OECD Reviews of Tertiary Education

SPAIN

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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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This report is based on a study visit to Spain in May 2007, and on background documents prepared to support the visit. As a result, the report reflects the situation up to that point.

1. Introduction

1.1 Purposes of the OECD Review

This Country Note on Spain forms part of the OECD Thematic Review of Tertiary Education. This is a collaborative project to assist the design and implementation of tertiary education policies which contribute to the realisation of social and economic objectives of countries.

The tertiary education systems of many OECD countries have experienced rapid growth over the last decade, and are experiencing new pressures as the result of a globalising economy and labour market. In this context, the OECD Education Committee agreed, in late 2003, to carry out a major thematic review of tertiary education. The principal objective of the Review is to assist countries to understand how the organisation, management and delivery of tertiary education can help them to achieve their economic and social objectives. The focus of the Review is upon tertiary education policies and systems, rather than upon the detailed management and operation of institutions, although clearly the effectiveness of the latter is influenced by the former.

The project's purposes, methodology and guidelines are detailed in OECD (2004a).[1] The purposes of the Review are:

- To synthesise research-based evidence on the impact of tertiary education policies and disseminate this knowledge among participating countries;
- To identify innovative and successful policy initiatives and practices;
- To facilitate exchanges of lessons and experiences among countries; and
- To identify policy options.

1 Reports and updates are available from *www.oecd.org/edu/tertiary/review*

The Review encompasses the full range of tertiary programmes and institutions. International statistical conventions define tertiary education in terms of programme levels: those programmes at ISCED[2] levels 5B, 5A and 6 are treated as tertiary education, and programmes below ISCED level 5B are not.[3] In some countries the term higher education is used more commonly than tertiary education, at times to refer to all programmes at levels 5B, 5A and 6, at times to refer only to those programmes at levels 5A and 6. An additional complication is presented by the practice, in some countries, of defining higher education or tertiary education in terms of the institution, rather than the programme. For example it is common to use higher education to refer to programmes offered by universities, and tertiary education to refer to programmes offered by institutions that extend beyond universities. The OECD Thematic Review follows standard international conventions in using tertiary education to refer to all programmes at ISCED levels 5B, 5A and 6, regardless of the institutions in which they are offered.

The project involves two complementary approaches: an *Analytical Review strand;* and a *Country Review strand.* The Analytical Review strand is using several means – country background reports, literature reviews, data analyses and commissioned papers – to analyse the factors that shape the outcomes in tertiary education systems, and possible policy responses. All of the 24 countries involved in the Review are taking part in this strand. In addition, 14 of the tertiary education systems have chosen to participate in a Country Review, which involves external review teams analysing tertiary education policies in those countries.

Spain was one of the countries which opted to participate in the Country Reviews and hosted a review visit in May 2007. The reviewers comprised

2 The International Standard Classification of Education (ISCED) provides the foundation for internationally comparative education statistics and sets out the definitions and classifications that apply to educational programmes within it.

3 Programmes at level 5 must have a cumulative theoretical duration of at least 2 years from the beginning of level 5 and do not lead directly to the award of an advanced research qualification (those programmes are at level 6). Programmes are subdivided into 5A, programmes that are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements, and into 5B, programmes that are generally more practical/technical/occupationally specific than ISCED 5A programmes. Programmes at level 6 lead directly to the award of an advanced research qualification. The theoretical duration of these programmes is 3 years full-time in most countries (e.g. Doctoral programme), although the actual enrolment time is typically longer. These programmes are devoted to advanced study and original research. For further details see OECD (2004b).

an OECD Secretariat member, and academics and policy-makers from Chile, France, Italy, and Mexico. The team is listed in Appendix 1.

1.2 The Participation of Spain

Spain's participation in the OECD Review was co-ordinated by Leonor Carracedo, Deputy Director General, Directorate General for Universities, Ministry of Education and Science. Professor José-Ginés Mora, Director of the Center for the Study of Higher Education Management (CEGES), *Universidad Politécnica de Valencia*, contributed as the academic co-ordinator. Spain's Country Background Report (CBR) for the OECD Review was prepared by the Global University Network for Innovation (GUNI) and the Universitat Politècnica de Catalunya (UPC), under the supervision of a working group (Leonor Carracedo, José-Ginés Mora, Soledad Iglesias, Guillermo Bernabeu) at the Directorate General for Universities in the Ministry of Education and Science (see Appendix 2). The final version was reviewed by the *Cátedra UNESCO* of the *Universidad Politécnica de Madrid*.

At the time the review visit was organized, tertiary education was the responsibility of the Ministry of Education and Science (MEC). Later on, in April 2008, tertiary education became a shared responsibility between the Ministry of Education, Social Policy and Sports (MEPSyD), in charge of post-secondary higher vocational education (*Formación profesional de grado superior*), and the Ministry of Science and Innovation (MICINN), in charge of university education. This explains why these three different ministries are referred to in this report.

