



Ministry of Education and Science

OECD Thematic Review of Tertiary Education

Country Background Report for Spain

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Foreword

This Country Report is the Spanish contribution to the *OECD Thematic Review of Tertiary Education*. It was initially drafted by the Global University Network for Innovation (GUNI) at the Universitat Politècnica de Catalunya (UPC) and reviewed by the Catedra UNESCO de Gestión y Políticas Universitarias at the Universidad Politecnica de Madrid. The Report was supervised by a working group from the Ministry of Education and Science (Leonor Carracedo, José-Ginés Mora, Soledad Iglesias, Guillermo Bernabeu).

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LIST OF ACRONYMS

- AGE:** Spanish State General Administration *Administración General del Estado*
- ANECA:** National Agency for Quality Assessment and Accreditation. *Agencia Nacional de Evaluación de la Calidad y Acreditación*
- ANEP:** National Agency for Assessment and Prospective Studies. *Agencia Nacional de Evaluación y Prospectiva*
- CCAA:** Autonomous Community *Comunidad Autónoma*
- CCU:** University Coordination Council. *Consejo de Coordinación Universitaria*
- CNEAI:** National Committee for the Assessment of Research Activity. *Comisión Nacional Evaluadora de la Actividad Investigadora*
- COFP:** General Council for Vocational Education. *Consejo General de la Formación Profesional*
- COIE:** Career Guidance and Information Centres. *Centros de Orientación e Información de Empleo*
- CRUE:** Conference of Rectors of Spanish Universities. *Conferencia de Rectores de la Universidades Españolas*
- CSIC:** Higher Council for Scientific Research. *Consejo Superior de Investigaciones Científicas*
- CYTED:** Ibero-American Science and Technology for Development Programme. *Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo*
- EHEA:** European Higher Education Area
- ENCYT:** National Strategy for Science and Technology *Estrategia Nacional de Ciencia y Tecnología*
- EPA:** Labour Force Survey. *Encuesta de Población Activa*
- FP:** Vocational education. *Formación profesional*
- FUE:** University-Business Foundations. *Fundaciones Universidad-Empresa*
- GDP:** Gross domestic product
- ICT:** Information and Communication Technology
- INE:** Spanish National Statistics Institute. *Instituto Nacional de Estadística*
- INEM:** Spanish National Employment Institute. *Instituto Nacional de Empleo.*
- LOCFP:** Law on Qualifications and Vocational Education. *Ley de las Cualificaciones y de la Formación Profesional*
- LOE:** Organic Law of Education. *Ley Orgánica de Educación*
- LOGSE:** Organic Law on the General Organisation of the Educational System. *Ley Orgánica de Ordenación General del Sistema Educativo*
- LOU:** Organic Law of Universities. *Ley Orgánica de Universidades*
- LRU:** University Reform Law. *Ley de Reforma Universitaria*
- MEC:** Spanish Ministry of Education and Science. *Ministerio de Educación y Ciencia*

OECD: Organization for Economic Cooperation and Development

OPI: Public Research Entities Organismos públicos de investigación

OTRI: Research Results Transfer Offices. *Oficinas de Transferencia de Resultados de Investigación*

PAS: Non academic staff. *Personal de Administración y Servicios*

PCyT: Science and technology parks (PCyT). *Parques científicos y tecnológicos*

PDI: Academic staff. *Personal Docente e Investigador*

PFP: Private for profit

PNECU: National Plan for Quality Assessment of Universities. *Plan Nacional de Evaluación de la Calidad de las Universidades*

PNFP: Private non-for-profit foundations *Fundaciones privadas sin ánimo de lucro.*

PNR: Spanish National Reform Programme. *Programa Nacional de Reformas*

RD: Royal Decree

R&D&I: Research, Development and Innovation

SNCFP: National System of Qualifications and Vocational Education. *Sistema Nacional de Cualificaciones y Formación Profesional*

GLOSSARY OF KEY TERMS

Ciclos formativos de grado superior: Modular training courses

Títulos propios: Certificate programs

Bachillerato: Final secondary education diploma

Catedrático: Full professor (CU)

Profesor titular: Associate profesor (TU)

Catedrático de Escuela: Associate profesor (CEU)

Titular de Escuela: College teacher (TEU)

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Executive Summary

- Tertiary education includes university studies as well as higher vocational education and training. Universities are the main institutions that provide university studies, while higher vocational education is usually linked to secondary schools and to special vocational institutions. Vocational education and training can be delivered in both public and private schools. The latter can be subsidized. This educational level can also be delivered through distance courses.
- Spain’s tertiary education system includes the following:
 - University education.
 - Non-university tertiary education, which is subdivided into

- a) Post-secondary higher vocational education (which covers approximately 89% of non-university tertiary education).
 - b) Various types of courses that are governed by specific legislative provisions and offer a specific qualification. They include military education (army, air force and navy) and specific forms of specialist education.
- At the university education, the current system is organised as follow:
 - *Short cycle courses (first cycle)*. These courses are oriented towards professional skills and lead to a university diploma. In general, they last two to three years.
 - *Long cycle courses (first and second cycle)*. In this case, the completion of the first cycle does not lead to a university or professional qualification. Depending on the type of course, completion of the first and second cycles leads to a degree. These courses last from four to five years.
 - *Second cycle courses*. These courses lead to a degree and generally last two years. Students can take this type of course once they have earned a first cycle qualification or completed the first cycle of a long cycle course.
 - *Third cycle courses*. These courses can be undertaken by long degree holders and are aimed at specialisation in various scientific, technical and artistic fields, as well as training in research techniques. After taking several courses students obtain an accreditation certificate for advanced education, after which they may submit a doctoral thesis on an original research subject to obtain the academic title of Doctor in the corresponding field. The planning of doctoral courses is carried out by university research departments and institutes.
 - In addition to courses leading to official and national diplomas, universities offer professional specialisation courses. These continuing education courses have a practical approach and are very successful in most universities. The length and entrance requirements for these courses vary considerably from university to university. This type of offering does not form part of the official qualification structure.
 - Over the past three decades, the number of students and universities has increased three-fold, attaining one of the highest rates of university education in Europe: 30% of women and 22% of men between 24 and 34 years of age have graduated from university. The process of decentralising the university system in physical terms has been accompanied by political and administrative decentralisation: powers have been handed over to the autonomous regions in the area of tertiary education. Moreover, in the last years university research has developed and research output indicators have increased dramatically. Another outstanding fact is the increase in the international mobility of academic staff and students.
 - In the last two decades, the number of universities in Spain has doubled. At present Spain has 50 public universities. Two are special universities focused on continuing education and summer courses. One is a distance learning institution. There are 23 private universities; one of them is a distance learning university. Seven of the private institutions belong to the Catholic Church.
 - From the 1980s till the mid 1990s, most powers over education, which had previously pertained exclusively to the central government, were devolved to the autonomous regions. Nevertheless, central government keeps control on the legal framework for education and on the student's aid system. The Ministry of Education and Science (MEC) is the central government department entrusted with exercising this legal control. Furthermore, two universities continue to be run by the central government: the National Distance-Learning University and the Menendez Pelayo International University.
 - The recent past of Spanish universities has taken place within the framework of university reforms, the first of these under the University Reform Law (LRU), which came into force

in 1983, and the second under the Organic Law of Universities (LOU), which was introduced in 2001. The first of these focused on universities' social embeddedness, democratic organisation and scientific modernisation. The LOU's main concerns were the instrumentalisation of quality assurance policies and preparations for the Spanish university system's entry into the EHEA. Other measures envisaged in this law, such as regulations governing the functioning of universities, have been the centre of debate on education. The organic law that amends the LOU was approved in April of the current year.

- One of the main challenges faced by the Spanish higher education system is its full integration into the European Higher Education Area. It is hoped that this process will improve coordination and make the system more competitive and allow it to improve quality, without detriment to the measures already in place aimed at fostering closer links with the social environment and guaranteeing equity in access.
- To enrol in higher education, students are required to have successfully completed the final, non-compulsory stage of secondary education. Students have to pass an entrance examination to get into long cycle courses and the most popular short cycle courses. In the 2004-2005 academic year, 76.5% of students gained admission to university in this way. An average mark is obtained by combining the results of the examination with the marks obtained by students in the final, non-compulsory stage of secondary education. Admission to specific degree courses in public universities depends on the resulting average mark.
- The final secondary education diploma (bachillerato) is required to enrol in the highest level of vocational education. This is why it should be considered as tertiary education despite the fact that in Spain it has always been seen as an extension of secondary education rather than a part of higher education. The Organic Law establishes that higher education encompasses both university studies and vocational education as well as higher artistic education, higher design, visual arts and higher sports studies, in agreement with the International Standard Classification of Education.
- Access to higher vocational education can be gained directly or by taking a special test designed to demonstrate that the candidate has sufficient knowledge and skills to benefit from a higher vocational course, without prior qualifications. Additionally, students are allowed to enrol in professional modules linked to occupational units of competence provided they show proof of the access requirements before finishing their studies. The academic requirements for direct access are either the certificate received on successfully completing the final, non-compulsory stage of secondary education, or one of the following academic qualifications or credentials: specialised technician, advanced technician or equivalent, university qualification or equivalent.
- The participation of Spanish students in mobility programmes such as Socrates/Erasmus is increasingly high. Between 1994-1995 and 2004-2005, the number of students from Spanish universities on this programme rose from 8,537 to 21,350. The main destination countries were Italy (4,250), France (3,412), the United Kingdom (2,974) and Germany (2,553). The number of Socrates/Erasmus students studying in Spain in the 2003-2004 academic year was 24,076 - 83% more than five years earlier. Italy (5,688), France (5,115) and Germany (4,325) sent the greatest numbers of students.
- Mobility is very low in Spain. Most students do not move to another region to study (or to another city if they can study their desired choice of degree in their own city). In this sense, all Spanish universities have a strong regional dimension, something which is not necessarily positive. The same situation can be applied to vocational education and training, as these studies are strongly linked to the place of residence.

- In the Spanish education system, vocational education has excellent direct links with the working world. All vocational education courses include a specific module carried out in the workplace, and establish direct contact with the working world. Pupils who have carried out work placement in a company are often employed by the same company when they graduate.
- The scholarship system is regulated by the MEC. It establishes a maximum limit of family per capita income, above which students are not entitled to the established benefits and also quantifies the required academic performance. There is a minimum threshold of academic performance, expressed in the form of average marks, below which students are not entitled to receive grants. The norm establishes that the selection process for grant-holders should benefit the students with the highest academic performance. The autonomous communities also offer study grants and scholarships that are generally complementary to those offered by MEC or aimed at promoting certain areas of study.
- The total amount of money spent on tertiary education in Spain increased by 47% from 1995 to 2001. This was the highest growth rate in the EU, where the average was 26%.
- The Spanish public university system has four main sources of funding:
 - *Regional government subsidies.* Each autonomous region is responsible for the general funding and investments of the public universities in its region.
 - *Student aid.* The central government is responsible for most grants and scholarships. The student aid system only represents 0.09% of GDP.
 - *Tuition fees.* Student fees are not particularly high (on average, 631€ per academic year) and they represent around 18% of total costs.
 - *Revenue from research activities and other services.* These funds come mainly from knowledge transfer, continuing education, contracts, patents, collaboration agreements with other institutions or individuals and the creation of foundations and other entities. Central government and the European Union, through their competitive Call for Proposals are an important part of these sources.
- Public funds are the main source of funding for university R&D&I, and accounted for 71% of the total funds in 2003. There are two types of public funding: general university funds, and funds allocated to specific R&D&I projects.
- Science and technology parks were introduced in Spain by the autonomous regions, and this has influenced their development and progress in the regions. In recent years, the parks have adapted to the policies of the autonomous regions they are located in. They have also created regional networks to link the parks together. There is great diversity among autonomous regions in the development of the parks, which creates a great wealth of experience. Thus, Spanish universities, in their role as the public agents that carry out R&D, establish relations with the private business sector and the technology transfer between these two groups is increasingly reinforced.
- Spin-offs are companies with a high technological content. They are formed to commercially exploit the research carried out in a university, and transform it into value. They are a useful and dynamic mechanism for technology transfer and they boost the national and regional economy. In addition, they create employment for highly qualified people. By September 2004, Spanish universities had created 479 spin-offs.
- Communication barriers between universities and companies explain current difficulties in the process of transferring knowledge. In addition, there are inherent communication difficulties due to these institutions' very distinct ways of thinking.

- In Spanish public universities, human resources are divided into two groups: teaching and research staff (PDI) and administrative and service staff (PAS). Each of these groups includes civil service staff and non-civil service staff. These groups are further divided into various categories that fulfil a wide range of tasks and needs. It is important to highlight the weight and influence of the civil servant teaching staff, whose status may be comparable to that of any public employee, as far as rights and obligations are concerned.
- There are currently 89,305 academic staff working at Spanish public universities; of these around 10% are full professors, 33% are associate professors (a doctoral degree is required for these positions), and 14% are college professors (teaching first cycle vocational courses and with no requirement of a doctoral degree). These three categories are civil-servant positions. The rest of the academic staff is in non-tenured positions.
- The number of non-civil service academic staff may not exceed 49% of the total number of academic staff at a particular university. At both private and public universities, at least 50% of the teaching staff must hold a doctorate. Furthermore, at least 50% of the academic (non civil-servant) staff must have received a favourable assessment from Spain's National Agency for Quality Assessment and Accreditation (ANECA) or from the quality agency in the autonomous region. Active members of the civil service academic staff working at a public university and full-time non civil-servant academic staff are not allowed to join the teaching staff of a private university.
- Non-academic staff (PAS) include civil service staff from the ranks of the universities, non-civil service staff, and civil service staff from the corps and ranks of other public administrations. Non-academic staff at public universities are responsible for supporting, assisting and advising academic staff and fulfilling administrative and management functions, especially in the following areas: human resources, administration, financial matters, data processing, record keeping, libraries, teaching and research laboratory technicians, information and general services.
- Teachers of higher vocational education courses are required to have the same qualifications as secondary school teachers, that is, the qualifications required are those that imply a degree in an academic field, besides the specific pedagogical and didactic training of a post-degree level. In the case of Vocational Education, for accessing to a position as a civil servant teachers have to pass examinations organised by the educational administration, followed by a competitive phase that considers the merit of the candidate, such as academic training and previous experience.

CHAPTER 1. NATIONAL CONTEXT OF TERTIARY EDUCATION

1. Spain has been a constitutional monarchy since the Spanish Constitution was approved in 1978. It is made up of 17 autonomous regions and two autonomous cities (Ceuta and Melilla in Northern Africa). These have legislative, budgetary, administrative and executive powers which are guaranteed through their respective statutes of autonomy. Spanish is the official language of the whole state, but the Constitution also recognises the official status of Spain's other languages in some autonomous regions.
2. Spain joined the European Union in 1986, and became one of the member states of the "Euro Zone" in 1999. According to the World Bank's 2004 classification, it has the world's eighth largest economy, with a gross domestic product of €799 billion and a per capita income of €19,456 (2004). Its life expectancy is in the world's top three and its infant mortality among the lowest in the world. In January 2006, Spain had 44,395,300 inhabitants, of which almost 3.9 million were foreign citizens.¹ In 2003, Spain received 50% of EU immigration, particularly immigrants from North and Sub-Saharan Africa, Eastern Europe and Latin America.

1.1 Economy and employment

3. Over the last decade, Spain's economic growth has been higher than the EU average every year and this has progressively reduced the gap between its average income and that of its EU partners. The average annual increase in the Spanish economy for the period 2000-2004 was 2.55%. Spain has also seen a rapid recovery from the recent international slowdown in economic growth. This continuous growth in the economy has been aided by low interest rates and high job creation rates, However, inflation, which is relatively high (3.4% in 2005) and reduces competitiveness, and the marked increase in living costs (18% in 2005) may undermine economic growth.
4. Over the last decade, the proportion of temporary work contracts has grown significantly. A third of all employees are now on temporary contracts. Official data for unemployment are still high (10.2%), especially among young people between 16 and 24 years of age (21.8%) and women (13.6%),² though it should be pointed out that the latter has seen a 14-point reduction over the past ten years (INE, 2005).
5. The service sector in Spain has grown continuously since the 1950s, and now represents 66% of the economy. This expansion has come mainly at the expense of the primary sector, although over the last few years the industrial sector, which represents 20% of GDP, has also begun to decline. Retail, tourism, banking and telecommunications make up a vital part of economic activity in the service sector. Tourism is particularly important in Spain, which has now become the world's second most popular tourist destination, behind France. In the agricultural sector, Spain is an important producer of wine, olive oil, fruit and vegetables. The country has also developed a large greenhouse industry in the south-east becoming one of the most competitive suppliers of fresh produce in the European market. Because of its geographical location and port tradition, Spain also has a well-established fishing industry serving mainly the domestic market. Car manufacturing is the most prominent industry in Spain—more than 80% of cars are exported—and its contribution to GDP is nearly 5%. The construction industry has also grown, particularly in recent years, and represents a larger proportion of the economy than in most European countries. The increasing relocation of agricultural and industrial production and an ageing population contribute to the trend for an increased rise in the importance of the service sector for the economy in the coming years.

¹ Spanish Institute of Statistics (INE), population figures for 01/01/2006.

² INE, Encuesta de Población Activa (Labour Force Survey). Estimated figures for the first quarter of 2005.

1.2 Political decentralisation

6. The decentralisation process of the Spanish state, which was initiated in 1979, has transformed an extremely centralised territorial model into one that gives substantial redistribution of government which continues to be debated today. The territorial distribution of devolved government is based on a historical, political and cultural context, but it is also a way of increasing efficiency in managing policy and public resources.
7. From the 1980s till the mid 1990s, most powers over education, which had previously pertained exclusively to the central government, were turned over to the autonomous regions. Nevertheless, central government maintains control over the legal framework for education and the student aid system.

1.3 Demography, culture and education

8. The ageing of the population over the past few decades, due to the low birth rate and increased life expectancy means that Spain is going through a period known as the *demographic dividend*, since most of the population is of working age. This demographic dividend is increasing due to the recent arrival of a large proportion of the non-EU citizens that have immigrated to Spain.
9. From the last third of the 20th Century until the present, the Spanish population has experienced a constant growth in numeric terms, which has not been distributed equally among the Autonomous Communities, mainly because of economic and social reasons. Some Communities have shown very pronounced percentage growths in their population (as in the case of Catalonia, the Valencian Community and Madrid), while others are experiencing more moderate growth (Murcia, the Canary Islands, the Balearic Islands). The majority have shown slight percentage losses (Castile and Leon, Galicia, Basque Country). This could give us an idea of the strength of certain regions and communities, as well as some geographical imbalances in total population growth.

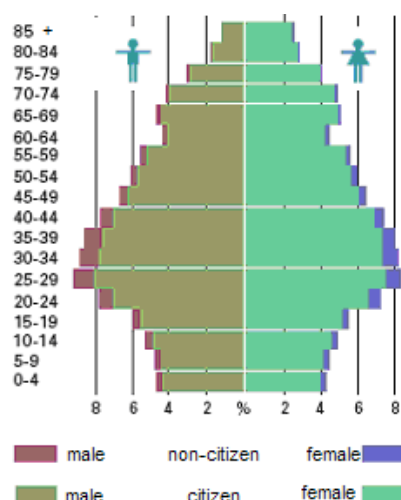
Table 1.1 Population by Autonomous Community (2005)

Autonomous Community	Population (2005)	% of total	Population (1998)	% of total
Total	44,108,530	100.00	39,852,651	100.00
Andalusia	7,849,799	17.81	7,236,459	18.17
Aragon	1,269,027	2.87	1,183,234	2.97
Asturias	1,076,635	2.44	1,081,834	2.72
Balearic Islands	983,131	2.23	796,483	2.00
Canary Islands	1,968,280	4.46	1,630,015	4.09
Cantabria	562,309	1.27	527,137	1.32
Castile and Leon	2,510,849	5.69	2,484,603	6.24
Castile La-Mancha	1,894,667	4.30	1,716,152	4.30
Catalonia	6,995,206	15.86	6,147,610	15.42
Valencian Community	4,692,449	10.64	4,023,441	10.10
Extremadura	1,083,879	2.46	1,069,419	2.69
Galicia	2,762,198	6.26	2,724,544	6.83
Madrid (Community)	5,964,143	13.52	5,091,336	12.78
Murcia (Region)	1,335,792	3.03	1,115,068	2.79
Navarre	593,472	1.34	530,819	1.33
Basque Country	2,124,846	4.82	2,098,628	5.26
La Rioja	301,084	0.68	263,644	0.66
Ceuta (autonomous city)	75,276	0.17	72,117	0.18
Melilla (autonomous city)	65,448	0.15	60,108	0.15

Source: INE (2006)

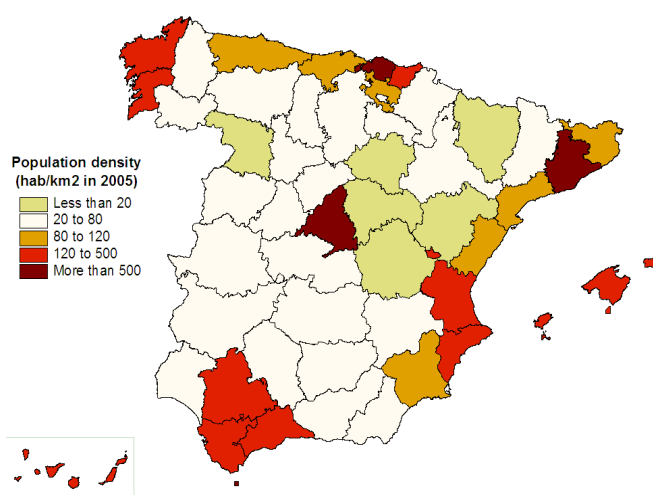
10. The Spanish Constitution defines the country as a non-denominational state, but guarantees the religious freedom and the freedom of worship of individuals and ensures cooperative relations between public authorities and all religious confessions. Roman Catholicism is the main religion, although less than a fifth of the population consider themselves to be practising Catholics. Seventeen percent of the population are atheist or agnostic and 2.3% of the population are of other minority religions.⁴ These include Muslims and Evangelical Christians, whose numbers have grown over the past few years with the arrival of foreigners.

Figure 1.1 Population pyramid by sex and age ranges, according to nationality (2004)



Source: INE (2005)

Figure 1.2 Population density of Spanish provinces (2005)



Source: INE (2006)

11. The numbers of foreign inhabitants in Spain currently accounts for 8.7% of the population, with South Americans being the main immigrant group (31% of all foreigners), followed by EU citizens (24%) and Africans (19%).

Table 1.2 Foreigners by nationality (2004)

Main nationalities	No. of foreigners (thousands)	% of total
Total	3,884.6	100.00
Morocco	535.0	13.77
Ecuador	399.6	10.29
Romania	382.0	9.83
United Kingdom	274.0	7.05
Colombia	238.6	6.14
Germany	150.2	3.87
Argentina	136.0	3.50
Bolivia	132.4	3.41
Italy	115.4	2.97
China	98.1	2.53
Bulgaria	93.8	2.41
France	89.7	2.31
Peru	86.9	2.24
Portugal	80.3	2.07

Source: INE. N.B.: Provisional data

12. Spain is a linguistically and culturally diverse country. Two out of every five Spaniards (39.63%) live in one of the autonomous regions in which a co-official language is spoken alongside Spanish: 6.26% of the population lives in Galicia, where Galician is spoken; 4.82%

in the Basque Country, where Basque is spoken; and 28.55% in Catalonia, the Balearic Islands and Valencia, where Catalan and Valencian are spoken. In tertiary education, Catalan is currently the language used in 70% of the teaching carried out in Catalonia, and to a lesser extent in the autonomous regions of Valencia and the Balearic Islands. Teaching in Galician varies among the tertiary educational institutions in Galicia. At the Basque Country universities, around a third of the students are taught in Basque.

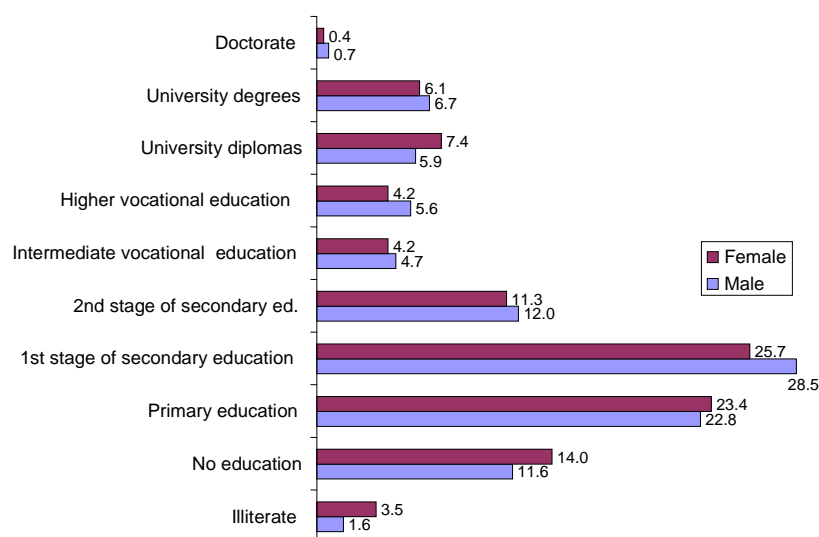
13. Over the past three decades, the number of students in the Spanish tertiary education system has tripled. In the 2004-2005 academic year, there were 1,794,370 students and a net enrolment rate of 53%. Today, 18.1% of women and 18.9% of men have taken tertiary education courses (Graph 1.1).

Table 1.3 Evolution of school attendance rates by age

Age ranges in years	Academic years		
	1995-1996 ¹	2000-2001 ¹	2005-2006 ^{2,3}
Under 3	5.7	8.7	15.6
3	61.7	89.7	95.9
4 to 5	100.0	100.0	100.0
6 to 11	100.0	100.0	100.0
12 to 15	99.0	100.0	100.0
16 to 17	77.8	81.6	81.8
18 to 20	56.2	56.3	56.5
21 to 24	30.0	32.3	32.4

Source: MEC (2005) *Datos y cifras. Curso escolar 2005-2006*. ⁽¹⁾ Rates calculated using INE 1991-2001 intercensal estimates. ⁽²⁾ Rates calculated using the latest INE population projections (2001 census used as the base). ⁽³⁾ Estimated figures.

Graph 1.1 Percentage distribution for those over 16 years old by level of qualifications and gender (2001)



Source: INE, Censos de Población y Viviendas 2001

1.4 Spending on education and research

14. Spanish public spending on education was 4.3% of GDP in 2005. Although, in absolute terms, spending on education has increased continuously throughout the last decade, this

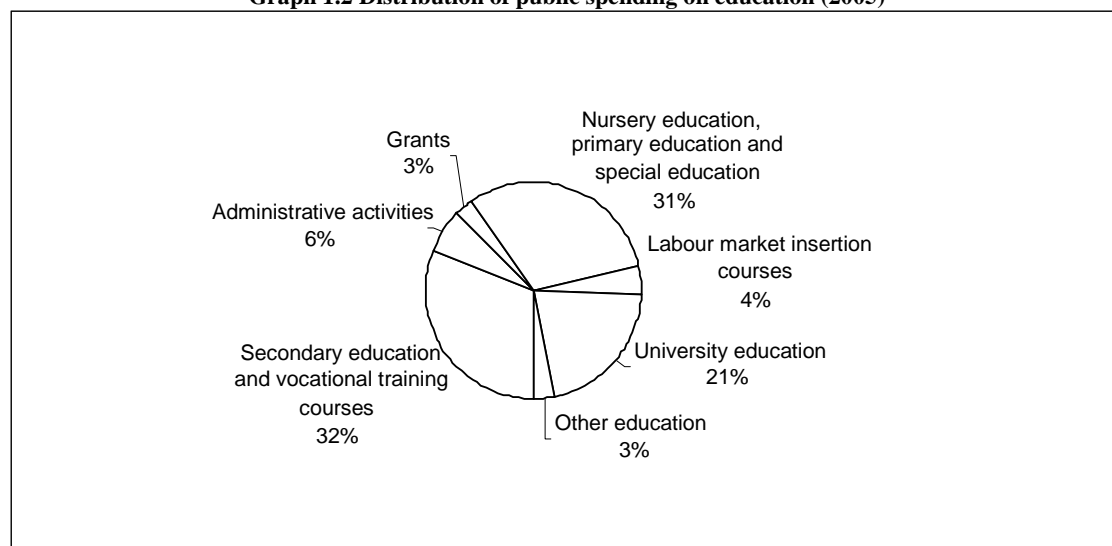
increase has been lower than GDP growth (Table 1.4), and at all education levels public spending remains below the average for OECD countries. This difference is even clearer if we look at spending on university education, which receives little more than a fifth of the total amount of public spending on education (Graph 1.2). Spending on private education by Spanish families represents about 1% of GDP.

Table 1.4 Evolution of total spending on education as a proportion of GDP

Year	Total spending (1)		Public spending (2)			Spending by families (3)			
	Amount (millions of euros)	% GDP		Amount (millions of euros)	% GDP		Amount (millions of euros)	% GDP	
		Base: 2000 (4)	Base: 1995 (5)		Base: 2000 (4)	Base: 1995 (5)		Base: 2000 (4)	Base: 1995 (5)
1995	25,836	5.78	5.90	20,609	4.61	4.71	5,696.9	1.27	1.30
1996	27,388	5.78	5.90	21,925	4.63	4.72	6,037.7	1.27	1.30
1997	28,622	5.68	5.79	22,785	4.52	4.61	6,298.5	1.25	1.27
1998	30,283	5.61	5.74	23,999	4.45	4.55	6,791.8	1.26	1.29
1999	32,340	5.58	5.72	25,688	4.43	4.54	7,128.0	1.23	1.26
2000	34,286	5.44	5.62	27,407	4.35	4.49	7,404.3	1.17	1.21
2001	36,345	5.35	5.56	29,208	4.30	4.47	7,693.3	1.13	1.18
2002	38,820	5.32	5.56	31,441	4.31	4.50	7,958.1	1.09	1.14
2003	41,497	5.32	5.57	33,897 (6)	4.34	4.55	8,202.3	1.05	1.10
2004	43,786	5.23	5.48	36,032 (7)	4.30	4.51	8,558.5	1.02	1.07
2005	46,629	5.20		38,566 (7)	4.30		8,926.5	1.00	

Source: Our own table is based on figures from a Ministry of Education and Science publication: Ministerio de Educación y Ciencia (2005) *Datos y cifras. Curso escolar 2005/2006*. Notes: (1) Total consolidated expenditure (excluding transfers between the public sector and families). (2) Refers to spending on education (paid from budgetary revenues) by all public bodies, including universities. Source: Estadística del Gasto Público en Educación (Statistics on Public Spending on Education). (3) Source: INE, up to 1998. Estimated figures from 1999 onwards and revised from those previously published based on the evolution of expenditure in the end consumption of educational services by families within the Spanish National Accounts. (4) GDP, 2000 base. Source: INE, up to 2004 and latest Ministry of Economy and Finance forecast for 2005. (5) GDP, 1995 base. Source: INE. (6) Provisional figure. (7) Estimated figure based on initial budgets. NB: As a result of the change in the base of the Spanish National Accounts, GDP has increased with regard to that obtained using the old 1995 base. This has caused the percentage of spending on education to decrease based on the new GDP. For this reason, the table lists spending on education as a percentage of GDP calculated using the 2000 and 1995 bases.

Graph 1.2 Distribution of public spending on education (2005)



Source: MEC (2005) *Datos y Cifras, Curso 2005/2006*.

15. Spending on research and development has increased several times over the past few years, but the figure of 1.1% of GDP reached in 2003 is still considerably below the European average (1.8%) and the average of OECD countries (2.26%). The government is committed to spending 2% of GDP on education by 2010, and to increase the proportion of private spending on R&D, which is currently 54.1%. There are currently only 7 autonomous regions in Spain where private investment in R&D is higher than public spending: the Basque Country (75.8%), Navarre (68.9%), Catalonia (68.4%), Aragón (62.8%), La Rioja (59.7%), Madrid (58.1%) and Castile-Leon (53.2%).

CHAPTER 2. DESCRIPTION OF TERTIARY EDUCATION IN SPAIN

2.1 Introduction

16. Tertiary education includes university studies as well as higher vocational education and training. Universities are the main institutions that provide university studies, while higher vocational education is usually linked to secondary schools and to special vocational institutions.
17. The Spanish Constitution neither establishes higher education as mandatory nor indicates its purposes. For that reason we must turn to the ordinances to understand what aims and objectives are pursued with higher education in Spain. In the preamble to Law 4/2007, which is modified by the Organic Law of Universities 6/2001 that regulates university education, the aims, goals and objectives of university education are not very clearly defined, but the intention to adapt to future challenges and to societal demands is mentioned³. There is also mention made of, in accordance with the principles promoted by the European Union, “support for the modernization of universities...with the aim of turning them into active agents for the transformation of Europe into an economy fully integrated into a knowledge society”. To achieve this goal, the Law establishes that “reforms are based on the desire to strengthen the autonomy of universities while reinforcing the requirement that they be held accountable for the fulfilment of their functions”.
18. Over the past three decades, the number of students and universities has increased three-fold, attaining one of the highest rates of university education in Europe: 30% of women and 22% of men between 24 and 34 years of age have graduated from university. University institutions have been set up in all cities and major towns. This process of decentralising the university system in physical terms has been accompanied by political and administrative decentralisation: powers have been handed over to the autonomous regions in the area of tertiary education.
19. One of the main challenges faced by the Spanish higher education system is its full integration into the European Higher Education Area. It is hoped that this process will improve coordination and make the system more competitive and allow it to improve quality, without detriment to the measures already in place aimed at fostering closer links with the social environment and guaranteeing equity in access. At the moment, the implementation of new degree courses adapted to the EHEA and the reform of the Organic Law of Universities are the focal points of the debate on higher education in Spain.
20. For the 2004-2005 academic year, the main facts for tertiary education in Spain were as follows:
 - A total of 1,794,370 people were enrolled in tertiary education, 85.6% of these in the university system, in which there were 1,535,626 students. Approximately, 53% and 45% of the population of the cohorts between 18 and 23 years of age were enrolled in tertiary and university education respectively⁴.
 - Of the 73 Spanish universities, 50 are public and 23 are private. The former received 91% of registrations.
 - Tertiary education in Spain accounts for 1.2% of GDP and employs, directly or indirectly, 235,000 people: 89,305 are academic staff (50,190 of these are professors in public universities).

³ Literally, it states that “The new teaching model offers up a different way of understanding the university and its relationship with society. The idea is to offer quality education that takes into account the challenges of knowledge and responds to societal needs”.

⁴ This a gross rate. Real values are lower.

- There were 216,249 new admissions and 217,645 students graduated.
- Public expenditure on university education amounted to €7.4 billion, which represented 0.95% of GDP.
- Women in higher vocational education cycles account for 50.4% of enrolment, and 53.5% in university education. Female university graduates account for 58.8% of the total number of first and second cycle graduates, and 49.1% of third cycle graduates.
- A total of 6,864 doctoral degrees were awarded in 2003.

2.2 Regulatory framework

21. The following laws currently regulate tertiary education in Spain:
- The 1978 Spanish Constitution, which enshrines the three basic principles on which university legislation is based: the right of all Spaniards to education, academic freedom and university autonomy.
 - The Organic Law of Universities (LOU) 6/2001 regulates university organisation, administration and management, academic planning and research.
 - The Organic Law of Education (LOE) 2/2006, of 3 May, which is being expanded to cover all educational levels.
 - Law 19/1997, of 9 June, which modifies Law 1/1986, of 7 January, by which the General Council for Vocational Education is constituted.
 - The Organic Law 5/2002, of 19 June, on Qualifications and Vocational Training, which organises an overall system of vocational training qualifications and accreditation RD 1558/2005, of 23rd December, regulates the basic requirements of integrated vocational education schools.
 - RD 1538/2006, of 15 December, organises the Vocational Education System.
 - Specific provisions for adapting to the EHEA (European Higher Education Area), the most significant of which are RD 253/2003 on the recognition of qualifications with regard to professional activities; RD 285/2004, which regulates the conditions for recognising and validating foreign qualifications and higher education courses; RD 1125/2003 on the European credit and qualifications systems; RD 1044/2003 on the European Diploma Supplement; RD 55/2005 on the structure of university education and the regulation of official university undergraduate courses; RD 1171/2003 on the mobility of professionals; RD 56/2005, on the regulation of official postgraduate courses; and RD Amendment 1509/2005 on undergraduate and postgraduate courses⁵.
 - The Organic Law 4/2007, of 12 April, that modifies the Organic Law of Universities (LOU).
22. Furthermore, some autonomous regions have drawn up provisions to regulate their own specific tertiary education systems in their respective territories.

2.2.1 Main changes

23. The recent past of Spanish universities has taken place within the framework of university reforms, the first of these under the University Reform Law (LRU), which came into force in 1983, and the second under the Organic Law of Universities (LOU), which was introduced in 2001. The first of these focused on universities' social embeddedness, democratic organisation and scientific modernisation. The LOU's main concerns were the instrumentalisation of quality assurance policies and preparations for the Spanish university system's entry into the EHEA. Other measures envisaged in this law, such as regulations

⁵ The Government is planning to reform the last two decrees related to the structure of the new undergraduate and graduate degrees.

governing the functioning of universities, have been the centre of debate on education. The organic law that amends the LOU was approved in April of the current year. The modification of the LOU in 2007 introduced changes related to rector elections, teaching staff accreditation, teacher selection, and the coordinating bodies of university policy.

2.3 Types of tertiary education

24. Spain's tertiary education system includes the following:

- University education.
- Non-university tertiary education, which is subdivided into
 - a) Post-secondary higher vocational education (which covers approximately 89% of non-university tertiary education). It includes higher vocational, professional visual arts and higher design as well as higher sports studies.
 - b) Various types of courses that are governed by specific legislative provisions and offer a specific qualification. They include military education (army, air force and navy) and specific forms of specialist education.

2.3.1 University education

25. The current system is organised as follow:

- *Short cycle courses (first cycle)*. These courses are oriented towards professional skills and lead to a university diploma. In general, they last two to three years,.
- *Long cycle courses (first and second cycle)*. In this case, the completion of the first cycle does not lead to a university or professional qualification. Depending on the type of course, completion of the first and second cycles leads to a degree. These courses last from four to five years.
- *Second cycle courses*. These courses lead to a degree and generally last two years. Students can take this type of course once they have earned a first cycle qualification or completed the first cycle of a long cycle course.
- *Third cycle courses*. These courses can be undertaken by long degree holders and are aimed at specialisation in various scientific, technical and artistic fields, as well as training in research techniques. After taking several courses students obtain an accreditation certificate for advanced education, after which they may submit a doctoral thesis on an original research subject to obtain the academic title of Doctor in the corresponding field. The planning of doctoral courses is carried out by university research departments and institutes.

26. In addition to courses leading to official and national diplomas, universities offer professional specialisation courses. These continuing education courses have a practical approach and are very successful in most universities. The length and entrance requirements for these courses vary considerably from university to university. This type of offering does not form part of the official qualification structure.

27. Nevertheless, the organisation of degree courses is currently in a state of flux pending their adaptation to the EHEA. The documents issued by the Government recently establish the structure of university education on two differentiated levels, undergraduate and postgraduate education; the latter is in turn divided into two cycles.

- *Undergraduate education*. The first university cycle comprises basic and general education, as well as training geared to the exercise of professional activities. All the courses should have 240 ECTS. Successful completion of this cycle leads to the corresponding qualification (*grado*). Universities will be given freedom to define the

curricula. This represents the end of a historical tradition in which the state established a large portion of the curricula in order to maintain “national diplomas”.

- *Postgraduate education.*
 - The second university cycle comprises advanced, specialist or multidisciplinary training, whose aim is academic or professional specialisation; it may also provide grounding in research. The successful completion of this cycle leads to a Master’s degree. Master’s will have between 60 and 120 ECTS.
 - The third university cycle provides students with advanced training in research techniques. It may require a Master’s degree or specific courses, and other research training activities. It also includes the writing and presentation of a doctoral thesis based on original research. Successful completion of this cycle leads to the title of Doctor, which represents the highest level of advanced academic education.

