

Higher Education and Graduate Employment in Spain

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The Spanish Higher Education System

The current structure of higher education in Spain was established in 1983 by the *University Reform Act*. This brought great change in the legal framework of Spanish universities, which, until then, had been regulated by the central authorities of the Ministry of Education, transforming them into autonomous bodies with a wide scope for self-government. The direct responsibility over universities was transferred from the central authorities to those of the autonomous regions. This process of devolution was only completed in 1997.

Higher education in Spain consists almost exclusively of universities. In addition, an incipient vocational post-secondary education is being developed and there are also some Languages, Music and Military Schools outside the university system. There are 46 public universities and 16 private ones. Two are Open Universities, one is public (the *UNED*) and the other (*Oberta de Catalunya*) is formally private but is promoted by the regional Government of Catalonia. Six of the private universities are linked to the Catholic Church.

Three universities focus on engineering (*Politécnicas* of Madrid, Catalonia and Valencia), but most have a broad range of programmes ranging from engineering to humanities. There is not a strong differentiation, although some younger universities, many of which were created by the segregation of campuses of older ones and are located in smaller cities, focus on short-cycle programmes.

There are three basic types of university programmes: short-cycle programmes, which are more vocationally oriented and last for three years (although some engineering programmes last for four years); long-cycle programmes, which last for four, five or six years, five being the most standard; and doctoral programmes, which add two years of course work and require the preparation of a research-oriented thesis following upon a long-cycle degree.

After completing academic secondary education, students must pass an *entrance exam* if they wish to enter long-cycle university programmes and the short-cycle programmes in greatest demand. The main aim of this exam is to monitor standards of educational achievement in the secondary schools, both public and private, and give universities a criterion for allocating students to the different programmes according to the demand and the results of that exam (Mora, 1996). Yet access to higher education is quite open in Spain and there are no strict limits for staying enrolled in the programmes.

Traditionally, Spanish universities have been professionally-oriented. They followed a rigid teaching system based on annual courses. There was little possibility of choosing courses or making personal arrangements. To introduce a greater flexibility into the curricula and reduce the formal length of studies, important changes began to be introduced several years ago in the organisation of teaching.

- The organisation of courses has changed from a yearly-based structure to a semester one. The number and variety of courses have been multiplied in an effort to offer a wider perspective for each programme. This change has been more than a split of the former organisation because the total number of teaching hours has increased and new subjects have been incorporated into the programmes.
- The chance to choose courses has grown dramatically. Now a typical credit system has been implemented and each student may select his own curriculum, though some basic courses are compulsory.
- Traditionally, higher education in Spain has focused more on theoretical aspects and general knowledge than on practical issues. To correct this, the new syllabi are placing greater emphasis on practical aspects in each course.

The proportion of new entrants in the cohort of regular entrance grew continuously, as is seen in Table I. It recently reached more than 50%. Spain has entered fully in what has been called a mass higher education system and is moving towards a universal system.

The total number of students rose from 357,000 in 1970 to 649,000 in 1980 to 1.5 million in 1995/96. Approximately two-thirds are enrolled in long cycle programmes and one-third in short cycle ones. The share of students in short cycle programmes decreased in the 1970s and 1980s but it has recovered in the last decade.

The change in the structure of the demand by field has also been remarkable (Table II). The number of students in humanities and health sciences has decreased dramatically. Social sciences account for half of all university students and numbers in experimental sciences have also remained stable during the decade, whereas the number of students in engineering has increased considerably.

In 1970, the proportion of women was 26%, but had reached 44% by 1980. In 1986, it reached 50% and continued to grow in the following years.

To complete the picture, it is important to point out that students take considerably longer than is formally required to complete their course. We have

TABLE I. Rate of Participation in Higher Education in Spain

Year	Number of new entrants (000's)	New entrants/ 18-year-old group
1980-81	137	21
1985-86	192	29
1990-91	258	39
1994-95	302	46
1995-96	303	47
1997-98	319	55

Source: Consejo de Universidades (1995) and unpublished data, INE.

TABLE II. Distribution of Students by Field of Study (percentage) in Spain

	1985–86	1997–98
Humanities	18	10
Experimental Sciences	8	8
Health Sciences	12	7
Social Sciences	46	50
Engineering	16	23

Source: Consejo de Universidades (1995) and unpublished data.

