quality of youth employment, competencies acquired in high education and potential lack of qualification are common topics of research.

In the Proxecto de Inserción Laboral (PIL project) [3], promoted by ACSUG (Axencia para a Calidade do Sistema Universitario de Galicia), surveys on 5293 graduates were carried out. These graduates came from the three universities of the University System in Galicia, Spain, (SUG): University of Santiago de Compostela, University of A Coruña and University of Vigo. They had finished their studies between 1996 and 2001. We used stratified sampling, determining strata by degree and graduation year. We present in this paper, the results obtained on the topic of competencies and their application. The items included in our questionnaire are a subset of the list of competencies analyzed in the CHEERS project (see Subsection 1.1). From both sources of information, we can draw up a comparative study.

The paper is organized as follows. In Section 2, we include a detailed description of the PIL project. Section 3 analyzes the results obtained in our project on the topic of competencies and provides a comparative analysis with the CHEERS project results. A revision of previous experiences in this type of studies (transition from high education to labour market in graduates) is made in the next subsection.

1.1 Some previous experience

There's no doubt in the importance of conducting graduates surveys and results obtained in this type of studies provide us with valuable information for the development of the university [4]. A growing demand for general and social competencies has also been emphasized by employers in recent years.

And in the framework of graduate surveys, one of the main research topics is the measurement of competencies. From a scientific point of view, the measurement of competencies opens the "black box" of the educational process and shows the relative importance of competencies at different stages of a graduate career. And from a political point of view, through this process, we can compare the quality of the output of different fields of study, using a common instrument.

A reference for all these studies is the CHEERS project. The aim of the CHEERS project "Higher Education and Graduate Employment in Europe" was to analyze the employment and work of graduates from institutions of higher education in nine European countries: Austria, Czech Republic, Finland, France, Germany, Italy, The Netherlands [5], Norway, Spain [2], Sweden and United Kingdom and Japan, during the first few years (three or four) after graduation.

More than 40.000 graduates from institutions of higher education provided information through a written questionnaire on the relationship between higher education and employment. A broad scope of questions were asked related to the graduates socio-biographic background, study paths, transition from higher education to labour market, early career, links between study and employment, satisfaction with their jobs and their retrospective view of higher education.

This project intended to find out if graduates believe to have these competencies at the end of their study and to what extend these competencies are required in their present job.

CHEERS project will have its successor in REFLEX project (the flexible professional in the knowledge society). Workers need to possess the advanced specialized knowledge and skills required of modern high-level professionals, but are also often expected to be highly flexible and adaptable, able and willing to take up challenges not closely related to the specific field in which they have been trained.

2 The PIL Project

Statistic activity involves the compilation, elaboration and systematic arrangement of quantifiable information and the publication and diffusion of the analysis results. The purpose of those activities is to improve the knowledge of the subject of study and the information available for decision making.

This kind of activity is quite basic in this field since public policies (education, budgets,...) should be built over forecasts with a statistical foundation, and not over assumptions, what causes a decrease of its effectiveness. If we intend to allocate short resources in a rational way, it seems clear that we need information, in particular, statistical information. The evaluation of the efficiency and the effectiveness of those measures, lie in the quality of the statistics they are based on. Therefore, we must be precise with those statistics and with the indicators generated from them.

The nature of this research is exploratory and descriptive, and it may be the basis for subsequent analytic studies. Its aim is to know the opinion of the graduates from the different degrees in the University System of Galicia (SUG), about their work position, and the difficulties they have found, on the transition to the labour market.

Information provided by graduates about the university is crucial to make the educational offer suitable for the labour market.

Some specific aims of the PIL are:

1. To know the graduates opinion about education and university.
2. To know the degree of use and efficiency of the different employment search channels.
3. To know the graduates opinion about the strong and weak points of their faculty and the needs of additional qualification.

4 **Crujeiras-Casais *et al.* Employment of university graduates**

4. To know the characteristics of graduates professional practice, to obtain a clear idea of the following points:
 - The capacity of the labour market to use up the graduates from the different degrees.
 - What variables graduates consider important, to obtain the first job.
 - The most common first employment search channels.
 - Difficulties to get the first job.
5. To know the satisfaction degree of the graduates with their job, in case they are employed, and the fulfilment of the expectations generated during higher education.
6. To sound out the need for including, in the university, information about how to start job search after graduation.