2.3.1.1 Objectives of university education

28. According to the LOU, universities should serve society in the following ways:
- By creating, developing, transmitting and appraising science, technology and culture.
 - By training students to undertake professional activities that require the application of scientific knowledge and methods or by training students in the arts.
 - By disseminating, appraising and transferring knowledge with the aim of enhancing culture, quality of life and economic development.
29. Within the framework of the EHEA, the objectives of the LOU are to improve the quality of the university system, to foster the mobility of students and teachers, to respond to the challenges of distance higher education, by means of ICTs, and lifelong learning, and to integrate the system competitively in the European university area that is beginning to take shape.
30. The lack of formal diversification among Spanish universities must be mentioned. At least formally, all universities have similar objectives, all are research orientated and all offer similar degree courses (a large proportion of curricula are established at national level by the central government⁶).

2.3.2 Non-university education

2.3.2.1 Higher vocational education

31. Higher vocational education encompasses a series of modular training courses (*ciclos formativos de grado superior*) that vary in duration (one or two years). Students enrol in these courses after finishing secondary education. These courses comprise different theoretical and practical areas of knowledge depending on the professional branch they belong to. The duration of higher training courses is between 1,300 and 2,000 hours (between one and a half and two academic years). Work placements account for 350-750 hours of training and activities.
32. The objectives of higher vocational education are as follows:
- For students to acquire the professional skills pertaining to the qualification they are studying for, and for them to become acquainted with the organisation and characteristics of the sector, as well as the ways to gain entry into the profession.
 - For them to become familiar with basic legislation and their rights and obligations.

⁶ The new government proposal for adapting degree courses to the EHEA leaves behind the tradition of national diplomas. The government will consequently no longer establish common curricula.

- For them to acquire the knowledge and skills needed to work safely and prevent accidents.
- For them to acquire a professional identity and maturity that will spur them on to further learning and enable them to adapt to changes in their field.

2.4 Governance of the tertiary education system

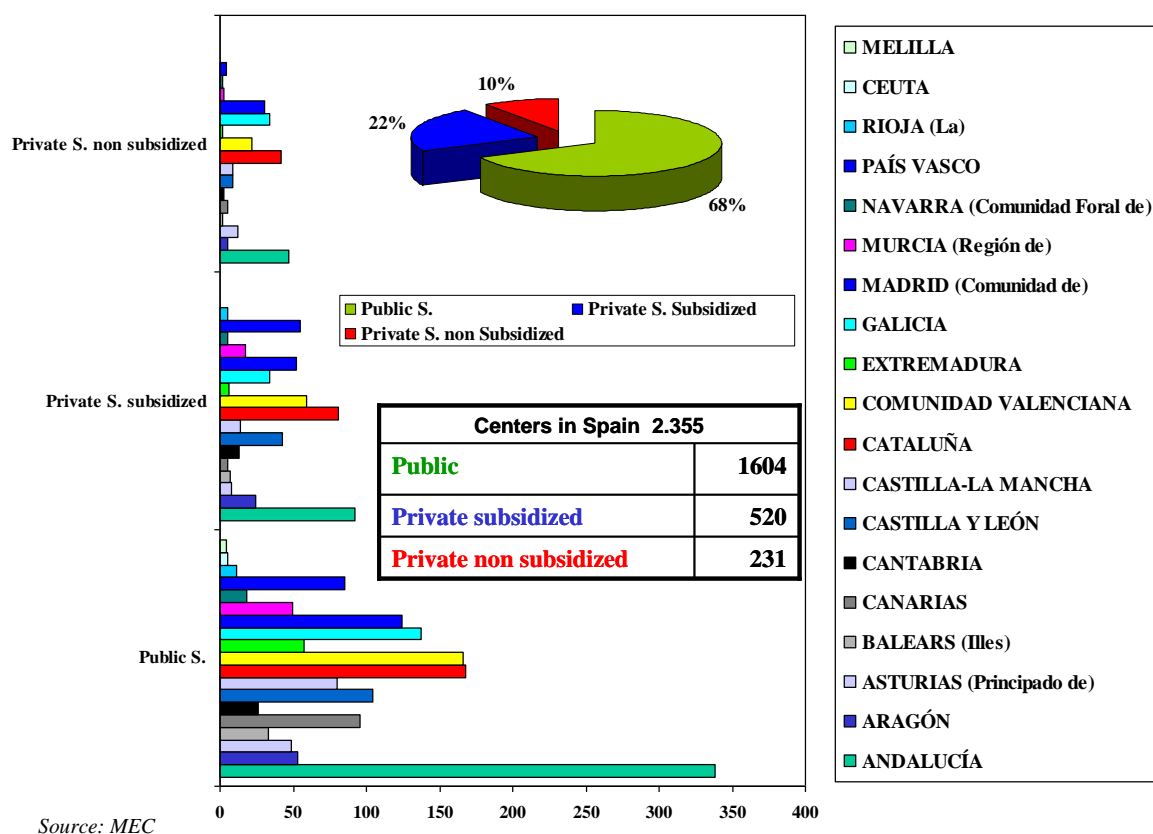
33. In keeping with the decentralised model, governance over education is generally divided up among the state, the autonomous regions, local governments and educational institutions, as set out in the Constitution, the Statutes of Autonomy and the regulatory framework mentioned in Section 2.1.
34. The central government keeps control over the legal framework that guarantees the homogeneity and unity of the education system and guarantees the equality of Spanish citizens. The Ministry of Education and Science (MEC) is the central government department entrusted with exercising this legal control.
35. The autonomous regions, on the other hand, have the ability to regulate and administer education. Frameworks are in place that develop the basic state regulations and exercise the general administrative capacity of managing the education system in the autonomous region. The government of each autonomous region is responsible for administering the educational institutions within its territory. It has the jurisdiction to set up, authorise and oversee the running of public and private institutions, staff, and to build and equip new educational facilities and renovate existing ones.
36. The University Coordination Council (CCU) is the system's coordinating body. It is composed of all the university rectors, those responsible for higher university education from regional governments and experts appointed by the central government and by the parliament. Most proposals related to higher university education have to be reported on by the CCU, although not necessarily its recommendations are compulsory.
37. As regards higher vocational education, there is a Vocational Subcommittee run by the Sectoral Education Conference, a meeting point for coordinating the diverse policies carried out by the different Autonomous Communities. Additionally, the General Council on Vocational Training, a consultative body for the participation of the public Administrations and social partners, advises the Government on vocational matters.

2.5 Tertiary education institutions

2.5.1 University education

38. According to the Spanish Constitution universities may be publicly or privately owned. Public universities are set up by means of a law passed in the legislative assembly of the autonomous region or through legislation passed in the Spanish Parliament, in accordance with the government of the autonomous region. Any person or legal entity may constitute a private university with the approval of the autonomous government. There are two different types of private universities; lay universities and universities belonging to the Catholic Church. The latter are governed by special agreements between the Spanish State and the Vatican.
39. At present Spain has 50 public universities. Two are special universities focused on continuing education and summer courses. One is a distance learning institution. There are 23 private universities, one of them is a distance learning university. Seven of the private

Graph 2.1. Schools of higher vocational education



43. **Higher vocational education** has been traditionally delivered in secondary schools, even though some Autonomous Communities have some specific schools for vocational education. Nevertheless, the final secondary education diploma (*bachillerato*) is required to enrol in the highest level of vocational education. This is why it should be considered as tertiary education despite the fact that in Spain it has always been seen as an extension of secondary education rather than a part of higher education. The Organic Law establishes that higher education encompasses both university studies and vocational education, as well as higher artistic education, higher design, visual art and higher sports studies, in agreement with the International Standard Classification of Education (ISCED-5). The administrative structure of central or regional governments follows this trend: higher education departments deal with universities and education departments deal with the rest, from pre-school to non-university tertiary education.
44. Specific vocational schools are known as *Integrated Vocational Schools*, which may be set up and authorised by regional Governments. They offer courses leading to diplomas within the educational system, with academic and professional value, and occupational certificates, issued by the Labour Administration, related to the labour market, and they both referred to the National Catalogue of Occupational Qualifications. Both systems interrelate by means of units of competence, which, once they have been assessed and accredited, can be capitalized in order to achieve a diploma.
45. Other vocational schools include the Schools of Art. These are governed by general regulations for the entire state, as well as by the conditions set by each autonomous region when it authorises their creation. Music Conservatories are public or private institutions in charge of teaching higher education in music and dance. **Drama Schools** offer dramatic arts education. They must admit a minimum of 90 students and must comply with a set of specific

requirements regarding facilities and relevant equipment, including teaching areas, theatre, library and dressing rooms.

46. Schools that teach **Visual Arts and Design** go by a variety of names according to the types of courses they offer and their management. Public institutions that offer higher education are called Schools of Art in the corresponding discipline. At present, there are Schools of Conservation and Restoration of Cultural Assets, Schools of Design and a School of Pottery. Private institutions may act as authorised centres of the corresponding discipline.
47. **Sports education** institutions may be public or private. They must fulfil a series of requirements in terms of space, equipment and number of students per classroom. Lastly, institutions that teach **Military Education** are organised by agreements between the MEC and the Ministry of Defence.

2.6 Main statistical data for the system

2.6.1 University education

48. In the last two decades, the number of universities in Spain has doubled, to reach 50 public establishments and 23 private ones in 2005 (Table 2.1), due to a directly proportional increase in the demand for university admission (Graph 2.2). Despite sharp growth in the private sector (19 new private universities since 1985), it only caters to 9% of university students.

Table 2.1 Evolution of the number of universities

	1985	1998	2005
Total	34	56	73
Public universities	30	46	50
Private universities	4	10	23

Source: CCU and MEC data

49. The number of degree courses has undergone an almost six-fold increase in the last two decades. The area of social sciences and law accounts for the largest number of degree courses, with 41.6% of the total, and is also the area that has shown the greatest increase, from 139 courses in 1985 to 1,240 in 2005. The area with the lowest growth in the last two decades, and also with the lowest number of courses, is that of experimental sciences.

Table 2.2 Evolution of the number of degree courses

Area of study	Degree courses		
	1985	1998	2005
Total	521	2.287	2.986
Humanities	89	334	383
Experimental sciences	89	207	255
Health sciences	73	196	248
Social sciences and Law	139	954	1,240
Engineering	131	596	860

Source: CCU and MEC data

2.6.1.1 University students

50. The total number of students enrolled in Spanish universities in the 2004-2005 academic year was 1,535,626, of whom 1,462,897 were in the first and second cycle (95.3% of the total) and 72,729 were doctoral students (4.7%). The proportion of long cycle courses has decreased

slightly in the last few years, from 63.6% of the total of students registered in universities in the 1994-1995 academic year to 58.1% in the 2004-2005 academic year. During the same period, the number of students enrolling for short cycle courses increased by 4.5 percentage points, whereas the proportion enrolling on third cycle courses rose from 3.7 to 4.7%.

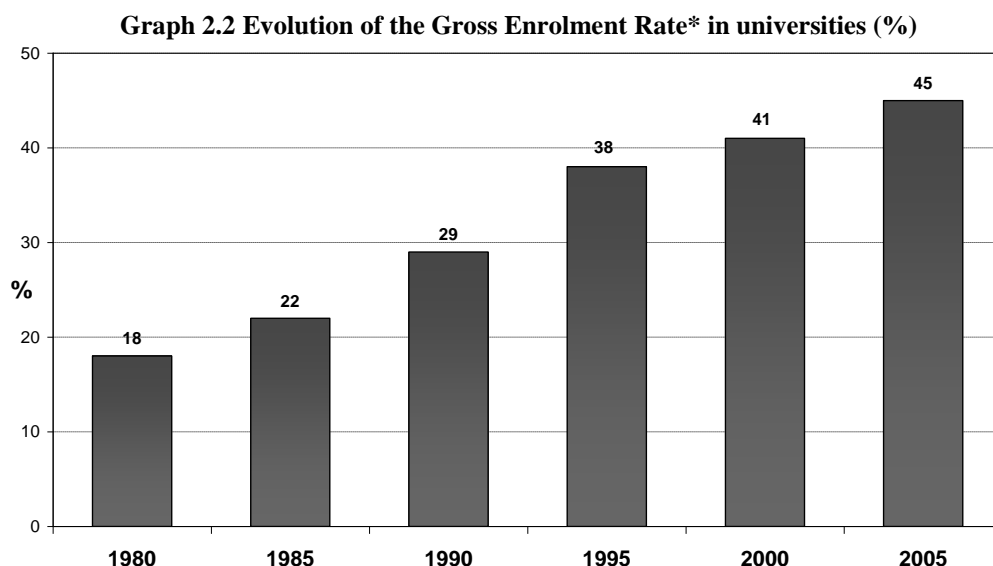
51. As stated above, the public sector dominates the Spanish university system - 91% of students attend public universities. In the third cycle this proportion is even higher, as only 4.4% of students enrol in private universities.

Table 2.3 Evolution of university students according to type of university and study cycle

Cycle and type of university	1994-1995		1999-2000		2004-2005	
	Enrolments	%	Enrolments	%	Enrolments	%
Total	1,501,740	100.0	1,650,777	100.0	1,535,626	100.0
Short cycle	491,761	32.7	579,873	35.1	571,329	37.2
Long cycle	954,711	63.6	1,009,600	61.2	891,568	58.1
Third cycle	55,268	3.7	61,304	3.7	72,729	4.7
Public universities	1,448,302	96.4	1,546,325	93.7	1,397,670	91.0
First and second cycles	1,394,386	92.9	1,486,912	90.1	1,328,154	86.5
Third cycle	53,916	3.6	59,413	3.6	69,516	4.5
Private universities	53,438	3.6	104,452	6.3	137,956	9.0
First and second cycles	52,086	3.5	102,561	6.2	134,743	8.8
Third cycle	1,352	0.1	1,891	0.1	3,213	0.2

Source: CCU and MEC data

52. The gross enrolment rate, which is calculated as the proportion of the population that attends university compared to the population which is theoretically of an age to attend higher education (18 to 23), has increased continuously in the last few decades, despite a trend towards enrolment stagnation in the last ten years (Graphs 2.2 and 2.3).



Source: MEC documents.

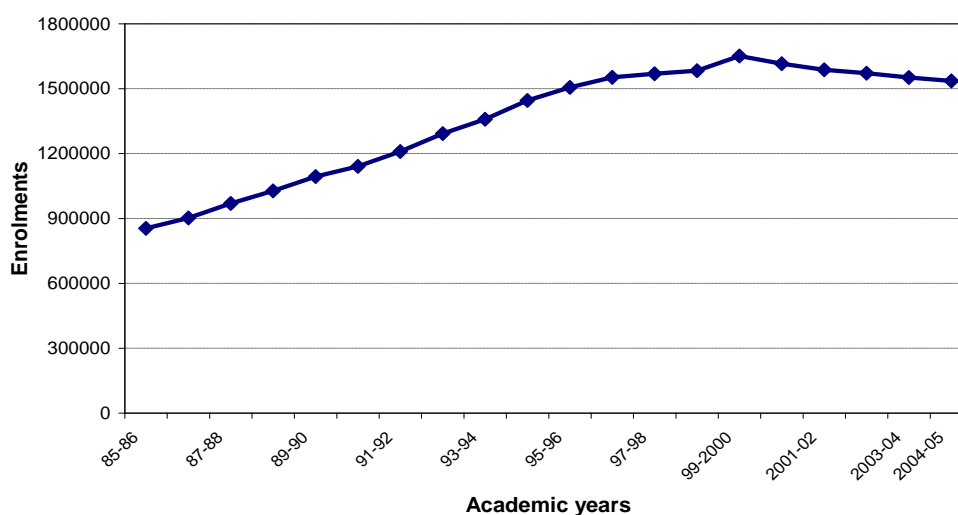
* Refers to the number of students enrolled in universities, regardless of their age, expressed as the percentage of the population of the theoretical age for this level of education (18 to 23).

53. New enrolments have also fallen continuously in the last few years: in the 2004-2005 academic year the number was 216,249, representing a 3.7% fall with respect to the previous year. The most affected areas were experimental sciences (-11.3%) and engineering (-6.8%).⁷

⁷ Combined figures for short and long cycles.

This decrease in new enrolments is mostly due to the dramatic decrease of the cohorts due to the fall in the birth rate in the 1970s. A more favourable economic situation, with better employment opportunities for young people has also some effect in diverting people to the labour market instead of continuing in higher education. On the other hand, the recent attractiveness of higher vocational education courses may also influence the decrease in university students.

Graph 2.3 Evolution of university enrolment



Source: MEC and Bricall documents (2000).

Table 2.4 Evolution of enrolment by study field

Area of education	1994-1995		1999-2000		2004-2005	
	Enrolments	%	Enrolments	%	Enrolments	%
Humanities	133.046	9,92	161.902	10,19	134.103	9,17
Experimental sciences	118.583	6,57	132.884	8,36	105.859	7,24
Health sciences	108.030	11,49	115.421	7,26	116.842	7,99
Social sciences and law	776.609	57,58	794.884	50,01	720.072	49,22
Engineering	310.204	14,44	384.382	24,18	386.021	26,39
Total	1.446.472	100,00	1.589.473	100,00	1.462.897	100,00

Source: CCU and MEC documents.

54. Half of the students enrolled in first and second cycle courses at Spanish universities study degrees in the area of social sciences or law (49.2%). However, their relative weight decreased by 7.8 percentage points in comparison with the 1994-1995 academic year. Law and business administration were the most popular courses in 2003-2004, with 115,466 and 93,085 students respectively.
55. In the period 2004-2005, the proportion of women enrolled in first and second cycle courses was 54% of the total; however, the figure is far higher for long cycle courses alone (57.4%), showing an increase of 4.2 percentage points over 1994-1995. Furthermore, the percentage of women enrolled on third cycle courses was 50.8%, representing an increase of 2.3 percentage points over 1994-1995.
56. The number of foreign students in first and second cycle university courses doubled from 0.7% (10,125 students) in 1994-1995 to 1.5% (21,944 students) in 2004-2005. The forecast

for the 2005-2006 academic year is that it will reach a figure of 1.7%. The number of foreign students in doctoral courses is even higher: the forecast for the 2005-2006 academic year is 22.1%.

57. In recent years, there has been a fall in the proportion of students under the age of 21 in enrolments for first and second cycle courses. This is discussed in more depth in Section 6.3.2.

Table 2.5 Evolution of the distribution of university students enrolled in first and second cycle courses by age

Age group	Academic year		
	1994-1995	2000-2001	2004-2005
Total	1,446,472	1,555,750	1,462,897
Under 20	34,5	29,4	27,4
21 to 25	44,9	48,2	37,1
26 to 30	11,7	12,9	22,0
Over 30	8,9	9,5	13,5

Source: From documents of the CCU and the MEC

58. Academic performance has improved slightly in the last few years, although engineering courses still show a serious delay in completion (Table 2.6). The figures in Table 2.5 showing an increase in the age of university students are therefore probably not attributable to a greater failure rate. It is rather the longer time taken to complete the courses which shows a change in both the patterns of demand for courses and the profile of the students.

Table 2.6 Evolution of actual time taken to graduate

		1993-94	1996-97	1999-2000	2000-01
Humanities	Long cycle	6.5	6.1	6.0	5.9
Experimental sciences	Short cycle	5.0	4.6	4.5	4.3
	Long cycle	6.7	6.6	6.5	6.6
Health sciences	Short cycle	3.3	3.2	3.3	3.3
	Long cycle	7.1	7.0	6.7	6.5
Social sciences and Law	Short cycle	4.4	4.1	4.0	4.0
	Long cycle	6.5	6.6	6.4	6.4
Engineering	Short cycle	6.1	5.6	5.7	5.7
	Long cycle	9.6	9.0	7.8	7.9

Notes: Figures obtained from a sample of 75%. The duration established for short cycle (SC) degrees is 3 years. The duration established for long cycle (LC) degrees is 5 years, except for some LC health sciences and technical degrees, for which it is 6 years.

59. In the case of third cycle students, the percentage distribution by age for the 2004-2005 academic year was 61.3% for those aged 21 to 30, 24.2% for those aged 31 to 40 and 14.5% for those aged 40 or over. These figures show no significant changes from those for 1994-1995 (63.1%, 23.9% and 13% respectively).
60. The number of students graduating from first and second cycle courses increased by 24.4% between 1994-1995 and 2004-2005, from 158,053 to 196,623. The number of third cycle graduates increased by 85% between 1994-1995 and 2003-2004, from 11,365 to 21,022.
61. The percentage of first and second cycle graduates from private universities rose from 4.6% in 1994-1995 to 11.4% in 2004-2005 (Table 2.7). The highest proportions of university graduates in private universities are in engineering and social sciences and law. There is a

clear and increasing dominance of public universities (97%) in third cycle graduations. The percentage of third cycle graduations from private universities fell from 4.2% to 3% between 1994-1995 and 2003-2004.

62. Almost six of every ten first and second cycle graduates are women, with little change between 1994-1995 (59.5%) and 2004-2005 (58.8%). Their relative weight is higher in the areas with high student demand: 62.6% in social and legal sciences, 73.5% in health sciences and 64.4% in humanities. Half of third cycle graduates (49.1%) are women.

Table 2.7 Evolution of first and second cycle university graduates according to type of university and field of study

Area of knowledge and type of university	1994-1995		2004-2005	
	Graduates	%	Graduates	%
Total	158,053	100.0	196,623	100.0
Humanities	15,680	9.9	18,892	9.6
Experimental sciences	10,378	6.6	13,882	7.1
Health sciences	18,167	11.5	22,022	11.2
Social sciences and law	91,003	57.6	98,117	49.9
Engineering	22,825	14.4	43,710	22.2
Public universities	150,821	95.4	174,185	88.6
Humanities	15,167	9.6	17,619	9.0
Experimental sciences	10,331	6.5	12,951	6.6
Health sciences	17,023	10.8	17,947	9.1
Social sciences and law	86,982	55.0	87,702	44.6
Engineering	21,318	13.5	37,966	19.3
Private universities	7,232	4.6	22,438	11.4
Humanities	513	0.3	1,273	0.6
Experimental sciences	47	0.0	931	0.5
Health sciences	1,144	0.7	4,075	2.1
Social sciences and law	4,021	2.5	10,415	5.3
Engineering	1,507	1.0	5,744	2.9

Source: CCU and MEC documents

63. The area of social sciences and law accounts for 50% of student graduate in Spain, though the proportion has fallen slightly in the last decade. Meanwhile, the number of engineering graduates has almost doubled to reach 22.2% (Table 2.7).
64. The participation of Spanish students in mobility programmes such as Socrates/Erasmus is increasingly high. Between 1994-1995 and 2004-2005, the number of students from Spanish universities on this programme rose from 8,537 to 21,350. About six out of every ten students who participate in this programme are women. The main destination countries were Italy (4,250), France (3,412), the United Kingdom (2,974) and Germany (2,553).
65. The number of Socrates/Erasmus students studying in Spain in the 2003-2004 academic year was 24,076 - 83% more than five years earlier. Italy (5,688), France (5,115) and Germany (4,325) sent the greatest numbers of students.

2.6.1.2 University academic staff

66. The number of university *academic* staff in Spain has increased considerably in the last ten years due to the increasing demand for admission and the creation of new universities. There are currently 89,305 academic staff members working at Spanish public universities; of these around 10% are full professors, 33% are associate professors (a doctoral degree is required for these positions), and 14% are college professors (teaching first cycle vocational courses

and with no requirement of a doctoral degree). These three categories are civil servant positions. The rest of the academic staff is in non-tenured positions.

67. One out of every three (33.1%) academic staff members in Spanish universities is female. Women represent only 13.7% of full professors.

2.6.1.3 University expenditure

68. Spanish public expenditure on university education is 0.95% of GDP, and this percentage has changed very little over the last decade (Table 2.8). It represented a fifth of the public expenditure on education in 2005 (Graph 1.2 in Chapter 1).

Table 2.8 Evolution of public expenditure on university education (thousands of euros)

	1992	1995	1998	2001	2003 (p)
Public expenditure on university education (3)	3,253,803	4,094,418	5,111,132	6,314,539	7,398,963
Public expenditure on universities (1)(2)	3,084,794	3,844,928	4,836,154	6,025,913	7,012,569
MEC and regional departments of education	2,170,928	2,353,001	3,028,345	3,709,453	4,426,321
Public university budgets	2,851,032	3,634,757	4,656,754	5,847,045	6,823,297
Other public administrations	32,572	51,837	30,995	41,785	22,183
Public expenditure on grants					
University education, except exemption from tuition fees at public universities	169,009	249,490	274,978	288,626	386,394
Exemption from tuition fees at public universities	57,660	91,319	224,757	232,411	184,398
Public expenditure on university education as percentage of GDP					
% of GDP 1995 base	0.88	0.94	0.97	0.97	0.99
% of GDP 2000 base				0.93	0.95

(1) Public expenditure on universities is the result of consolidating the balance sheet of the education authorities and other authorities with the total balance sheet for university expenditure. (2) It does not include university grants. It does include exemption from tuition fees at public universities. It includes university funding from private sources. (3) Public expenditure on university education is the result of adding public expenditure on universities to the grants for university education except those granting exemption from tuition fees at public universities. Source: Estadística Estatal del Gasto Público en Educación, cited in MEC (2006) Datos y cifras curso 2005-06.

2.6.2 Non-university tertiary education

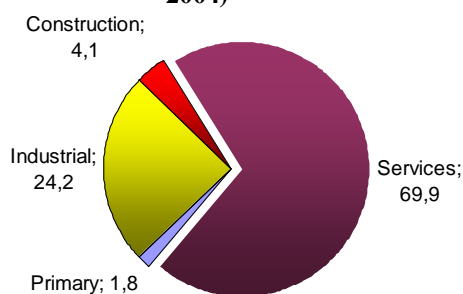
69. In the 2004-2005 academic year, 258,744 students enrolled for non-university tertiary courses, representing 14.4% of the total for the tertiary education system in Spain. In the last decade, higher vocational education courses (the majority of these enrolments, 89%) have undergone an almost seven-fold increase (Table 2.9). The main reason for this increase seems to be the enhanced appeal of the vocational courses on offer, because the size of young cohorts are actually decreasing.

Table 2.9. Evolution of students in higher vocational education courses

	1995-1996	2000-2001	2005-2006
	32,285	185,051	220,262

Source: CCU and MEC;
N.B.: Does not include distance enrolments

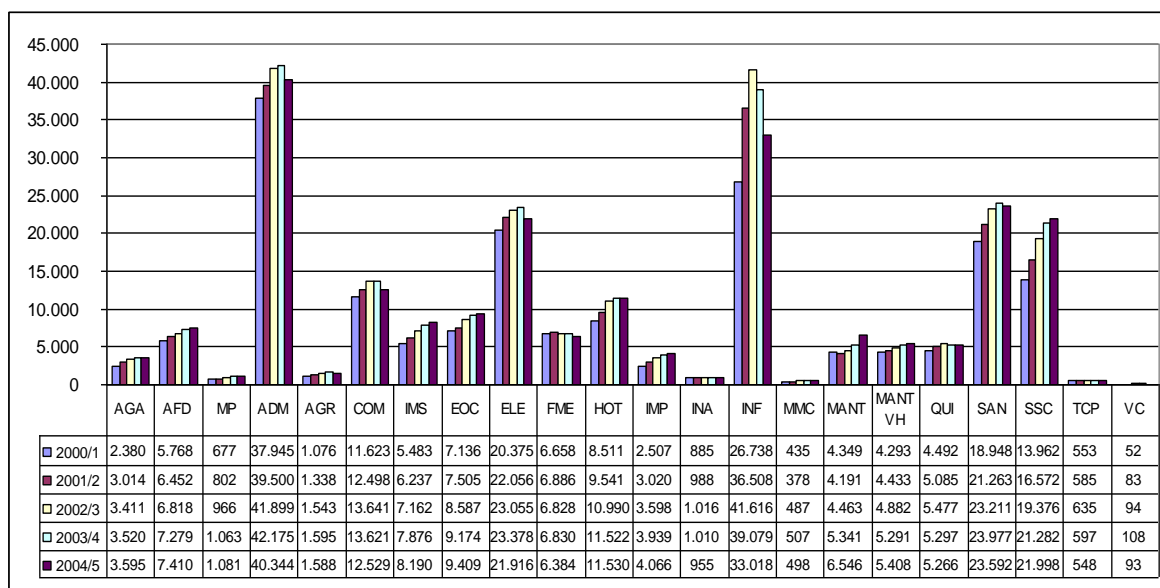
Graph 2.4 Distribution of students enrolled in higher vocational education courses by sector (2003-2004)



Source: MEC

70. During the period 2003-2004, seven out of ten students enrolled in the higher vocational education courses were studying a course in the service area; one out of four were studying a course in the industrial area. These percentages are similar to the weight of the different sectors in the Spanish economy (services 66%, industry 20%). During the 2004-2005 academic year, 3,208 students studied distance higher vocational education cycles (1.4% of the total).

Graph 2.5. Evolution of number of students enrolled in the higher vocational education, by area, between 2000/2001 and 2004/2005



Source: MEC

AGA: Actividades Agrarias
 MP: Actividades Marítimo-Pesqueras
 AGR: Artes Gráficas
 IMS: Confección y Piel
 ELE: Electricidad y Electrónica
 HOT: Hostelería y Turismo
 INA: Industrias Alimentarias
 MMC: Madera y Mueble
 MANTVH: Mantenimiento de Vehículos Autopropulsados
 QUI: Mantenimiento y Servicios a la Producción Química
 SAN: Sanidad
 TCP: Textil

AFD: Actividades Físicas y Deportivas
 ADM: Administración
 COM: Comercio y Marketing Comunicación,
 EOC: Edificación y Obra Civil
 FME: Fabricación Mecánica
 IMP: Imagen Personal
 INF: Informática
 MANT: Mantenimiento
 MANTVH: Mantenimiento de Vehículos Autopropulsados
 SSC: Servicios Socioculturales- Comunidad
 VC: Vidrio y Cerámica

CHAPTER 3. THE TERTIARY EDUCATION SYSTEM AND THE LABOUR MARKET

3.1 Introduction

71. The growth of the tertiary education system in Spain over the past few decades, which is described in Chapter 2, took place within the context of a marked imbalance between supply and demand in employment. In the mid 1970s, a third of the population was still working in agriculture, and the unemployment rate was below 4%. From the 1980s onwards, unemployment rose to 22% in 1986 and (after a brief recovery) 24% in 1994, despite the growth of Spain's GDP. In 2006, however, the unemployment rate was 8.5%⁸. This change is due to the elimination of jobs in agriculture, the large-scale mechanisation of industrial processes and the increasing participation of women in the labour market. The population with tertiary education qualifications has, on the whole, put up better resistance to high levels of unemployment, and has always kept below the total unemployment rate.
72. It should be remembered that the average number of years the working population has spent in education has doubled over the last three decades, rising to over 10 years, and that the population with higher education qualifications has grown almost seven-fold. Over recent years, the Spanish economy has become increasingly geared towards the international market, especially Europe, and this has brought with it changes in the tertiary education system. These changes have been boosted by European unity, foreign language learning, the international mobility of students and academic staff, and the development of joint courses with other European educational establishments to facilitate the mobility and competitiveness of graduates.

3.2 Employment and educational attainment

73. Today about a third of the total working population has received some form of higher education. This reflects a sustained increase in the educational level of the Spanish workforce over the last few decades. While the percentage of workers who have only received primary education has diminished, the percentage with secondary and higher education has increased proportionally (Table 3.1).

Table 3.1 Evolution of the educational attainment of the working population

	2000	2001	2002	2003	2004
Illiterate	0.5	0.5	0.4	0.4	0.4
Primary education only	25.2	23.5	22.2	20.4	18.9
Secondary education	46.5	47.4	48.1	49.5	49.9
Higher education	27.8	28.7	29.3	29.7	30.8
Total	100.0	100.0	100.0	100.0	100.0

Source: Convergence and Employment, Spanish National Reform Programme (PNR). October 2005

74. Training and education are factors that have highly significant repercussions on individual employment levels. The statistical data below shows a clear correlation between educational achievement and lower unemployment rates (Table 3.2). In 2004, the unemployment rate for the population with tertiary education qualifications was less than 3%, whereas it was 16% for the population with incomplete primary education and 24% for the population without education. Significantly, the average rate of unemployment for women was double that of men.

⁸ The official figure of unemployment is still very high. In spite of this figure, around 4 million emigrants have found employment in Spain in the last decade. A certain level of contradiction between these two facts is obvious.

Table 3.2 Unemployment rate (%) according to educational attainment and gender (2004)

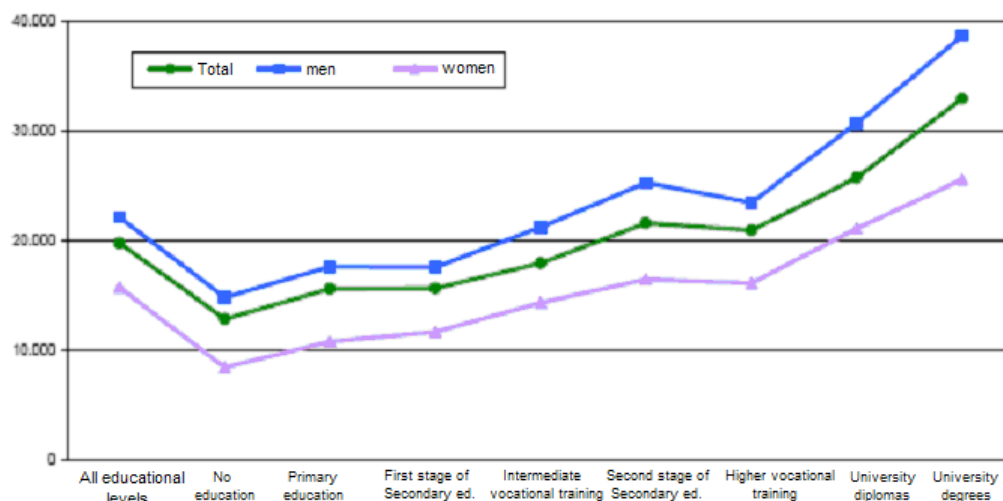
Educational attainment	Both sexes	Men	Women
Illiterate	24.07	19.97	29.53
Primary education	12.04	9.23	17.66
Incomplete primary education	16.03	13.24	21.28
Completed primary education	11.37	8.57	17.03
Vocational training and labour market insertion courses that do not require the school-leaving certificate	15.36	12.89	18.05
First stage of secondary education	12.53	9.03	18.71
First stage of secondary education without school-leaving certificate or similar	16.85	12.96	25.72
First stage of secondary education with school-leaving certificate or similar	12.04	8.55	18.05
Vocational training and labour market insertion courses that require the school-leaving certificate	16.87	11.13	23.89
Second stage of secondary education	10.63	7.29	14.86
Final, non-compulsory stage of secondary education	9.61	6.93	13.13
Vocational education courses	12.40	7.92	17.74
Intermediate courses in music and dance	12.73	12.56	13.03
Vocational training and labour market insertion courses requiring diploma for second stage of secondary education	13.74	5.60	25.14
<i>Higher technical and professional courses</i>	9.33	6.07	14.02
<i>University-specific (not officially recognised) courses and higher vocational education and labour market insertion courses</i>	10.06	9.27	10.68
Tertiary education <i>University-specific (not officially recognised) courses</i>	11.49	11.42	11.54
<i>Vocational training and labour market insertion courses within higher vocational education</i>	7.37	5.15	9.08
<i>First and second cycle university courses</i>	7.76	5.69	9.67
<i>First cycle university courses or similar, or 3 complete academic years of a degree course or similar courses with an equivalent number of credits</i>	7.80	5.47	9.55
<i>First and second cycle university courses, courses comprising the second cycle only or similar</i>	7.74	5.84	9.79
<i>Official professional specialisation courses</i>	7.09	7.02	7.15
<i>Third cycle university courses (doctorate)</i>	2.73	2.43	3.22
All levels of education	10.81	7.94	14.91

Source: INE (2005)

75. The above results show that students with recognised tertiary education qualifications had the lowest rates of unemployment.
76. The income of individuals who completed tertiary education courses was higher over the years (Graph 3.1), especially those who had taken long cycle university courses.¹⁴ The average income of the working population with a second cycle degree, doctorate or similar was 67% higher than the overall average income for Spain, a difference that increased to 92% for the 50-to-59 age group (Table 3.3). The greatest differential in income by level of education was recorded for women from ages 50 to 59 with a higher education degree, doctorate or equivalent, who practically doubled the average income for women of this age.

77. There was still a marked difference in income between men and women at all educational levels (Graph 3.1); on average, women earned 29% less than men (15,767.60€ per year as opposed to 22,169.20€). Obtaining a tertiary education degree increases this difference: women with university diplomas (first cycle degrees) or higher vocational education earned 31% less than their male counterparts, and women holding a second cycle degree and doctorate earned 34% less.

Graph 3.1 Average annual income (€) by educational attainment and gender (2002)



Source: MEC (2005). University diploma is a first cycle degree.

Table 3.3 Average annual income (€) for holders of tertiary education qualifications by gender and age

	All	Higher vocational education courses	First cycle university diplomas or similar	Second cycle university diplomas, doctorates or similar
ALL				
All ages	19,802.5	20,990.6	25,760.3	32,997.5
Under 20	9,686.1	9,972.7	-	-
20 to 29 years	14,362.4	15,035.1	17,745.1	19,955.0
30 to 39 years	19,617.6	20,911.6	25,120.6	31,319.0
40 to 49 years	22,995.4	26,196.6	31,161.6	42,183.7
50 to 59 years	25,346.7	32,002.5	34,701.8	48,557.3
Over 60	23,104.4	30,724.1	33,036.7	45,041.5
MEN				
All ages	22,169.2	23,521.9	30,757.8	38,691.2
Under 20	10,544.8	10,514.2	-	-
20 to 29 years	15,514.6	16,564.9	19,991.5	21,779.4
30 to 39 years	21,403.5	22,946.4	28,897.3	35,695.6
40 to 49 years	25,856.6	28,724.2	37,752.0	47,529.1
50 to 59 years	28,359.4	34,180.9	41,249.5	53,522.4
Over 60	25,858.0	32,031.6	37,490.2	49,214.9
WOMEN				
All ages	15,767.6	16,133.3	21,151.8	25,629.8
Under 20	7,969.9	8,220.1	-	-
20 to 29 years	12,807.4	12,814.2	16,145.8	18,431.8
30 to 39 years	16,691.1	17,150.8	21,407.0	26,236.5
40 to 49 years	17,962.7	20,256.3	25,281.0	33,117.1
50 to 59 years	17,564.3	22,715.4	26,090.4	34,579.0
Over 60	15,394.8	24,971.2	24,713.7	25,744.6

Source: MEC data (2005)

78. More than half of the illiterate workers worked in unskilled jobs, as did a quarter of the population with primary education or no education at all. On the other hand, 40% of workers with tertiary education, and 90% of those with doctorates, worked as scientific and intellectual technicians and professionals (Table 3.4).

Table 3.4 Distribution of workers by occupation and educational attainment (2003)

	Total	Illiterate	Primary education or without education	Lower secondary education	Upper secondary education	Higher education, except doctorates	Doctorates
Company and public administration managers	7.5	6.7	8.3	6.7	8.4	7.4	3.9
Scientific, technicians or professionals	12.4	..	0.2	0.2	1.4	39.5	89.3
Technical and support staff	10.4	..	2.3	4.8	16.1	17.8	3.3
Administrative staff	9.6	0.7	3.0	6.5	17.6	12.1	3.1
Catering, security services and salespersons	14.6	5.4	12.6	18.2	21.4	7.9	..
Qualified workers in agriculture and fishing	3.7	11.6	8.9	4.4	1.9	0.5	..
Craftsmen and qualified workers in manufacturing, construction and mining, other than operators	17.4	16.4	25.7	24.0	13.8	7.6	..
Operators of facilities and machinery, fitters	9.8	5.7	13.3	15.2	8.2	3.4	..
Unskilled workers	14.1	53.6	25.6	19.6	10.1	3.3	0.3
Armed forces	0.5	..	0.1	0.4	1.1	0.6	..
Total	100	100	100	100	100	100	100

Source: MEC (2005)

3.2.1 Graduates

79. In 2001, almost 18% of young university graduates worked in companies or educational establishments, followed by 14.5% in the health sector, 13% in manufacturing, and 8.7% in financial services. These four sectors alone accounted for 54% of young Spanish graduates.¹⁵
80. As regards quality of employment, Spain had the highest proportion of young graduates with temporary contracts (45%) out of the 12 countries that participated in the CHEERS survey. In fact, a third of all the contracts in Spain are temporary, and this limits the improvement of human capital, which does not only depend on the educational level of the working population but also on on-the-job training. Temporary employees are not motivated to develop human capital which is specific to the company, as they are not likely to remain there. Moreover, the company does not have much interest in training temporary employees, who may leave if they receive a better offer, and it does not include them in the company's strategic plans, which lowers productivity.
81. According to a survey carried out by Spain's National Agency for Quality Assessment and Accreditation (ANECA), which assesses 182 degree courses from 30 universities, only one out of 10 degree holders who graduated in the year 2000 is now unemployed. Additionally, 77% of those interviewed found work within less than a year, and 65% considered that their work was appropriate to their training. The most frequent way of looking for work was through personal contacts and contacts with employers. Spain is at the bottom of the ladder income-wise in the CHEERS survey. The average salary for young graduates is about €16,200 per year, as opposed to the overall average of €27,500€ for the countries participating in the survey. This information can be complemented by that put forth in the study *The Flexible Professional in the Knowledge Society: New Demands on Higher Education in Europe*, which gathers data from 80% of university degree holders who received their degree in academic year 1999-2000, comparing it with the data of other European countries. In said report, it is shown that Spanish degree holders earn the least in Europe as the average salary (by contract, without including overtime) is 1,410€ a month.