TABLE III. Graduates by Type of Programmes and Field of Study (thousand) in Spain

	All	Long- cycle	Short- cycle	Human. sciences	Social sciences	Experim. Sciences	Health sciences	Engineering	Proportion* in Long- short- cycle cycle	
1981–82	82	48	34	12	39	6	17	8	.	.
1985–86	91	55	35	17	43	6	15	9	8	5
1990–91	119	74	44	19	61	8	16	14	12	7
1995–96	173	100	72	16	94	11	17	34	15	11
1996–97	195	112	82	19	105	12	19	39	17	12

* Percentage of the respective age group (23 years and 21 years).

Source: Consejo de Universidades (1995) and unpublished data.

also estimated dropout rates. The values are 38.9% for long-cycle programmes and 41.3% for short-cycle ones.

Table III presents the development of the number of graduates by type of studies (long and short cycle) and field. The growth in the number of graduates keeps pace with the growth in the number of students.

Over a quarter of the young population is currently studying for a higher education degree. This proportion is slightly overestimated due to adults finishing their studies and to people finishing more than one programme. Yet the real proportion of higher education graduates in the Spanish population is high, and, more important, it is growing very rapidly.

The Labour Market and Work of Graduates

Table IV presents the development from 1977 to 1997 of both the population and of higher education-trained persons between 25 and 64 years of age. Its percentage in the population grew from only 4.4% in 1977 to 13.5% in 1997. However, it still remains low in comparison to the proportion of graduates in other OECD countries (OECD, 1998).

The growth of unemployment during the period under consideration is one of the most deplorable characteristics of the Spanish labour market. The rate of unemployment grew dramatically for the whole population, from 3.2% in 1977 to 17.5% in 1997, having reached a peak of 19.9% in 1994. However, the situation of graduates facing unemployment, though also bad, is better than that of the

TABLE IV. Higher Education-Trained Persons and Population between 25 and 64 Years of Age (thousand and ratio) in Spain

Year	Short Cycle	Long Cycle	Graduates (A)	Population (B)	Ratio (A/B)
1977	377	350	727	16,430	4.4
1980	509	403	912	16,776	5.4
1985	682	619	1,301	17,733	7.3
1990	933	878	1,811	18,921	9.6
1995	1,109	1,184	2,293	19,459	11.8
1996	1,260	1,324	2,584	19,731	13.1
1997	1,318	1,367	2,685	19,849	13.5

Source: Elaborated from the Labor Force Surveys (1977 to 1997, 2nd quarter).

TABLE V. Unemployment Rates in Spain by Age Groups 1997

Age group	Short cycle	Long cycle	Total higher ed.-trained persons	Total Population
25-29	26.3	32.3	29.5	26.9
30-34	15.8	15.3	15.5	21.2
35-44	7.8	6.7	7.2	16.3
45-54	3.1	4.1	3.6	12.7
15-64	3.4	5.1	4.2	11.4
Total	11.5	13.4	12.5	17.5

Source: Elaborated from the Labor Force Survey (1997, 2nd quarter).

population as a whole. The two levels of graduates had very low unemployment rates at the beginning of the period. Yet at the end of the period, 11.5% of the short-cycle graduates and 13.4% of the long-cycle graduates were employed. The rates of unemployment of the short-cycle graduates are lower than those for long-cycle ones during the whole period considered, about two points lower in the later years of the period.

Graduate unemployment is even more strongly correlated with the age of individuals. While unemployment reaches 29.5% for the 25–29 age group and 15.5% for the 30–34 group, it falls to more reasonable figures for the higher age groups (Table V). Thus 73% of unemployed graduates are under 34.

The unemployment rate for women is considerably higher than for men for both levels of graduates and for all age groups, though the differences are smaller for the youngest group. Altogether, 9% of men and 19% of women who obtained a short-cycle degree were unemployed in 1997. The respective figures for persons who obtained a long-cycle degree were 13% and 24%.

The distribution by field of study is very illustrative of the preferences of Spanish graduates (Table VI). An overwhelming percentage belongs to social sciences, whereas only 13.8% are in engineering and 5.7% in experimental sciences. Compared to the other industrialised countries, Spain has a low level of graduates in science and technology. What is worrying is that this situation does not seem to be improving.