Our universe is too large to consider a complete study (Table 1). Besides, there are already previous studies where the thoroughness was not reached using the available recourses, although the population was smaller [1]. Moreover, the appearance of specific studies with similar aims, even though different methodologies, at least using different measure instruments -surveys- could lead to the tiredness of the interviewee. This gives us another reason to use just part of the whole population. The population of interest is formed by graduates of the three universities in Galicia, from the academic year 1996-97 to 2000-01.

Table 1: SUG graduates population. Academic year 1996-97 to 2000-01.

	1996-97	1997-98	1998-99	1999-00	2000-01	Total
USC	5627	5809	5498	5255	5629	27818
UV	2401	3014	3165	3597	3417	15594
UDC	2488	2448	2663	2629	2831	13059
TOTAL	10516	11271	11326	11481	11877	56471

The PIL project has no geographic context, on the strict sense of the term, because the investigation is focused on graduates from Galician Universities, and those could not be living, or have not lived, in Galicia.

We first calculate the sample size by degree and campus. We use a proportional assignment between different years of graduation.

Although the survey was multi-objective, we calculate the minimum sample size for the population proportion (dichotomic variables of the survey) and for each degree. A maximum admissible error of 15% was considered, taking into account the characteristics of the study and the available resources.

With the stratification, or division of the population into strata, we obtain independent samples for each stratum. This method can pursue different aims, for example:

1. To give separate estimations for certain subpopulations.
2. To join homogeneous sample units on strata, to improve the final estimation accuracy.
3. To use different sample techniques on each strata. In this research, we have taken a census of some strata with not many graduates.

The variables we have used to stratify were *Degree* and *Graduation Year*. Stratifying by *Degree* we try to give information for each degree or group of degrees, as the first aim suggests. Then, we have made a proportional assignment between the academic years of each degree, in order to achieve the second aim. We have also considered at least 5 graduates per degree and academic year, taking into account the third aim.

Another step in the sample design is the selection process. We have made a simple random sampling without replacement, with two steps on each stratum. First, we have sent the survey by mail to a sample of graduates selected at random. On a second step, we have extended that sample, also at random over the graduates not selected before, using phone interviews.

Collecting data by mail has the great advantage of its low cost, however, it has problems: the interviewee has no advice with the questionnaire, there is no additional information about his attitude and the rate of no-response can be too high.

3 Results

Some general results are presented in this section. Although our research covered a broad collection of variables, which describe the process of transition from higher education to labour market, from different perspectives, we just show the most relevant results in order to give an image of graduates employment situation.

The employment rate among graduates is around 65.7%, although there are some differences according to the graduation year and the field of study. However, 52.6% of the graduates say that their career does not satisfy their expectations. It could be due to the instability in labour market: about 40% of the graduates (Figure 1) are casual workers. According to graduation year, this instability decreases backwards in time.

As Figure 2 shows, around 28% of Galician graduates got their first job via Family & Friends. Another point in the PIL project was determining which qualities are necessary for getting the first job after graduation. This is of interest for university policy, since results in this area could show the weaknesses in graduates qualification. In a scale from 1 to 5, graduates consider work experience (4.25), adaptability (4.30) and useful contacts (4.42) the most important issues. Foreign languages skills (3.54) and good track record (3.19) seem to be not important for employers.

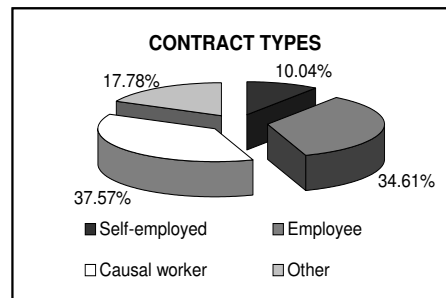


Figure 1: Contract types in Galician graduates current job.

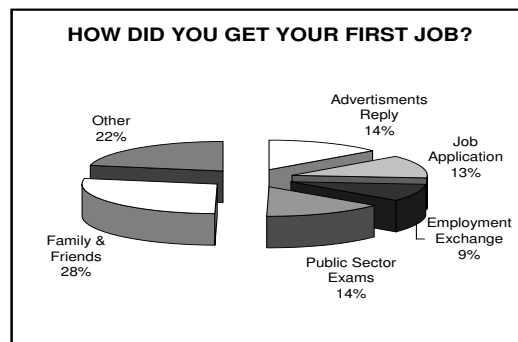


Figure 2: Ways of getting a first job after graduation.