3.3 Career guidance and labour market insertion

3.3.1 University education

82. Universities often have centres (COIEs), that provide career guidance and information to graduates and final year students who are looking for work or wish to know more about educational and professional opportunities. These centres facilitate access to work placements in companies and vocational education and labour market insertion courses, the organisation of forums to promote contact between students and local businesses, and offer companies a free pre-selection service for certain posts.
83. In recent years, there has been an increase in agreements between universities and companies intended to facilitate student access to work placements as part of the curriculum. Although there is not enough statistical information available to carry out an exhaustive study of the extent of this practice across Spanish universities, the Conference of Rectors of Spanish Universities (CRUE) estimated that, during the 2000-2001 academic year, 69,600 undergraduates (8% of the student population) participated in work placement programs in companies. Significantly, just two years previously, this percentage was only 5.1%, which reveals how these programmes have grown in the last few years. In some universities or centres these figures are quite higher because work placements are part of the degree course.
84. ANECA runs a labour market insertion observatory and ANECA, some regional quality assurance agencies and many universities carry out studies on labour market insertion of young graduates.
85. Two initiatives are currently underway involving work placement programs in European companies: the Argo and Faro projects. The Argo project is intended for university graduates from any Spanish university and provides 840 work placement programmes in European companies, with an average duration of six months. The Faro project consists of 500 grants to enable students in the final years of their university courses in Spain to do a period of work placements in European companies, with an average length of six months per grant. Both initiatives are part of the European Union's Leonardo da Vinci programme, and are coordinated by the Spanish Ministry of Education and Science.

3.3.2 Higher vocational education

86. In the Spanish education system, vocational education has excellent direct links with the working world. All vocational education courses include a specific module carried out in the workplace, which constitutes an ideal way for pupils to become familiar with work situations and establish direct contact with the working world. However, pupils are never directly employed by the company. Training modules established in the workplace have become one of the most effective means of obtaining employment. Pupils who have carried out work placement schemes in a company are often employed by the same company when they graduate. Students who successfully complete higher vocational education studies obtain an Advanced Technician (*Técnico Superior*) degree.

3.3.3 Special vocational courses

87. The qualifications obtained after following special vocational courses are professional qualifications that enable students to enter the labour market. Vocational education courses in Visual Arts and Design contain a phase of practical training in companies, studios and workshops, which has become a key tool for labour market insertion. In Sports Education, all

students take a professional development module, which guides and facilitates their insertion in the labour market. It contains information on the labour market, professional associations, and legal requirements for exercising the profession of advanced sports specialist. Students who successfully complete these studies obtain a university diploma.

3.4 Supply, demand and enrolment in tertiary education

3.4.1 University education

88. The University Coordination Council determines the number of students admitted in public universities, basing its decision largely on the proposals put forward by the autonomous regions, student demand, and the cost of each course. Labour market demand has not been a major factor in decisions on the number of students admitted for most university courses. Traditionally, first and second cycle courses in Spain are geared towards particular professions but there are postgraduate and continuing education courses that specifically cater for the needs of the labour market.
89. After decades of sharply increasing university enrolment figures, in which student demand exceeded supply, figures for the 2003-2004 academic year showed a reverse in the trend. Demand fell by 18% in relation to the number of admissions offered and equalled supply. In the following year (2004-2005), enrolment figures fell by 3.7% and the number of offered admissions fell by 2.7% with respect to the preceding year, which made the overall ratio of enrolment figures versus the number of admissions 81.92% (Table 3.5). In other words, in the 2004-5 academic year, universities did not admit the expected number of students by over 18%.

Table 3.5 Overall data for universities supply and demand (2004-05 academic year)

Supply	Demand	Enrolment	D/S	E/S
263,987	264,410	216,249	100.2%	81.9%

Source: MEC (2005); D/EP = Demand/Supply; E/P = Enrolment/Supply. NB: these are aggregate results for all the public universities (except the UNED, the national distance-learning university) and for all disciplines.

90. The situation varied considerably between universities and their departments or schools. Nonetheless, although the number of admissions offered for some courses was excessive, there were still courses where demand outweighed supply. When the information was disaggregated by discipline, the results varied considerably.
91. The greatest imbalance between the number of admissions offered and student demand occurred in the area of health sciences, where coverage ratios indicated that demand for admission was three times greater than the number of admissions available: the demand/supply ratio was 316% for the long cycle and 270% for the short one, and the number of students that could be admitted was reached. Health sciences was the only area in which the number of admissions offered increased in the 2004-2005 academic year with respect to the previous year, as it was the only one in which student demand was greater than the number of possible admissions (Table 3.6).

Table 3.6 Changes in the number of admissions and enrolment figures by area of knowledge and cycle

Area of knowledge (overall figures)	Cycle	2003-2004			2004-2005		
		Supply	Enrol.	Diff. S-E	Supply	Enrol.	Diff. S-E
Health sciences		21,386	21,967	-581	21,490	21,757	-267
	Short cycle	12,657	12,915	-258	12,828	12,937	-109
	Long cycle	8,729	9,052	-323	8,662	8,820	-158
Exp. sciences		20,849	16,370	4,479	20,441	14,515	5,926
	Short cycle	2,873	2,061	812	2,806	2,070	736
	Long cycle	17,976	14,309	3,667	17,635	12,445	5,190
Soc. sciences and law		127,943	108,994	18,949	124,575	107,016	17,559
	Short cycle	75,573	62,955	12,618	73,753	61,410	12,343
	Long cycle	52,370	46,039	6,331	50,822	45,606	5,216
Engineering		70,133	58,733	11,400	68,150	54,721	13,429
	Short cycle	49,785	39,304	10,481	48,434	36,998	11,436
	Long cycle	20,348	19,429	919	19,716	17,723	1,993
Humanities		31,024	18,490	12,534	29,331	18,240	11,091
	Long cycle	31,024	18,490	12,534	29,331	18,240	11,091
Total Short Cycle		140,888	117,235	23,653	137,821	113,415	24,406
Total Long Cycle		130,447	107,319	23,128	126,166	102,834	23,332
TOTAL		271,335	224,554	46,781	263,987	216,249	47,738

Source: *Estudio de la oferta, la demanda y la matrícula en las universidades públicas en el curso 2004-05* (MEC) (May 2005).

92. Although demand for long cycle engineering courses in public universities was also greater than the supply (111%), enrolment figures covered 90% of admissions offered, and therefore 10% of these remained vacant. In the short cycle, coverage was even lower (78%), and almost a fifth of the number of possible admissions was not achieved.
93. The area of social sciences and law accounted for almost half of total university admissions and was also the area in which the greatest number of possible admissions were not achieved. However, it had the best supply/demand ratio in both cycles (with the exception of health sciences), and an enrolment/supply ratio of 91%.
94. The greatest decrease in the number of admissions offered occurred in humanities in the 2004-2005 academic year (5.5%), although enrolment only dropped by 1.35%. This led to a convergence of supply and demand, which corrected the divergent trends of the previous few years. Nevertheless, its demand/supply and enrolment/supply ratios were still very low, at just over 60%, indicating that almost 40% of the possible admissions for this area were not achieved. In general, students who requested a humanities course as their first choice were given the opportunity to enrol, due to the surplus of the number of possible admissions in this area.
95. There was also a significant surplus of the number of possible admissions for long cycle courses in experimental sciences (64%) although the enrolment/supply ratio was slightly higher (71%). In recent years demand has been very low, especially in the long cycle, and almost 30% of the number of students that could be admitted in this area was not achieved, giving rise to large-scale inefficiency in the system. This phenomenon is linked to the fact that young graduates in experimental sciences have the highest rate of unemployment.

3.4.2 Higher vocational education

96. Since the approval of the Organic Law on the General Organisation of the Educational System (LOGSE) in 1990, the number of students that could be admitted available in higher vocational education has no longer been linked to student demand, but has instead been adapted to the requirements of industry. The National Institute of Qualifications (INCUAL) studies the labour market and defines the qualifications sought by different economic sectors, duly including them in the National Catalogue of Occupational Qualifications. The INCUAL is the technical body of the General Council for Vocational Education (CGFP), which has functions such as the development of and proposal to the central government of the National Vocational Education Programme and to report on the bills affecting study programs and degrees corresponding to different levels of study and specializations within vocational education. The MEC, taking the qualifications listed in the Catalogue as a benchmark, establishes the vocational education courses that lead to diplomas.
97. The CGFP has a rotating chairmanship between the Minister for Labour and Social Affairs and the Minister for Education and Science. It is made up of 77 members, among which there is a wide representation of representatives designated by the Spanish General State Administration from the CCAAs, as well as the most representative business and trade union organizations. In turn, the CCAAs have created councils for Vocational Education or similar organizations, which draw up their own plans for vocational education that include steps such as giving incentives for the signing of agreements with businesses, trade unions and administrations (autonomous or local) in order to facilitate the insertion of students into the labour market and unpaid internships as well as the hiring of those with a training contract. In these autonomous councils, social agents (trade unions and business associations) as well as local ones have representation.
98. Currently, all the autonomous regions (except for the two autonomous cities of Ceuta and Melilla) determine the number of students that can be admitted for each vocational course and the consequent budgetary allocations with a view to meeting the requirements of the labour market in that region. This fact is partly responsible for the fact that the unemployment rate among students with higher vocational education qualifications is among the lowest (Table 3.2), although the fact that vocational education is more closely adapted to the labour market and that students can make contacts during work placements also contributes to higher employment rates.

3.5 Tertiary education policies for employment

3.5.1 Integration into the European Higher Education Area (EHEA) and the European labour market

99. Spanish higher education policy aimed at integration into the EHEA, which will involve creating courses that can be more easily compared at a European level and greater focus on student learning, will also entail new relations with the labour market. The European Diploma Supplement will facilitate student mobility and integration into the European labour market, as it is an easier, more transparent mechanism for conveying information on the knowledge acquired by students to other universities and European institutions.
100. Introducing the European credit as the unit of educational attainment involves evaluating all the work carried out by students on their courses and not just the hours spent in class. This will make it easier to insert in-company work placements into students' academic records, thus promoting greater contact with the labour market at an earlier stage.

101. Higher vocational education, whose curricula are currently under revision, is going to be credit counted in order to facilitate further university studies, since, using a different counting measure, like ECVET, would make such progression difficult to fulfil.
102. Another consequence of the integration of Spanish tertiary education into the EHEA is the definition of the Spanish Qualification Framework for the EHEA. This framework, which is currently under development, will allow learning processes to be defined in relation to the competencies required by the labour market. This framework will help to transform the design of degree courses at university level thus bringing them closer to real social and economic demands.

3.5.2 The 2004 Spanish National Reform Programme

103. In 2004, the Spanish government drew up the National Reform Programme (PNR) around two main objectives: an employment rate of 66% and complete convergence on per capita income with the EU-25 in 2010. All of this was to be achieved by creating more, better quality employment and by increasing productivity.
104. The educational and training measures envisaged included continuing education strategies aimed mainly at people with few (or no) qualifications, strategies to combat dropouts, strategies to meet the objective set by the European Commission for 2010 that 85% of young people over 22 years old should have completed the second stage of secondary education, and the promotion of distance learning to ensure that the least privileged sectors of society have access to the broadest possible range of educational activities. The objectives for tertiary education included increasing the net income of the tertiary education system by as much as 53% by 2010, improving the quantity and quality of education received by undergraduates in science, mathematics and technology in order to increase productivity and the competitiveness of the economy, and integrating the Spanish tertiary education system into the new EHEA by 2010.

Table 3.7 Human capital indicators in the National Reform Programme (PNR)

Indicator	Present situation	PNR objective	PNR objective
	2004	2008	2010
Nursery education			
Children starting school at 2 years old	21.7%	27%	>30%
Compulsory education			
Students with the school-leaving certificate	70.2% (2)	76%	>80%
Results of the OECD Programme for International Student Assessment (PISA) report (1)	Reading comprehension	21.1% (3)	16% (3)
	Mathematics	23.2% (4)	27%
	Mathematics	23% (3)	19%
	Mathematics	25.6% (4)	30%
Science	487 (5)	500	>500
Attainment in foreign languages	15% (6)	13%	11%
	17% (7)	19%	21%
Second-stage secondary education			
Dropouts (8)	30.4%	20%	15%
Completion of the second stage of secondary education (20-24 years) (9)	62.5%	74%	80%
Tertiary education			
Enrolment in tertiary education (university courses and higher vocational education) (10)	46%	51%	>53%
Graduates in science, mathematics and technology	12%	13%	13.5%
Lifelong learning			

Population receiving continuing education	5.2%	10%	12.5%
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Source: Spanish National Reform Programme (13 October 2005). (1) PISA report (OECD) (2003). (2) Data for 2002-2003. (3) Percentage of pupils in performance levels 0 and 1 in the PISA report. The aim is to reduce this percentage by 25%. There are 6 levels, ranging from 0 (lowest) to 6 (highest). (4) Percentage of pupils in performance levels 4, 5 and 6 in the PISA report. The aim is to increase this percentage by 25%. (5) Spanish result in the PISA report. The aim is to achieve a result that is higher than the OECD average (500). (6) Percentage of pupils in levels 1 and 2, the lowest levels of competence in the national assessment. The aim is to reduce this percentage by 25%. (7) Percentage of pupils in levels 5 and 6, the highest levels of competence in the national assessment. The aim is to increase this percentage by 25%. (8) Young people between 18 and 24 years old who have, at most, completed the first stage of secondary education and are no longer in education. The European objective is to reduce this figure to 10% by 2010. (9) The European objective is to reach 85% in 2010. (10) The net rate of entry into tertiary education of all kinds for the OECD was 53% in 2003.

3.6 Social agents and higher education

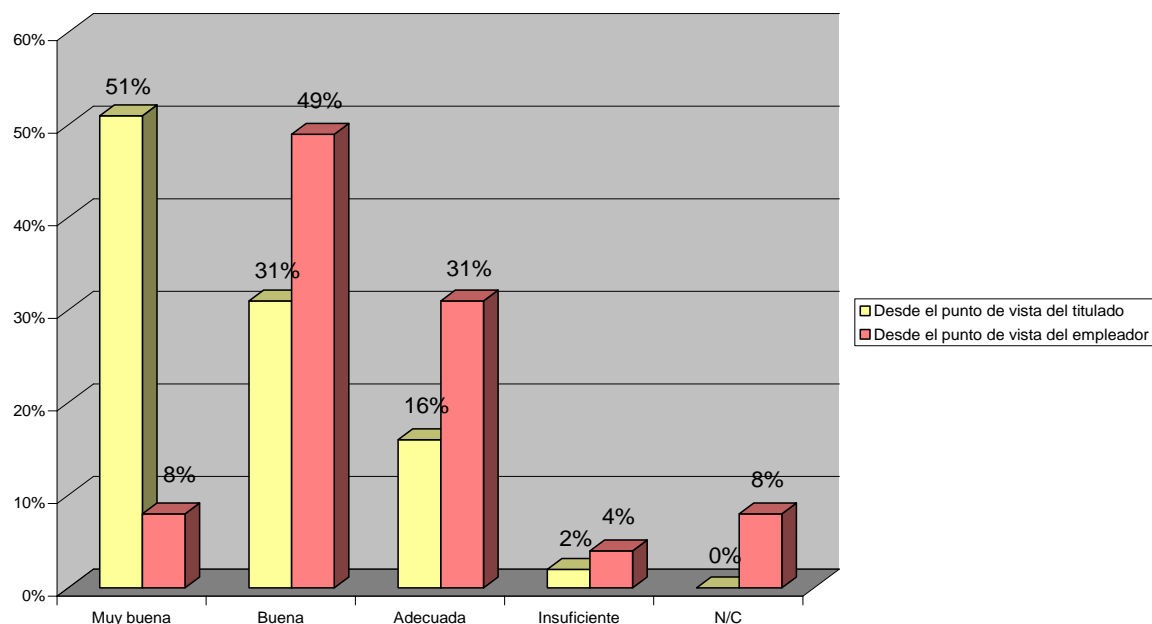
3.6.1. *The participation and opinion of the commercial network*

105. In public universities, the Social Councils have representatives from employers' organisations, chambers of commerce and professional associations, as long as it is regulated by the corresponding CCAA. The role of the Social Councils as far as academic issues are concerned is very limited, resulting in a very slight real implication in educational policies. In fact, in the Council of Universities, recently approved through the modification of the LOU, social agents are not represented.
106. In order to take into consideration the opinion of the commercial network on Higher Education, we can turn to the statement of the training director of the High Council of the Chamber of Commerce that is of the opinion that "The Spanish university population, almost 1.5 million students, is one of the highest in Europe, however, the **universities have a weak connection with the business world** and they are removed from the economic reality of our country", while his evaluation of vocational education is quite different as "it has been touched up over the last few years resulting in a favourable strengthening of the school-business relationship, and because of this, demand for this type of training by businesses is slowly increasing ", he adds.

3.6.2. *Employer demands*

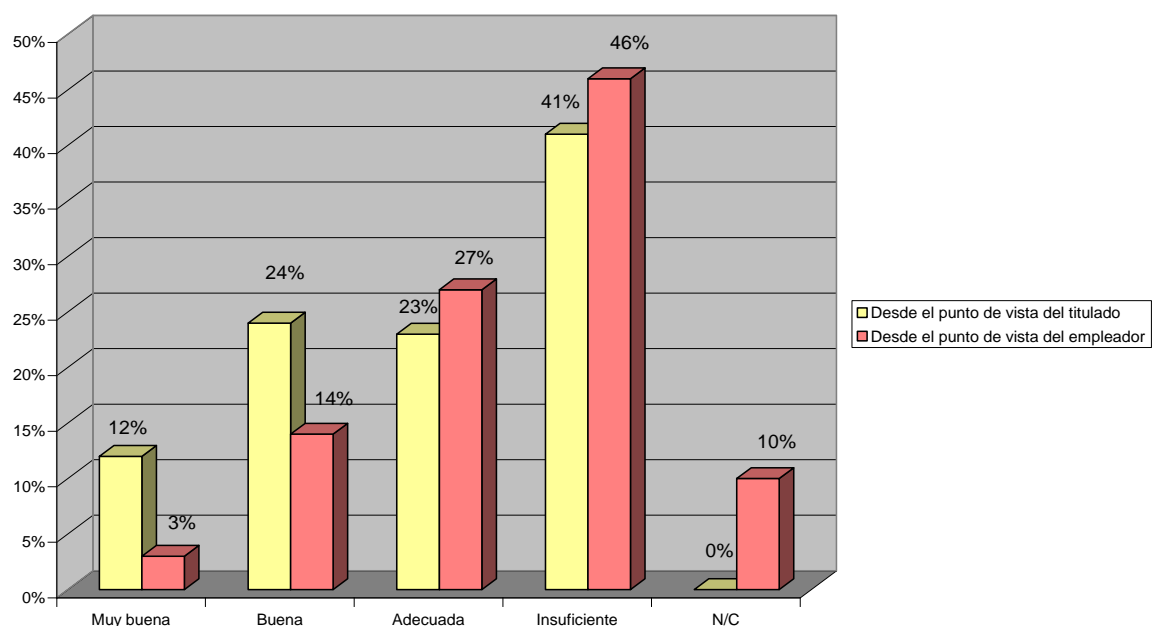
107. If we do a comparative analysis of recent graduates and employer opinions, we can deduce that, in evaluating the training received, both groups generally coincide in giving the theoretical component a positive evaluation and, the practical component, a negative evaluation.
108. The information sources that we have at our disposition to learn about the opinion that employers have of higher education are limited. However, with the data that we have for 2004, we can state that Spanish employers are looking for university graduates with an economic-legal (37%) and technical (45.4%) professional profile. As for level of studies, the first demanded is a bachelor's degree (44%), followed by an advanced engineering degree (23%), specialised engineering degree (21%) and an associate's degree (12%).

Graph 3.2 Assessment of theoretical learning



Source: Societal demands and their influence on the planning of degrees in Spain in the framework of the European process of convergence in higher education. Project EA2004-0009 of the General Directorate of Universities of the Spanish Ministry of Education and Science Studies and Analysis Program (2004)

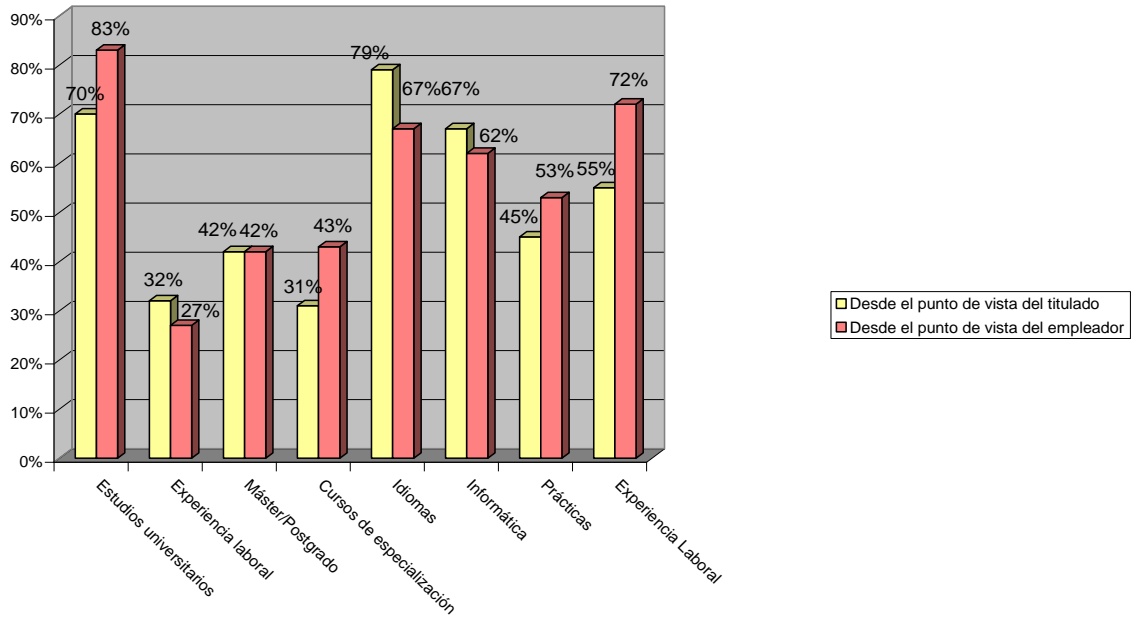
Graph 3.3 Assessment of the practical learning



Source: Societal demands and their influence on the planning of degrees in Spain in the framework of the European process of convergence in higher education. Project EA2004-0009 of the General Directorate of Universities of the Spanish Ministry of Education and Science Studies and Analysis Program (2004)

109. As far as academic qualifications are concerned, the opinion of graduates and employers differs considerably in evaluating the importance of university studies (70 y 83%), specialized courses (31 y 43%), languages (79 y 67%), academic internships (45 y 53%) and work experience (55 y 72%).

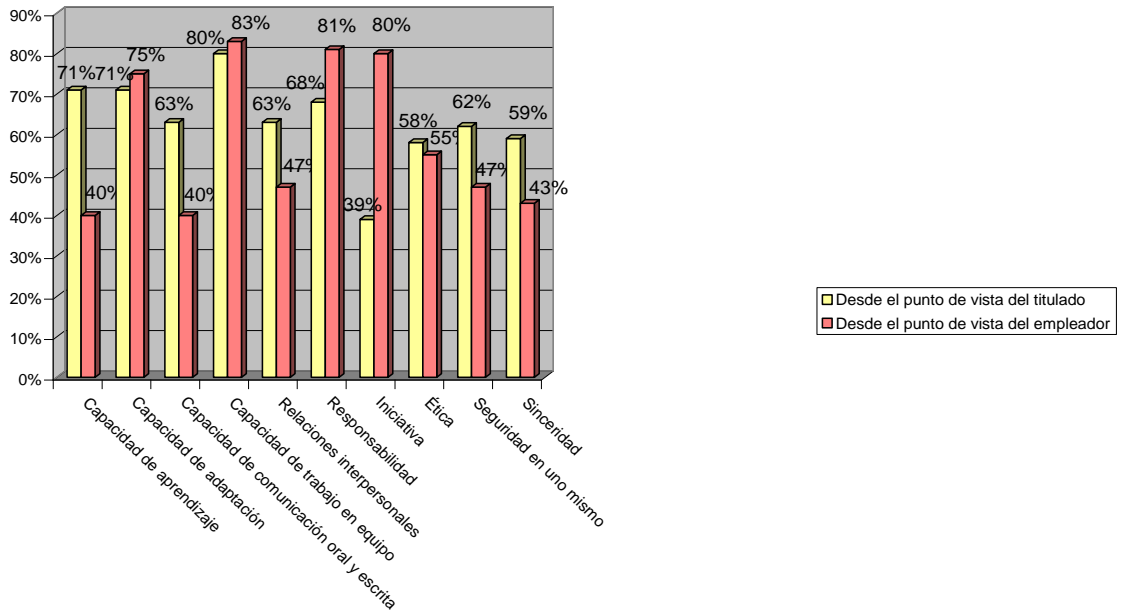
Graph 3.4 Assessment of the relevance of different aspect of the curriculum vitae



Source: Societal demands and their influence on the planning of degrees in Spain in the framework of the European process of convergence in higher education. Project EA2004-0009 of the General Directorate of Universities of the Spanish Ministry of Education and Science Studies and Analysis Program (2004)

110. Finally, the following graph shows the evaluation of social competencies through the eyes of employers and of students who are about to join the labour market.

Graph 3.5 Assessment of social and attitudinal competences

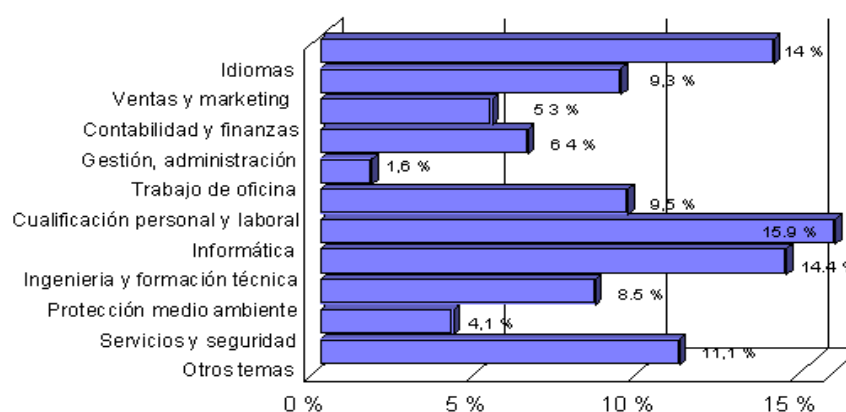


Source: Societal demands and their influence on the planning of degrees in Spain in the framework of the European process of convergence in higher education. Project EA2004-0009 of the General Directorate of Universities of the Spanish Ministry of Education and Science Studies and Analysis Program (2004)

3.6.3. Training provided by companies to their workers

111. As far as the role that universities play in on-going training given by companies, there is very little statistical data that permit us to get a glimpse of reality. However, universities tend to collaborate with companies in their field in certain aspects (courses, certain projects, etc...), but not on a regular basis.
112. The conclusions of the Report on the On-going Training Results Survey, drawn up by the Ministry of Labour and Social Affairs in 1999, focuses mainly on pointing out that almost three out of ten companies studied provided their workers with some kind of training activity, with less than two that specifically taught training courses and two out of ten that carry out other types of training.
113. This statement does allow, however, for closer analysis, as the behaviors of companies with respect to training vary considerably according to size and economic activity sector. In this sense, it is certain that almost six of every ten medium-sized companies and almost nine of every ten large companies teach training activities, and that in activity sectors as strong as those related to financial intermediation, six of every ten companies provide training.
114. A third of the companies that give training have a specific plan or programme. Only four percent of the all companies has a specific budget for training activities, three percent has its own training center, with its own personnel and facilities, and only two percent involve workers in developing training plans.
115. The Graph 3.6 shows how the hours dedicated to courses by **target subject matter** are distributed percentual-wise. The percentages of hours registered reveal the existence of three clear main training fields: technology (15.9 percent), engineering and technical training (14.4 percent) and languages (14.0 percent). It is worth highlighting, as well, that subject matters such as personal and professional qualifications and sales and marketing both register around 9.5 percent of the total hours dedicated to on-going vocational education courses and, as well, as an emerging subject matter of greater interest both for companies and workers participating, environmental protection (8.5 percent).

Graph 3.6. Hours dedicated to training courses, by training subject matter (Percentual distributions)

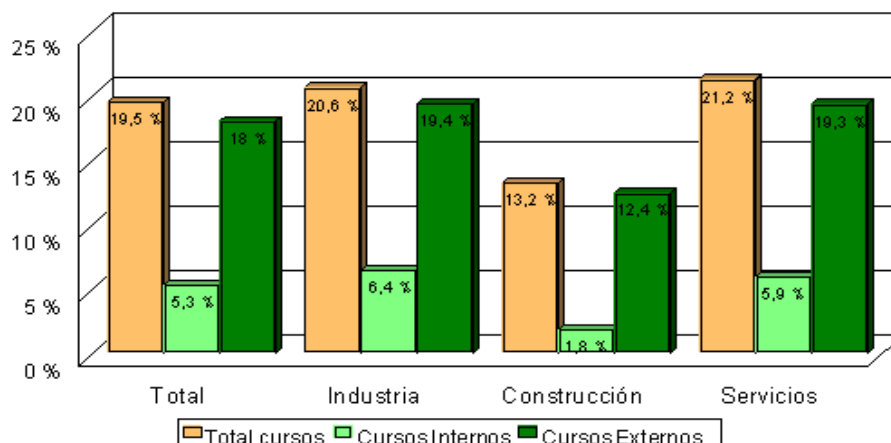


Source: Results of the ongoing training survey. Ministry of Labour and Social Affairs (1999)

116. The number of companies that provide their workers with training courses is 55,400, a sum that represents 19.5 percent of all companies covered by the survey. This demonstrates that, despite the fact that there has been an increase, in comparison with 1993, in the number of companies that offer training, as was mentioned in the previous section, for the majority of companies, carrying out of training activities does not seem to be included in their most immediate objectives.

117. The following Graph shows that, of all companies covered by the survey, those that provide their workers with **training courses** are mainly in the services sector (21.2 percent) and are those that, in percentual terms, provide more courses, while those that pertain to the construction sector are those with the least percentage (13.2 percent). It can also be observed that the companies that provide training courses, 51,100 (18.0 percent) provide out-of-house training courses, while only 14,900 (5.3 percent) provide in-house courses.

Graph 3.7. Companies that provide training courses, according to activity sector, by course type (Percentage with respect to all companies in each sector)



Source: Results of the on-going training survey. Ministry of Labour and Social Affairs (1999)

118. There are no data available regarding the link between these out-of-house training courses and the regulated educational system.
119. Of the companies that give training, 58,500 offer other types of training, such as planning periods, job rotation, quality circles, independent learning and conferences and seminars. Among these categories, it is observed that almost 30,000 companies have used planning periods (a sum that represents 38.2 percent of all companies that provide training activities), 28,500 offered conferences and seminars (36.7 percent), 18,600 opted for job rotation or exchanges (23.9 percent), while 18,000 and 17,300 companies (independent learning and quality circles, respectively) are other training categories with significant use, whose percentages reach 23.1 and 22.3, respectively, of the companies that offer training.
120. As far as the number of workers that participate in these types of training, by economic activity sector, 10.4 percent have participated in all three economic activity sectors, and they do so more so, through planning periods (11.5 percent in services, 10.9 percent in industry and 4.9 percent in construction), followed by participants in conferences and seminars (7.3 percent in industry and 3 percent in construction), while independent learning is the category where service sector workers participate most (7.1 percent). Job rotation and quality circles are the most common forms of training used by industry sector participants (4.9 percent and 4.8 percent, respectively).
121. Training prospects in the business world, although with nuances, did not turn out to be very promising, since more than half the companies that did not give training in 1999 planned not to do so in the two year period of 2000-2001, while a fifth of companies that provided training decided to stop doing so during the same time period.

CHAPTER 4. THE REGIONAL ROLE OF TERTIARY EDUCATION

4.1 Introduction⁹

122. The predominant role of universities in regional development processes is increasingly being recognised, above all in the economic terrain and the knowledge and information society. The OECD has pointed out that “(...) universities should not be satisfied with being established in a specific region or territory. Instead, they are now required to contribute actively to the region’s development”.¹⁰
123. University education in Spain has been a key element in generating knowledge and transferring qualified people and new technologies to different regions of the country. At least three factors are considered in discussions on the regional or local impact of universities:
- The multiplier effects that the tertiary education sector generates, as an economic sector in itself, within the total economy of the region under consideration.
 - The dynamic effects that tertiary education institutions can generate in their interaction with the economic and business sectors. These effects are harder to quantify. However, they undoubtedly have a greater influence on local and regional development, as opportunities for innovative processes and the efficiency of these processes depend on such interactions.
 - Finally, universities make an essential contribution to social, cultural and community development in their local or regional environment. Throughout history, higher education institutions have actively taken part in promoting community services in areas such as public health and the arts.

4.2 The regional dimension of university education policy

124. The responsibility for higher education policy and research is distributed between the central government and the government of each of the 17 autonomous regions. The process of transferring the responsibility for universities to the autonomous regions began in 1985 in some regions and finally finished in 1997. Since then, these regions have decided on the universities’ financing, among other things. Thus, most of the income of each university in Spain’s different regions comes from financial aid provided by the regional governments.
125. In the last two decades, local, regional and national governments in Spain have made a considerable effort to construct university facilities and infrastructures in the whole of the Spanish territory. A large part of current university facilities are less than 20 years old. This policy of regionalising higher education has played an essential role in generating and maintaining “localized capabilities”.
126. In addition, the range of services has been extended. This has reinforced the university’s role as a supplier of services to students and to the rest of society in the region. Universities no longer only provide traditional services, such as residence halls, career services and university extension services. They now offer high value-added services that are adapted to the new demands required of them, such as alumni services, bodies devoted to promoting

⁹ Two Spanish regions (the Valencian Community and the Canary Islands) have participated in the recent OECD project «Supporting the Contribution of HEIs to Regional Development». Both regions compiled a detailed self-evaluation report on this theme and OECD teams issued assessment reports after visiting both regions. Documents are available on the OECD/IMHE web page.

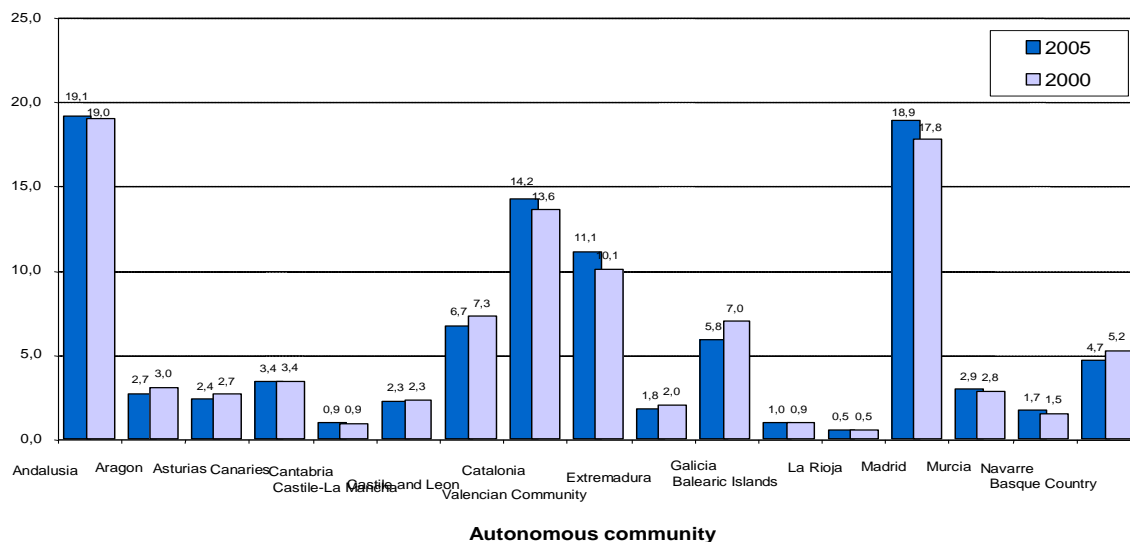
¹⁰ OCDE, *Les établissements d’enseignement supérieur face aux besoins régionaux*, Paris, 1999.

innovation and boosting the creation of university-based companies, technology parks and so on.

127. Since the Science Law was enacted in 1986, policies have been drawn up to boost science and technology. Currently, each of the autonomous regions has created or is creating innovation systems to increase companies' competitiveness. In addition, they all have regional R&D&I plans. Many agents and instruments are involved in the plans and programmes for boosting innovation. However, the science and technology parks have a prominent, vitally important role in the regional impact of such plans. This aspect will be discussed in greater depth later on.
128. The purpose of the presence of those responsible for CCAA Higher Education in the General Conference on University Policy, approved in the recent LOU reform, is to improve coordination tasks among universities, those responsible for CCAA Higher Education, and the central government.

4.3 The regionalisation of higher education

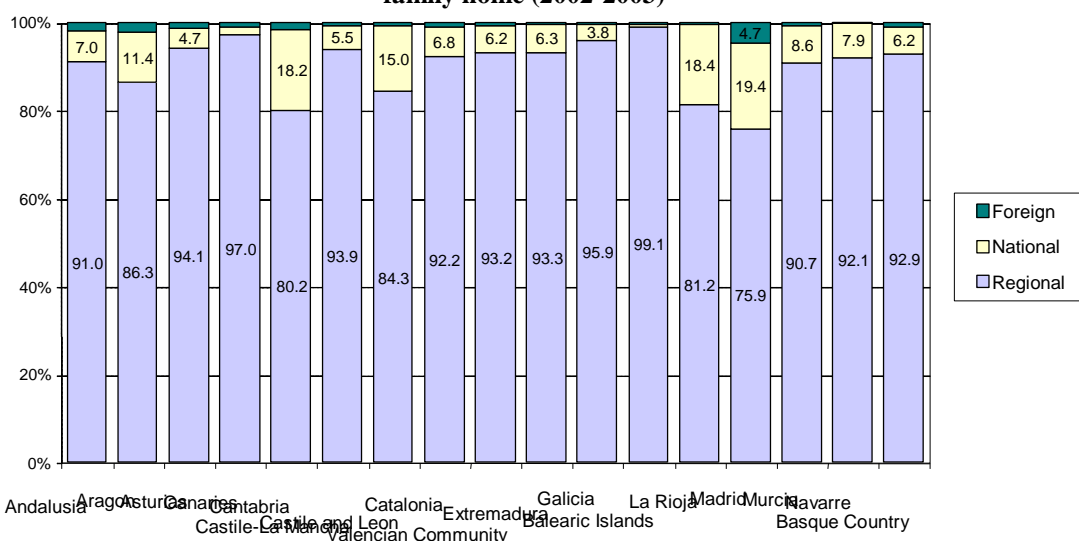
129. The university system used to have an elitist, centralist perspective. In the last 30 years, this has changed to a decentralised and more regionalist focus. This new approach meets different needs and gives greater importance to employment. The process of decentralisation has led to a huge increase in the number of universities since the 1980s. Forty new higher education institutions (new universities or new campuses) have been created in regions that previously had no higher education institutions.
130. Likewise, the vocational training offer has undergone a process of transformation whereby the Central Administration has gradually transferred functions, services and resources to the various Autonomous Communities. This decentralization process started in 1981 and finished in 2000.
131. The Government establishes the Catalogue of Vocational Qualifications and the Ministry of Education and Science regulates the curricular aspects that constitute the basic learning, adjusting to the demands of the National Qualifications and Vocational Training system and respecting the Autonomous Communities' jurisdiction.
132. The distribution of university enrolment by autonomous regions is showed in Graph 4.1. Andalusia (19.1%), Madrid (18.9%), Catalonia (14.2%) and the Valencian Community (11.1%), which make up 57.8% of Spain's population, accounting for 63.3% of the country's university demand in 2005.