Unemployment rates range from 6.5 for health sciences (short cycle) to 16.4 for humanities (long cycle). One can see that unemployment rates for the youngest

TABLE VI. Distribution of Higher Education-Trained Persons by Age Group and Field of Study 1997 (percentage)

	Eng. S.C.	Eng. L.C.	Health S.C.	Health L.C.	Soc. Sc. S.C.	Soc. Sc. L.C.	Human L.C.	Exp. Sc. L.C.	Total
25-29	7.2	3.8	4.6	5.5	20.4	24.7	8.6	6.3	100.0
30-34	5.6	3.6	5.3	6.6	21.2	24.4	14.0	7.2	100.0
35-44	6.3	4.6	8.9	10.3	25.6	18.6	10.8	6.1	100.0
45-54	14.6	7.2	7.4	6.3	27.9	13.3	9.0	4.1	100.0
55-64	14.8	7.0	6.1	7.0	32.0	11.9	7.4	3.3	100.0
Total	8.8	5.0	6.7	7.4	24.6	19.4	10.2	5.7	100.0

Source: Elaborated from the Labor Force Survey (1997, 2nd quarter).

TABLE VII. Earnings Differentials by Educational Level in Spain in 1991*

	Up. sec. Voc.-1	Up. sec. Acad.-1	Up. sec. Acad.-2	Up. sec. Voc.-2	Short cycle Graduates	Long cycle Graduates
Total	39.6	61.8	63.1	71.7	104.3	149.3
Women	55.6	71.0	79.4	66.3	140.1	179.1
Men	41.0	63.5	63.2	71.1	105.4	145.9
Public sector	34.3	55.0	47.5	54.5	81.9	125.6
Private sector	38.6	60.2	66.7	76.0	117.5	158.1
Rural	39.2	58.8	48.1	71.9	106.6	132.5
Urban	34.4	62.1	56.7	64.6	95.3	142.4
Industry	34.3	45.9	53.5	66.4	112.3	190.6
Services	38.2	71.1	70.4	70.3	109.8	154.4

* 100 = mean of each line.

Source: Vila & Mora, 1996.

group are very high irrespective of the field of study, reaching from 15.6 in health sciences (short cycle) to 37.6 in humanities (long cycle).

Using a sample from the 1991 Survey of Family Budgets, a Mincerian econometric model was applied to estimate expected income for each level of education. Table VII presents the differences of incomes for the different levels and types of education for various sub-samples. These can be interpreted as the premium associated with a given level of education in relation to the income of those who have not followed formal studies.

University degrees present the largest differences in expected income in all of the sub-samples. As expected, the differential associated with long cycle programmes is found to be higher than the corresponding one for short cycle programmes, but the difference is much higher than might be expected from only two more years of formal education. One noticeable fact is that university degrees have a far better pay off for women than for men. But the differences in income associated with university studies are higher in the private sector than in the public one, though only for men; in the case of women, the reward associated with the degree is considerably higher in the public sector. Also, the reward for higher education graduates is much higher in industry than in the service sector, possibly as a consequence of the type of graduates who work in industry and of the small degree of weight from the public sector.

Early Career Trajectories

According to the labour force survey 1997, many recent graduates remain in the formal educational system. At present, 32% of the 25-year-old higher education trained persons continue to study or participate in vocational education. The respective figure for the 30-year-olds is 7%. The high percentage of graduates remaining in universities is due to the fact that many of them are short cycle graduates following long cycle programmes, or any type of graduates following postgraduate programmes. Furthermore, a substantial percentage of graduates, notably women, follow courses in the non-formal educational system.

Unemployment is very high for 25-year-old higher education-trained persons, both men and women (38% and 39%). At the age of 30, the situation is gloomier for women (20%) than for men (11%).

Table VIII summarises the labour market position of employed higher education-trained persons in four basic categories. Persons occupying 'non-typical' positions, such as white or blue collar jobs, represent 35% in the case of the youngest group, but this percentage drops to 24% for the 30-year-olds, and to 20% for the whole population of higher education-trained persons. In a mass higher education system, it could be wrong to identify these positions as inappropriate for higher education graduates. But the proportion of graduates in those positions could be considered a very rough indicator of overeducation.

Job stability through an indefinite work contract or a civil servant post has traditionally been an important goal in Spanish society. Many graduates prefer a lower but stable position (preferably as civil servants) to a better but risky one. The proportion of graduates with a stable job is low for the beginners (30% at the age of 25) but it increases very quickly in the first years of a career (68% at the age of 30), with no significant differences between men and women. This is not the norm for people with other educational levels. García-Montalvo *et al.* (1997) also show that another advantage of being a university graduate is that the percentage of tenured jobs, even in the first stages of his career, is much greater than in any other educational group.