3.1 Analysis of competences

Professional competencies are the combination of abilities, aptitudes and knowledge required for an effective job performance. It is not easy to make a summary of the possible competencies that a graduate may need for performing a job. A global division can be made in three blocks: knowledge (e.g. foreign languages), skills (e.g. social skills) and attitudes (e.g. leadership). Once we have defined a list of competencies in each of these groups, what do we want to know about these items?

- i) Assessment of graduates' own abilities: What a graduate can do?
- ii) The extent to which this was learned at school: May these competencies be acquired during high education?
- iii) The required level of competence in the job: Which skills are important?

Table 2: Comparative ranking of competences valuation.

	RANKING ACSUG	RANKING CHEERS
Broad general knowledge	9	10
Foreign language skills	12	12
Computer skills	11	9
Field-specific knowledge	8	11
Planning, co-ordinating and organising	4	6
Problem-solving ability	1	1
Learning abilities	2	7
Creativity and critical thinking	10	8
Working independently	6	2
Working in a team	3	3
Taking decisions	7	4
Taking responsibilities	5	4

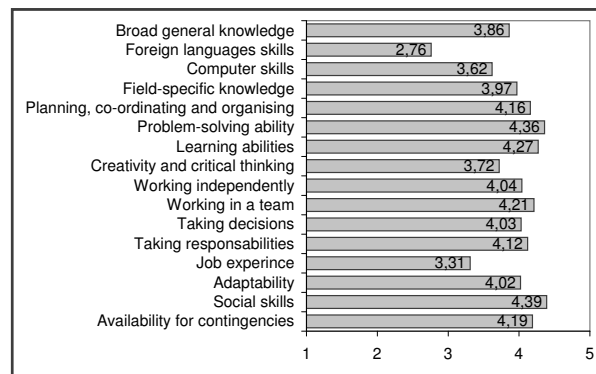


Figure 3: Valuation of competences. Scale from 1 (-) to 5 (+).

Evaluation of competencies means finding answers to these three questions. The PIL project intends to find out to which extent these competencies are required in Galician graduates present jobs. Graduates were asked to evaluate the importance of a list of competences for their current job (in a scale from 1 -less important- to 5 -more important-). Galician graduates consider that social-skills (4.39), problem solving (4.36) and learning abilities (4.27) are the most important competences. From their point of view, foreign languages skills (2.76) are the least important ones (Figure 3). The explanation for this poor assessment of language knowledge is found in the structure of Galicia's business

market, which primarily consists of small and medium sized businesses.

CHEERS project also devoted a great part of the study to the analysis of competencies. Although the competencies evaluated were not exactly the same, there are some points in common. In Table 2 we can see a comparison between CHEERS and PIL results. Team working and problem-solving abilities are considered, in both studies, ones of the most important skills. However, whereas Galician graduates place learning abilities in the second position in the ranking, CHEERS results suggest that they are not essential. Working independently is appreciated according to CHEERS results (2nd position) but not that much for PIL results (6th position).

Acknowledgments

This project (Proxecto de Inserción Laboral) has been supported by ACSUG (Axencia para a Calidade do Sistema Universitario de Galicia).

References

- [1] *Estudio estadístico sobre a inserción laboral dos Licenciados en Matemáticas da USC (1997-2000)*. (2000). Edited by University of Santiago de Compostela.
- [2] García Montalvo, J. (2003) *Formación y Empleo de los graduados de Enseñanza superior en España y en Europa*. Edited by Instituto Valenciano de Investigaciones Económicas.
- [3] *Proxecto de Inserción Laboral dos Titulados polo Sistema Universitario de Galicia, 1996-2001*. (2004). Edited by Axencia para a Calidade do Sistema Universitario de Galicia.
- [4] Teichler, U. (2003). Aspectos metodológicos de las encuestas a graduados universitarios. In *Métodos de análisis de la inserción laboral de los titulados universitarios*, p. 15-29, Universidad de León.
- [5] Van der Velden, R. and Vries, R. (2003). The labour market for higher education graduates in the Netherlands. Communication in *Métodos de análisis de la inserción laboral de los titulados universitarios* (9-11 June, 2003), Universidad de León, manuscript.