Graph 4.1 Percentage distributions of university students by autonomous region

Source: Based on The Conference of Spanish University Rectors, *1995 CRUE 2005*, CRUE: Madrid, 2005. NB: Only includes instructor-led education.

133. Mobility is very low in Spain. Most students do not move to another region to study (or to another city if they can study their desired choice of degree in their own city). In this sense, all Spanish universities have a strong regional dimension, something which is not necessarily positive. According to data for 2002-2003, 95.9% of students registered in Galician universities come from Galicia. In the Basque Country, 92.9% of students come from this autonomous region. In Andalusia, 91% of university students are from the region (Graph 4.2). The highest percentage of students from the same region is not surprisingly found in the Balearic Islands and the Canary Islands.
134. The same situation can be applied to vocational education and training, as these studies are strongly linked to the place of residence.

Graph 4.2 Distribution of 1st and 2nd cycle students according to geographic location of family home (2002-2003)

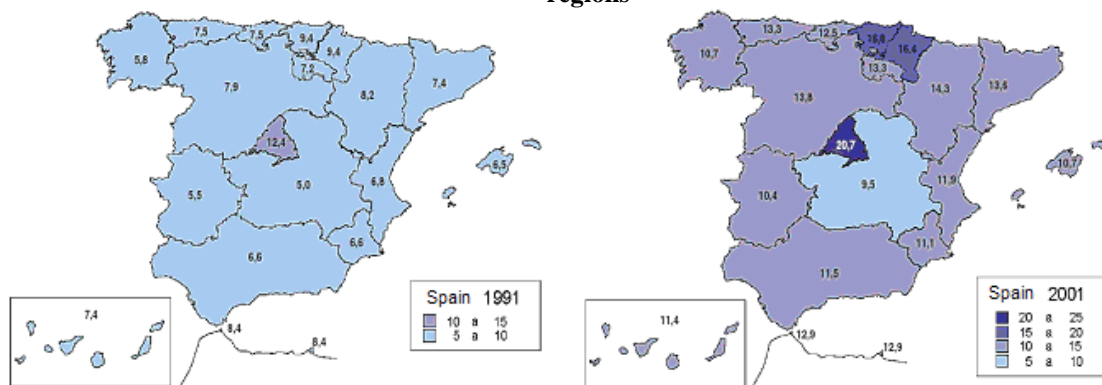


Source: Based on *La Universidad española en cifras* (2004), CRUE and Observatorio Universitario: Madrid, 2004.

135. In contrast, a fifth of university students in Madrid (19.4%) came from another autonomous region, and 4.7% were foreign students. The situation was similar in universities in La Rioja and Cantabria. In La Rioja, 18.4% of students were from other autonomous regions. In Cantabria, the figure was 18.2%. They are small regions in geographical terms.

136. In 1991, the proportion of people over 16 years in age with higher education was only over 10% in Madrid. A decade later, only Castile-La Mancha had a percentage below this threshold (9.5%). The figure for Navarre and the Basque Country was over 15%, and Madrid had reached 20.7%. In the other thirteen autonomous regions, the figure ranged from 10.4% (Extremadura) to 14.3% (Aragon).

Figure 4.1 Evolution of the percentage of the population with a university education by autonomous regions



Source: Based on MEC – CCU, *Datos y cifras del Sistema Universitario. Curso 2005/2006*, Secretaría General Técnica, Subdirección General de Información y Publicaciones: Madrid, 2005.

4.4 Regional impact of universities on employment

137. Employment is generated by consumer and investment demand generated by university presence in Spain’s different regions. Universities generate jobs for 118,229 people in the entire Spanish economy. This indicates that 1.5% of the total employed population is involved in activities that are either directly or indirectly related to the university system.

138. The regions in which university activity has the greatest impact on employment are Madrid (1.8%), Castile and Leon and Asturias (1.7% in each one). The regions in which university activity has the least impact on regional employment are the Balearic Islands (0.7%), Navarre (0.8%) and Castile-La Mancha (0.9%) (Table 4.1).
139. Table 4.1 also shows the contribution of universities in the autonomous regions in terms of gross added value (GAV). This indicator is obtained by adding the total impact generated by university activities (indirect or induced contribution) to the added value from direct university activity (personnel expenses). The proportion of GAV in Spain in 2002 was 1.3%. On a regional level, universities in the autonomous regions of Andalusia (1.6%), Asturias and Castile and Leon (1.5%) make the greatest contribution to creating added value. The regions that make the least university contribution to the regional GAV are the Balearic Islands (0.5%), Navarre (0.6%) and Castile-La Mancha (0.8%).

Table 4.1 Final demand and total impact of universities in a region (2002)

Autonomous region	Final demand (millions of euros)				Global impact on	
	Investment	Personnel	Students	Total	GAV	Employment
Total	1,371.6	2,584.6	923.0	4,879.2	1.3	1.5
Andalucía	183.8	460.2	170.4	814.4	1.6	1.7
Aragón	29.9	82.1	29.6	141.6	1.2	1.5
Asturias	43.5	66.6	25.5	135.6	1.5	1.7
Islas Canarias	29.8	123.1	28.1	181.0	1.3	1.3
Cantabria	15.1	30.8	9.6	55.5	1.2	1.5
Castilla-La Mancha	36.3	51.7	23.7	111.7	0.8	0.9
Castilla y León	77.3	179.7	64.6	321.6	1.5	1.7
Cataluña	213.6	382.9	142.5	739.0	1.0	1.3
Comunidad Valenciana	250.9	260.3	90.9	602.1	1.5	1.7
Extremadura	11.6	48.4	19.7	79.7	1.3	1.3
Galicia	100.7	154.1	56.9	311.7	1.5	1.5
Islas Baleares	17.4	25.0	9.5	51.9	0.5	0.7
La Rioja	3.3	13.0	5.6	21.9	0.8	0.9
Madrid	251.4	488.2	175.1	914.7	1.4	1.8
Murcia	41.3	70.5	24.7	136.5	1.4	1.5
Navarra	15.9	20.9	7.0	43.8	0.6	0.8
País Vasco	49.8	127.1	39.6	216.5	0.9	1.0

Source: compiled by the author, based on Parellada, Martí (director) *Informe CYD 2005. La contribución de las universidades españolas al desarrollo*, Fundación Conocimiento y Desarrollo: Barcelona, 2005, pp. 115-118.

4.5 University R&D contribution to their regional environment¹¹

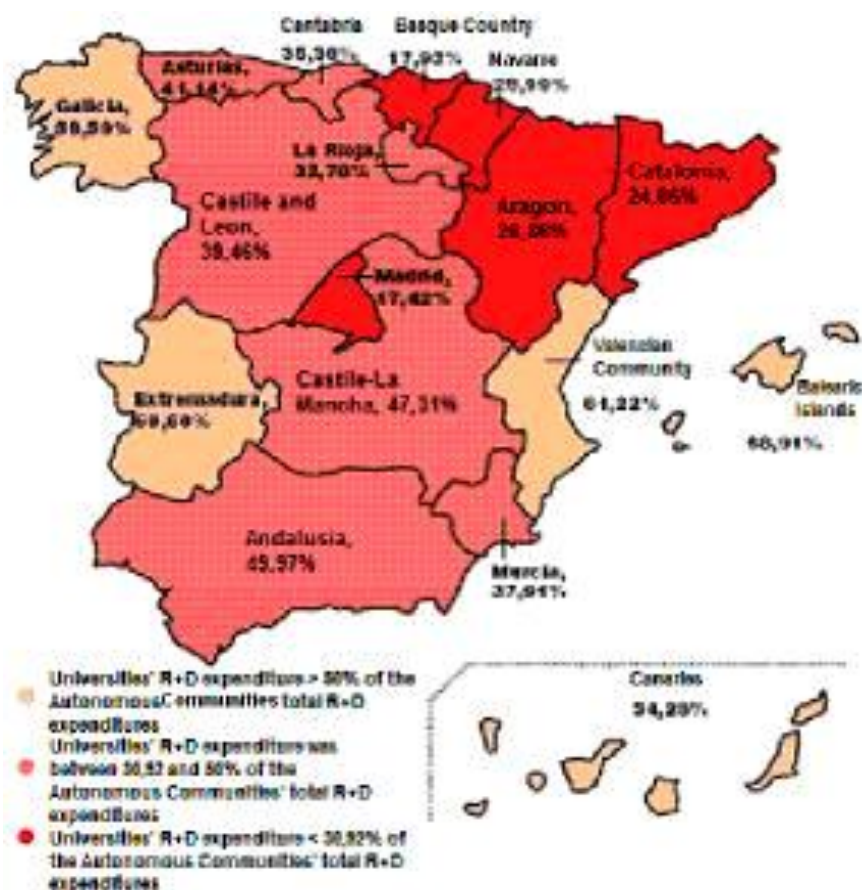
140. Universities are the main spending agents for research and development in several autonomous regions. They spend more than the other two major spending agents (the government and companies). Three different groups of autonomous regions appear in an

¹¹ Sections 4.5 and 4.6 are developed in more detail in Chapter 5 in the sections on the regional impact of research in Spain

analysis of university R&D expenditure as a percentage of total R&D expenditure (Figure 4.2). The first group includes autonomous regions in which university R&D expenditure represents over 50% of the total R&D expenditure. This group includes the Balearic Islands, the Canary Island, the Valencian Community, Extremadura and Galicia.

141. A second group includes the regions in which university R&D expenditure is between 30.9 and 50% of total R&D expenditure. This group includes Andalusia, Asturias, Cantabria, Castile y Leon, Castile-La Mancha, Murcia and La Rioja. These are regions in which the universities are one of the main spending agents for R&D, and in which company involvement in research activities is below the national average.
142. Finally, the third group is made up of regions in which university R&D expenditure as a percentage of total R&D expenditure is below the Spanish average. This group includes Aragon, Catalonia, Madrid, Navarre and the Basque Country. Companies play an important part in research and development activities in these regions. In all cases, companies' percentage share in R&D expenditure is higher than the national average (52.4%).

Figure 4.2 Public and private university R&D expenditure as a percentage of total R&D expenditure (2001)



Source: Parellada, Martí et al. (eds.), *Informe sobre la contribución de las universidades españolas al desarrollo 2004*, Fundación Conocimiento y Desarrollo: Barcelona, 2005, p. 59.

4.6 Science and technology parks, spin-offs, research institutes and regional development

143. Many of the universities and research centres in large and medium-sized cities have science and technology parks. Science and technology parks are intended to form the initial stages of

centres for competitive research. In Spain, they are planned by cities, universities, foundations and city councils rather than by regions.

144. Science and technology parks were introduced in Spain by the autonomous regions, and this has influenced their development and progress in the regions. In recent years, the parks have adapted to the policies of the autonomous regions they are located in. They have also created regional networks to link the parks together. There is great diversity among autonomous regions in the development of the parks, which creates a great wealth of experience. Thus, Spanish universities, in their role as the public agents that carry out R&D, establish relations with the private business sector and the technology transfer between these two groups is increasingly reinforced.
145. Spin-offs are companies with a high technological content. They are formed to commercially exploit the research carried out in a university, and transform it into value. They are a useful and dynamic mechanism for technology transfer and they boost the national and regional economy. In addition, they create employment for highly qualified people.
146. By September 2004, Spanish universities had created 479 spin-offs. The technical universities, above all the Technical University of Valencia (UPV) and the Technical University of Catalonia (UPC), are outstanding in this area. The UPV created 143 spin-offs, and the UPC created 120. The regions of Catalonia and the Valencian Community contain over 60% of all Spanish university spin-offs. They are followed by Madrid and the Basque Country.
147. Another structure involved in regional development are university research institutes. The purpose of the new legislation is to favour collaboration among different universities, but also with public research bodies and public and private research centres, in order to facilitate the setting up of Mixed Research Institutes.

4.7 Private initiatives

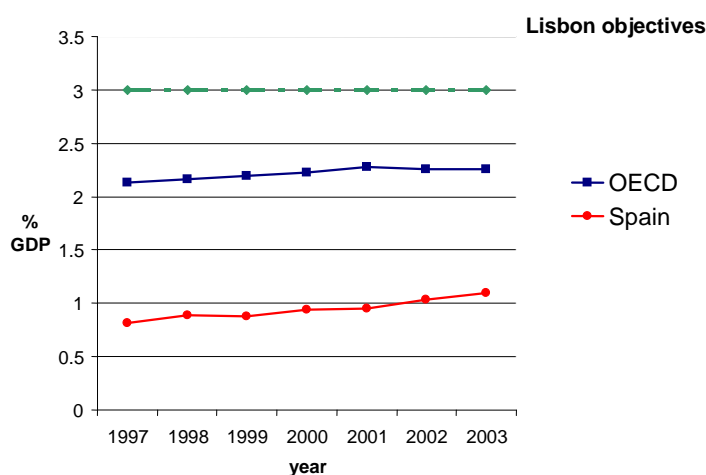
148. Interesting initiatives have also arisen in the private sphere, as in the case of the RUISNET Project created by the University-Business Foundation with a series of objectives very much linked to regional development: improve the effectiveness of regional development policies and instruments, strengthen collaboration among agents of the science, technology and business system in the regional sphere, promote the social recognition of the importance of University-Business collaboration in regional development, as well as propose new models of cooperation that improve effectiveness and the effectiveness of the contribution of said collaboration. These objectives are among those proposed by the Lisboa Summit.

CHAPTER 5. THE ROLE OF TERTIARY EDUCATION IN RESEARCH AND INNOVATION

5.1 Background

149. In 2003, Spain invested 1.1% of its GDP in research, development and innovation (R&D&I), 54.1% of which came from the private sector. In the same year, 92,523 researchers²¹ were employed full-time on R&D&I projects. This was 4.9 per 1,000 of the working population and 113% more than ten years earlier. Although R&D&I spending had increased at a higher rate than the OECD average (4% per year in the previous few years), Spain was still well behind both the European average (2%) and that of other OECD countries (2.26%) (Graph 5.1). Currently, the government's aim is to comply with the Lisbon objective of 3% for 2010 and to increase the share of private spending on R&D&I.

Graph 5.1 Evolution of R&D&I spending in the OECD and Spain



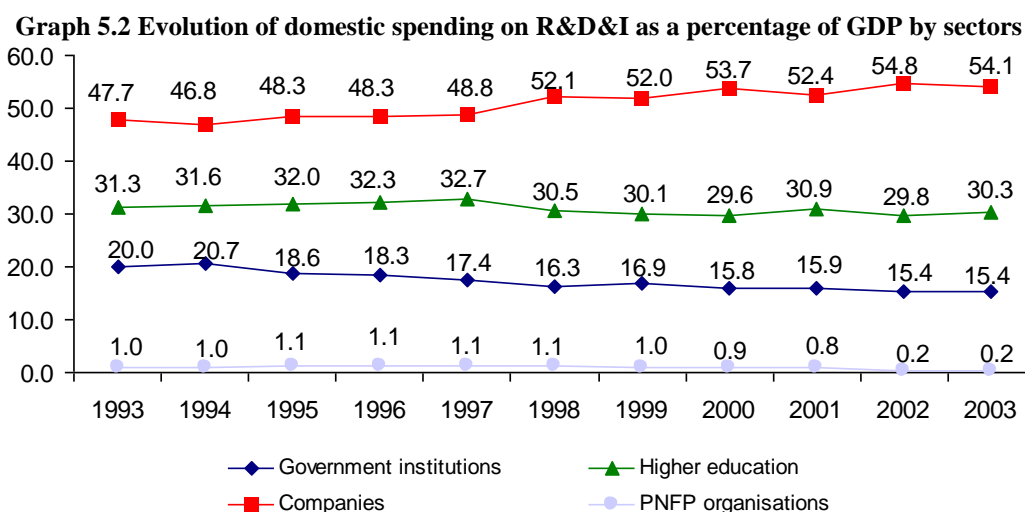
Source: OECD: *Main science and technology indicators*, cited in Ministry of Education and Science (MEC): *Memoria de actividades de I+D+i 2003* (2005)

150. Higher spending in recent years has had a clear impact on Spanish scientific output and dissemination which has increased, maintaining the upward trend in the total number of Spanish patent applications filed at the Spanish, European and North American offices. During 2005, 846 patent applications were filed at the European Patent Office (77% more than in 2000), but this was still far below the number of applications from the USA (32,625), Germany (23,044), Japan (20,584) and France (8,079), even taking into account differences in the total population.
151. Spanish scientific publications accounted for 0.7% of the world's output in 1988 and currently account for 2.8%. Furthermore, they have extended their area of influence, as the number of Spanish scientific publications in international journals has increased by 25%.

5.2 The role of universities

152. The Spanish constitution of 1978 guarantees universities' academic and research freedom and their freedom to manage and administer their own resources independently. According to the Spanish Law of Universities (LOU), the governing board of each university, presided by the rector, is responsible for establishing strategies and programmes for organising research and allocating human resources and funding.

153. In 2003, R&D&I spending by Spanish universities accounted for 30.3% of total R&D&I expenditure in Spain (Graph 5.2), to reach €2,500 million. The university sector registered the greatest spending increase from 1990 to 2003, more than private companies and government institutions. In 2003, R&D&I spending rose by 16.3%. This figure was 11.2% in 2002 and 13% in 2001. However, although there has been a marked increase in university R&D&I spending (from 0.27% of GDP in 1998 to 0.33% in 2003), it is still below the OECD average (0.41% in 2002).



Source: MEC, *Memoria de actividades de I+D+i 2003*

154. Universities play a central role in the Spanish research and innovation system, carrying out almost all tertiary education research. Together with the Higher Council for Scientific Research (CSIC)¹², they constitute a large part of the current Spanish research infrastructure and are responsible for doctoral courses. Private universities only account for 5% of university spending on R&D&I; that is, most research activity takes place in public universities.
155. Universities also play a leading role in the area of scientific communication in Spain, since they alone are responsible for about 60% of scientific publications, and this figure does not include research published in cooperation with other institutions. Universities are the institutions that produce most publications in all scientific areas, except medicine, where hospitals (linked in most cases to universities) generate more scientific literature than universities.
156. The large Spanish university contribution to R&D&I as a whole is mainly due to the lack of innovation in Spanish industry, which is largely made up of small and medium-sized companies that characteristically have a low level of innovation. From 2000 to 2002, only 20% of Spanish companies carried out activities that could be described as innovative.

5.2.1 Funding

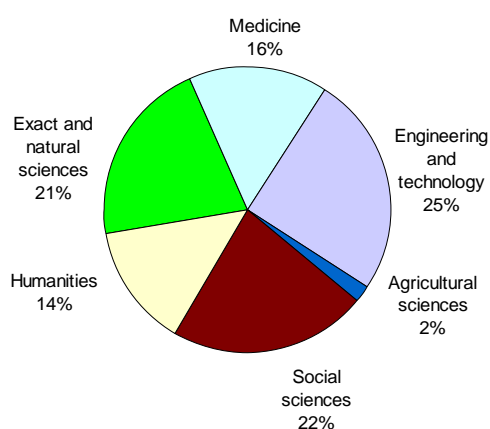
157. Public funds are the main source of funding for university R&D&I, and accounted for 71% of the total funds in 2003. There are two types of public funding: general university funds, and funds allocated to specific R&D&I projects. The first type takes the form of a general subsidy that universities receive from the corresponding autonomous governments which covers

¹² The CSIC is a relatively public research organisation composed of many research institutes spread out all over the country. In some cases these institutes work closely with universities.

research and teaching activities. In the CCAAs' University Funding Plans the methods of allotment of resources are established as well as the weight that research has in the allotment of resources. For example, in the case of the 2006-2010 Community Funding Plan, part of the funding is conditional on research results. The second type of funding takes the form of grants, most of which are awarded by the National Research Plan through annual public competitions. Between 2000 and 2003, 23,859 projects were funded by the National Research Plan with a total amount of €4,100M.

158. The remaining 29% of university R&D&I funding includes the income generated by universities themselves (16%, mainly from tuition fees), contracts with the productive sector (6.4%), funding from international projects (5%) and funding from other sources (2%).
159. According to figures for 2003, 79% of university R&D&I funding was devoted to current expenditure, mostly in the form of salaries for researchers and staff, while the remaining 21% was allocated to capital expenditure, mostly on equipment and buildings.
160. Budget figures show that business funding of university research grew in absolute terms between 1998 and 2003. However, business funding grew at a lower rate than total R&D&I spending, and its share of the total dropped from 7% in 1998 to 6.4% (€160M) in 2003.
161. In 2001, private funding was distributed as shown in Graph 5.3. The three scientific areas which received the largest contributions were engineering and technology (25%), social sciences (22%) and the exact and natural sciences (21%). Between them, they obtained more than two thirds of total company funding.

Graph 5.3 Private funding of R&D&I at universities by scientific areas (2001)



Source: CYD Foundation: *La contribución de las universidades españolas al desarrollo*, 2004.

162. In 2003, the percentage of business funding in total university R&D&I expenditure did not differ significantly among scientific areas. Private companies allocated the largest share of their R&D&I funding to medical science (7.4%), while humanities received the smallest share (5.6%).
163. This form of cooperation with universities usually occurs in the case of large companies. According to data provided by the National Statistics Institute (INE), 23% of innovating companies with over 250 employees had cooperation agreements with universities between 1998 and 2000, whereas this percentage was below 5% in the case of innovating companies with less than 250 employees.

5.2.2 Staff

164. In 2003, Spanish universities employed 60,307 full-time workers in R&D&I activities, 40% of the national total¹³. Forty-nine thousand one hundred and six were researchers, equivalent to 53% of the total number of researchers working in Spain. Between 1999 and 2003, the number of researchers grew by 45% in Spanish universities, but increased at an even higher rate in other sectors (Table 5.1).

Table 5.1 Evolution of the main R&D&I indicators

		1999	2000	2001	2002	2003
Spending on R&D&I (1)	Total	4,995,360	5,718,988	6,227,157	7,193,538	8,213,036
	Universities	1,504,604	1,693,882	1,925,357	2,141,949	2,491,959
	%	30	30	31	30	30
Staff employed in R&D&I (2)	Total	102,238	120,618	125,750	134,258	151,487
	Universities	40,626	49,470	54,623	54,233	60,307
	%	40	41	43	40	40
Researchers (3)	Total	61,568	76,670	80,081	83,318	92,523
	Universities	33,840	42,064	46,964	45,727	49,196
	%	55	55	59	55	53
Internal spending per researcher (1)(4)	Total	81,14	74,59	77,07	86,34	88,77
	Universities	44,46	40,27	41	46,84	50,65
	%	55	54	53	54	57

Source: CYD Foundation Report (2005). (1) Figures in thousands of euros. (2) Includes all personnel employed directly in R&D&I activities at any professional level and employees providing services directly linked to R&D&I, such as managers, administrators and office workers. (3) Scientists and engineers involved in creating new knowledge, products, processes, methods and systems and in managing the corresponding projects. (4) Includes all spending on R&D&I activities carried out within the unit or research centre.

165. In 2003, according to INE data, the number of technical and administrative personnel at the disposal of a university researcher was 0.22, three times less than the average for the whole of Spain (0.64) and six times less than the average for private companies (1.33).

166. The combination of above-average growth in university R&D&I spending and a smaller increase in the number of researchers has meant an increase in the resources available to university researchers. This is shown in Table 5.1 as 'Internal spending per researcher'. In 2003, internal spending per university researcher was more than €50,000, 14% higher than in 1999. However, it was still well under the overall Spanish average of almost €89,000 per year.

5.3 The role of non-university tertiary education

167. The R&D&I priorities of non-university tertiary education establishments differ from those of universities. In general, their staff do not participate in the main areas of university research, and most of their R&D&I activities are devoted to improving teaching material and adapting it to local labour market conditions.

5.4 Regional prospects for R&D&I

168. The extension of the higher education network to cities where it did not previously exist has had the effect of promoting and combining R&D&I activities in the surrounding areas.

¹³ Full-time equivalent

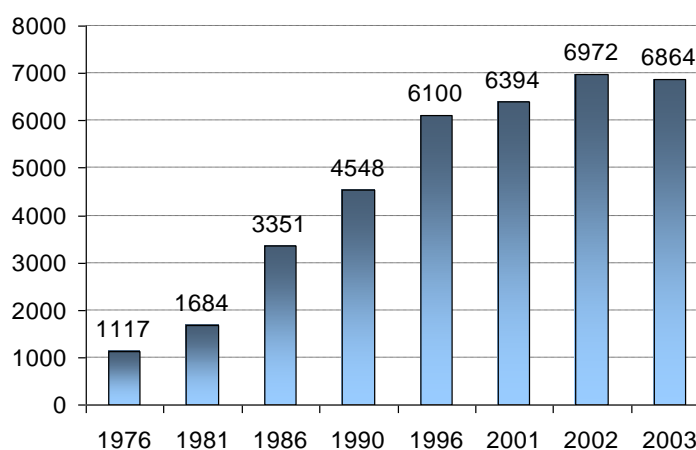
R&D&I activities have, in turn, proved to be an excellent tool for developing regional potential, as they make traditional products and activities more profitable by innovating and attracting investment capital, thus creating qualified jobs and economic activity and preventing a population exodus.

169. The share of university spending out of the total expenditure on R&D&I is much higher in some autonomous regions than in others. Extremadura and the Balearic Islands are outstanding examples of this (68%), in sharp contrast with the Basque Country and Madrid (18-19%), where there is more industrial activity.
170. University spending on R&D&I is concentrated in certain autonomous regions. Madrid, Catalonia, Andalusia and the Valencian Community accounted for 65% of the total (these regions represent 57.8% of the population). There were also considerable differences in expenditure among individual universities in which spending per researcher ranged from €1,298 to €22,889. Furthermore, there were increasing returns on research: as a general rule, the largest universities had greater scientific output. This fact has been taken into account in R&D&I policies and has led to the creation of the INGENIO 2010 programme, which establishes various strategic lines of action, including CONSOLIDER (Section 5.8).
171. In privately funded university R&D&I, the requirements of the surrounding industry are a determining factor. Sixty-one percent of university R&D&I funding comes from public and private organisations in the same autonomous region as the university.

5.5 Doctoral output

172. In the 2003-2004 academic year, 6,464 doctoral theses were defended at Spanish universities, 13% more than in 1996. Graph 5.4 traces the output of doctoral theses in Spain between 1976 and 2003 and reveals a five-year period of vigorous growth (1981-1986) when the number of theses doubled. This increase was part of a period of expansion lasting from 1976 to 1996, in which the number the number of doctoral theses multiplied by 4.5.

Graph 5.4 Variations in the output of doctoral theses in Spain



Source: MEC *Datos y Cifras Universidad 2005-2006*. NB: the figures for 2003 are provisional.

173. In 2003, 94% of doctoral theses were defended at public universities. This percentage has not varied much over the last 30 years (Table 5.2).

Table 5.2 Distribution of doctoral theses by type of university

Academic year	Total	Public universities	%	Private universities	%
1978-79	1,177	1,125	95.6%	52	4.4%
1988-89	3,312	3,188	96.3%	124	3.7%
1998-99	5,185	4,923	94.9%	262	5.1%
2003-04 (1)	6,864	6,464	94.2%	400	5.8%

Source: MEC: *Datos y Cifras Universidad 2005-2006*. (1) provisional figures.

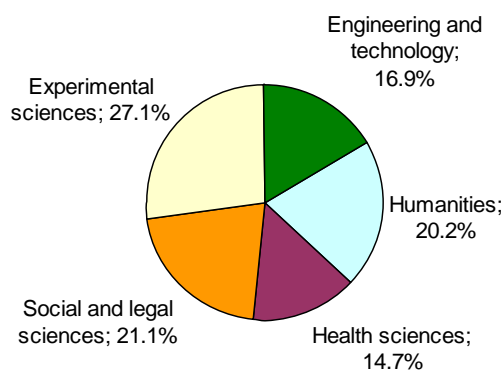
174. Women read 46.7% of the total number of doctoral theses. This figure has not varied significantly in recent years (Table 5.3).

Table 5.3 Gender distribution of authors of doctoral theses

Academic year	Total	% women
2000-01	5,849	45.0%
2001-02	6,394	46.7%
2002-03	6,972	45.5%
2003-04 (1)	6,864	46.7%

Source: MEC: *Datos y Cifras Universidad 2005-2006*. (1) provisional figures.

175. In 2003, the greatest number of doctoral theses was in the field of experimental sciences, which accounted for 27% of the total (Graph 5.5).

Graph 5.5 Distribution of doctoral theses by area of knowledge (2003)

Source: MEC: *Datos y Cifras Universidad 2005-2006*. NB: provisional figures.

176. One of the tasks of the University Coordination Council is to create an archive of doctoral theses and publish an annual list of those that have passed. The *Teseo* database, which can be accessed from the MEC website, contains information on doctoral theses read and passed at Spanish universities since 1976, and permits their retrieval.

5.6 Technology transfer to production sectors

5.6.1 Transfer mechanisms

177. There are various mechanisms for transferring knowledge and technology from universities to companies. They include consultancy agreements, cooperation on research projects, technical services, scientific personnel exchange programmes, innovation cooperation, spin-offs and university patent licences.
178. In recent years, there has been a slight drop in transfers from university R&D&I to private companies: from 2001 to 2003 only 4.05% of technological companies cooperated with universities, whereas from 1998-2000 this figure was 5.5%. Similarly, company funding of

university R&D&I declined in absolute and relative terms from 2002 to 2003, dropping to 6.4% of total university R&D&I funding from 8.7% in 2001.

179. According to a recent study by the CYD Foundation, communication barriers between universities and companies explain current difficulties in the process of transferring knowledge. On the one hand, universities and companies know very little about each other. There is no tradition of cooperation between universities and companies and this makes communication difficult. In addition, there are inherent communication difficulties due to these institutions' very distinct ways of thinking. All this combines to hinder a free-flowing process of technology and knowledge transfer. It is worth bearing in mind that the percentage of innovative companies in Spain is relatively low (33% in Spain as opposed to an average of 44% in EU-25), and that whereas in Europe, 19% of innovating companies cooperate with other agents, in Spain only 9.9% do so. Spanish companies not only innovate less, but tend to do so in a more individual way, without establishing cooperation mechanisms. Spanish industry has a very limited capacity for research and innovation and relatively few high-value-added sectors, and this largely explains the above results. For this reason, programmes like *Torres Quevedo*, or (previously) *Acción IDE*, whose objective is to place researchers and doctorate-holders in companies, play a particularly important role.
180. In 2003, 70% of Spanish companies that had cooperated with universities in innovation were 'satisfied' or 'very satisfied' with the results obtained.²⁵ This shows that, if companies were more aware of the potential of university research, cooperation in innovation between universities and companies might increase.
181. The new mechanisms for university-company collaboration, such as spin-off companies, patent licences and science and technology parks, are gradually being propagated throughout the university system, although they are still not widespread. In 2004, 90 'spin-offs' were created (compared with 18 up to December 2000). Significantly, only 37 universities have a unit for creating companies and only 10% of these deal exclusively with this task. Furthermore, only 8% of these units monitor the progress of the spin-off companies they help to create. Support programmes on a national level and in the different autonomous regions have had a positive impact on the task of promoting the creation of technology-based companies. Some universities are also initiating Knowledge to Market programmes, by creating mixed university-company teams with long-term cooperation agreements that carry innovation projects through until they are nearly at the market stage. An example of this is the IBEROEKA Project whose purpose is to increase productivity and competitiveness in national industries and economies that set the stage for development within the Ibero-American community. This objective must be reached through the promotion and facilitation of an intense industrial, technological and scientific cooperation among its participants, oriented towards the development of products, processes and services directed to a potential market. This cooperation will be based, as far as is possible, on new technologies that allow companies to acquire a solid technological foundation. Another national program that promotes research in priority areas is the PETRI project that is run by the MEC.

5.6.2 Government bodies linking universities and companies.

182. The main entities promoting links between universities and companies are the Research Results Transfer Offices (OTRI), university-business foundations (FUE) and science and technology parks (PCyT).

5.6.2.1 Research Results Transfer Offices (OTRI)

183. The OTRI were created at the end of 1988 within the framework of the National R&D&I Plan, with the aim of fostering and facilitating cooperation at a national and European level between R&D&I researchers in public institutions and private companies. The objective of the 216 OTRI centres is to identify the technological requirements of society and the economy and to promote technology transfer between public and private sectors by helping to apply R&D&I results from universities, public research centres and technology centres to the market. An OTRI network was set up in 1997 as a permanent working group within the R&D Sectoral Committee of the Conference of Spanish University Vice-Rectors. All universities have an OTRI, as well as their own General Foundations, that support the fulfilment of university tasks.
184. In 2003, a total of €579 million were earned through university OTRIs, €257.8 million of which came from R&D contracts and technology transfer. (In 1996, this figure was little more than €100 million). The remaining €321 million were returns from regional, national and international competitions for research projects. Although the annual volume of R&D and technology transfer projects coordinated by the OTRI centres has tended to increase, growth rates fluctuate: in 2002 growth was 15% over 2001, whereas in 2003 growth over 2002 was below 3%.
185. Regional OTRI clients accounted for 63% of their external clients, 33% were domestic clients and only the remaining 4% were international. Nonetheless, the rise in average earnings from contracts was due to international clients (an average of €51,990 per contract), while the smallest contribution came from regional contracts (an average of €9,070). Although over 80% of external OTRI clients were private, contracts with the private sector only accounted for 61% of earnings; 39% came from the public sector.

5.6.2.2 University-business foundations (FUE)

186. The Spanish FUE network is made up of 30 government bodies (22 of which are OTRIs) which have been working to promote university-business relations for thirty years. It has offices in all 17 autonomous regions, institutional links through its members with 42 Spanish universities, and includes over 1,000 organisations including companies, business associations, financial entities, chambers of commerce, and, in some cases, local and regional administrative bodies. It specialises in innovation and technology transfer, business set-up support, postgraduate and specialised training and professional guidance and labour insertion.
187. 42% of the income managed by the FUE network was spent on technology transfer, and 39% on training and work experience. Activity focused on managing contracts between universities and businesses in the innovation and technology transfer area. In 2003, 3,219 contracts were managed to the value of €69.22 million (higher than the 2002 figures of 3,072 contracts and €56 million),²⁶ 33.6% of which were consultancy contracts, 31.1% research contracts and 10% development contracts (only 1.8% of the contracts were for design).

5.6.2.3 Science and technology parks (PCyT)

188. As discussed in the previous section, science and technology parks are projects that maintain formal and operative relations with universities, research centres and other higher education institutions. They are designed to encourage the creation and growth of knowledge-based companies and of other high-value-added, tertiary-sector organisations, which are usually resident in the park itself. They have a stable management system that promotes technology transfer and fosters innovation between the companies and organisations that use the park.

189. In practice, the number of APTE (Spanish Science and Technology Park Association) members corresponds to the number of existing Spanish parks and projects. In 2004, there were 53 (17 in 2003), of which slightly over a third were functioning at full capacity; 26 universities had their own science and technology park, although some parks were only at the design stage, and in 22 of them an OTRI was involved in managing the park.
190. The operating parks contained 1,781 companies and institutions (675 in 1999), mainly in IT (27%), followed by engineering, consultancy and assessment (12%), industry (10%) and technology and R&D centres (10%). The sectors with the highest growth rate in recent years were agrifood, biotechnology, aeronautics and automobiles. The companies and institutions located inside science and technology parks employed 45,492 people (a fifth of whom worked in R&D&I) and had a turnover of €6,115 million in 2004 (180% more than the figure for 1999).

5.7 Intellectual property

191. Patent licences are still a much underused mechanism for transferring technology and are only used in a very small number of Spanish universities. In fact, 84% of the income from licences was obtained by only six universities. Although Spanish universities apply for a growing number of patents, these are rarely commercialised through licences, although the trend is rising. In 1996, the income generated by university patent licences was €170,000; in 2002 this figure rose to €1 million and in 2004 to €1.9 million. Income from licences per million euros of R&D&I expenditure are still 30 times less than in the USA, and 12 times less than in the UK.
192. In recent years, government bodies have made an effort to extend the practice of protecting university research results through patents and marketing mechanisms, with the aim of increasing technology transfer and university income through the use of industrial property and copyright licences. In Article 20 of the Spanish Patents Law of 11/1986, university researchers were given the right to a share in profits obtained by the university from exploiting or ceding rights on inventions, although the university was given the right to own and manage inventions made by researchers. This guaranteed that researchers had some incentive to protect and exploit their research. However, the exact distribution of profits requires agreements between researchers and universities, or regulation by the university.

5.8 Governmental policies on university research

193. According to the LOU, universities are “agents that should lead a process of change in the ways learning is organised and the ways knowledge is generated and transmitted. These changes are due to the growth of the information society, globalisation and the processes stemming from scientific research and technological development”.²⁷ The LOU makes it quite clear that the government is committed to promoting and stimulating pure and applied university research for the general good. Research is considered to be one of the essential functions of a university, and universities are the main generator of development, transferring scientific and technical innovation to society as a whole as fast and as efficiently as possible.
194. The establishment of priority research areas is set according to the National Science and Technology Strategy (ENCYT) established by the Interministerial Science and Technology Commission. Said Commission consists of representatives from the Spanish General State Administration (AGE), the Autonomous Communities (CCAA), those that carry out I+D+i (scientists and technicians) and social agents (trade unions and employers’ organisations). In this way, the ENCYT makes up a body of consensus for and structuring of Spanish science

and technology policies, setting the stage for greater cooperation in I+D+i subject matter between the AEG and the CCAA.

195. The Strategy establishes 2015 as its working goal, establishing a frame of reference for the medium and long term, and considers some basic principles and strategic objectives in line with them:

Basic principles	Strategic objectives
<ul style="list-style-type: none"> • Use I+D+i in the public interest • Make I+D+i a factor for the improvement of commercial competitiveness • Recognize and promote I+D as an essential element for the generation of new knowledge 	<ul style="list-style-type: none"> ➤ Put Spain at the forefront of knowledge ➤ Promote a highly competitive commercial network ➤ Integrate regional spheres into the Science and Technology System ➤ Strengthen the international aspect of the Science and Technology System ➤ Create an environment favourable for I+D+i investment ➤ Create adequate conditions for the dissemination of science and technology

Source: Estrategia Nacional de Ciencia y Tecnología. Comisión Interministerial de Ciencia y Tecnología (2007)

196. In this way, the National Plans (PN) appear to be medium and long term planning tools, that set the priorities of each national program. The CCAA have their own Regional Plans (eg. in the Community of Madrid the IV Regional Plan for Scientific Research and Technology 2005-2008).
197. The fourth core theme of the 2004 National Reform Plan (PNR) is an “R&D&I strategy” in the form of the *Ingenio 2010* project. It has two main objectives: to develop activities that promote public-private collaboration in R&D&I and to increase the quantity and quality of the R&D&I system in Spain.
198. To respond to the challenges raised by these objectives, *Ingenio 2010* established the following goals:
- To increase the R&D&I investment to GDP ratio from 1.05% in 2003 to 1.6% in 2008, and to 2% in 2010.
 - To increase private-sector contribution to R&D expenditure from 48% in 2003 to 52.5% in 2008, and to 55% in 2010.
 - To reach the UE-15 average for the percentage of GDP allocated to information and communication technology, from 4.8% in 2004 to 6.4% in 2008, and to 7% in 2010.
199. In order to reach these objectives the government has committed itself to increasing budget allocations for R&D&I by at least 25% per year during its term of office. This means almost doubling the average annual growth rate of 15% in this area for the period 2000-2004. In fact, in 2005 the R&D&I budget was increased by 27% and is expected to have increased by 30% in 2006.
200. *Ingenio 2010* aims to achieve a gradual concentration of resources through strategic intervention, responding to the challenges facing the Spanish R&D&I system by allocating a considerable part of the (minimum) 25% annual increase in the R&D&I state budget allocation to the following three main tools for change:
- **The *Cenit* programme** (Strategic National Consortiums for Technological Research) to stimulate R&D&I collaboration among private companies, universities, public research organisations and establishments, science and technology parks and technological centres.