The information from a few universities that keep track of the early career of former students is very fragmented. The comments in the rest of this article are based on these studies (Masjuán, 1990; Sáez *et al.*, 1997) and therefore refer to these universities. These studies refer to the situation of graduates two, three or four years after graduation. The fact that the studies were not based on the same year makes comparison of unemployment rates complicated because of the effect of the economic cycle. In addition, we do not expect to see the same status in

TABLE VIII. Type of Employment of Higher Education-Trained Persons by Age 1997 (percentage)

	25	26	27	28	29	30	25-64
Self-employed	8	10	10	13	17	15	14
Professional	57	55	53	55	55	61	65
White Collar	28	27	30	25	24	19	16
Blue Collar	7	8	5	5	4	5	4

Source: Elaborated from the Labor Force Survey (1997, 2nd quarter).

TABLE IX. Percentage of Graduates from Selected Spanish Universities Who Worked Before and During their Studies

	UPF*	UPC**	UAM***	UAB****
Year of graduation	1994–95	1994–95	1994	1986
Date of the study	1996	1997	1996	1990
Worked before starting HE	14.5	19.0	7.7	–
Worked during HE studies	30.3	51.1	15.0	52.8

* Universitat Pompeu Fabra de Barcelona (UPF),

** Universitat Autònoma de Barcelona (UAB),

*** Universidad Autònoma de Madrid (UAM)

**** Universitat Politècnica de Catalonia (UPC).

Source: Saéz *et al.*, 1997.

graduates that have been working or looking for a job at different periods of time.

The data in Table IX show that only a small percentage of the graduates had worked before starting higher education. The highest proportion corresponds to the UPC (19%), while the lowest is found in the UAM survey (7.7%). A high proportion, however, worked during their years of higher education.

The average number of months for the period of transition to employment according to university ranged from 3.6 to 10.0. Economists have to wait only two or three months to find their first job. The average time for public administration graduates is twice as long and it is also long for law graduates.

From a survey carried out in the Valencia region (Garcia-Montalvo *et al.*, 1997), it is clear that many graduates seek the help of the national employment agency (INEM) to find a job. However, only a very small proportion recognises that they found their first job in this way. Yet this perception improves monotonically when the graduates look for the second, third, and following job. Using the data from university graduates we also find that between 1.5% and 11.7% of graduates found a job through the INEM. The proportion ranges from 1.5% (UAB) up to 3.2% (UAM).

By contrast, the percentage of graduates who found a job through family and friends' connections is very high. The average is 36.3% and the highest proportion is found in the UPF survey where the figure reaches 50%. Lawyers, journalists and biologists find jobs more frequently through personal connections than graduates in other programmes. At the other extreme, the percentage of physicians who find a job through friends and family is very low (14.6%).

Conclusion

The negative face of the recent development in educational achievement of the young population in Spain is unemployment. As we have seen, it is very high for the youngest groups of higher education graduates but decreases dramatically for the older groups.

This raises the question: Why is it so difficult for young higher education graduates to find a job? When we consider the development of higher education in the last 20 years we find that the growth in the number of graduates has been

impressive. It has been multiplied by 3.7. But the number of graduates who are employed has multiplied by only 3.4. In other words, during this period, the Spanish economy was able to create 1.5 million new jobs for higher education-trained persons. The problem is that it was not able to create an extra 0.2 million jobs that would be necessary to avoid unemployment among graduates.

There are several reasons that explain this lack of jobs for higher education graduates in Spain. We could mention demographic factors and educational growth (Mora, 1996). Also, the Spanish economy does not focus enough on high technology and does not seem to have the capacity to generate enough jobs for graduates (Mora, 1997). Finally, the higher education system in Spain is more focused on professional education. Historically, the educational system has been based on the transmission of knowledge and professional skills needed for professions. When professions and qualifications for jobs change very quickly, this system is too rigid to adapt to the changing labour market.

It is generally agreed that the educational system cannot do much to improve employment prospects for its graduates. The main solutions are always on the side of the economic system. Yet the educational system could and should transmit to the students the competences they need for a smoother transition from school to the labour market. They are: a) Specialised competence related to the knowledge and skills that people need for their job. b) Methodological competence, i.e. the ability to solve problems, to think independently, to adapt to new situations, etc. c) Social competences, relating to behaviour in terms of the job, such as the willingness to work or a team spirit. And d) Participatory competence, i.e. the capacity to organise or to lead work teams.

The traditional Spanish educational system was, and still is, basically focused almost exclusively on the first type of competence (specialised competence), yet, more focused on knowledge than on skills. Reforms are being undertaken to introduce the other competences into higher education through more empiricist and flexible curricula focused on the learning process rather than on teaching. It is too early to assess the reform, but experts generally agree that it is not successful because of the difficulty to change a long tradition of teaching rooted in the thinking pattern of teachers.

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