- **The *Consolider* programme** to increase the quantity and quality of research, which comprises the following:
 - a) Programme I3 (Incentives for the Incorporation and Intensification of Research Activities) that provides incentives for the stable incorporation of Spanish or foreign teachers or researchers with an outstanding track record into the Spanish science and technology system, and supports the best researchers by reducing their teaching load.
 - b) Consolider projects, which provide long-term funding (5-6 years) for excellent research groups and networks.
 - c) Cyber projects to promote excellence in research in biomedicine and health sciences.
 - d) The Strategic Fund for Scientific and Technological Infrastructures, aimed at guaranteeing the availability and renovation of scientific and technological research equipment and facilities, and at promoting science and technology parks.
- **The *Avanz@* plan** aimed at narrowing the gap with Europe in the main information society indicators.

5.9 Research and quality

201. To determine the quality of the research that is carried out in Spain, the AGE has a series of bodies that allow for its evaluation, on both an individual and institutional level. The National Commission for the Evaluation of Research Quality (CNEAI), run by the General Directorate of Research of the MEC, carries out the evaluation of the research activity of university professors and of CSIC's scientific scales. An assessment request (during a period of six years) is voluntary, and its aim is to promote the research work of university professors and the better dissemination of their research on a national and international level.
202. The National Agency for Assessment and Prospective Studies (ANEP) is run by the State Secretariat for Universities and Research of the MEC, and among its objectives are the evaluation of the scientific-technical quality of the proposals that apply for public funding, the improvement of the capability of the public system of Science and Technology, and ensuring that decisions regarding the assignation of resources for I+D+i are based on criteria of scientific-technical excellence and quality. The mission of ANEP is the scientific-technical evaluation, objective and independent, of research proposals, human resources and units, that apply for funding to participate in research and/or technological programs and projects. It also follows up on the results of funded actions.

5.10 Other public research institutes and PNFs

203. Public Research Entities (OPI) are involved in the research and innovation system as administrators of some I+D+I National Plan programs or carry out a large part of research, development and innovation activities funded with public funds. There is a series of public research entities run by MEC and attached to the State Secretariat of Universities and Research. Other public research entities and units that carry out scientific, technological and/or industrial innovation research activities, are attached to other Ministerial Departments and also carry out important tasks in the field of research.

<i>Connection</i>	<i>Body</i>
Run by or attached to MEC	Higher Council for Scientific Research (CSIC) Centre for Energy, Environmental and Technological Research (CIEMAT) Spanish Oceanographic Institute (IEO) National Institute for Agricultural and Food

Run by or attached to other Ministries and bodies	Research and Technology (INIA) Geological and Mining Institute of Spain (IGME) Astrophysics Institute of the Canary Islands (IAC) El Pardo Hydrodynamic Experience Channel (CEHIPAR) Sociological Research Centre (CIS) Political and Constitutional Studies Centre (CEPC) Public Works Studies and Experimentation Centre (CEDEX) I+D centres run by the General Directorate for Arms and Materials of the Ministry of Defence (DGAM) Fiscal Studies Institute (IEF) Carlos III Health Institute (ISCIH) National Geographical Institute (IGN) National Institute for Drug Research and Training (INIFD) National Meteorological Institute (INM) National Aerospace Technique Institute (INTA) National Toxicological and Forensic Science Institute (INTCF) National Transplant Organization
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Source: MEC. Developer by the UNESCO Chair in University Administration and Policy

204. CSIC is the biggest public research body in Spain, and its main functions are the carrying out of multidisciplinary scientific and technical research, scientific and technical advising, the transfer of results to the business sector, contributing to the creation of technologically based companies, and the training of specialized personnel. It is also responsible for the administration of large facilities and infrastructures, as well as the promotion of scientific culture. It has 10,130 employees composed of scientific personnel, pre- and post-doctoral researchers and support personnel. Its involvement in regional development is key as it actively participates in the scientific policy-making of all of the CCAAs through a network of centres (137 in Spain and abroad, and 146 associated units), and it spans all fields of knowledge (because of this it is organized into 8 scientific-technical areas) and on all levels (from basic research to the most advanced technological developments). It collaborates with Public administration on all levels, Universities, other public and private research bodies, Companies, Associations and Professional associations, as well as Foundations.

5.11 Private non-for-profit foundations (PNFP) and Innovating Companies

205. 205. Other basic agents for research tasks are non-for-profit foundations and Professional Associations, which carried out 0.2% of total internal spending on I+D activities in 2003. In the same year, companies carried out a total of 54.1% of total internal spending on I+D activities. Innovating companies are those that invest significantly in I+D, and given the uniqueness of the Spanish commercial network, the number of them is very reduced in comparison with other companies in the European sphere.

Table 5.4. Investment in I+D by leading Spanish and other European companies

Company and country	Investment (millions of €)	Company	Investment (millions of €)
Daimler Chrysler (Germany)	5,600	Amadeus	145
Siemens (Germany)	5,500	Repsol YPF	134
Volkswagen (Germany)	4,100	Telefonica	73
Nokia (Finland)	4,000	Zeltia	51
Glaxo Smith Klein (United Kingdom)	4,000	Gamesa	41

Source: Directorate General Joint Research and Directorate General Research 2004. Monitoring Industrial Research.

CHAPTER 6. ACHIEVING EQUITY IN AND THROUGH TERTIARY EDUCATION

6.1 Access to the tertiary education system

206. By 2003, 25% of Spanish adults between 25 and 64 years of age had received some form of tertiary education. This increase was greater within the 25-34 age group, for which the percentage rose from 27% in 1995 to 38% in 2003. In spite of the progress made, there is still room for improvement. This includes increasing public spending on grants and scholarships, which only accounted for 8.3% of total public spending in 2001, which is well below the 16.5% European Union (EU) average.

6.1.1 Access to university courses

207. To enrol in higher education, students are required to have successfully completed the final, non-compulsory stage of secondary education. Students have to pass an entrance examination to get onto long cycle courses and the most popular short cycle courses. In the 2004-2005 academic year, 76.5% of students gained admission to university in this way. An average mark is obtained by combining the results of the examination with the marks obtained by students in the final, non-compulsory stage of secondary education. Admission to specific degree courses depends on the resulting average mark.

208. People aged over 25 who wish to take university courses can gain access to university without having successfully completed the final, non-compulsory stage of secondary education or equivalent by following a special procedure that values the academic courses they have completed and, especially, their work experience. Over the last decade, the percentage of over 25 students entering university by this procedure has almost doubled from 2.4% in 1994-1995 to 4.1% in 2004-2005.

209. Autonomous regions must reserve a certain percentage of admissions in all courses leading to official university degrees for the following student groups:

- Students over 25 years of age: 1% to 3% of admissions in all courses to obtain official university qualifications.
- Students from non-EU countries who meet the requirements for university access in their country of origin: 1% to 3% of admissions, provided that the students' respective governments reciprocate in this area.
- Students who have completed a higher vocational education course: 7% to 30% of admissions, depending on the degree course.
- Outstanding sportsmen and sportswomen: 1% to 3% of possible admissions, plus an additional 5% on the Physical Activity and Sport Science degree course.

210. Universities should reserve 3% of possible admissions for students with an officially accredited disability rating of at least 33%, and for students with permanent special needs associated with personal disability who have required special resources and support to become fully integrated in their previous courses. Access for disabled students to official university courses should be based on the principles of equal opportunity, non-discrimination and positive discrimination. The student admission procedures established by Spanish universities should include all the necessary measures for adapting to the special needs of disabled people.

211. The proposed amendment to the LOU states that in order to modernise professional training and bring professionals up-to-date so that they can participate fully and effectively in cultural, economic and social activities, the Spanish government, on receiving a report from the

Council of Universities¹⁴, will establish university access procedures for people who can provide evidence of a having certain amount of work or professional experience, but do not hold the academic qualifications that are generally required by law for carrying out that type of work. The above university access procedure, which allows admission to any university, educational institution or course, will also be open to people who cannot provide evidence of work experience but have reached a certain age.

212. The LOU established in article 42 University entrance as a right, with the previous obtention of a *bachillerato* degree or the equivalent. However, in point 3 of said article established that Universities, after hearing from the University Coordination Council and taking into account the number of students that can be offered admission, were the ones that would establish admissions procedures for students into their centres. In practice what happened was that public university rectors opposed establishing specific entrance exams, and for that reason that regulation was not applied. With the modification of the LOU in its article 42, it is established that the Government, after hearing from the General Conference on University Policy, is responsible for establishing the basic rules for student admission, establishing the need to pass a single entrance exam. In this way, only private universities could establish entrance rules or criteria complementary to this single exam.

6.1.2 Access to non-university tertiary education courses

213. Access to higher vocational education can be gained directly or by taking a special test designed to demonstrate that the candidate has sufficient knowledge and skills to benefit from a higher vocational course, without prior qualifications. Additionally, students are allowed to enrol in professional modules linked to occupational units of competence provided they show proof of the access requirements before finishing their studies. The academic requirements for direct access are either the certificate received on successfully completing the final, non-compulsory stage of secondary education, or one of the following academic qualifications or credentials: specialised technician, advanced technician or equivalent, university qualification or equivalent.

6.2 Gender equality

214. From the early days of Spain's first universities until well into the second half of the twentieth century, university access was only within the reach of a few women. Women were not admitted into universities in large numbers until thirty years ago.¹⁵
215. In the 1940s, there were only 5,032 women students at Spanish universities (13% of the total). This number gradually increased, reaching 79,287 women at university in the 1972-1973 academic year (31%). By 1982-1983 there were 233,173 women at university (46.2%) and by 1990 there were 540,949 (about 50%). In 2004-2005, there were 820,792 women enrolled in Spanish universities (53.45%) and 50.4% of the students enrolled in higher vocational education courses were women.

Table 6.1 Variations in the percentage of women who have completed tertiary education

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Women aged 16 and over	10.7	11.6	12.3	13.6	14.3	15.1	15.9	17.0	17.8	18.5	18.9
Women aged	24.5	26.2	28.0	30.5	31.9	33.8	35.0	37.0	38.9	40.5	40.8

¹⁴ A new body composed basically of university rectors that will take over many of the responsibilities currently carried out by the University Coordination Council.

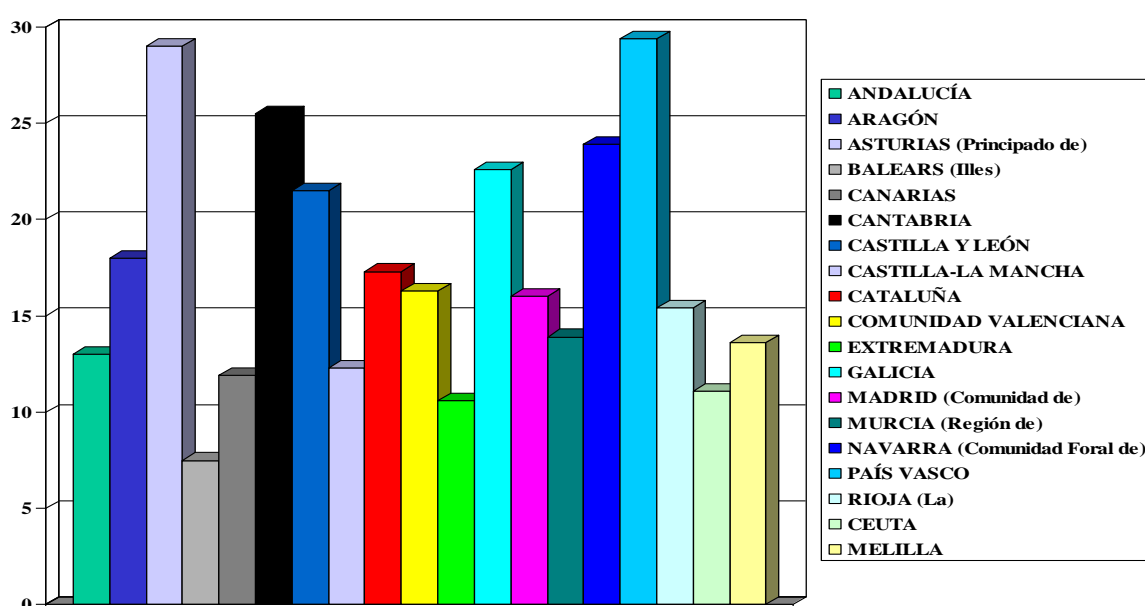
¹⁵ It was not until 1970 that the General Education Law (LGE) allowed boys and girls to study together in state schools. Up until that time, boys and girls had not only been educated in separate schools, but also taught different subjects or content (CSIC, 2004).

25-34											
Women aged 55-64	3.7	3.7	3.9	4.5	4.7	4.8	5.3	6.3	6.7	7.1	7.6
Women and men aged 16 and over	11.8	12.6	13.5	14.6	13.8	14.2	14.4	18.0	18.6	19.2	19.7

Source: Spanish National Statistics Institute (INE) (2005).

216. Table 6.1 shows steady growth in the percentage of women who completed a tertiary education course in all age groups between 1993 and 2003. At present, the percentage of women with a university education in Spain (14.1%) is higher than that of men (13.6%), although more men have completed a non-university tertiary education course (6.8%) than women (4.8%).¹⁶

Graph 6.1. Rate of women's graduation in higher vocational education



217. In Spain, 58.7% of university degrees are obtained by women. As shown in Table 6.2, the highest proportion of degrees obtained by women occurs among first and second cycle graduates, of whom almost 60% are women, whereas women account for about 49% of third cycle graduates.

Table 6.2 Variations in student enrolments and graduates by gender

	1994-1995		2004-2005 (1)	
	Total	Percentage of women	Total	Percentage of women
Students enrolled in the first and second cycles	1,446,472	52.5	1,462,897	54.0
Short cycle	491,761	50.1	571,329	48.7
Long cycle	954,711	53.2	891,568	57.4
Area of knowledge				
Humanities	133,046	65.8	134,103	64.4
Experimental sciences	118,583	51.2	105,859	59.3

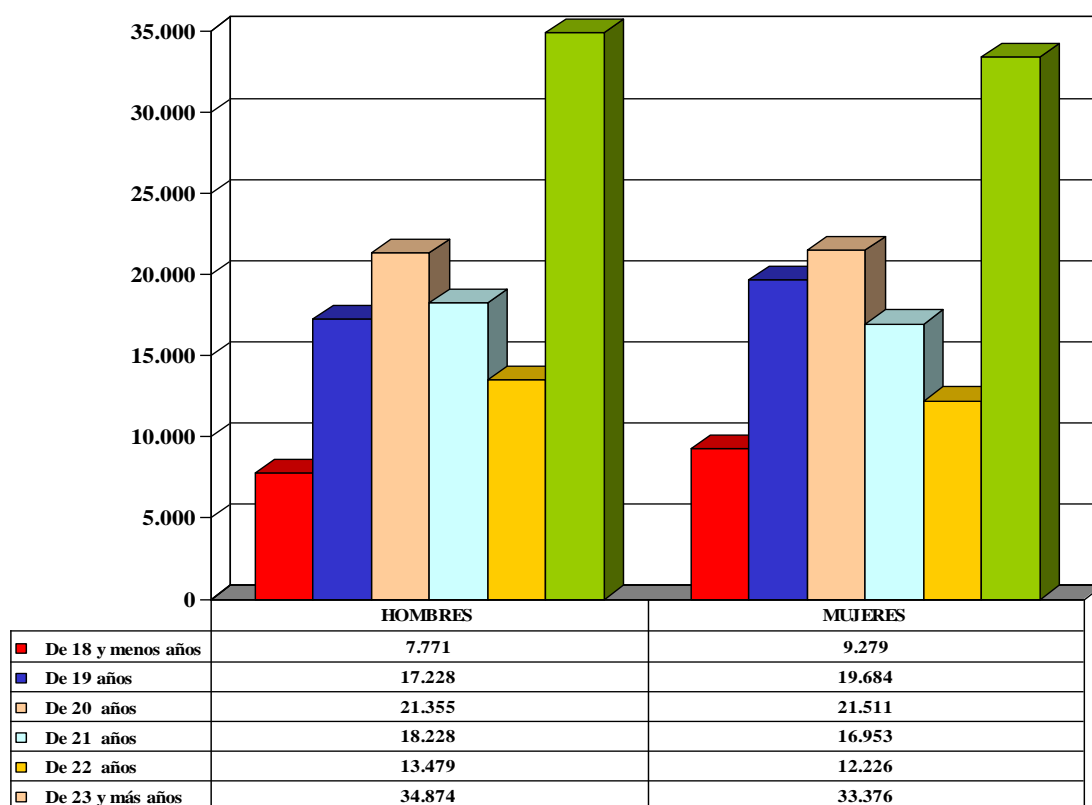
¹⁶ Percentages calculated for the population aged over 16. INE data for 2003.

Health sciences	108,030	69.5	116,842	73.5
Social sciences and law	776,609	59.1	720,072	62.6
Engineering	310,204	24.8	386,021	27.1
Third cycle students	55,268	48.5	72,729	50.8
First and second cycle graduates	N.A.	59.5	115,477	58.8
Third cycle graduates	N.A.	49	21,022	49.1

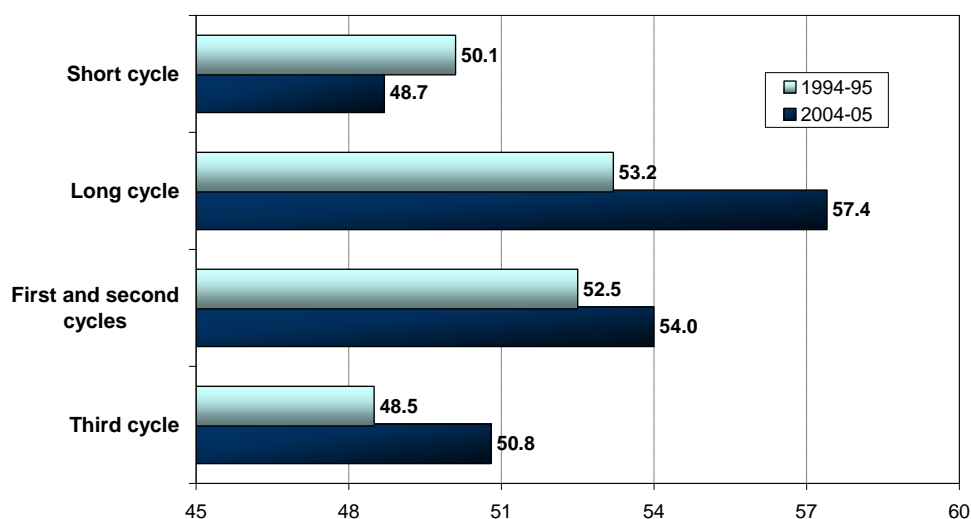
Source: Based on MEC data (2006) *Datos provisionales curso 2005-2006*. NB: (1) Provisional data

218. When broken down into subject areas, the proportion of women students varied considerably. While women made up 73.5% of the students enrolled in Health Sciences, they only accounted for 27% of the students in Engineering courses. In order to redress the difference, Spanish universities with engineering courses are making efforts to promote them among girls at secondary school.

Graph 6.2. Number of students registered in higher vocational education by gender and age



219. The proportion of women among new higher education students is 58.7%. Recently, women have shown a greater tendency than men to take long cycle courses: In 2004-2005, 57.4% of the students enrolled on long cycle courses were women, but only 48.7% of women were enrolled on short cycle courses. In the same year, the percentage of women enrolled on doctoral programmes was 50.8%, an increase of 2.3% in the previous decade (Graph 6.3).

Graph 6.3 Variations in the percentage of women enrolled in universities by cycles

Source: From MEC, *Datos y cifras. Curso escolar 2005-2006*.

220. The large-scale incorporation of Spanish women into university courses has been a decisive factor in the rapid growth of the number of women in paid employment over the last three decades. Nevertheless, unemployment among women is still 3.4% higher than the overall unemployment rate of 10.2%. Women's earnings are below men's earnings for all educational levels and age groups as Table 6.3 shows.

Table 6.3 Difference between average annual salaries of women and men, by age and level of tertiary education (%)

Age group	Higher vocational education	First cycle diplomas or equivalent	Second and third cycle or equivalent
20-29	-22.6	-19.2	-15.4
30-39	-25.3	-25.9	-26.5
40-49	-29.5	-33.0	-30.3
50-59	-33.5	-36.7	-35.4
60 and over	-22.0	-34.1	-47.7
All ages	-31.4	-31.2	-33.8

Source: MEC data, 2005.

221. In 2005-2006, there were 50,190 people with civil servant university teaching posts, of whom 33% were women. There were only three female rectors at the 73 Spanish universities. However, women made up approximately 60% of the administrative and service personnel in tertiary education. The proportion of women employees decreased the greater the responsibility of the post. If the results are disaggregated by age group, it becomes clear that, among the under-45 age group, there was greater equality between the sexes within the various categories of university teaching staff. In the older age groups, the presence of women varied across categories.

6.2.1 Government policy on gender equality

222. The LOU reform draft establishes equal representation of men and women on the governing and representation bodies of both private and public universities. An additional clause of the reform provides for the creation of "equality units" at all universities to carry out functions

related to the principle of equality between men and women. The reform also specifies three new student rights: the right to receive non-sexist treatment; the right to non-discrimination for reasons of sex, race, religion or disability; and the right to recognition of student participation in university life.

223. Along the same lines, the Spanish Cabinet passed an agreement to promote equality between men and women in March 2006. This agreement introduced various measures related to the role of women in research. One of the most important measures was the agreement to include female participation in research teams as an additional criterion for awarding grants for research projects. Another remarkable measure was the decision to create a Women and Science Unit to tackle women's problems in research institutions and increase the number of women working in them.
224. The Organic Law of Equality between Men and Women recognises the fundamental role played by tertiary education in achieving equal opportunities in society and establishes that the government bodies themselves should promote education and research on the meaning of equality between men and women and the extent to which it has been achieved. To this end, it states that government bodies should especially promote: a) the inclusion of subject matter on gender equality in relevant syllabuses; b) the creation of postgraduate courses on gender equality; c) studies and research on the subject.
225. The Fourth Plan for Equal Opportunities between Men and Women (2003-2006) passed by the Spanish government also proposed measures in this area:
- To promote women's careers in university teaching through research grants (under the auspices of the MEC and the Spanish Institute for Women).
 - To promote the creation of university courses in gender equality (under the auspices of the MEC and the Institute for Women).
 - To support university institutes of women's studies in carrying out activities related to equal opportunities within universities (under the auspices of the Institute for Women).
226. The autonomous regional governments have also approved equality plans proposing tertiary education goals. These can be grouped into the following categories: strategies for intervention, prevention, increasing awareness and training.
227. On the intervention strategy front, various autonomous regions have plans to promote the integration of women into cultural activities, making women's real circumstances and achievements known, eliminating sexist content in educational material and syllabuses, and creating postgraduate courses and university chairs on gender issues. These plans also provide incentives for integrating a gender-equality approach in all university subjects. In most cases, they seek to promote research on gender by increasing the subsidies allocated for this purpose. Grants have also been awarded to help achieve a change in the use of language and to analyse the content of the most popular cultural products, as in the case of the Fourth Plan for Equal Opportunities between Men and Women drawn up by the autonomous region of Madrid (2002-2005). In some autonomous regions, the plans support the creation of a new profession of Equality Agent and seek to integrate training for this into the universities, creating a Master's degree for Equality Agents and generally promoting the profession.
228. These equality plans also emphasise that it is of vital importance to make the whole of society aware of the importance of equal opportunities for men and women. Activities to increase awareness within the education system are directed at teaching staff, career advisors and students in the tertiary education system. All of the plans stress the importance of putting non-discriminatory attitudes into practice in the classroom when forming student groups, assigning tasks, organising seating arrangements, etc. Similarly, vocational guidance

campaigns have been carried out to increase women's access to technical and scientific courses, as in the Third Plan for Equal Opportunities between Men and Women drawn up by the autonomous region of Murcia (2004-2005).

229. The plans of the autonomous regions attribute vital importance to educating teachers, career advisors, social agents and students in equality. Agreements with universities for developing postgraduate courses on gender and development are planned. The equality plan for Castile and Leon proposes that co-education be included in the content of the competitive examinations for civil service teaching posts. Training for women is also essential if they are to have access to the labour market. The plans of the various autonomous regions therefore propose a wide range of courses for women. Access to education for women who are immigrants, disabled or at risk of exclusion is taken into account in various measures, as is the elimination of computer illiteracy among women.

6.3 Socioeconomic equity

230. Over the last quarter of the twentieth century, there was a significant rise in the number of university entrants, due partly to an increase in university capacity and the creation of new universities, and partly to Spain's economic development. In spite of the progress made in widening university access, data on the socioeconomic origin of university students show a marked orientation towards families with medium to high incomes, indicating that there is much room for improvement in the area of equity. For students from low-income family backgrounds, one of the main obstacles to tertiary education, if not the main one, is the opportunity cost of the time spent on it.

6.3.1 Students' family backgrounds

231. Half of Spanish university students come from families in which at least one of the parents has successfully completed the final, non-compulsory stage of secondary education or studied at university (Table 6.4). The other half of the students come from families with low educational attainment, and 34.12% of these come from families in which the parents did not successfully complete primary education. The wide gap in educational background between generations is gradually narrowing, as the educational level of the Spanish population rises. Recent statistics on students entering university already show a proportional rise in parents' educational attainment.

Table 6.4 Variations in the distribution of students enrolled at university, by parents' educational attainment (the highest of the two)

	1995	2002
No education	8.93%	5.84%
Primary	32.62%	28.28%
First stage of secondary education	15.84%	16.75%
Second stage of secondary education	13.31%	16.05%
Tertiary, short cycle	14.4%	15.55%
Tertiary, long cycle	14.91%	17.53%
Total	100%	100%

Source: CCU (2003)

232. Although university access began to widen in the last quarter of the twentieth century, the various socioeconomic levels are still not equally represented at Spanish universities. The chances of a young male entering university increase considerably was according to the

education level of his parents. A recent report¹⁷ compared the completed education level of students' parents with the distribution of completed education among the overall male population aged 45-59. The report concluded that the proportion of young people taking a university course when their parents had no schooling was 9%, whereas this proportion was 65% (seven times greater) for young people whose parents had completed a long cycle university course (Table 6.5).

Table 6.5 Relationship between the educational levels of the male Spanish population aged 45 to 49 and the parents of students enrolled in Spanish universities in 1999

	45-59 age cohort	Educational attainment of students' parents	% (parents' educational attainment/45-59 age cohort)
Without education	15%	6%	9%
Primary	49%	32%	13%
First stage of secondary education	15%	16%	22%
Second stage of secondary education	11%	14%	25%
Tertiary, short cycle	6%	15%	54%
Tertiary, long cycle	5%	16%	65%

Source: CCU (2003); based on data from Spanish Adult Education (EPA) and the Council of Universities, 1999.

233. The proportion of male students whose parents belonged to the “director or manager” category went up from 2.81% to 6.14% between 1994 and 2002. The proportion of male students whose parents belonged to the category of “administrative employee” increased from 20.62% in 1994 to 26.77% in 2002, becoming the largest student group. The combined proportion for the first three categories in Table 6.6 rose from 43.79% in 1994 to 54.47% in 2002. Thus, over this period, the proportion of students whose parents were working in “white-collar jobs” increased considerably. During the last decade, the proportion of university students who came from farming or fishing families increased, while the proportion of students whose parents were employed in industry, especially as skilled workers, decreased (Table 6.6).

Table 6.6 Distribution of enrolled students, by parents' profession

	1994	2002
Director or manager	2.8%	6.1%
Technical or professional worker	20.4%	21.6%
Administrative employee	20.6%	26.8%
Skilled worker in agriculture or fishing	3.1%	4.8%
Skilled industrial worker	22.5%	18.8%
Unskilled worker	14.2%	13.5%
Member of the armed forces	3.9%	3.2%
Unemployed	12.5%	5.2%

Source: CCU (2003)

234. A comparison of the distribution of the professional category of students' parents with the distribution of the same professional category among men aged 45 to 59 according to the

¹⁷ Informe sobre la evolución del alumnado universitario de 1994-95 a 2001-02, CCU, 2003.

1999 Labour Force Survey (EPA) reveals that the “administrative employee” category (whose children constituted the largest group of university students, with 26%) only included 10% of the men aged between 45 and 59 in the general population (Table 6.7). It seems that the families in this social category saw university as a way for their children to improve their social status. The same was true for the “armed forces” category: while members of the armed forces aged 45 to 59 only made up 0.5% of the general male population, they represented 3.5% of parents of university students (six times more). Conversely, unemployed men accounted for 21% of men aged between 45 and 59 (EPA, 1999), but only 8.7% of parents of university students. The children of skilled industrial workers were also underrepresented at university, where they made up 18.6% of the total number of students, although their parents accounted for 31.9% of the total population of men aged between 45 and 59.

Table 6.7 Comparison between the distributions by profession of the male population aged 45 to 59 and of the parents of university students, in 1999

	Men aged 45-59	Students' parents
Director or manager	9.7%	5.3%
Technical or professional employee	14.2%	19.6%
Administrative worker	10.1%	26%
Skilled worker in agriculture or fishing	5.7%	4.8%
Skilled industrial worker	31.9%	18.6%
Unskilled worker	6.8%	13.3%
Member of the armed forces	0.5%	3.5%
Unemployed	21%	8.7%
Total	100 %	100 %

Source: CCU (2003)

6.3.2 Age of students

235. The average age of the students enrolled on tertiary education courses has gradually increased in recent years. During the 2004-2005 academic year, 13.6% of students were aged over 30, whereas in 1999-2000 this figure was 9%. Similarly, the proportion of students aged between 25 and 30 increased from 17.5% in 1999-2000 to 21.9% in 2004-2005. In 2004-2005, more than a third (35.5%) of Spanish university students were over 24 years of age, while in 1999-2000 this proportion was 26.5% (Table 6.8).

Table 6.8 Number of university students by age group

Age group	1999-00	2000-01	2001-02	2002-03	2003-04 (1)	2004-05 (1)
18 – 24	1,045,671	1,045,695	1,014,301	987,080	980,543	944,196
25 – 30	256,701	274,400	292,628	298,282	332,557	320,403
Over 30	129,750	139,156	145,695	152,471	168,942	198,299
Not stated	157,351	96,499	73,365	65,861	-	-
TOTAL	1,589,473	1,555,750	1,525,989	1,503,694	1,482,042	1,462,897

Source: MEC (2006), *Avance curso 2004-2005*. NB: (1) Provisional data

236. Sixty-one percent of the total number of students were taking long cycle courses, which had a theoretical finishing age of 23 to 25 for full-time students, and 39% were taking short cycle courses, which had a theoretical finishing age of 21 for full-time students. Delays occurred in more than 35% of the cases. This meant that there were presumably still some students over the age of 25 in the education system because they had not yet completed their degree. As mentioned in Chapter 2, student performance has improved over the last few years (Table

2.6), although there are still significant delays, especially in the completion of Engineering courses. The age increase among university students does not therefore appear to be due to greater educational failure. On the contrary, longer periods spent at university reflect changes both in the demand for courses and in the background of university students.

237. The following are some of the hypotheses that have been put forward to explain the greater proportion of older students at universities: first, difficulties in finding suitable first job may boost demand for accredited postgraduate courses and second degrees, as students wish to have a broader curriculum to give them an advantage when competing in the labour market. Secondly, there may be a demand for continuing education that has benefited from the creation of only second cycle courses, although no figures are available on how many students admitted to second cycle courses were already enrolled in the first cycle and how many come from employment. Thirdly, we can reasonably suppose that some of the adult students combine work and study.
238. In 2004-2005, students aged over 30 accounted for 39% of third cycle enrolments, an increase of 5% in five years. The over-40 age group accounted for 14.5%. These proportions were higher in the case of distance universities, and also in the special case of the Balearic Islands. The over-40 age group made up 30% of the students enrolled at the National Distance-Learning University (UNED) and 44% of those enrolled at the Open University of Catalonia (UOC). The over-40 age group made up 52% of third cycle enrolments even at a typical university such as the Balearic Islands University.

Table 6.9 Percentage distribution of graduate students, by age group

	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003 (1)	2003-2004 (1)
Under 25	50.15	48.78	49.87	49.37	52.38	51.48
25-30	35.41	35.74	37.83	37.87	38.80	39.35
31-40	5.11	5.07	4.94	4.85	6.75	6.74
Over 40	1.18	1.24	1.35	1.26	2.07	2.44
Not stated	8.16	9.17	6.02	6.64	-	-
TOTAL	100	100	100	100	100	100

Source: MEC, *Datos y cifras*. NB: (1) Provisional data

239. The proportion of graduates aged over 25 increased from 42% in 1998-1999 to 49% in 2003-2004 (Table 6.9). The proportion of students over the age of 30 graduating from third cycle courses increased by ten percentage points, from 36% in 1998-1999 to 46% in 2003-2004, while the number of students over the age of 40 increased from 11.1% to 17.8%.

Part-time students: Students that work and study at the same time

240. A significant element to be considered is the high number of students that work and study at the same time. This circumstance can indicate low levels of coverage by scholarships and study grants in the country, and may have an effect on student academic performance. This phenomenon is common in Spain, so much so that the modification of the LOU takes said circumstance into account so that university studies can be undertaken as usual. An estimation based on Eurostudents Survey supposed that around 10 percent of the students are in this situation. Nevertheless, part-time students do not have any special status in the higher education system.

6.3.3 Government policy on socioeconomic equity

6.3.3.1 Policy framework

241. The LOU establishes that in order to ensure that no one is excluded from university education for economic reasons, the central government, the governments of the autonomous regions, and the universities themselves will implement a policy of student scholarships, grants and loans and, in the case of state universities, will also establish ways of totally or partially extending the time limits for payment of public fees for academic services. In all of these cases, special attention will be paid to the needs of people with family responsibilities, to victims of gender violence, and to people with disabilities, in order to ensure they can get into and remain in university courses.
242. The Organic Law of Education (LOE, 2006) dedicates a chapter to equity in education, emphasising the search for educational quality for all students, in equitable conditions, and with equal opportunities. The first article of the LOE establishes equity in the educational system as an element which guarantees equal opportunities, educational inclusion and non-discrimination and that acts to compensate personal, cultural, economic and social inequalities, with special attention paid to those arising as a result of disability. The second article establishes that the educational system should be oriented towards teaching respect for fundamental rights and freedoms, including equal rights and opportunities between men and women and the right to equal treatment and non-discrimination for people with disabilities. Article 83 of the law states that in order to guarantee the equality of all people in exercising their right to education, students in unfavourable socioeconomic circumstances will have the right to obtain scholarships and grants. (In the case of tertiary education, academic performance is taken into account.)
243. The scholarship system is regulated by the MEC. It fixes a maximum limit of family per capita income, above which students are not entitled to the established benefits and also quantifies the required academic performance. There is a minimum threshold of academic performance, expressed in the form of average marks, below which students are not entitled to receive grants. The norm establishes that the selection process for grant-holders should benefit the students with the highest academic performance.
244. Every year, the Spanish government makes an official announcement of tertiary education grants and scholarships for students who are economically disadvantaged, and for students with a good academic record. These grants are made at the national level. There are two sub-categories within the category of scholarships and grants:
- General scholarships and grants These scholarships and grants cover all tuition fees and/or include sums of money intended to defray the costs of books and academic material, travelling expenses, urban transport costs and accommodation, as well as to compensate for income not earned by the student in the case of families with very low incomes. In order to qualify for these scholarships and grants, students must meet the academic and economic requirements established in the conditions of the call for applications, and may not already have an academic qualification that enables the holder to exercise a profession. The economic requirements are intended to guarantee that these benefits reach students whose family income is not sufficient to bear the educational costs of its members; the academic requirements ensure that students who attain a minimum required level of academic performance benefit from the grants.
 - Special grants and scholarships, including prizes and grants for outstanding academic performance.
245. There are special grant programs to help promote student mobility. The Seneca grant program provides scholarships to Spanish university students to cover the costs of travel expenses and accommodation during a period of study in a different Spanish university. The grants for

international mobility, such as the Socrates and Leonardo schemes, are described in detail in Chapter 10. Similarly, government policy for grants takes into account the special nature of the Spanish islands and their distance from the peninsula, with the aim of fostering the educational mobility of students from these areas. The MEC also offers mobility grants for doctorate students who have obtained a distinction, in order to foster exchange, quality and excellence in doctorate courses at public universities and non-profit private universities. It also awards research grants for doctorate courses in units associated with the Higher Council for Scientific Research (UAs-CSIC), for post-doctoral scholarships, for grants for training university teaching staff (FPU), and for funding doctorate courses in social sciences and humanities in conjunction with the José Ortega y Gasset Foundation.

6.3.3.2 Progress made in providing grants and talks underway

246. From the 1995-1996 academic year to 2003-2004, there was a reduction of 20% in the total value of MEC grants and of 36% in the number of grant-holders. However, the average value of grants increased by 25% to €1,665 (Table 6.10). The grant system was reformed in 2004 to increase the scope and size of the grants. In 2004-2005, grant funding was increased by €66 million. The new grants targeted university students, students in vocational education and pupils in the final, non-compulsory stage of secondary education. Priority was given to compensatory grants for low-income families. Additional criteria that had previously limited access to these grants were abolished. The amount allocated to grants for accommodation, transport, compensation and special educational needs was increased by about 5% to make up for the reduction in purchasing power over the years preceding the reform.

Table 6.10 Changes in MEC general university scholarships

	Amount (in M€)	Average amount per scholarships (€)	Number of students receiving scholarships
1995-1996	378	1,333	283,226
1999-2000	289	1,379	208,703
2003-2004	300	1,665	180,620

Source: MEC (2006) *Datos y Cifras, Curso 2005-2006*.

247. The autonomous regional governments make an annual call to students who live in their respective regions for applications for scholarships and grants similar to those awarded at the national level. In the case of the Basque Country they constitute an alternative to national grants; in the rest of the regions they are complementary. To apply for these grants, it is usually necessary to be registered in a town or city in the autonomous region that awards them. Some universities also award grants to cover the payment of tuition fees, accommodation, travel, courses and cultural activities. In 2003-2004, the total grant expenditure of the education departments of the various autonomous regions, local councils and other educational bodies came to €222. million.
248. In Spain, public spending within tertiary education on student grants (8.3% of the total) is far below the EU average (16.5% of total spending in 2001).¹⁸ Furthermore, these grants are mostly intended to cover the cost of tuition fees; unlike other countries, Spain does not give priority to direct student grants or student loans.
249. One of the main debates on the university system centres on which funding mechanisms guarantee the greatest equity. This raises the issue of the roles of public funding and tuition fees in state university courses. It is difficult to justify a totally free university system,

¹⁸ More recent comparative data with EU countries were not available.

whether the criterion used is efficiency or equity. While it is true that tertiary education has a positive effect on society as a whole, there is no doubt about its profitability to individuals (Chapter 3). An examination of the socioeconomic circumstances of university students has revealed a close relation between access to tertiary education and the level of income and educational achievement of the students' parents. The percentage of students from low-income families or families with low educational attainment is very low (CYD Foundation Report, 2004). Thus, the result of the present system of public funding of tertiary education is that, although the whole of society contributes to it through taxes, it is the higher-income strata that usually benefits from these services.

250. It is therefore argued that public funding of educational expenditure does not in itself guarantee equity in the system. Thus, some people consider that introducing fees for students and re-directing government subsidies towards direct grants for students from low-income families would inject greater equity into the system. The system would also become more equitable if public spending on these grants was aligned with the average expenditure of OECD member countries. To avoid acting to the detriment of equity of access, the existing grant system should be improved before private contributions to educational funding are increased (CYD Foundation Report, 2004) by giving priority to direct grants and loans to students from low-income families with low educational attainment.

6.4 Equity of results

251. On the topic of the equity of results in Higher Education, there are few studies available. In a recent seminar¹⁹ experts agreed that in order to resolve equity problems, besides economic measures so that no student is excluded from the system because of a lack of resources, sociocultural measures to eliminate barriers of access to higher education for the most unfavoured social classes should also be considered seeing as achievements in equity need other measures and more direct actions—associated with other educational levels—than the mere giving out of scholarships. Said barriers can range from a lack of information to a disconnection between compulsory and higher education.

¹⁹ Organized by the UNESCO Chair in University Administration and Policy of the Polytechnic University of Madrid and sponsored by the Ministry of Education and Science, which took place 14 March 2007 in the Gomez Pardo Foundation (Madrid)

CHAPTER 7. TERTIARY EDUCATION SYSTEM RESOURCES

7.1 Human resources

252. In Spanish public universities, human resources are divided into two groups: teaching and research staff (PDI) and administrative and service staff (PAS). Each of these groups includes civil service staff and non-civil service staff. These groups are further divided into various categories that fulfil a wide range of tasks and needs. In higher vocational education, human resources are also divided into two groups: teaching staff and administrative and service personnel.
253. The rigid statutes that have been established for some of these categories over the years have become an obstacle to the diversification of tasks, salaries and duties in the current university model. Other issues in need of debate include the overemphasis on research in academic careers, which leads to teaching neglect, and the current pay scale, which is based on a relatively low basic salary and wage bonuses.

7.1.1 Teaching and research staff

254. The academic staff (PDI) of public universities is made up of non-civil service academic staff, who are hired by each university, and members of the civil service academic staff, who are employed by the government and form part of the public administration. Civil service academic staff are divided into the following categories: full professor (*catedrático*, CU), associate professor (*profesor titular*, TU, or *catedrático de escuela*, CEU) and college teacher (*titular de escuela*, TEU, a category designed for teaching in first cycle professional courses). Non-civil service academic staff are divided into several categories. Some are new categories (2002 onwards) and have a regular permanent labour status (this is the first time in years that this has happened), whilst other categories are for contracting people on the first steps of their academic career. A third group (associate teachers) is designed for outside professionals wishing to collaborate in university teaching in a particular professional areas. Finally, there is a fourth group for special cases such as emeritus or visiting professors.
255. The number of academic staff in public universities has increased by 33.2% in the past decade, from 67,026 in the 1995-1996 academic year to 89,305 in 2005-2006 (Table 7.1). The enrolment rate has dropped in the last five years, but the ranks of teachers have grown by 10%. As a result, the student/teacher ratio in public universities has decreased steadily: 21.6 students per teacher in 1995-1996, 19.9 in 2000-2001 and 14.6 in 2005-2006.²⁰

Table 7.1 Academic staff at public universities (1995-1996 to 2005-2006)

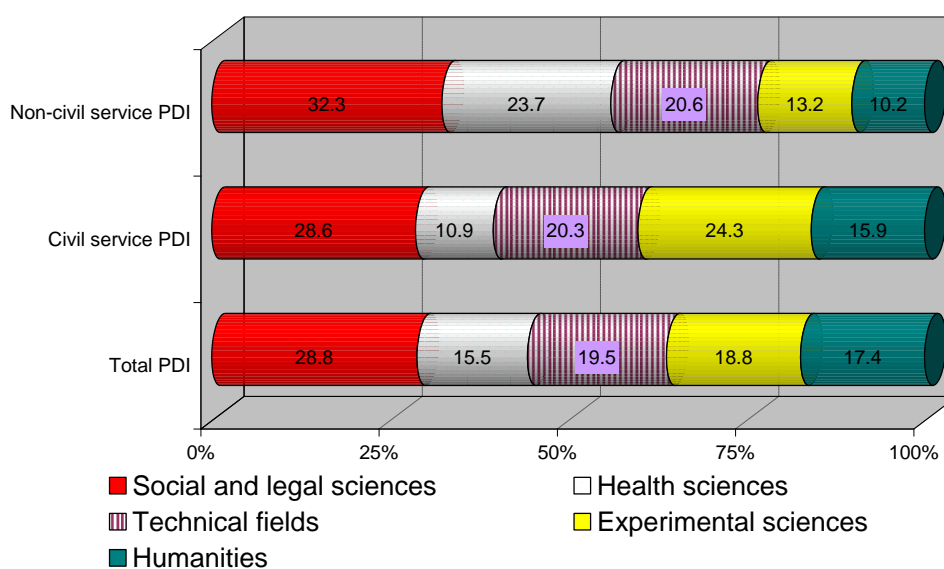
Type	Academic year			
	1995-1996	2000-2001	2004-2005 ⁽¹⁾	2005-2006 ⁽¹⁾
Professor (CU)	6,126	7,419	8,234	8,619
Professor (TU)	19,097	24,466	27,357	27,511
Professor (CEU)	1,538	2,008	2,349	2,498
College teacher (TEU)	10,663	12,080	12,572	11,562
Non civil-servant staff	29,602	35,049 ⁽²⁾	38,378 ⁽²⁾	39,115 ⁽²⁾
TOTAL	67,026	81,022	88,890	89,305

Source: MEC, *Datos y cifras. Curso escolar 2005/2006*, Secretaría General Técnica: Madrid, 2005. ⁽¹⁾ Provisional figures. ⁽²⁾ Estimated figures.

²⁰ The figure for 2005-2006 is based on provisional enrolment and teaching staff data provided by the MEC.

256. Women are underrepresented, especially in the category of full professor, mainly because Spanish women were late in entering the workforce and universities. Equality in the tertiary education system and the changes that have taken place over the years are discussed in depth in Chapter 6.
257. Thirty-nine percent of non-civil service academic staff and 96% of civil service academic staff work full-time. This enormous difference is due to the fact that a large part of non-civil service academic staff are associate teachers, who teach part-time.
258. The following graph shows the distribution of academic staff by field of study: 28.8% in social sciences and law; 18.8% in experimental sciences, 19.5% in engineering, 15.5% in health sciences and 17.4% in humanities (Graph 7.1). There are more civil servants than non-civil service staff in experimental sciences and, to a lesser degree, in humanities. The opposite is the case in health sciences, in which non-civil service staff far outnumber civil servants.

Graph 7.1 Distribution of teaching staff by field of study (2002-2003)



Source: Drawn up by the author, based on Hernández Armenteros, Juan (director) *La Universidad española en cifras (2004)*, CRUE and Observatorio Universitario: Madrid, 2004; and Parellada, Martí et al. (eds.), *Informe sobre la contribución de las universidades españolas al desarrollo*, Fundación Conocimiento y Desarrollo: Barcelona, 2005. NB: Data on the PDI of the University of the Basque Country were unavailable and have therefore not been included in this breakdown.

259. If we look at the age of the university teaching staff, we see that we can observe a general ageing. This circumstance affects more than anything the oldest universities, and many universities to consider steps for renewing its teaching personnel.

Table 7.2. Distribution of university teaching staff by age range (2004-2005)

	Total	30>40 40>50 50>60				<60 years
		>30 years	years	years	years	
Public universities	90,309	3,279	24,508	30,846	22,604	9,072
Private universities	5,386	467	2,294	1,693	699	233
Private church-sponsored universities	3,015	186	1,018	891	546	374
Total	98,710	3,932	27,820	33,430	23,849	9,679

Source: *Estadística básica del profesorado universitario (2004-2005)*. Consejo de Coordinación Universitaria

7.1.1.1 Teaching

260. Spanish academic staff have traditionally been trained at universities. As early as 1857, the Spanish Public Instruction Law required that professors had a doctorate, among other requirements. Until the General Education Law (LGE) was passed in 1970, the training of academic staff had always focused on the field of study to be taught and not on teaching methods. This law, for the first time, established that university teachers could receive specific pedagogical training from the Institutes for Educational Sciences (university bodies created with this objective in mind), in addition to their specialist qualifications.
261. Under the organic laws that have regulated the Spanish university system for the past two decades (LRU and LOU), research has been overemphasised at the expense of teaching duties. In the interests of promoting research—which had historically been the system's weak point—these laws called for academic staff to be evaluated mainly on the basis of research-related indicators. Some of the pay bonuses available to academic staff are based on these criteria as well. Incentives to perform teaching duties are more scarce and the need to implement career reforms and provide incentives for teaching is considered important.
262. A first step to providing more incentives and recognition for teaching activities is to promote specific pedagogical training and the assessment of teaching quality. At present, university teachers are not required to receive any specific pedagogical training. The European convergence process offers an opportunity to introduce teacher assessment and continuous pedagogical training.
263. Teachers of higher vocational education courses are required to have the same qualifications as secondary school teachers, that is, the qualifications required are those that involve a degree in an academic field, besides the specific pedagogical and didactic training of a post-degree level. In exceptional cases, professionals who do not hold a degree but work in a particular field are allowed to teach certain modules as "specialist" instructors, depending on their qualifications and on the needs of the education system. The draft of the Statute of Non-University Public Teaching Staff, in chapter V article 24, provides *other teaching units with a high professional classification* (secondary school teacher, visual arts and design teacher and official language school teacher units) with the promotion systems of vocation education technical professors as long as they have the required degree to become a member of the corresponding body and have remained in their original bodies a minimum of six years as a career civil servant, and pass the corresponding selection process as well as, if applicable, provide proof of knowledge of the other official language of the Autonomous Community where they would like to teach, in accordance with its regulations. In the calls that are carried out for the internal promotion of these civil servants, once they've passed the selection examination phase, the merits of the applicants will be evaluated, such as the level acquired and, if applicable, the work carried out and training and improvement courses passed, as well as academic merits, and a positive teaching evaluation. At the same time, proof must be presented, by taking the corresponding exams, of specific knowledge of the teaching specialization chosen, in accordance with basic ordinances.

7.1.1.2 Selection procedures for academic staff

264. Selection procedures depend on whether the posts are on the civil-servant ladder. Taking into account teaching and research needs and budgetary constraints, each university establishes annually how many civil-servant posts are needed and informs the CCU. Depending on the

total number of posts in the different areas of knowledge, the CCU organises the suitability of academics for the 3 levels of civil servant positions on a national level. The category of the committee members must be equal to or higher than the category for which the examination is given. The examination committee members are chosen in a public drawing conducted by the University Coordination Council (CCU). Only professors with a certain level of research merits may be included in this drawing. Those who are deemed suitable are eligible to enter in the internal competitive process of each university for the position offered by the university. Universities organise internal committees to select the best candidate for this internal process. Selected individuals are formally made members of the civil service.

265. Universities may hire academic staff under any category of employment contract allowed by current legislation. The selection procedure in this case is defined by each university. Since 2002, permanent positions are available under regular labour conditions (that is, non civil-servant). Nevertheless, the numbers of contracted people is rather low because the procedure is new but also because universities have to pay a higher employer's (or national insurance) contribution for non-civil service staff than for civil service staff. They may also hire teaching, research, technical or other kinds of staff to carry out specific scientific or technical research projects under a contract defining a specific task or service.
266. The number of non-civil service academic staff—calculated as the equivalent number of full-time employees—may not exceed 49% of the total number of academic staff at a particular university. At both private and public universities, at least 50% of the teaching staff must hold a doctorate. Furthermore, at least 50% of the academic staff (non civil-servant) must have received a favourable assessment from Spain's National Agency for Quality Assessment and Accreditation (ANECA) or from the quality agency in the autonomous region. Active members of the civil service academic staff working at a public university and full-time non civil-servant academic staff are not allowed to join the teaching staff of a private university.
267. The proposed amendment to the LOU changes the way academics obtain university posts. Under the new amendment, candidates no longer need to take the national qualification examination. Instead, they need to obtain merit-based accreditation, in which a committee assesses the documentation submitted by the candidates. The rest of the process is still similar.
268. In the case of Vocational Education, for accessing to a position as a civil servant teachers have to pass examinations organised by the educational administration, followed by a competitive phase that considers the merit of the candidate, such as academic training and previous experience. Afterwards, a training period is required. Nonetheless, access to public school positions may also be obtained in certain cases through a temporary contract. These temporary teachers and teachers in private schools must hold some academic requirements in accordance with the profile established for each position.

7.1.1.3 Salaries of academic staff

269. The Spanish government establishes a single pay scale for all civil service academic staff throughout the university system. The autonomous regions have established pay scales for non-civil service academic staff. Either the central government or the autonomous regions may establish pay bonuses based on individual merit in any of the following areas: teaching, research, technological development, knowledge transfer and management. Within the limits established by the autonomous regions, the Social Council²¹ of a particular university, at the

²¹ The Social Council and Governing Board will be defined in the next chapter.

proposal of the Governing Board, may agree to award pay bonuses on a discretionary and individual basis.

270. Part of academic staff salaries are based on the favourable assessment of each individual's research activity. This is a major incentive behind the quality and quantity of the research conducted at some Spanish universities. At private universities, academics' salaries are established in their employment contracts, within the limits prescribed by the legislation currently in force. The collective agreement for university teachers establishes that a teacher's pay consists of his/her salary plus other possible bonuses, such as seniority privileges and bonuses (Table 7.3).

Table 7.3 Pay components of academic staff

Basic salary	This is established at national level depending on the category of each position.
Seniority	Seniority is established by length of service and professional category. Civil servants are paid a bonus after every three years worked.
Teaching bonus	This bonus is paid every five years for teaching merits. Each individual may receive a maximum of 6 such payments. Only full-time civil servants receive this bonus.
Research bonus	This is based on the research activity conducted in a six-year period and is conditioned to the favourable assessment of an external committee. Only full-time civil servants may receive this bonus.
Autonomous region bonuses	These "discretionary and individual" bonuses are based on merits in teaching, research or management. They are paid following a favourable assessment made by the agency or body designated by the region. The criteria and amount of the bonuses vary from region to region

271. In recent years, the salaries of civil service academic staff have dropped with respect to the salaries of civil servants of equivalent rank in public administration. Academic staff's relatively low pay is compensated by the fact that, unlike other civil servants, they have the freedom to seek other sources of income outside the university that employs them. Table 7.4 shows the basic salary and main bonuses established by the state for full-time civil service academic staff in 2006.

Table 7.4 Salary of full-time civil service academic staff in 2006 (euro)

	Full professors		Associated professors		College teachers	
	Month	Year	Month	Year	Month	Year
Basic salary	2,919	38,759	2,330	31,559	2,060	28,151
Three-yearly bonus (each)	42		42		42	
Teaching or research bonus (each)	147		120		101	

272. The higher education system, through the creation of the EEES, is working to adapt teaching methods to the new paradigm based on student learning. On behalf of MEC's University Coordination Council, and in collaboration with the UNESCO Chair in University Administration and policy, the report "*Proposals for the restructuring of university educational methodologies*" has been developed, analysing the situation of teaching methodologies and carrying out a series of improvement proposals for the advancement of the quality of learning with 4 main foci: establishing a strategic plan with methodological innovation proposals to achieve certain goals in predetermined time limits; identifying, displaying and disseminating good teaching practices; consolidating stable teaching staff training programs; and defining, planning and promoting its own educational model with explicit mention in teaching methodologies.

273. The CCAA are also implementing teaching quality improvement programs, and university institutions themselves are putting programs into practice to achieve such an aim.

7.1.2 Non-academic staff

274. Non-academic staff (PAS) include civil service staff from the ranks of the universities, non-civil service staff, and civil service staff from the corps and ranks of other public administrations. Non-academic staff at public universities are responsible for supporting, assisting and advising academic staff and fulfilling administrative and management functions, especially in the following areas: human resources, administration, financial matters, data processing, record keeping, libraries, teaching and research laboratory technicians, information and general services.
275. Spanish public universities had a total of 42,334 non-academic staff in the 2002-2003 academic year. Of these, just over half (52.3%) were civil servants and the rest were university employees. Overall, the ratio of academic staff to non-academic staff is 2:1. That is, there are 2 academics for every non-academic employee.

7.1.2.1 Selection procedure for non-academic staff

276. Non-academic staff are recruited on the basis of a selection examination, in keeping with the principles of equality, merit and skill. Vacancies are announced in the Official State Gazette (BOE) and in the official gazettes of the autonomous regions.
277. Non-academic staff posts are awarded by means of a competitive process, under conditions established by law. Staff from any university or from the corps and ranks of other public administrations may apply.
278. The conditions established by universities allow non-academic staff to be transferred to other universities. Each university may enter into reciprocal agreements with other universities or with other public administrations in order to guarantee staff mobility.

7.1.2.2 Salaries of non-academic staff

279. Universities pay their non-academic staff out of their own budgets and decide on their career structure and salaries. They establish the pay scale for civil service staff within the maximum limits set by the autonomous region and the framework established by the Spanish government. The salaries of non-civil service staff are negotiated through collective agreements.

7.2 Funding of tertiary education

280. Total expenditure on tertiary education in the 2004-2005 academic year was close to 1.2% of GDP. This is close to the average for the European Union, where some countries spend more than 1.5% while others spend less than 1%. However, public expenditure on university education in Spain is 36% below the EU average: €7.4 billion in 2003, or 0.95% of GDP (Table 2.10). In contrast, the contribution of private funding to overall expenditure on tertiary education is the second highest in the EU: 24.5% in 2001, eleven percentage points above the EU average (13.1%).²²

²² No data on private funding are available for 2001-2006.

281. The total amount of money spent on tertiary education in Spain increased by 47% from 1995 to 2001. This was the highest growth rate in the EU, where the average was 26%. This increase can be attributed to the 1995 transfer of powers to the ten autonomous regions that still did not have authority over their own public universities at the time. The autonomous governments have—to varying extents—made a significant effort to financing universities within their jurisdictions. The amount spent on grants and scholarships has historically remained below the EU average. Between 1995-1996 and 2003-2004, the total amount spent on Ministry of Education and Science (MEC) grants dropped by 20%, and the number of recipients dropped by 36%. A turnaround has been seen in recent years, thanks to the reform of the grant programme discussed in Chapter 6.

7.2.1 Funding system

282. In the last few decades, university funding requirements in Spain have increased steadily, due to the expansion of the university system and rising enrolment rates. On the other hand, funding has become a regional responsibility. The increased need for funding has intensified the rivalry for public money. As a result, the traditional incremental allocation systems have been progressively abandoned in favour of regulation-based or formula-based models. At the same time, university institutions have made a greater commitment to defining their functional goals, increasing their productive efficiency, achieving more transparent results and becoming more embedded in society and in the economy.

283. The Spanish public university system has four main sources of funding:

- *Regional government subsidies.* Each autonomous region is responsible for the general funding and investments of the public universities in its region.
- *Student aid.* The central government is responsible for most grants and scholarships. The student aid system only represents 0.09% of GDP.
- *Tuition fees.* Student fees are not particularly high (on average, 631€ per academic year) and they represent around 18% of total costs.
- *Revenue from research activities and other services.* These funds come mainly from knowledge transfer, continuing education, contracts, patents, collaboration agreements with other institutions or individuals and the creation of foundations and other entities. Central government and the European Union, through their competitive Call for Proposals are an important part of these sources.

284. The regional subsidy that each university receives is given to universities in different ways depending on each government. Traditionally an incrementalist model was in use in all regions. In the early 90s, the Valencian Community was the first to implement a formula-based model made up of basic funding (closely related to student numbers) and a goal-oriented funding component linked to performance. This model, with different variations, has recently been implemented in most regions which have several universities. Most models link a proportion of funding to performance indicators or are connected to specific programme-contracts with each university in order to improve performance. In addition, autonomous regions provide funds for infrastructure and for improving facilities by means of multi-year investment plans.

285. Public universities receive funds as a lump sum and perform their functions with economic and financial independence. Each university's budget must be approved by its Social Council, which oversees its economic activities and encourages society to collaborate in the funding of the university.

286. Currently, higher education funding proposals are still the central topic of discussions on university policy. In 2007, the University Coordination Council's Finance Committee wrote up a report on the Spanish University System's Funding in which a series of proposals and

recommendations were made to reach the 1.50% GDP that has been established as the 2010 goal, which would bring with it an increase of 2,733 millions of euros. Said increase would be achieved through a larger private contribution (up to 20% which would involve 547 millions of €) through the contracting of training and I+D by companies and students through fees. The other 80% would come from larger contributions from the AGE and the CCAAs but with the developed objectives shown in the following table:

Table 7.5. Objectives proposal

<i>Policies</i>	<i>Resources in M € 2006</i>	<i>Increase in % of the GDP</i>
Increase in study scholarships and grants	244	0.025
Educational quality improvement and higher education equity	800.5	0.082
University I+D+i activity development fund for structural costs	605.2	0.062
University I+D+i results recognition fund	292.9	0.03
Planning of the university teaching staff state pay scale	244	0.025
Total increase in resources	2,186.70	0.224

Source: Comisión de Financiación del Consejo de Coordinación Universitaria (2007)

7.2.2 Income and expenditure structure in the public university system

287. In the 2002-2003 academic year, current transfers accounted for 60% of the universities' income, while tuition fees accounted for 18.2%. The largest expenditure category was staff costs (58.3%), followed by investments (22.4%) (Table 7.6). In 2002-2003, investments in tangible assets accounted for 60.5% of all investments, while research-related investments accounted for 39.5% of the total.

Table 7.6 Income and expenditure structure at public universities (2002-2003)

Expenditure	€	%	Income	€	%
Personnel	3,566,259,778	58.3	Fees	1,166,115,586	18.2
Current expenditure	854,747,656	14.0	Current transfers	3,848,469,814	60.0
Financial expenditure	85,447,088	1.4	Income from assets	35,688,182	0.6
Capital transfers	158,654,431	2.6	Capital transfers	933,865,084	14.6
Real investments	1,371,808,892	22.4	Financial assets	221,432,088	3.5
Financial operations	80,219,642	1.3	Financial liabilities	208,202,874	3.2
TOTAL	6,117,137,489	100.0	TOTAL	6,413,773,631	100.0

Source: Based on Hernández Armenteros, J. (dir.), *La universidad española en cifras (2004)*, CRUE and Observatorio Universitario: Madrid, 2004.

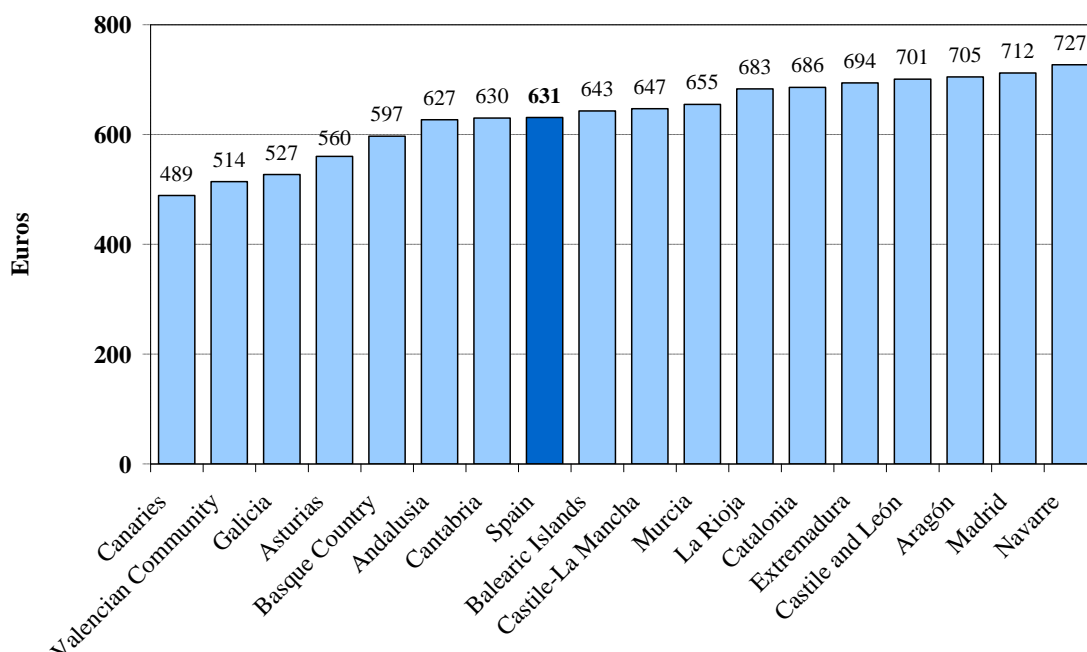
7.2.3 Tuition fees

288. At public universities, students are required to cover a portion of the cost of their education by paying tuition fees. Each autonomous region establishes the fees for courses that lead to official university degrees, within a range established by the central government. The board of trustees of each university establishes the fees for all other (i.e. university-specific) courses. Students at public universities can have their fees fully or partially waived in exchange for providing academic services and other collaborative university services activities.

289. Private universities are not eligible for public funding (although they can apply for competitive research funds). Therefore, educational costs are totally covered by the students through tuition fees. Each private university sets its own fees.

290. Graph 7.2 shows the average amount of fees paid per student by autonomous regions. Students in Navarre, Madrid, Aragón and Castile and León make the largest financial contribution to their university education. In 2002-2003, tuition fees exceeded €700 in these areas. During the same academic year, the Spanish average was €631 and students in the Basque Country, Asturias, Galicia and the Valencian Community paid less than €600.

Graph 7.2 Fees paid by students and their families (2002-2003)



Source: Based on Hernández Armenteros, Juan (director) *La Universidad española en cifras (2004)*, CRUE and Observatorio Universitario: Madrid, 2004.

291. On the other hand, students do not appear to be willing to see an unusual increase in their contribution through fees as it is the European country that currently most contributes percent-wise to the funding of the system. Recently, due to an increase in fees by the Community of Madrid, students demanded that the increase in university fees not go above the sum of the CPI accumulated over the last twelve months. Students had calculated that increasing funding by 1% of the CPI for each public university in Madrid would not involve more than 0.12% of the total budget, while this percentage raise in fees for students would involve a high family contribution. It must be highlighted that, in this respect, the Community of Madrid has the highest university degree fees, well above the national average²³.

7.2.4 Expenditure per student

292. In 1997, expenditure per student was 29% lower than the OECD average. By 2002, this difference had dropped to 18.6% (Table 7.7). In 2003, expenditure per student in public educational institutions was 37.5% of per capita GDP, compared with the EU average of 38.2%.²⁴

²³ <http://www.upm.es/canalUPM/notasprensa/Doc2007072001.html>

²⁴ MEC (2006). *Datos Básicos de la Educación en España en el Curso 2006/2007*.

Table 7.7 Changes in expenditure per student in higher education with respect to per capita GDP

	1997	2002
Germany	43.0	41.0
Spain	32.0	35.0
USA	59.0	57.0
Finland	35.0	42.0
France	34.0	34.0
Greece	29.0	25.0
Ireland	39.0	30.0
UK	40.0	41.0
OECD average	45.0	43.0

Source: OECD, quoted in MEC (2006), *Datos y cifras curso 2005-06*.

CHAPTER 8. PLANNING, GOVERNING AND REGULATING THE SYSTEM

8.1 Legal framework

293. In keeping with the decentralised model, the governance of education is divided between the state, the autonomous regions, local governments and educational institutions, as set out in the Spanish Constitution, the Statutes of Autonomy and the regulatory framework discussed in Chapter 2.
294. The state exercises the powers that guarantee the uniformity and unity of the education system and guarantees the equality of Spanish citizens in exercising their fundamental right to education as set out in the Constitution. The state is also responsible for the overall planning for investment in education and, specifically, the policies for grants allocated from the state budget, as well as the ownership and management of public institutions abroad, the legal framework of foreign institutions in Spain and international cooperation in education. The state maintains the right to regulate the conditions for obtaining, issuing and validating academic and professional qualifications.
295. The Ministry of Education and Science (MEC) is the governmental department entrusted with exercising these powers. The executive and management bodies through which the MEC carries out its functions are the State Secretariat for Universities and Research, which supervises the General Secretariat for Science and Technology Policy and the Directorate General for Higher Education. On the other hand, the General Secretariat for Education is responsible for vocational education and, consequently, for tertiary vocational education. The National Distance-Learning University (UNED) and Menendez Pelayo International University are also directly responsible to the MEC.
296. According to the Statutes of Autonomy, the autonomous regions administer education across the board, including the structures of the degrees and specialisations. The autonomous regions are responsible for the general funding of their public universities. They have regulatory frameworks which implement basic country-wide laws and exercise the administrative powers of managing the education system within their territory, with the exception of the powers reserved for the state. Thus, the government of each autonomous region is responsible for administering the educational institutions within its territory and carrying out the corresponding functions. It has the jurisdiction to set up, authorise and oversee public and private institutions, manage staff, build and equip new educational facilities, and renovate existing ones. It also coordinates all aspects of the universities located within its jurisdiction through its own university board, except those aspects reserved for the University Coordination Council (CCU).
297. The central government and the autonomous regions can delegate powers to city councils in areas that are directly related to their interests. Councils do not have a common body to oversee these functions, although most do have an education department and some have set up municipal education institutes. Their functions range from providing information on the city's educational institutions and fostering community involvement in education (through the municipal education council) to the management and upkeep of non-university institutions.

Table 8.1 Responsibilities of each level of government in the education system

Level of government	Responsibilities	Structures
Central government: Ministry of Education and Science	Overall organisation of the education system, minimum requirements for educational institutions, international cooperation in education, promotion and overall coordination of research, overall programming of education and regulation of academic and professional qualifications, high inspectorate, grant policies, ownership and management of public institutions abroad, legal framework of foreign institutions in Spain, educational statistics for governmental purposes.	MEC central services. Regional services: a) High inspectorate in the autonomous regions. b) Provincial offices in Ceuta and Melilla.
Autonomous government	Administration in its region, creation and authorisation of institutions, staff management, development of academic programming, guidance and information for students, grants and subsidies.	Departments of Education.
Local government	Information for citizens, the supply of plots of land for the construction of state schools, maintenance of nursery and primary schools, extracurricular and supplementary activities, enforcement of compulsory education.	Municipal Education Departments and Municipal Education Institutes.

8.1.1 Agencies and bodies involved in university education

298. The University Coordination Council (CCU) is responsible for advising and coordinating the university system, as well as encouraging discussion and debate among the various bodies responsible for the system (the state, the autonomous regions and the universities themselves). The CCU is made up of the Minister for Education, the head of department in charge of higher education in the autonomous regions, the university rectors and a group of 21 distinguished experts designated by the Parliament (7), the Senate (7) and the executive government (7). The proposed amendment to the LOU aims to divide the CCU into two separate bodies: the General Conference on University Policy, made up of representatives from the central government and the autonomous regions and the Council of Universities, made up of rectors. At the regional level, there are also University Councils which liaise between the regional education department and the university community.
299. The National Agency for Quality Assessment and Accreditation (ANECA), set up in July 2002, coordinates and promotes quality management policies in Spanish universities. ANECA works to improve the positioning and outreach of universities at the national and international level and strengthen the processes that guarantee the quality and competitiveness of the higher education system in Spain and help towards integration into the European Higher Education Area. There are quality assessment agencies in eleven autonomous regions: Andalusia, Aragón, the Canary Islands, Castile-La Mancha, Castile and Leon, Catalonia, Madrid, the Valencian Community, Galicia, the Balearic Islands and the Basque Country.
300. The Conference of Spanish University Rectors (CRUE), which was founded as a nationwide non-profit association in December 1994, represents the 73 public and private universities in Spain. This private association fosters coordination and cooperation between Spanish universities and cooperation with foreign universities and promotes and develops higher

education and university research. The CRUE is part of the European University Association, the coordinating body for European universities. It is also a member of regional organisations that represent the national associations of universities and other higher education institutions in Latin America, Spain and Portugal, such as the Ibero-American University Council.

301. Other associations represent and coordinate the universities of particular autonomous regions. Examples include the Conference of Public University Rectors of Madrid (CRUMA), the Catalan Association of Public Universities (ACUP) and the Andalusian Association of Public Universities (AUPA). Two other university associations focus on common objectives rather than regional interests: *Grupo 9 de Universidades*, which represents universities that are the only public universities in their respective autonomous regions, and the Joan Lluís Vives Institute, which represents the 20 Catalan-language universities in Spain, France and Andorra.
302. Student organisations have not traditionally taken part in educational debates. Currently, the Coordinator of Public University Student Representatives (CREUP) is the association with the highest membership, since among their members are the biggest student representation bodies of 17 universities with more than 600,000 student members. Said association forms part of the ESIB. The LOU reform proposed the creation of a General Student Council to facilitate the dialogue between this group and those responsible for higher education. In some CCAAs Student Councils specific to their autonomous region have also been established (eg. Community of Madrid and Andalusia).

8.1.2 Agencies and bodies involved in non-university tertiary education

303. The central government regulates and coordinates the entire non-university tertiary education system, except for those aspects which are handled by autonomous regions or other social agents. The General Council for Vocational Education (CGFP) is the advisory body for public administration and the government on issues related to vocational education. The CGFP consists of the chairman (the chair alternates on a yearly basis between the Minister for Education and the Minister for Labour and Social Affairs), four vice-chairmen and other members. One third of its members represent the central government, one third represent the autonomous regions, and one third represent major business organisations and trade unions.
304. The CGFP receives technical support from the National Institute of Qualifications (INCUAL), which is responsible for defining, drafting and updating the National Catalogue of Professional Qualifications and the Modular Catalogue of Vocational Education.

8.2 University autonomy

305. The Spanish Constitution, the LRU (1983) and the LOU (2001) grant autonomy to universities. The LOU establishes the general rules for the organisation of public universities. Nevertheless, universities are free to define their own structure and organise their educational programmes. Private universities establish their rules of organisation and operation independently, but they are required to guarantee the constitutional principle of academic freedom. They must also be recognised by legislation passed in a regional Parliament or by the Spanish Parliament.
306. The autonomy granted to universities allows them to:
 - Draw up their own statutes and, in the case of private universities, their own internal rules of organisation, operation, etc.
 - Choose, designate and change their governing and representative bodies.
 - Draw up plans for courses, research and specific areas of study. Study plans are fixed to a great extent by the Ministry, following the tradition of the national diploma.

- Issue official degrees that are valid throughout Spain, as well as university-specific certificates and degrees. Universities may introduce new official courses, provided that they have received the authorisation of the autonomous region (as described in Section 8.5) and the courses appear in the official catalogue of government-approved degrees. Under the proposed reform of the LOU, all degrees—both official and university-specific—would need to be included in the Register of Universities, Schools and Degrees, which would replace the catalogue. In addition, the Ministry will no longer issue specific directives for study plans. Universities will be totally autonomous for defining the content of their own degree courses.
307. The current legal framework grants public universities the freedom to draw up their own budgets. Similarly, each university is free to decide how many teaching, administrative and service posts it offers (both civil service and non-civil service). Civil servants are awarded posts in accordance with the civil service laws of the central government and the autonomous regions. As explained in Chapter 7, both public and private universities are allowed to set the pay scale for their non-academic staff. The categories and salaries of the academic staff, however, are established by central government and regional laws. Private universities are free to make their own recruitment decisions, but at least 25% of their teaching staff must hold a doctorate.

8.3 University governance and administration

8.3.1 Public universities

308. Public universities have the following governing bodies:

- a) **Collegial bodies:** The Social Council, Governing Board, University Senate, faculty, school or college boards and departmental councils.
 - The **Social Council** is the body through which society participates in the university. It supervises the university's economic activities and measures the efficiency of its services. It also encourages society to collaborate in the funding of the university, on the grounds that a high-quality university brings cultural, professional, economic and social benefits to the community. Social Councils include individuals from cultural, professional, economic, labour-related and social spheres who are not part of the university community and their election is determined by the regulations of each CCAA. The Social Council also includes the rector, the secretary general and the head of management, as well as members of the academic and non-academic staff and students. The chair of the Social Council is appointed by the government of the autonomous region.
 - The **Governing Board** is chaired by the rector and its members include the secretary general, the head of management and a maximum of 50 members of the university community. It establishes the university's strategies and programmes—and the procedural guidelines for their implementation—in the areas of course organisation, research, human and economic resources and budgeting.
 - The **University Senate** is the highest body representing the university community. It is responsible for drafting the university statutes and, if necessary, electing a new rector. It is chaired by the rector and its members include the secretary general, the head of management and a maximum of 300 members, of whom at least 51% must be academic staff who have a doctorate.

- The **Faculty or School Boards**²⁵, chaired by the respective deans and directors, are the governing bodies of the university faculties and schools. At least 51% of their members must hold a doctorate and form part of the teaching staff.
 - The **Departmental Councils** are chaired by the respective directors and are made up of department members who hold a doctorate. The councils may also include the rest of the department's academic staff, depending on the provisions of the university's statutes.
- b) **Individuals:** rector, vice-rectors, secretary general, head of management, faculty deans, school directors, department directors, and directors of research institutes.
- The rector is the highest academic authority of the university. He/she is responsible for management, governance and administration, as well as overseeing and executing the lines of action approved by the collegial bodies. The rector is elected by the university community as a whole in a direct election. In the proposed reform of the LOU, depending on the provisions of each university's statutes, the rector will be elected either by the university senate or by the university community.
 - The vice-rectors are appointed by the rector from among the members of the academic staff who hold a doctorate.
 - The secretary general is appointed by the rector from among the civil servants who work at the university and belong to a body that requires the possession of a university degree.
 - The head of management is in charge of the university's administrative and financial services. He/she is appointed by the rector, with the approval of the Social Council, on the basis of professional competence and experience.
 - The faculty deans and school directors represent their respective bodies and oversee their day-to-day management and administrative functions. They are elected from among the permanent academic staff.
 - The department directors represent their respective departments and oversee their day-to-day management and administrative functions. They are elected by the respective departmental councils from among the members of the permanent academic staff who hold a doctorate.
 - The directors of research institutes represent their respective research institutes and oversee their day-to-day management and administrative functions. They are elected by the institute members among the academic staff who hold a doctorate.
309. In higher vocational education public centres there are collegial bodies: The General School Council and the teachers' assembly. The former is the participation body by the school community; the latter is the governing body within the establishment in which the educational community may participate. In the integrated centres, the Social Council is the body through which society participates in the centre.
310. The individual officers (directors, head of studies and secretary) constitute as a whole the establishment management team. The educational Administrations may designate other members.

²⁵ Traditionally, the word School is used for Engineering and Faculty for the rest of the fields. The main responsible is the Dean in faculties and the Director in Schools.

8.3.2 Private universities

- 311. Private universities are organised and operate according to rules established by their own governing and representative bodies, which must represent the various sectors of the university community and be made up of a balanced number of men and women.
- 312. Academic decisions must be made by bodies that have a majority of teaching and research staff among their members. Individual authorities have the same job titles as in public universities. The individuals chosen for these posts must hold a doctorate in the cases in which this is required.

8.4 Participation

- 313. The LOU guarantees the participation of the university community in the governing bodies described above at both public and private universities. Students are represented in all of the collegial governing bodies of faculties, schools and universities and on the committees that design the syllabuses.
- 314. The university ombudsman is responsible for defending the rights and freedom of teaching staff, students and PAS in the event of a conflict with any of the various university bodies or services. The ombudsman is independent and does not report to any university authority. The statutes of each university establish the procedure for selecting and appointing the ombudsman, as well as his/her term of office, commitments and duties.
- 315. The board of trustees of each public university—which includes figures from cultural, professional, economic, labour-related and social spheres—is responsible for managing the university's relations with society at large. It is not the same as the Social Council, as this is an advisory body and its establishment is not compulsory according to university regulations.

8.5 Management and strategic planning

- 316. In recent years, the management of universities (which are governed by administrative law but have the autonomy to make decisions on organisation and budgets) has changed considerably. Universities have gradually begun to adopt different organisational plans and legal structures in order to manage new services. For example, they have created foundations responsible for continuing education, established companies to manage certain services and set up independent legal entities in order to strengthen links with the business world. They have created management positions that have gradually achieved professional standards. Over time, the reach of these positions has spread throughout the universities. Government-appointed auditors have been replaced by internal audit departments. Nevertheless, some rather bureaucratic coordination and internal management practices have been adopted in some cases to the detriment of a more professional and efficient style of management.
- 317. In the last decade, many universities have begun implementing strategic management and planning systems and have taken steps to improve quality. Many have drawn up medium-term and long-term (5-10 year) action plans based on assessments of internal operations and determining factors, as well as on the environment in which the university operates. The following factors have motivated universities to adopt strategic planning measures in response to growing concerns about attracting students and funding, society's increasing demand for better quality, greater complexity in teaching and research management, the need to provide value-added services to the university community and the need to extend and improve links with the economic and social environment.

CHAPTER 9. ASSURING AND IMPROVING THE QUALITY OF TERTIARY EDUCATION

9.1 Background

318. Higher education assessment in Spain started in the early 1990s. In 1992, to assess the quality of teaching, research and management in various Spanish universities, the Spanish Council of Universities launched an “Experimental Programme to Evaluate the Quality of the University System”. The aim was to test assessment methods and make proposals based on the results. Broadly speaking, the programme initiated and expanded quality assessment in universities as a first step towards quality improvement.
319. In 1993 the European Union launched the European Pilot Project for Evaluating Quality in Higher Education, aimed at testing common assessment methods in European universities.
320. In 1995, based on the European experience and the results of the experimental programme carried out in Spain, the plenary session of the Council of Universities²⁶ approved the National Plan for Quality Assessment of Universities (PNECU). This was followed by the University Quality Plan (PCU) in 2001.
321. In 2001, after 10 years' experience in quality assurance, the LOU formally introduced external quality assessment mechanisms based on objective criteria and transparent procedures. Degree courses and qualifications were to be regulated by guaranteeing the quality of recognised degrees and syllabuses. Article 13 of the LOU states that assessment and accreditation are the responsibility of the National Agency for Quality Assessment and Accreditation (ANECA) and such other higher education quality-assurance bodies as may be established by regional legislation. In 2002, in compliance with the LOU, the government created the National Agency for Quality Assessment and Accreditation (ANECA). Since 1996, 11 autonomous regions have created their own quality assurance agencies.
322. As regards quality, the public Administration shall guarantee the quality of training offers and cooperate in the definition and implementation of the evaluation process of the National Qualification and Vocational Education and Training System after consultation with the General Council on Vocational Education, and taking into account the responsibilities of the Autonomous Communities. The Ministry of Education and Science is coordinating the establishment of a quality network with the participation of the administrations of the Autonomous Communities.
323. Even so, it is important to remember that, to date as in the rest of Europe, a consensus has not been reached on the convenience or inconvenience of making public the results of the evaluations. Accessing those results that have been made public has also been difficult because of the recent setting up of the agencies, and changes in some of their functions that they have had since their creation in 2001.
324. Another factor to be considered is that the tertiary educational system has been considerably expanded in the last few years, but in said growth the mechanisms for the guarantee of quality in said process were not considered because quality systems are being implemented now, and even now the university system does not allow for competition among higher education institutions. Quality as a product derived from the competition among institutions is not being produced at this time.

²⁶ The Council of Universities was the coordinating body of Spanish universities previously to the LOU, when its name was changed to the University Coordination Council.

9.2 Quality assurance in universities

9.2.1 Institutional assessment

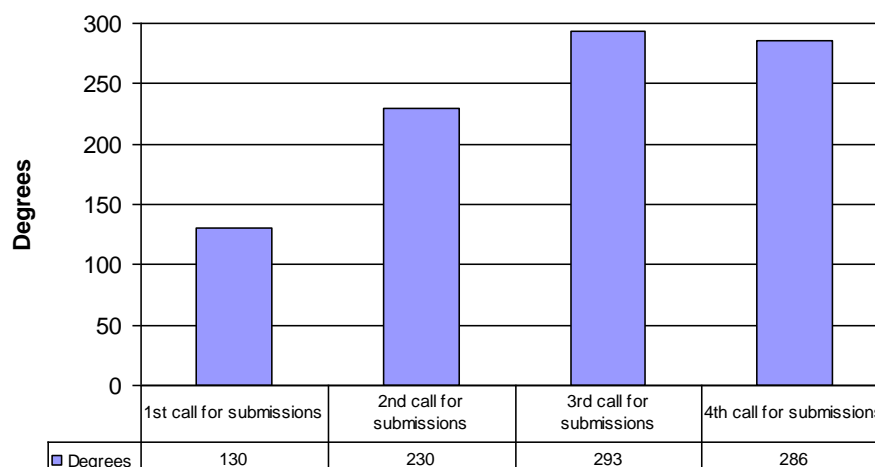
325. The National Plan for Quality Assessment of Universities (PNECU) was the first non-experimental plan to be implemented in Spain. The PNECU was designed to:
- Promote institutional assessment in universities.
 - Develop homogeneous quality assurance methods in line with current practice in the European Union.
 - Provide objective information to provide a basis for decision-making by the various organisations concerned.
326. The PNECU stimulated the development of institutional assessment in both public and private Spanish universities. It established a common method for designing processes to evaluate degree courses, university departments and services such as libraries, management areas, etc. This method was based on three procedures: self-assessment, external peer assessment and the publication of reports. The PNECU also provided the necessary data collection instruments and the guidelines now used by assessment committees.
327. The PNECU, which terminated in 2001, was carried out with the collaboration of the majority of Spanish universities (Table 9.1 and Graph 9.1) and the quality-assurance agencies of the three autonomous regions whose own agencies were operative at that time (Andalusia, Catalonia, and Galicia). As a result, 63% of the eligible degree courses were assessed.²⁷

Table 9.1 Universities participating in the PNECU (1996-2001)

	1st call for submissions	2nd call for submissions	3rd call for submissions	4th call for submissions
Non-participating universities	13	11	8	13
Participating universities	42	51	55	53
Total	55	62	63	66

Source: Technical Coordination Committee of the Second University Quality Plan (2001)

²⁷ Source: MEC (2002), *II Plan de la Calidad de las Universidades (2001-2006)*, University Coordination Council. General Technical Secretariat: Madrid, p. 5.

Graph 9.1 Number of degree courses evaluated (with an external assessment report) in the PNECU (1996-2001)

Source: Technical Coordination Committee of the University Quality Plan (2001)

328. Two of the PNECU's three initial goals were satisfactorily attained: to test a quality assurance method in accordance with European standards, and to instil awareness of quality issues. Quality assurance became a strategic issue in Spanish universities. The third goal (to make information available to society) was attained, partly and indirectly, in the medium term, as the demand for quantitative data on which to base assessments forced universities to set up information systems, which led to a substantial improvement in the quality of the information published in their yearbooks and annual reports.
329. Assessments were clearly useful in that degree courses improved as a result, although generally speaking the improvements went way beyond the limits of the courses being assessed. Besides the results mentioned so far, the PNECU achieved the following:
- Approximately 1,100 degree courses were assessed, which represented one-third of all degree courses in the Spanish university system and approximately 63% of the courses eligible for assessment (courses that had been in place for more than two years). Between them the Council of Universities and the three regional agencies then in existence carried out up to 500 assessments in one year.
 - The foundations were laid for a system to coordinate national quality assurance mechanisms with regional agencies. The institutions controlled by the autonomous regions benefited greatly from the existence of regional quality assurance agencies, and consequently the system as a whole also benefited. As soon as efforts at all levels were brought into line, the benefits increased.
 - The overall PNECU report provided comprehensive data on university performance (dropout rates, pass rates, average course duration,), a cost-per-student comparison between universities, an analysis of the quality of the university system and its strengths and weaknesses, and proposals for improvement.
330. The Second University Quality Plan was established in April 2001. This Plan was a transitional arrangement between the PNECU and the activities due to be carried out and coordinated by the soon-to-be-created National Agency for Quality Assessment and Accreditation (ANECA). The goals of the Second University Quality Plan were:
- To continue the institutional assessment process and encourage universities to implement integrated quality assurance systems for continuous improvement.
 - To promote the participation of the autonomous regions in implementing and managing the Second University Quality Plan, by encouraging the creation of regional agencies,

with the aim of setting up a Network of University Quality Assurance Agencies overseen by the University Coordination Council.

- To develop methods in line with those in use in the rest of the European Union, so as to establish comparable standards for measuring quality performance.
- To create an information system using result-based evaluation and a catalogue of indicators that universities, government and society can use as a basis for decision-making.
- To establish a system for the accreditation of degree courses, qualification levels and academic institutions to guarantee compliance with international quality standards, covering doctoral programmes and postgraduate education as well as undergraduate courses.

296bis. Both ANECA and AQU have a panel of foreign experts that form part of the Advisory Council that, basically, is responsible for using international standards to analyse the actions, methodologies, and tools used by ANECA. At the same time, it also acts as an external body as far as methodologies and best practices to be used are concerned.

331. Some of the goals of the Second University Quality Plan are yet to be achieved, while others, such as the Quality Assessment Agency Network (REACU), have been achieved outside the originally envisaged framework. In the 15 years' work to date (including the National Plan for Quality Assessment of Universities, the Second University Quality Plan, the Institutional Assessment Programme and the work done by regional agencies), 85% of eligible degree courses have been evaluated. The REACU Network is the organization that seeks to promote collaboration among Spanish university agencies and contribute to the creation of conditions for the mutual recognition of their decisions. Its creation is the result of problems that came up in delineating the functions of each agency, given that some powers have been transferred to the CCAAs.
332. Evaluation is intended to promote quality assessment and in so doing encourage the creation or maintenance of quality assurance processes in higher education. It is also intended to provide students and their families, society at large, university administrations and government bodies with information on the quality of university education and its future plans.
- 9.2.1.1 Self-assessment*
333. Self-assessment is the process by which the unit²⁸ to be assessed analyses and evaluates its present situation and draws up an evaluation report. Through self-assessment a university learns how each of its degree courses compares to the standard model, identifies strengths and weaknesses, and formulates proposals for improvement as the basis for an improvement plan. The parties involved in self-assessment are the university's Self-Assessment Committee and its Quality Department.
334. The Self-Assessment Committee is responsible for carrying out the actual self-assessment process. Ideally, it should be chaired by the head of the unit being assessed, who should also lead and coordinate the assessment. The Quality Department is responsible for providing the Self-Assessment Committee with all the information it needs in order to analyse the data obtained.
335. The information collected includes statistics, management data and indicators for the inputs, processes and results of the unit being assessed, as well as the results of any opinion and/or satisfaction surveys conducted among the unit's various stakeholder groups. The final result of this phase is a self-assessment report.

²⁸ In the University Quality Plan each university degree course, department or service is defined as an assessment unit. Degree courses may be grouped with other similar courses, or with departments or services, if best assessed jointly.

336. The Council of Universities developed self-assessment guidelines (which are improved with each call for submissions), detailing the steps to be taken. These guidelines also provide essential information on the role of the main agents involved, such as the Self-Assessment Committee, and explain the various tasks to be performed in this phase.

9.2.1.2 External assessment

337. External assessment begins with an analysis of the self-assessment report by the External Evaluation Committee (CEE). The CEE is made up of evaluators from outside the unit to be assessed. The evaluators are appointed by the competent agency, which guides and oversees the Committee's work. The composition of the committee will depend on the unit being assessed. As a rule, the committee is made up of experts in the field to which the unit to be assessed belongs such as an academic, a person from outside the university world and an expert in assessment methods. None of them have any connection to the institution being assessed.
338. The CEE analyses the self-assessment report and visits the unit in question. During the visit, the committee members will gather any data, opinions or judgments that help them make their own assessment. They must also have access to statistics, management data and indicators for the unit. Finally, the committee issues its recommendations and proposes improvements in an external assessment report, which is the final result of this phase.
339. The aim of the analysis is to guarantee quality standards in the agency or the institutions or the program (depending on the subject of the evaluation) and report back to society as a whole. The secondary aim is to become aware of and exchange good practices.

9.2.1.3 Final report

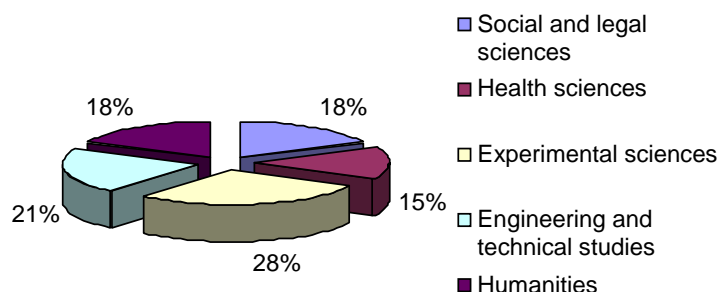
340. Before the final report is written, the external assessment report is subjected to as broad a public scrutiny as possible. The final report sums up the assessments of the various areas of the unit, as reflected in the internal and external assessment reports. The improvement plan for the unit is drawn up during this phase. The plan specifies the improvement actions identified in the self-assessment phase, the tasks to be performed in order to complete these actions, the people responsible, the resources required and the deadlines for completion. It also defines the indicators to be used to monitor progress, and outlines the expected benefits.
341. The final report²⁹ is distributed to the unit concerned and subsequently submitted to the university's Quality Committee. A copy is also delivered to the appropriate agency in order that it may meet the stated objectives:
- To report to the supervisory body on the implementation and outcome of the assessment programme.
 - To serve as a reference point for the university's Quality Committee in drawing up a university-wide assessment report.
 - To commit the members of the unit that has been assessed to fully implementing the measures proposed in the report.
 - To obtain the support of the university's Quality Committee for the proposed improvements, so that the committee facilitates and supports whatever measures are necessary.

²⁹ The final reports on degree courses submitted for assessment are published on each university's website.

9.2.2 Quality distinctions for doctoral programmes

342. Quality distinction awards certify the quality of doctoral programmes. The quality distinction award is a way of recognising the scientific, technical and educational merit of doctoral programmes and of the groups or departments that provide doctoral education. Obtaining a quality distinction award entitles universities to grants from the Ministry of Education and Science. ANECA determines and applies the procedure for evaluating, auditing and validating applications for the award. The award of a quality distinction certifies compliance with objective standards and offers benefits in the form of recognition of the quality of doctoral studies.
343. In the 2004-2005 academic year, 55 universities (75.4% of Spanish universities) submitted doctoral programmes for the quality distinction award. Of the 800 programmes submitted, 565 (70.6%) obtained the quality distinction. They represented approximately 20% of all the doctoral programmes in Spain.³⁰

Graph 9.2 Distribution of quality distinctions by discipline, 2004-2005



Source: ANECA, *Resumen de resultados de la evaluación de los programas de doctorado para la obtención de la mención de calidad (2004-2005)*.

9.2.3 Quality certificate for university library services

344. The purpose of the quality certificate for university library services is to promote continuous assessment and improvement and to publicly recognise efforts made to improve quality. The certificate is valid for three years.
345. ANECA determines and applies the procedure for evaluating applications for the certificate. The certificate certifies compliance with objective standards and offers benefits in terms of recognition of the quality of doctoral studies. Seven universities were awarded certificates in 2003. In 2004 there were 16 applications, 12 of which were successful. In 2005, a further six universities obtained the award.

9.2.4 Assessment of teaching staff

346. Assessing teaching staff is the responsibility of ANECA and the regional agencies for quality assurance. One of the goals of institutional assessment is that teaching and research staff be assessed as to their suitability for employment by public or private universities.
347. ANECA and the regional agencies assess candidates for positions on the non civil-servant ladder on which candidates need to be assessed before they can be contracted. In the case of

³⁰ The list of doctoral programmes that obtained the quality distinction in 2003 and 2004 is available at <http://wwwn.mec.es/universidades/mcd/>. Data for earlier years are not available.

private universities, at least 25% of academic staff must have a doctorate and have obtained a favourable assessment of their teaching and research activity from the corresponding agencies.

348. During the 2002-2005 period³¹ ANECA assessed 20,552 applications, of which 62% were approved. The following table gives details of the assessments of applications for various categories of university teaching staff.

Table 9.2 ANECA assessment of teaching staff between 2002 and 2005

	No. of applications	% approved
Assistant with doctorate	5,889	80
Collaborating teacher	6,033	51
Non-civil-servant professor	5,637	63
Private university professor	2,993	46
Total	20,552	62

Source: ANECA, *Memoria de actividades 2003, 2004, 2005*.

9.2.5 Other activities

9.2.5.1 System of indicators for the Spanish public university system

349. The University Coordination Council (CCU) has defined and approved a catalogue of indicators (Table 9.3) to provide quantitative information about universities which will be useful to university administrators and users of university services and will allow comparisons to be made between universities. Universities are obliged to report to the government and to society about their performance and degree of transparency, and these indicators also help in compiling the information needed to demonstrate accountability, improve funding systems and define policy measures. This set of indicators was used to help re-design and revise the assessment guides and to add new indicators and modify existing ones.

Table 9.3 System of indicators for the Spanish public university system (2002)

Indicator	Description
University supply	Percentage distribution of the availability of degree courses on offer
University demand	Newly enrolled students in their first choice of university as a percentage of the total number of newly enrolled students
	Average entry mark of the 80th percentile
	Average entry mark
Human Resources	Percentage of teaching and research staff (PDI) employed full-time
	Percentage of PDI with a doctorate
	Percentage of permanent PDI
	Ratio of administrative and service staff (PAS) to teaching and research staff (PDI)
Financial resources	Personnel expenditure as a percentage of total current expenditure
	Current expenditure per enrolled student
	Adjusted current expenditure per enrolled student
Material resources	Availability of desks in libraries
	Availability of workstations in computer rooms
Processes	Student study load
	Student-teacher ratio
	Practical content of the course

³¹ Results from 2002 onwards are available at <http://www.mec.es/educa/jsp/plantilla.jsp?area=ccuniv&id=1001>. Information for earlier years is not available.

	Proportion of large groups (80 students or more) in the course
	Proportion of small groups (20 students or fewer) in the course
	Hours given by permanent teaching and research staff (PDI) with doctorates to the first year of the first cycle
Results	Dropout rate
	Graduation rate
	Performance rate
	Success rate
	Average time to graduation
	Seniority of teaching and research staff (measured by six-yearly bonuses)

Source: CCU, Second University Quality Plan (2002).

350. The main methods used in Spain to determine the quality of teaching may be the certification of services, the assessment of teaching that is measured through the evaluation of university institutions according to the different plans (eg. ANECA), and calls for submissions of the University Quality Plan (PCU) that are being processed.

351. Although student graduation was considered to be an indicator of the quality of institutions in the past, currently, the level of training or satisfaction of graduates is not measured as a component of quality. Recently some universities have begun to do so, and the ANECA is also issuing reports on this matter as the results of the “*The Flexible Professional in the Knowledge Society: New Demands on Higher Education in Europe (REFLEX)*” project.

9.2.5.2 European convergence programmes

352. To foster convergence with Europe, ANECA and other regional agencies launched European Convergence programmes. The purpose of these programmes, started in 2002, was to create forums of debate to help integrate Spanish higher education into the European Higher Education Area (EHEA). The aim was to support the measures taken by universities themselves, since the universities bear the main responsibility for adapting to the EHEA.

353. European Convergence programmes involve measures to:

- Disseminate and build awareness of the content of the Bologna Declaration.
- Start pilot projects for the design and implementation of two-cycle degree courses as defined in Bologna.
- Monitor adoption of convergence standards in Spanish universities and make comparative studies of their introduction in Europe.
- Support joint projects between universities to implement the European credit system in degree courses.

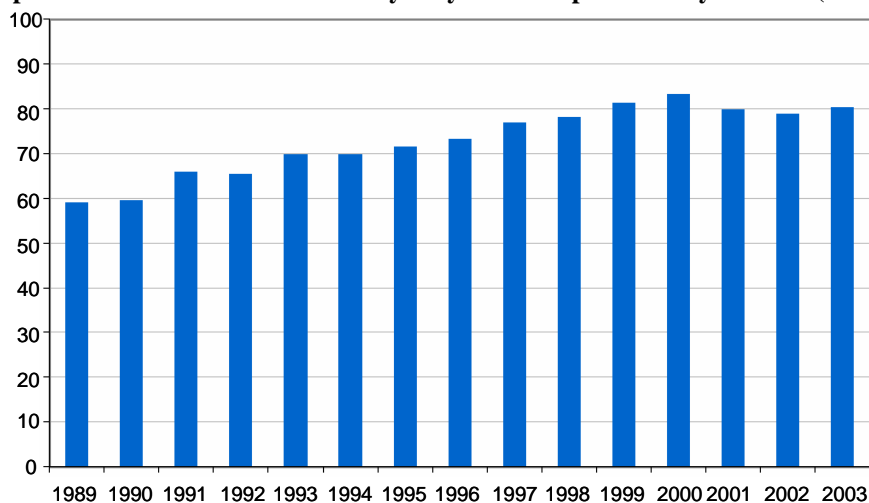
354. ANECA issued three competitive calls for the design of undergraduate syllabuses and qualifications. The aim was to encourage Spanish universities to carry out studies and formulate practical proposals for the design of official undergraduate degrees that met EHEA standards. The results were published in the form of a white paper for each degree studied. A total of 57 white papers were published, all of which may be consulted on the ANECA website.

9.3 Quality assurance in research

355. In 1989 two independent systems for the assessment of academic staff teaching and research activities were set up. Assessment of teaching performance became the exclusive responsibility of each university, while assessment of research performance was to be the responsibility of the National Committee for the Assessment of Research Activity (CNEAI), under the authority of the Ministry of Education and Science.

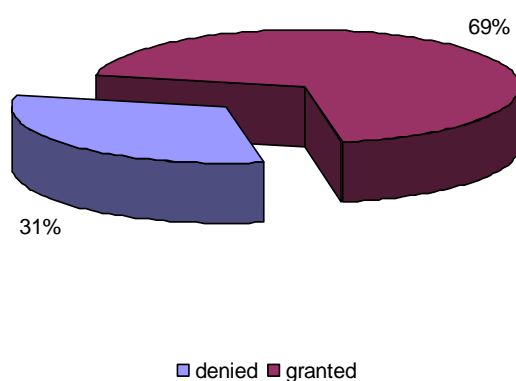
356. In 2004 it was agreed that any assessment reports and studies conducted in relation to the six-yearly research productivity bonus that might be of interest to academic staff, university administrators and society in general would be made public. The report on the results of the assessments carried out from 1989 to 2002 shows a marked improvement in performance. The percentage of awards given rose from 58% in 1989 to 83% in 2000, and remained between 78% and 80% from 2000 onwards (Graph 9.3). The report indicates that over the whole period 56,667 six-yearly productivity bonuses were granted, representing 69% of the applications submitted (Graph 9.4).

Graph 9.3 Assessment results for six-yearly research productivity bonuses (% of granted)



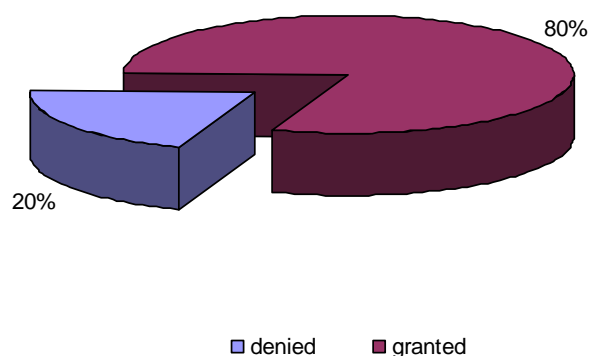
Source: CENAI, Report on the results of the assessments carried out from 1989 to 2003.

Graph 9.4 Percentages of six-yearly bonuses granted and denied (1989-2003)



Source: CENAI, Report on the results of the assessments carried out from 1989 to 2003

357. In 2003 there were 5,971 candidates, 96% of which were entitled to assessment. Of these, 80% were awarded the bonus (Graph 9.5), much the same proportion as in 2002. However, 34% of teaching staff in Spanish universities have never applied for a six-yearly bonus, either because they are not entitled to do so or because they choose not to.

Graph 9.5 Percentages of six-yearly bonuses granted and denied (2003)

Source: CENAI. Report on the results of the ordinary assessment of university teachers (2003)

9.4 Education quality assurance agencies in Spain

9.4.1 National agencies

9.4.1.1 National Agency for Quality Assessment and Accreditation (ANECA)

358. ANECA is a state foundation established under private law. It is protected by the Ministry of Education and Science pursuant to Law 50/2002 on Foundations and to Royal Decree 316/1996, which enacted the regulation of foundations under the authority of the state. It receives approximately 99% of its funding from the Ministry of Education and Science, through the State Secretariat for Universities and Research. Under the Draft Organic Law to amend the LOU (30-06-2006), ANECA is classified as a government agency.
359. Its primary purpose is to provide assessment, certification and accreditation services for measuring the performance of the public university education system, following objective procedures and transparent processes. It also aims to promote and guarantee quality in public and private Spanish universities and facilitate their integration in the European Higher Education Area (EHEA) by reinforcing transparency and comparability.
360. ANECA fulfils the following functions:
- It fosters improvement of university teaching, research and management.
 - It uses objective procedures and transparent processes to measure the performance of higher education.
 - It gives the government the information it needs to make decisions.
 - It informs society about how successful universities are in fulfilling their objectives.
361. ANECA achieves this through the following programmes:
- Institutional quality assessment
 - Certification
 - Quality distinctions for doctoral programmes
 - Quality certificate for university library services
 - Accreditation
 - Assessment of teaching staff
 - European convergence
 - Training programme for evaluators
 - Library service assessment programme
 - Pilot project for the assessment of international relations
 - Assessment of university teacher training plans

362. ANECA is also required to report to the Ministry of Education and Science and the CCU on the progress of assessment, certification and accreditation processes in Spain. To do so, it is entitled gather information from assessment bodies in the autonomous regions.

9.4.1.2 National Committee for the Assessment of Research Activity (CNEAI)

363. The National Committee for the Assessment of Research Activity (CNEAI) was created more than a decade ago. It is an agency which belongs to the Ministry of Education and Science, under its General Directorate of Universities. Its task is to assess the research activity of university teaching staff and scientists on the research staff scale of the Higher Council for Scientific Research (CSIC), with a view to granting research bonuses.
364. The CNEAI assesses the research activity of university academics and CSIC researchers in order to decide whether to grant a six-yearly productivity bonus. The assessment is conducted annually. To obtain the productivity bonus, researchers must submit research work carried out over a period of not less than six years. To make its assessments, the CNEAI uses Advisory Committees made up of experts to examine submissions. The CNEAI may also appoint other experts for advice in specific areas or for other tasks.
365. The members of the advisory committees are appointed by the Chairperson of the CNEAI, at the CNEAI's request and in consultation with the Academic Committee of the University Coordinating Council. They are selected from among university professors and CSIC research professors. As a rule, members are appointed for a maximum of 2 years, except for the Chairperson, who may serve for a third year.

9.4.1.3 National Agency for Assessment and Prospective Studies (ANEP)

366. The National Agency for Assessment and Prospective Studies (ANEP) is a unit attached to the State Secretariat for Universities and Research at the Ministry of Education and Science. ANEP was created in 1986 to meet the need for rigorous and independent assessment to support decision-making on research project funding and other subsidies for research, development and innovation.
367. ANEP's mission is to provide objective and independent assessment of the scientific and technical merit of research proposals, research teams and research units that apply for funding to participate in research and/or technology programmes and projects. It also monitors the results of the funded projects and programmes. Approximately 40% of the projects are initiated by the Ministry of Education and Science. ANEP also assesses any scientific or technical proposals referred to it by the Secretary of State for Universities and Research.
368. Another of ANEP's tasks is to carry out prospective studies and analyses of scientific research and technological development. Prospective studies analyse the present state of knowledge in a particular field (in this case a scientific field) and its future development prospects. These studies are indispensable for determining strategies and guiding policy-making in science and technology. ANEP's assessments play a vital part in ensuring that resource allocation decisions for research, development and innovation are made on the basis of excellence and scientific and technical quality.

9.4.2 Regional quality assurance agencies

369. To date, 11 autonomous regions have created their own agencies. Two of them did so before the Organic Law of Universities (LOU) came into force: the Quality Assurance Agency for the University System in Catalonia (AQU), in 1996, and the Quality Assurance Unit for Universities in Andalusia (UCUA), in 1998 (Table 9.4).

Table 9.4 Regional Agencies

Agency	Year	Characteristics
Quality Assurance Agency for the University System in Catalonia (AQU)	1996	Independent body attached to the autonomous government of Catalonia
Andalusian University Quality Assurance and Accreditation Agency (AGAE)	2003 (1998)	Independent body attached to the autonomous government of Andalusia.
Quality Assurance Agency for the University System in Castile and Leon (ACSUCYL)	2001	Consortium made up of the Education and Culture Department of the Regional Government of Castile and the 4 public universities in the region
Quality Assurance Agency for the University System in Galicia (ACSUG)	2001	Consortium made up of the Regional Government of Galicia and the three public universities in the region
University Quality Assurance and Accreditation Agency of the Canary Islands (ACECAU)	2002	Independent body attached to the Department of Education of the Government of the Canary Islands
University Quality Assurance Agency of the Balearic Islands (AQUIB)	2002	Consortium made up of the government of the Balearic Islands and the University of the Balearic Islands.
Valencian Committee for Accreditation and Quality Assessment for the Valencian University System (CVAEC)	2002	Service depending on the Department of Universities of the Government of the Valencian Community
Quality Assurance, Accreditation and Planning Agency for the Universities of Madrid (ACAP)	2004	Independent body attached to the Education Department of the Community of Madrid
Quality Assurance and Accreditation Agency for the University System in the Basque Country (UNIQUAL)	2004	Independent body attached to the Education Department of the Basque Country
University Quality Assurance Agency of Castile-La Mancha	2005	Independent body attached to the Education Department of the government of Castile-La Mancha
University Quality Assurance and Planning Agency of Aragon	2005	Independent body attached to the Education Department of the Government of Aragon

9.5 Quality in higher vocational education

370. The General Council for Vocational Education (CGFP) was created under Law 1/1986. In 1997, Law 19/1997 turned the CGFP into a tripartite advisory body made up of employers' organisations, unions and government. The CGFP also advises the government on vocational education matters. It is attached to the Ministry of Labour and Social Affairs.
371. The CGFP's functions include:
- Proposing measures to improve career guidance, in particular those carried out under the authority of the Ministry of Education and Science and the Ministry of Labour and Social Affairs.
 - Assessing and monitoring vocational education actions.

372. The National System of Qualifications and Vocational Education is made up of a number of instruments and actions such as the National Catalogue of Occupational Qualifications; a procedure for the recognition, evaluation, accreditation and recording of occupational qualifications; information and guidance in vocational training and labour matters; evaluation and improvement of the National Qualifications and Vocational Training System in order to create a more highly qualified workforce, a more transparent labour market and a better quality, more consistent vocational education system. Vocational Education centers are immersed in quality processes, and many of them have ISO and EFQM accreditations. On the other hand there are a number of bodies involved in quality assurance, including the educational inspection.

9.6 Involvement of different groups in quality processes

373. Although since the Berlin Declaration there has been a focus on the need to involve students in quality policies, to date nothing has been done. They are increasingly taken into consideration, but always passively without forming part of the quality assurance and evaluation structures, although there are favourable initiatives (participation in internal quality committees, presence and training of students in ANECA) but are not common. Something similar happens with employers' and professional associations, as the theoretical models suggest their consultation but in reality this has not been carried out.

9.7 Quality system costs

374. There are no documents on the subject, but some experts consider the cost to be high and possibly unprofitable in economic terms as not only the costs of the process must be included, but also the costs of fixing unsatisfactory system quality results.
- The purpose is to guarantee quality standards in the agency or in the institutions or the program (depending on the subject of the evaluation) and report back to society as a whole. The secondary purpose is to become aware of and exchange good practices.
 - It does not affect the evaluation system, which is now the accreditation system.
 - In theory the ANECA has the support of the CCAA agencies, but it is right in the middle of a finalizing process. The idea is that it be a valid process for all regions.
 - Previously, accreditation did not exist as, although it had been established, in practice, there was confusion over the term, as what happened in practice was a recertification; there has always been an assessment for quality improvement. The current trend is to evaluate consistency, which is why the need for systems that guarantee quality like accreditation comes up.

CHAPTER 10. INTERNATIONALISATION AND GLOBALISATION OF TERTIARY EDUCATION

10.1 Introduction

375. The trend towards internationalisation and globalisation in the Spanish tertiary education system has accelerated in recent decades and plays a significant role in shaping higher education policies. European convergence has taken this trend to a new level, affecting every aspect of university life.
376. Internationalisation and universities have gone hand in hand throughout History; however in our time the term acquires a specific meaning. Internationalisation policies that are being carried out in Spain can be put into context in the definition of *internationalisation* proposed by the International University Association (IAU) in 1999, which indicates that it is a process that involves an international or intercultural aspect or perspective into the four main functions of universities, which are teaching, research, services, and institutional administration. Due to this, both externally and internally, a fundamental change in higher education institutions is involved. Said change necessarily carries with it the establishment of institutional policies and strategies that attempt to stimulate and facilitate the internationalisation of higher education.
377. Because Spain belongs to both the European Union and the historical and cultural community of Latin America, a large proportion of its multilateral internationalisation initiatives in tertiary education are focused on Europe and Latin America.
378. This section focuses on Spanish university participation in convergence processes, international mobility and student and teacher exchange and their involvement in cooperation programmes, curriculum development and joint degree courses with institutions in other countries.
379. With views to promote the internationalisation of higher education, recently legislative reforms and political proposals have been carried out, both on a national level and by the CCAAs and Higher Education's own institutions, with the idea of favouring the access of foreign students to the Spanish university system: recognizing the access systems of other EU countries to allow foreigners to enrol in Spanish universities; making the recognition of foreign student university degrees more flexible; calling for scholarship and grant applications for the study of foreign languages (the MEC published a call for applications in May 2006, for 53,000 young people between the ages of 18 and 30, scholarships to undertake language courses abroad of at least 3 weeks in length); funding together with the CCAAs 37,800 more young people to be admitted to study English in the Official Language Schools. Universities have also centred on carrying out curricular initiatives implementing bilingual or shared classes and degrees, or preparing internships abroad for the last few years before graduation. Even a few have been putting into practice their own initiatives to attract foreign students by translating their webpages into several languages or editing their guidebooks specifically for this type of group. These are some of the steps that are being carried out, mostly in Europe and Latin America. The result is that, in the 2005-2006 academic year, a total of 26,597 foreign students spent time studying in Spanish universities.

10.2 Europe

10.2.1 The Bologna process

380. One of the primary objectives of the Ministry of Education and Science is to speed up Spanish universities' convergence with Europe. The 1999 Bologna Declaration sets a

deadline of 2010 for the completion of the European Higher Education Area (EHEA). Specific measures have been taken to implement the European proposals incorporated via the Organic Law of Universities (LOU) as a means of integrating the Spanish university system into the EHEA. Particular emphasis has been given to central aspects of convergence such as the European credit transfer system, the system of academic grades, the European Diploma Supplement, quality assurance, mobility and lifelong learning.

381. The regulatory framework for implementation of the main instruments proposed in the Declarations and Communiqués of the Higher Education Ministers in Bologna (1999), Prague (2001), Berlin (2003) and Bergen (2005) is complete. Regulations are already in force on the use of the credit system (September 2003), on the Diploma Supplement to be issued by universities (September 2003), on recognition and accreditation of degree courses and qualifications (January 2004) and on the organisation of university education and the regulation of graduate and postgraduate study (January 2005).³²
382. The latest regulation developments reinforce the European nature of higher education and encourage the development of joint degree courses between Spanish and European universities. Up until now the main obstacles to recognising foreign qualifications in Spain have been the rigid requirements for accrediting degree courses. This is why there have been very few joint degree courses to date. The government used to set a highly detailed core curriculum for each degree course which made comparisons with degree courses in other countries difficult. Added to this was the longer average duration of undergraduate courses in Spain. The decrees which established an undergraduate and postgraduate system comparable in length to that of other European countries allow for a smaller, more flexible core curriculum, making it easier to establish joint degrees that can be recognised in Spain.
383. Until now, most Spanish undergraduate courses did not have an explicit European component and subjects such as European economics, law or policy were treated only in general terms. However, European specialisation was more common among postgraduate courses (courses in European Community Law, for example). Under the new legislation, the emphasis is on the acquisition of skills, which is geared to the European labour market.
384. In its 2006 budget, the government allocated €13 million specifically to encourage strategic planning and other measures taken by universities to further the Bologna process. This money is to be distributed among all Spanish universities through a call for proposals in which universities submit specific plans. The purpose of the measures adopted in this first phase is to encourage teaching staff to fully implement the principles underlying the new system of credits, give university teachers and administrators the necessary mobility to acquire training in the new procedures, enhance the international standing of Spanish universities, foster student participation, organise the management of postgraduate studies and improve coordination between university and pre-university education. The autonomous regions have also allocated specific sums in their budgets to promote adaptation to the new legal framework.
385. The promoters of the Bologna process, funded by the European Commission (Socrates programme) and the Spanish Ministry of Education and Science (MEC), helped to disseminate the new requirements and support universities in their progress towards the European Higher Education Area (EHEA). As part of this programme, a team of 12 promoters was appointed in Spain in June 2004. The team is made up of members of the EHEA working group of the Conference of Rectors, national experts and the directors of National Agency for Quality Assessment and Accreditation (ANECA). Their main tasks in the 2004-2005 academic year included giving seminars, providing information and support

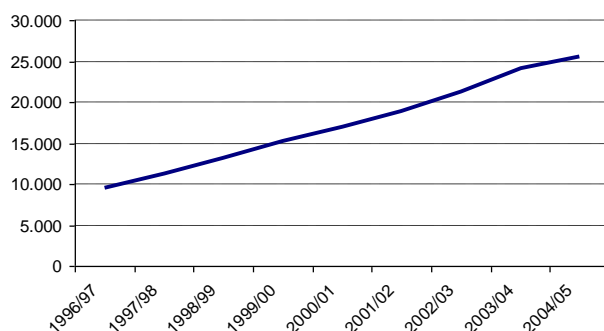
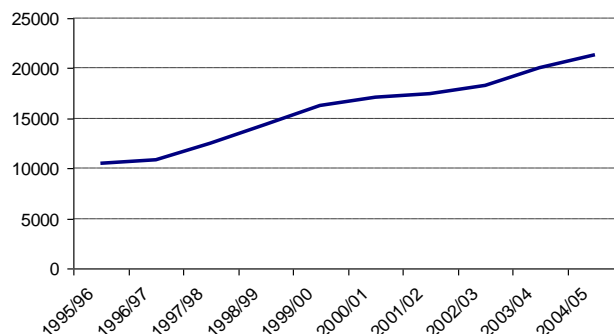
³² Regulations were established by the following acts: RD 1044/2003, of 1 August; RD 1125/2003, of 5 September; RD 55/2005, of 21 January and RD 56/2005, of 21 January. The latter two were modified in December 2005 by RD 1509/2005, of 16 December, which adapted the regulations to the specific powers of the autonomous regions.

to universities, and drafting good-practice documents. Notably, they produced a document responding to frequently-asked questions and gave two major seminars: one mainly for students (attended by representatives of all Spanish universities and speakers from ESIB)³³ and another for employers, social stakeholder group and professional colleges and associations.

10.2.2 European programmes

386. Spain's participation in EU mobility programmes has steadily increased since it joined the European Union in 1986. One of the main objectives of the Organic Law of Universities (LOU), enacted in 2001, is to facilitate the mobility of students, teachers and researchers within the Spanish system and also across Europe and the world.
387. Student mobility is encouraged through grant, scholarship and student loan programmes which complement EU grant and scholarship programmes. Many postgraduate grant programmes in Spain expressly provide for periods abroad and offer extra assistance for this purpose.
388. Spanish universities reciprocate by welcoming EU and non-EU nationals among their teaching and research staff. Visiting professors are hired on a temporary basis from among prestigious teachers and research scientists at other universities and research establishments in Spain and abroad. The recruitment of EU nationals on a permanent basis is not uncommon and will become easier when qualifications are uniformly recognised. The new immigration law enacted in 2005 makes it easier to employ visiting teachers and research scientists.
389. Most of the cooperation in education with the European Union has been channelled through the Socrates programme, the first stage of which was approved in 1995. The Socrates Agency in Spain, under the guidance of the General Subdirectorate of European Programmes at the Ministry of Education and Science (MEC), is responsible for managing Spain's participation in the Socrates programme, in collaboration with other ministry departments. The Socrates Programme's higher education program, known as Erasmus, aims to enhance the quality of education and reinforce its European dimension by encouraging transnational cooperation between universities, thus boosting European mobility and improving the transparency and academic recognition of courses and standards throughout the EU.
390. Since 2000, Spain has received the largest number of Erasmus students from the 31 participating countries. In the 2004-2005 academic year, more than 25,500 Erasmus students were enrolled in Spanish universities (Graph 10.1a). Of these, 64% were women. The participants came mainly from Italy (6,005), France (5,167) and Germany (4,710). In that same year, 21,350 Spanish Erasmus students, 60% of whom were women, were enrolled in universities in other European countries thus more than doubling the figure ten years before (Graph 10.1b). The main host countries were Italy, France, the United Kingdom and Germany. In the 2002-2003 academic year, these four countries accounted for two out of every three enrolments by Spanish students in Europe.

³³ ESIB (National Unions of Students in Europe) is the umbrella organisation of 44 national unions of students from 34 countries.

Graph 10.1 Socrates-Erasmus student mobility in Spain**a. Foreign Socrates-Erasmus students studying in Spain****b. Spanish Socrates-Erasmus students studying abroad**

Source: General Subdirectorate for International Cooperation (MEC)

391. Higher vocational education students will have access to Erasmus grants for exchanges from 2007, as established by the European Commission. Vocational education students will thus start to benefit from this programme on a par with university and art students.
392. During the 2004-2005 academic year, Spain sent 2,115 university teachers abroad, 80% more than five years before (Table 10.1), thus ranking second behind Germany in teacher mobility in the European Union (2,575). In the same year, Spanish universities welcomed 1,854 university teachers from other countries, mainly France (266), Germany (238) and Italy (212). Spain is the fourth most popular destination in this programme, behind Germany (2,623), France, (2,261) and Italy (1,897).

Table 10.1 Socrates-Erasmus teacher mobility in Spain

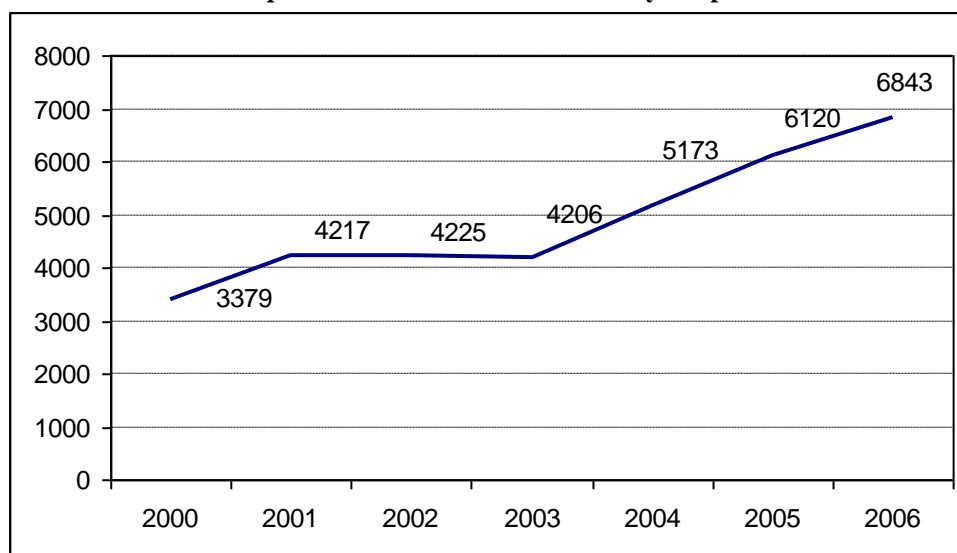
Academic year	Outgoing Socrates/Erasmus teacher mobility	Incoming Socrates/Erasmus teacher mobility
00/01	1,346	1,276
01/02	1,466	1,542
02/03	1,657	1,574
03/04	1,949	1,668
04/05	2,115	1,854

Source: From Eurydice (2005) and MEC (2006)

393. Parallel to this, the Leonardo da Vinci programme, targeted at all levels of vocational education, has grown in size since it was created in December 1994. Spanish participation is coordinated by the Spanish Agency for the Leonardo Programme, attached to the MEC. The Leonardo programme seeks to support and supplement measures taken by member states, while fully respecting their responsibility for the content and organisation of vocational education.
394. In January 2000 the Socrates and Leonardo programmes were renewed for a period of six years. Their budgets were increased and new programmes aimed to strengthen the European nature of education, European cooperation, the exchange of experiences and information and innovation.
395. Within the framework of the Leonardo da Vinci Programme, numerous projects are underway to promote work placements in European companies for final-year university students or students that have recently finished their studies. Examples include the Argo

project, which provides 840 placements for periods of around six months; the Faro project, which offers 550 grants lasting an average of four months and the Goya-Leonardo project, which provides 150 three-month grants. The number of participants in this program has multiplied itself by almost 100% from 2000 to 2006.

Graph 10.2 Leonardo student mobility in Spain



Source: From the National Leonardo da Vinci Agency (2006)

396. In recent years, Spanish universities have gradually stepped up their participation in the Tempus III programme. Now in its third period of application (2000-2006), the Tempus programme is designed to support processes of adaptation and development in tertiary education in countries that have close links with the European Union³⁴ so as to respond more effectively to socioeconomic and cultural challenges. Various Spanish institutions are involved in 29 of the 108 projects approved in 2004, making Spain the fifth largest contributor to the programme.
397. Other European initiatives have arisen from Spain's cooperation with the Higher Education Committee of the Council of Europe. Spain participates in the Committee's meetings and conferences and in several of its projects and activities through the General Subdirectorate of European Programmes at the MEC.

10.3 Latin America

398. Due to Spain's historical ties with Latin America, cooperation with Latin American countries and Portugal has traditionally played a key role in the internationalisation of Spanish tertiary education. A substantial part of this cooperation work and of the commitments made at Ibero-American summits, has been carried out within the framework of the Organisation of Ibero-American States for Education, Science and Culture (OEI), which has its headquarters in Madrid.
399. The OEI was set up at the First Ibero-American Congress on Education, held in Madrid in 1949 in the form of an international agency known as the Ibero-American Education

³⁴ Tempus projects are carried out jointly by institutions in EU member states and in non-EU countries in three geographical areas: Eastern Europe, Central Asia and the Mediterranean Basin.

Office. One of its most outstanding higher education cooperation initiatives is the Academic Mobility and Exchange Programme (PIMA) which started in 1999. This programme is organised into networks of least three universities from different countries working on specific themes. Courses of study completed in the host university must be recognised by the home university. The three rounds of exchanges organised to date have included a steadily growing number of (mainly public) universities from 18 Ibero-American countries.

400. The recent Ibero-American summit held in October 2005 in Salamanca issued the *Salamanca Declaration* with the following commitments:³⁵
- To create an “Ibero-American Knowledge Area,” aimed at transforming higher education and focused on research, development and innovation;
 - To promote programmes within the Ibero-American community and in other countries to promote the exchange of debt for education and other forms of social investment. This is an area in which Spain has been very active since the Ibero-American summit in San Jose (Costa Rica) in 2004.
401. Spain has also played a prominent part in the Ibero-American Science and Technology for Development Programme (CYTED). Created in 1984 as the result of an agreement between 19 Latin American countries, Spain and Portugal, CYTED is a scientific and technological cooperation programme for Latin America based on international and multilateral links across institutions. Its main goal is to contribute to the harmonious development of Ibero-America by establishing mechanisms for cooperation between university research groups, and by setting up research and development establishments and innovative companies in Ibero-America, with a view to producing scientific and technological developments that have practical applications in production systems and social policy.
402. The Spanish government guarantees to contribute at least 50% of the total budget for this programme, which is financed by the contributions of the 21 member states through their national science and technology entities. In 2005 the CYTED programme had 44 thematic networks and 42 joint research projects. In the period up to 2004 it carried out 430 Iberoeka research and development projects for industry.
403. Various public and private institutions in Spain foster cooperation and mobility between universities on both sides of the Atlantic. Besides the MAE-AECI grants awarded by the Spanish Ministry for Foreign Affairs and the Spanish Agency for International Cooperation, as mentioned in Section 10.4, the Carolina Foundation offers grants for young graduates, qualified professionals and researchers in the countries that make up the Ibero-American Community of Nations. In the 2006-2007 academic year, a total of 1,512 grants and subsidies were given (1,055 postgraduate grants, 332 doctoral and short-stay grants, and 125 lifelong-learning grants).

10.4. The immigrant population

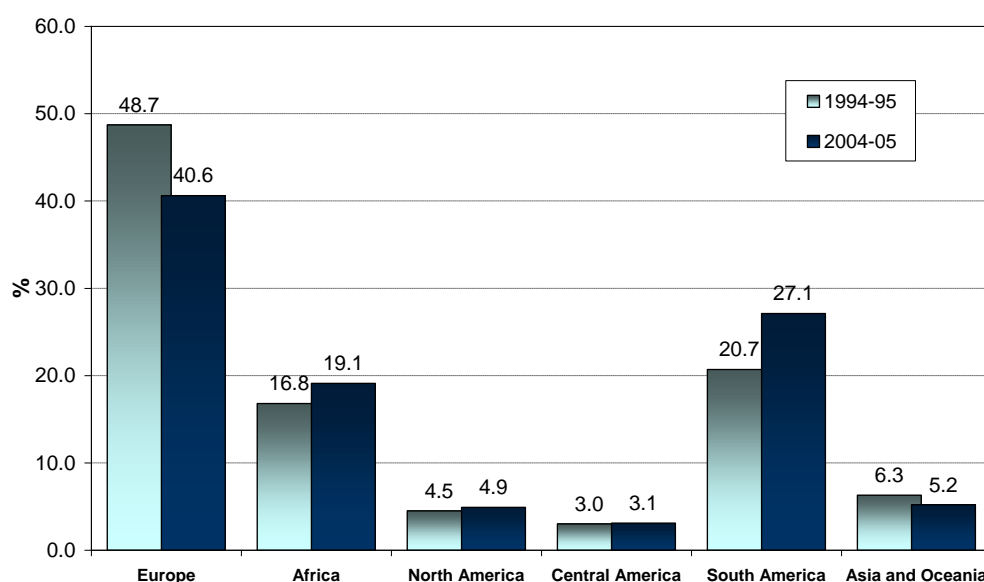
404. Hardly any of the available data on access to tertiary education distinguish between people who have settled in Spain and those who come to Spain for the express purpose of taking tertiary education courses. This makes it difficult to assess the degree of equity in access to the tertiary education system for immigrants, a social group that has grown considerably in Spain over the last decade (Chapter 1). Nor are there any data available on access to tertiary education for children of immigrant families in Spain, due to the fact that large-scale

³⁵ These commitments were ratified at the Sixteenth Ibero-American Conference on Education, which took place in Montevideo in July 2006.

immigration to Spain is a very recent phenomenon. This indicator should, however, be included in future studies, since it concerns a social group that is expected to grow rapidly.

405. The available indicators refer to foreign students taking tertiary education courses in Spain in general terms, but do not specify their status. The proportion of foreign students, excluding Erasmus students, rose from 0.7% in the 1994-1995 academic year to 1.7% in 2005-2006. The largest group of foreign students (40.6%) came from Europe, followed by students from South America (27.1%). From 1994 to 2004, there was a change in the composition of the foreign students' group. While the proportion of European students among the foreign students dropped by 8% between 1994 and 2004, the proportion of South American students increased from 20.7% to 27.1% and that of African students rose from 16.8% to 19.1% (Graph 10.3.).

Graph 10.3. Distribution of foreign university students by region of origin



Source: Drawn up by the author from MEC, *Datos y cifras. Curso escolar 2005-2006*.

406. In the last decade, the number of foreign students on third cycle courses increased fourfold. The proportion of foreign students on these courses was higher than for the first and second cycles, reaching 22.1% in 2005-2006. Table 10.2. shows the recent variations in the main indicators available on the number of foreign students in the Spanish university system.

Table 10.2. Number of foreign students and graduates

	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003 (1)	2003-2004 (1)
Total number of enrolments in the first and second cycles	1,589,473	1,555,750	1,525,659	1,503,694	1,482,042	1,462,897
Total number of foreign students	11,325	14,051	14,819	16,275	21,983	22,201
<i>Percentage of foreign students</i>	0.71	0.90	0.97	1.08	1.48	1.52
Total number of graduates	202,958	202,959	205,794	207,470	226,273	195,409
Total number of foreign graduates	1,135	1,256	1,202	1,050	2,047	1,562
<i>Percentage of foreign graduates</i>	0.56	0.62	0.58	0.51	0.90	0.80
Total number of enrolments in the third cycle	61,304	59,123	61,470	67,983	69,673	72,729
Total number of foreign students	6,799	6,807	8,747	11,745	13,426	14,398
<i>Percentage of foreign students</i>	11.09	11.51	14.23	17.28	19.27	19.80

Source: MEC, *Datos y cifras*. NB: (1) Provisional data

407. Madrid is the autonomous region with the highest proportion of students from outside the European Union (2%); the average for Spain is 1.1%. Universities in the Basque Country are the group with the highest proportion of foreign students from the European Union (0.81%), twice the average for Spanish universities.

10.5 Other international areas of activity

408. Some of the data on the most significant mobility grant programs that are being applied in Spain by the MEC are gathered in the following chart:

Table 10.3. Other international areas of activity

	Group	Aim	Monthly payment	Fees	Transportation	Housing	Insurance	Language courses
<i>Erasmus scholarships</i>	University students	To study in the an EU country	Yes	Yes	No	No	Sí	No
<i>Faro scholarships</i>	Final year university students	Business internships	Yes	No	Yes	No	Sí	Sí*
<i>Postdoctoral scholarships</i>	PhD holders	Developing research work in a research centre of excellence	Yes	No	Yes	No	Sí	No
<i>Mobility grants</i>	Spanish and foreign professors	Facilitate the mobility of university teaching staff and researchers	Yes	No	Yes	No	Sí	No
<i>U.S. Master's program scholarships</i>	5+ year undergraduate degree holders	A Master's degree from a U.S. university	Yes	Yes*	Yes	No	Sí	No
<i>U.S. pre- and postdoctoral scholarships</i>	Students and PhD holders	Studies or research in U.S. universities	Yes	Yes	No	No	Sí	No
<i>Integrants scholarships</i>	Undergraduate degree holders	Training internships in U.S. and Canadian companies	Yes	No	Yes	Yes *	Sí	No
<i>José Castillejo program</i>	Young PhD holders that are members of the university teaching staff	Teaching and research experience abroad	Yes	No	Yes	No	Sí	No

Source: MEC submission calls. Developed by the UNESCO Chair in University Administration and Policy

* Partially

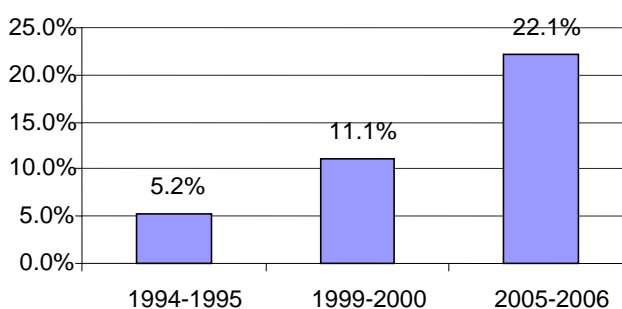
409. Besides receiving more Socrates/Erasmus students than institutions in other EU countries, Spanish universities also take in students from other countries wishing to take undergraduate or postgraduate courses in Spain. The proportion of foreign students in undergraduate and Master's degree courses in Spanish universities doubled from 0.7% (10,125 students) in 1994-1995 to 1.5% (21,944 students) in 2004-2005. The figure is expected to reach 1.7% in 2005-2006. Even so, there are no concrete data that allow us to find out the number of Spanish students that have found employment abroad or decided to return, and neither do we have data on the number of foreign students that, once they have finished their academic training, decide to work in their field in Spain. We can estimate this number by using the number of foreigners that work in Spain as technical experts, scientific professionals and intellectuals.

Table 10.4 Foreigners employed in Spain that as technical experts, scientific professionals and intellectuals by nationality

Total	46,000
Double nationality	8,500
European Union	20,300
Rest of Europe	3,800
Morocco	400
Rest of Africa	..
U.S. and Canada	1,900
Latin America	9,900
Rest of the world and those without nationality	1,200

Source: INE 2003

410. At present, students from other European countries are the largest group (40.6%), followed by students from Latin America (27.1%). However, the balance has changed over the last 10 years, with an increase in the proportion of students from Africa (from 16.8% in 1994 to 19.1% in 2004) and a marked rise in the proportion of students from Latin America (from 20.7% in 1994 to 27.1% in 2004).
411. The proportion of foreign students in doctoral programmes was even higher and reached 22.1% in the 2005-2006 academic year. The four-fold increase in the proportion of foreign students in doctoral programmes between 1994-1995 and 2004-2005 was particularly striking (Graph 10.4).

Graph 10.4. Distribution of foreign students enrolled in doctoral courses (1994-1995 and 2005-2006)

Source: MEC, *Datos y cifras del Sistema Universitario. Curso 2005-2006*. NB: A breakdown by origin is not available.

412. Since it joined the OECD in 1961, Spain has been actively involved in its education programmes, which have been managed by the Directorate for Education since 2002. The Directorate's priority objective is to help member states achieve high quality lifelong learning because of its contribution to personal development, sustainable economic growth and social cohesion.

413. As a member of UNESCO since 1953, Spain is an active participant in UNESCO's educational cooperation projects. Activities in this sphere are coordinated by the General Subdirectorate for International Cooperation and the Education Department for UNESCO. The UNITWIN/UNESCO Chairs Programme to strengthen cooperation and academic mobility between universities deserves special mention. Since 1989, 50 UNESCO Chairs have been established in Spanish universities. In 1999, UNESCO, the United Nations University (UNU) and the Technical University of Catalonia (UPC) founded the Global University Network for Innovation (GUNI), and set up its secretariat at the UPC. The GUNI's mission is to implement the measures agreed on at the World Conference on Higher Education held in Paris in 1998. GUNI is made up of UNESCO Chairs from around the world as well as institutions committed to social responsibility and innovation in higher education.
414. As one of the cross-institutional measures in the National Research Development and Innovation Plan, the Ministry of Education and Science (MEC) facilitates teacher mobility in tertiary education institutions in two ways: a) by enabling Spanish professors to spend periods of time at foreign higher education and research institutions (this includes the Salvador de Madariaga programme); and b) by enabling foreign professors and researchers to spend periods at Spanish public universities, Higher Council for Scientific Research (CSIC) institutes and Spanish public research bodies (OPIS).
415. Within the framework of the National Human Resource Development Programme of the National Scientific Research, Development and Technological Innovation Plan (2004-2007), the Integrated Action Programme serves as a tool for cooperation in the sphere of science and technology, by promoting exchange and sharing knowledge between scientists from different countries. To that end, it finances the travel and accommodation expenses of research teams from different countries carrying out joint research projects.
416. Every year, the Ministry of Foreign Affairs (MAE) awards MAE-AECI grants to non-nationals wishing to study for a Master's degree or doctorate in Spain and to Spaniards wishing to do the same abroad. This unilateral programme is open to students from any country. The Scientific Cooperation and Inter-university Research Programme (PCI) promotes stable, cooperative relations between departments and research centres at Spanish, Latin American and Arab universities by financing teacher and researcher mobility.
417. Among the various bilateral programmes, the Fulbright programme has a particularly long history. The Committee for Cultural, Educational and Scientific Exchange between Spain and the United States, founded in 1958, is responsible for administering the Fulbright grants for study, research or teaching by Spanish citizens in the United States, or by US citizens in Spain. During the 2004-2005 academic year, 141 Spaniards and 68 US citizens took part in the programme.

10.6 Brain drain

418. There are few quantitative studies that allow us to find out the number of students or researchers that have participated in a mobility program and not returned to Spain but the existence of programs to attract Spanish researchers makes evident the existence of the problem.
419. Within the research reintegration policies developed, different programs have been implemented to promote the hiring of researchers like Program 13 (which incentivizes the filling of 900 stable researcher positions for 2005), the Ramon y Cajal and Juan de la Cierva Programs (which promoted the incorporation of researchers into the public I+D+i

system by offering 600 contracts for 2005) and the Torres Quevedo Program (that favours the incorporation of researchers in private companies offering up to 850 contracts).

CHAPTER 11. CONCLUSIONS

11.1 Recent developments in Spanish tertiary education

420. Under the “Napoleonic” system of higher education adopted by Spain in the nineteenth century, universities were completely regulated by laws and norms issued by the State. Until very recently, academic courses were identical in all institutions. They had the same curricula and there were no differences even in the syllabus. Universities had no specific budgets and expenditure was regulated by the state down to the smallest detail.
421. This strictly regulated higher education system was also an elitist system with a strong professional orientation. The teaching process was focused on the transmission of skills essential to the development of professions, many of which were in the State structure.
422. This situation began to change during the 1970s, when the system started to shift from an elite to a mass higher education system. Legal changes helped trigger a complete renovation of the higher education system. After the restoration of democracy and the promulgation of the new Constitution in 1978, university transformation was one of the main political objectives of both academics and political parties.
423. The University Reform Act (LRU) of 1983 resulted in a profound transformation in the Spanish higher education system: universities became autonomous entities, responsibility for universities was transferred to regional government and institutions began to receive public appropriations as a lump sum.
424. In the last years, three factors have led to a new situation in Spanish universities:
- a new legal framework drawn up by the central government towards the end of 2001 (LOU);
 - the adaptation of the Spanish higher education system to the European Higher Education Area;
 - the decrease in the number of students as a consequence of the dramatic fall in the birth rate.
425. Specific higher vocational schools have existed for many years in Spain. Nevertheless, it was in the early 90’s when higher vocational education started to be developed as an extended post-secondary alternative. Nowadays, higher vocational education has become an area socially valued by students and economically well looked upon by employers.
426. The LOU made certain changes to the legal structure of higher education. The most noteworthy features of the law included: a) the incorporation of lay people into the running of the university (always a minority group); b) the election of the rector by direct vote (as opposed to being voted indirectly by the senate); c) an increase in academic staff representation in the collegial bodies; d) the requirement that academic staff have to obtain national qualification before being named by universities; and e) the obligatory post-hoc accreditation of degree courses by the newly created National Agency for Quality Assessment and Accreditation.
427. The Spanish Parliament has been debating a partial reform of the LOU in order to adapt the legal framework to the new needs of higher education, especially to the new European scheme. It is important to draw attention to the fact that although governmental regulation to lead this reform is still in progress, most universities are already adapting existing degrees to the European Higher Education Area (EHEA), i.e. introducing a student-centred approach based on the student workload, transforming old credits to the new ECTS, and introducing new methodologies. Most Spanish universities have already launched specific plans for the

implementation of the EHEA with the support of national and regional governments. Curricular reform is being implemented in some courses or in specific subjects within an existing course in most universities.

11.2 Strengths and weaknesses of Higher Education

428. *An open, extended system of tertiary education.* The Spanish system of tertiary education is an open, extended and accessible system. A high proportion of young people obtain a tertiary education degree. The widespread development of continuing education and the increasing number of adults enrolling in higher education is also important to mention. As a consequence, the increase in Spanish human resource qualifications is one of Spain's major assets. This is, by far the most relevant strength of the system.
429. *Research development.* Spanish universities, the main contributors to research in the country, have increased their research production dramatically. Although there are still some shortfalls, such as the poor relationship with the productive sector, research in Spanish universities is currently in a relatively good position. Number of academic publications in referred journal has increased dramatically in the last years.
430. *Financial problems.* Spanish tertiary education's funding levels are similar to European average. Nevertheless, other European countries' funding is way below the average in other OECD countries. More resources are required to achieve higher levels of quality.
431. *Scarce financial autonomy.* Under the current financial model, regional governments grant funds to universities as a lump sum. Universities are free to allocate these funds internally. However, universities have no control over either the main expenditure item (salaries, which are determined by central government) or the main sources of income (public allocations and tuition fees).
432. *Poor student aid system.* Student mobility is very scarce because of cultural tradition but also because of the lack of an efficient student aid programme. Grant expenditure is only 0.08 percent of GDP. Such scant student grant funding is as a result of the nature of the financial aid system itself and of the inadequate funds provided to students who gain access to higher education.
433. *Obsolete staff status.* The civil servant status of professors has several negative consequences. The lack of incentives for salaries, an inefficient system of selection and promotion and the tenure slow down proactive attitudes of Spanish university teaching staff.
434. *University governance.* All decision-making power remains in collegial bodies in which non-academic staff and students make up a considerable percentage. Boards with large numbers of members make decisions on universities, faculties and departments, and elect rectors, deans and heads of departments. The Social Council was established as an external body to represent the wider interests of society in the University. Nevertheless, the real influence of this body is quite limited.
435. *University management.* In addition to governing universities, the main responsibility for managing institutions lies with academics. Although some institutions hire professional managers for some managerial positions, they are always in dependent positions, while most of the decision-making power lies with academics who are temporarily occupying a managerial post.
436. *Poor steering system.* Universities depend on eighteen authorities. Although universities would not need to be closely co-ordinated under an open, competitive system, common goals for the whole public higher education system should be stated and developed. The correct

functioning of the system, especially in the context of growing internationalisation, requires coordination of many aspects such as a student aid system, mobility of students and academics, quality assessment procedures and many other areas that are more efficiently managed from a broader perspective. The current system has little ability for steering public higher education.

437. *Deficiencies in the learning model.* In spite of some attempts to reform the curricula in the early 90s, the Spanish learning model has not yet been adapted to the current needs of students and society. The learning model is still too theory-based and relies on knowledge transmission, in which teachers still behave as the main source of knowledge. At present, adapting to the Bologna process represents a radical change in the organization of academic life.

11.3 Strengths and weaknesses of Higher Vocational Education

438. *Close relationship with the labour market.* One of the strengths of Vocational Education is its relationship with the labour market, which makes it be alert to the real needs and, thus, include them in the vocational education offer. In addition, it is a system based on professional competencies and the new diplomas will take into account the learning outcomes. Nevertheless, offer does not always adjust to the local labour market needs.
439. *Flexibility.* Vocational Education structure is modular, accumulable, and allows partial accreditation by recognizing units of competence. It can be capitalised in order to facilitate the acquisition of a diploma.
440. *On-the-job-training.* To attain a diploma in Vocational Education, all students must go through a training period in a company, at the end of which many of them are offered a contract or a job in the same company.
441. *Gender imbalance.* There are some qualifications linked to gender which cause an imbalance between the number of men and women accessing those studies.
442. *Low enrolment.* Registration in Vocational Education studies is lower than in other European countries.
443. *Expensive pathways.* Vocational Education, in general, is expensive and costs are covered, in most cases, by public funds.

11.4 Trends and future policies

444. *The new context.* These days, the environment has changed. The new area is Europe. In Spain this has not been decided by the educational system, but rather by the highly coveted desire to be a part of the international political context. This change of environment is producing some changes, but the most important ones are yet to come.
445. *The quality challenge.* The tertiary education system has grown enormously, but this is the moment for tackling the challenge of quality. Quality agencies have emerged within the new organization of tertiary education, but with a deliberately unclear distribution of responsibilities among European, national and regional levels. Increasing quality and assessing and demonstrating it is a real challenge for the near future.

446. *The LOU reform.* The LOU is currently under a process of reform in the Spanish Parliament. The main objective of this reform is to adapt Spanish universities to the new context. The LOU reform gives universities greater autonomy to decide on their organisational model, choose their staff and decide what degree courses they wish to teach. Moreover, it strengthens assessment systems, establishes greater cooperation between the different authorities which have educational competences and promotes university research and the transfer of results to society. The new law will also give way to the creation the General Conference on University Policy with the participation of both regional and central governments to coordinate higher education policies. Obviously, it is too early to estimate the consequences of this reform.
447. *Curricular reform.* The Ministry of Education and Science is currently defining a new legal framework for developing thorough curricular reform in order to adapt the Spanish system to the EHEA. The most outstanding fact in this reform is that universities will have full autonomy to define their own curricula. This is a tremendous conceptual change because it means the system is leaving behind the concept of national diplomas.
448. *New loan system for students.* An experimental system of income contingent loans for Master's degree students will be launched this year. This system may revolutionise the approach to student aid.

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Chapter 2

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APPENDIX

Table 2.10 Spanish universities according to type and selected indicators (2005)

Name, year of foundation, type of university and autonomous region	Students	Graduates ¹	Academic staff	Non-academic staff	Degree courses (1 st and 2 nd cycles)	Doctoral courses	Continuing education courses	Expenditure per student (euros) ²	Total expenditure (M€) ²
TOTAL UNIVERSITIES SPAIN	1,595,419	215,710	112,307	50,185	2,799	2,847	3,562	5,537	,
PUBLIC UNIVERSITIES (%)	90.4	89.8	87.2	91.4	82.7	94.8	87.1		
PRIVATE UNIVERSITIES (%)	9.6	10.2	12.8	8.6	17.3	5.2	12.9		
Public universities	1,441,559	193,702	97,940	45,844	2,316	2,700	3,102	4,245	6,256
<i>Andalusia</i>	<i>264,589</i>	<i>34,671</i>	<i>15,588</i>	<i>8,262</i>	<i>411</i>	<i>512</i>	<i>496</i>	<i>3,719.2</i>	<i>986,255,045.9</i>
Almería (1993)	12,500	1,840	798	618	31	36	2	3,647.9	51,286,333.2
Cádiz (1979)	22,738	3,461	1,716	609	56	28	59	3,849.8	91,367,121.6
Córdoba (1972)	14,969	3,513	1,225	630	38	40	2	4,593.6	93,157,577.9
Granada (1531)	82,500	8,225	3,423	1,729	72	141	0	3,933.8	228,496,733.2
Huelva (1993)	11,003	1,990	817	431	37	23	7	4,507.4	56,067,706.0
Jaén (1993)	13,893	2,189	899	396	41	35	5	3,639.3	55,743,645.3
Málaga (1972)	35,453	3,398	2,016	1,290	56	60	83	3,307.8	133,056,916.6
Pablo de Olavide, Seville (1997)	8,098	858	600	258	15	15	42	4,000.5	28,227,680.2
Seville (1505)	63,435	9,197	4,094	2,301	65	134	296	3,363.5	248,851,332.0
<i>Aragón</i>	<i>37,740</i>	<i>5,374</i>	<i>3,078</i>	<i>1,622</i>	<i>58</i>	<i>79</i>	<i>87</i>	<i>4,208.9</i>	<i>173,618,752.0</i>
Saragossa (1542)	37,740	5,374	3,078	1,622	58	79	87	4,208.9	173,618,752.0
<i>Asturias</i>	<i>33,507</i>	<i>5,008</i>	<i>2,038</i>	<i>1,002</i>	<i>64</i>	<i>38</i>	<i>43</i>	<i>4,306.0</i>	<i>160,026,643.2</i>
Oviedo (1608)	33,507	5,008	2,038	1,002	64	38	43	4,306.0	160,026,643.2
<i>Canary Islands</i>	<i>47,920</i>	<i>5,966</i>	<i>3,395</i>	<i>1,594</i>	<i>104</i>	<i>108</i>	<i>24</i>	<i>4,611.5</i>	<i>234,447,536.0</i>
La Laguna (1792)	24,447	3,059	1,850	823	56	34	23	4,843.2	128,738,216.1
Las Palmas de Gran Canaria (1989)	23,473	2,907	1,545	771	48	74	1	4,357.5	105,709,319.9

<i>Cantabria</i>	12,968	2,253	1,097	516	36	42	42	5,159.4	70,312,000.0
Cantabria (1972)	12,968	2,253	1,097	516	36	42	42	5,159.4	70,312,000.0
<i>Castile-La Mancha</i>	31,915	4,822	2,150	1,190	54	30	33	4,557.0	143,459,942.5
Castile-La Mancha (1982)	31,915	4,822	2,150	1,190	54	30	33	4,557.0	143,459,942.5
<i>Castile and León</i>	85,037	15,475	6,567	3,020	254	245	110	4,408.0	398,082,270.7
Burgos (1994)	9,177	1,492	658	344	32	18	14	5,387.4	48,406,196.1
León (1979)	15,033	2,359	944	518	23	28	2	4,425.8	69,932,018.1
Salamanca (1218)	27,600	6,439	2,437	1,096	98	120	39	4,438.0	147,726,612.5
Valladolid (early 13th century)	33,227	5,185	2,528	1,062	101	79	55	4,095.2	132,017,444.0
<i>Catalonia</i>	179,467	28,237	13,994	6,547	345	308	314	4,432.9	963,870,139.9
Autonomous U. of Barcelona (1968)	49,244	6,565	3,009	1,449	77	86	278	3,971.3	201,179,185.4
Barcelona (1450)	53,533	8,587	4,448	1,991	70	96	14	4,025.3	288,813,510.4
Girona (1991)	13,030	1,952	971	513	41	21	2	3,608.4	54,605,442.4
Lleida (1991)	8,843	1,654	757	372	42	24	1	4,999.5	53,039,542.1
Technical U. of Catalonia (1971)	31,291	5,189	2,604	1,280	43	47	7	5,085.9	222,599,558.0
Pompeu Fabra (1990)	11,182	2,027	933	554	19	12	3	7,281.4	80,328,670.0
Rovira i Virgili (1992)	12,344	2,263	1,272	388	53	22	9	4,370.3	63,304,231.6
<i>Valencian Community</i>	146,336	20,018	9,707	5,220	209	330	106	5,039.7	768,028,189.0
Alicante (1979)	36,535	3,381	1,933	1,151	43	53	8	4,168.9	125,634,467.0
Jaume I, Castelló (1991)	12,573	1,161	995	521	26	38	2	5,842.1	82,519,876.7
Miguel Hernández, Elche (1996)	13,196	1,599	894	415	33	16	3	6,116.6	63,221,581.4
Technical U. of València (1971)	34,666	5,364	2,665	1,450	48	81	90	5,912.5	226,893,666.9
València-Estudi General (1499-1502)	49,366	8,513	3,220	1,683	59	142	3	4,539.6	269,758,597.1
<i>Extremadura</i>	24,912	4,560	1,815	816	74	74	6	3,323.0	91,745,000.4
Extremadura (1973)	24,912	4,560	1,815	816	74	74	6	3,323.0	91,745,000.4
<i>Galicia</i>	82,590	13,619	5,041	2,485	154	150	138	4,038.8	377,284,770.8
A Coruña (1990)	24,798	3,243	1,326	769	47	53	110	3,548.6	93,142,981.2

Santiago de Compostela (1495)	31,927	5,021	2,149	1,059	63	73	7	4,572.6	175,170,384.8
Vigo (1989)	25,865	5,355	1,566	657	44	24	21	3,776.3	108,971,404.7
<i>Balearic Islands</i>	<i>13,438</i>	<i>493</i>	<i>1,120</i>	<i>437</i>	<i>37</i>	<i>32</i>	<i>42</i>	<i>5,572.3</i>	<i>80,447,573.2</i>
Balearic Islands (1978)	13,438	493	1,120	437	37	32	42	5,572.3	80,447,573.2
<i>La Rioja</i>	<i>7,350</i>	<i>1,029</i>	<i>430</i>	<i>210</i>	<i>26</i>	<i>17</i>	<i>32</i>	<i>4,186.7</i>	<i>31,140,666.4</i>
La Rioja (1992)	7,350	1,029	430	210	26	17	32	4,186.7	31,140,666.4
<i>Madrid</i>	<i>226,051</i>	<i>32,593</i>	<i>15,953</i>	<i>8,451</i>	<i>271</i>	<i>454</i>	<i>839</i>	<i>4,563.5</i>	<i>1,132,454,426.2</i>
Alcalá (1977)	23,693	3,131	1,793	723	41	47	118	4,954.3	108,717,597.1
Autonomous U. of Madrid (1968)	33,118	5,460	2,300	902	49	98	86	4,289.3	159,164,517.8
Carlos III, Madrid (1989)	18,691	2,419	1,516	608	35	14	46	5,571.0	92,490,496.4
Complutense, Madrid (1293)	95,869	15,862	5,961	3,540	77	212	238	3,896.0	419,468,334.0
Technical U. of Madrid (1971)	37,680	3,902	3,283	2,178	42	47	315	4,993.1	255,342,961.4
Rey Juan Carlos (1996)	17,000	1,819	1,100	500	27	36	36	7,100.6	97,270,519.5
<i>Murcia</i>	<i>36,212</i>	<i>4,728</i>	<i>2,486</i>	<i>1,276</i>	<i>80</i>	<i>58</i>	<i>5</i>	<i>4,446.3</i>	<i>164,022,600.9</i>
Murcia (1915)	29,917	3,957	1,960	988	58	40	0	4,232.0	126,584,466.2
Technical U. of Cartagena (1998)	6,295	771	526	288	22	18	5	5,364.4	37,438,134.7
<i>Navarre</i>	<i>9,100</i>	<i>1,475</i>	<i>825</i>	<i>380</i>	<i>24</i>	<i>29</i>	<i>11</i>	<i>6,838.6</i>	<i>61,998,584.9</i>
Public U. of Navarre (1987)	9,100	1,475	825	380	24	29	11	6,838.6	61,998,584.9
<i>Basque Country</i>	<i>50,000</i>	<i>8,432</i>	<i>3,938</i>	<i>1,490</i>	<i>78</i>	<i>69</i>	<i>51</i>	<i>5,067.3</i>	<i>279,943,347.7</i>
Basque Country / Euskal Herriko Unibertsitatea (1980)	50,000	8,432	3,938	1,490	78	69	51	5,067.3	279,943,347.7
<i>International</i>	<i>5,860</i>	<i>0</i>	<i>1,671</i>	<i>90</i>	<i>0</i>	<i>9</i>	<i>37</i>		<i>0.0</i>
International U. of Andalusia (1994)	5,860	N.A.	1,671	90	0	9	35	N.A.	N.A.
Menéndez Pelayo International (1932)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2	N.A.	N.A.
<i>Distance learning</i>	<i>146,567</i>	<i>4,949</i>	<i>7,047</i>	<i>1,236</i>	<i>37</i>	<i>116</i>	<i>686</i>	<i>1,170.9</i>	<i>139,284,665.5</i>
National Distance-Learning University (UNED) (1972)	146,567	4,949	7,047	1,236	37	116	686	1,170.9	139,284,665.5

PRIVATE UNIVERSITIES	153,860	22,008	14,367	4,341	483	147	460	1,292.0	45,219,552.7
<i>Catholic Church</i>	52,959	9,432	6,282	1,884	169	85	233	0	0
Catholic U. of València "Sant Vicent Màrtir" (2003)	3,947	NApp.	227	95	14	0	2	N.A.	N.A.
Santa Teresa Catholic U. of Ávila (1996)	724	132	N.A.	N.A.	18	0	5	N.A.	N.A.
San Antonio Catholic U. of Murcia (1996)	5,377	806	304	182	17	9	35	N.A.	N.A.
Deusto (1886)	11,108	2,839	1,742	260	26	16	64	N.A.	N.A.
Navarre (1952)	14,490	2,172	1,620	937	31	34	34	N.A.	N.A.
Pontifical Comillas U., Madrid (1890)	9,837	1,570	1,787	306	27	11	56	N.A.	N.A.
Pontifical U. of Salamanca (1940)	7,476	1,913	602	104	36	15	37	N.A.	N.A.
<i>Other</i>	<i>100,901</i>	<i>12,576</i>	<i>8,085</i>	<i>2,457</i>	<i>314</i>	<i>62</i>	<i>227</i>	<i>1,292</i>	<i>45,219,553</i>
Abat Oliba-CEU (2003)	680	74	52		8	2	1	N.A.	N.A.
Alfonso X El Sabio (1993-1994)	9,542	2,070	922	196	24	2	8	N.A.	N.A.
Antonio de Nebrija (1995)	3,001	462	395	70	15	3	29	N.A.	N.A.
Camilo José Cela (1998-2000)	1,400	109	135	26	18	1	3	N.A.	N.A.
Cardenal Herrera-CEU (1999)	6,748	1,051	461	184	19	5	3	N.A.	N.A.
European U. of Madrid (1995)	6,721	1,456	585	284	32	6	74	N.A.	N.A.
Miguel de Cervantes European U. (2002)	1,100	NApp.	110	8	11	0	8	N.A.	N.A.
Francisco de Vitoria (2001)	2,638	NApp.	123	144	14	0	36	N.A.	N.A.
International U. of Catalonia (1997)	3,294	N.A.	725	200	14	8	3		
Mondragón Univertsitatea (1997)	4,021	905	267	96	23	5	27	N.A.	N.A.
Open University of Catalonia (distance learning) (1994-1995)	35,000	1,466	1,686	350	17	1	1	1,292.0	45,219,552.7
Ramon Llull (1991)	13,210	2,675	1,169	508	46	14	5	N.A.	N.A.
San Jorge (2005)	N.A.	NApp.	N.A.	N.A.	3	0	3	N.A.	N.A.
San Pablo-CEU (1993)	7,987	1,426	811	228	31	11	13	N.A.	N.A.

SEK (1997)	1,400	87	177	64	10	1	7	N.A.	N.A.
Vic (1997)	4,159	795	467	99	29	3	6	N.A.	N.A.

Source: Drawn up by the author from Hernández Armenteros, Juan (Director) (2005) *La universidad española en cifras (2004)*, Observatorio Universitario - CRUE; CCU (2005) *Estadística Universitaria: Avance Curso 2004-2005*; CCU (2003) *Estadística Universitaria: Avance Curso 2002-2003*; and other documents of the CRUE (2005).

(1) Information for the period 2003-2004. Provisional figures. (2) Figures for 2002-2003. The calculations were made as follows: total expenditure 2002 / student intake for the 2002-2003 study cycle.

N.A.: Not available; NApp.: Not applicable