The Review Team is grateful to the authors of the CBR, and to all those who assisted them for providing an informative and policy-oriented document. The CBR covered themes such as the background and content of tertiary education reforms; the structure of the tertiary education system; the role of tertiary education in regional development, the research effort of the country, and the shaping of labour markets; the challenges faced in resourcing, governing, achieving equity in and assuring the quality of the tertiary education system. Some of the main issues identified by Spain's CBR, and which are taken up in this Country Note, include:

- The pursuit of a better alignment between the tertiary system and the nation's economic and social development goals;
- Finding the proper balance between governmental steering and institutional autonomy;

- Improving equity of access and outcomes among all socio-economic groups;
- Enhancing the efficiency with which public funds are used;
- Better define the role of vocational tertiary education in a system dominated by a largely undifferentiated and markedly academic university system;
- Increasing flexibility in the management of human resources.

The Spanish CBR forms a valuable input to the overall OECD project and the Review Team found it to be very useful in relation to its work. The analysis and points raised in the CBR are cited frequently in this Country Note.[4] In this sense, the documents complement each other and, for a more comprehensive view of tertiary education policy in Spain, are best read in conjunction.

The review visit took place from 20 to 29 May, 2007 and covered the autonomous communities of Aragón, Madrid and Valencia. The detailed itinerary is provided in Appendix 3. The Review Team held discussions with a wide range of educational authorities and relevant agencies and visited several institutions of tertiary education in the country. Discussions were held with representatives of national and regional governments; tertiary education institutions and their representatives; student organisations; representatives of academic staff; employers; the business and industry community; and agencies responsible for research and quality assurance. This allowed the team to obtain a wide cross-section of perspectives from key stakeholders in the system on the strengths, weaknesses, and policy priorities regarding tertiary education in contemporary Spanish society.

This Country Note draws together the Review Team's observations and background materials. The present report on Spain is an input into the final OECD report from the overall project. We trust that the Country Note will also contribute to discussions within Spain, and inform the international education community about developments in Spain that may hold lessons on their own systems.

The Review Team wishes to record its grateful appreciation to the many people who gave time from their busy schedules to assist in its work. The tertiary education community clearly attached great importance to the purpose of the visit and the fact that the Review Team brought an external perspective. The meetings were open and provided a wealth of information and analysis. Special words of appreciation are due to the National Co-

4 Unless indicated otherwise, the data in this Country Note are taken from Spain's Country Background Report (MEC, 2007).

ordinator, Leonor Carracedo, the academic co-ordinator José-Ginés Mora, and the person who more closely assisted us with the logistics of the visit – Marta Ginés (CEGES, *Universidad Politécnica de Valencia*) – for going to great lengths to respond to the questions and needs of the Review Team. We were impressed by their efficiency and expertise and enjoyed their kindness and very pleasant company. The courtesy and hospitality extended to us throughout our stay in Spain made our task as a Review Team as pleasant and enjoyable as it was stimulating and challenging.

Of course, this Country Note is the responsibility of the Review Team. While we benefited greatly from the Spanish CBR and other documents, as well as the many discussions with a wide range of Spanish personnel, any errors or misinterpretations in this Country Note are our responsibility.

1.3 Structure of the Country Note

The remainder of the report is organised into five main sections. Section 2 provides the national context. Section 3 outlines the key contextual factors shaping tertiary education in Spain and tries to assist international readers by identifying what is distinctive about tertiary education policy in Spain. Section 4 then identifies the main strengths of Spanish tertiary education policies together with the challenges and problems faced by the system. Section 5 uses the analysis in the previous sections to discuss policy priorities for future development. The suggestions draw on promising initiatives that the team learned about during the visit. Section 6 has some concluding remarks.

The policy suggestions attempt to build on and strengthen reforms that are already underway in Spain, and the strong commitment to further improvement that was evident among those we met. The suggestions should take into account the difficulties that face any visiting group, no matter how well briefed, in grasping the complexity of Spain and fully understanding all the issues.

2. National Context

2.1 Geography, History and Government

Spain is the second largest country in Western Europe (behind France) with an area of 504 030 km^2. Spanish territory also includes the Balearic Islands in the Mediterranean, the Canary Islands in the Atlantic Ocean, and two autonomous cities in North Africa, Ceuta and Melilla. Spain is a constitutional monarchy organised as a parliamentary democracy and has been a member of the European Union since 1986.

Upon the death of General Franco in November 1975, King Juan Carlos became the Head of State. With the approval of the new Spanish Constitution of 1978 and the arrival of democracy, the State devolved autonomy to the regions and created an internal organisation based on autonomous communities. Spain is politically organised into 17 Autonomous Communities (*Comunidades Autónomas*) and 2 autonomous cities (*Ciudades Autónomas*) - Ceuta and Melilla. These have legislative, budgetary, administrative and executive powers which are guaranteed through their respective statutes of autonomy. Administratively Spain also comprises municipalities and provinces.

The responsibilities held by the autonomous communities include the organisation of their self-governing institutions; changes in municipal boundaries in their area, territorial organisation, urban planning and housing; promotion of culture, research and social welfare and health care; as well as the teaching of the co-official language in bilingual autonomous communities. As far as education is concerned, the autonomous communities implement legislation defined at the national level, can develop their own complementary legislation and regulate the non-basic elements of the education system. In addition, they have executive and administrative powers which allow them to administer the education system within their own territory (Eurydice, 2008).

In accordance with the Spanish Constitution of 1978, the King is the Head of State and there is a separation of the legislative, executive and

judicial powers. Legislative power is vested in the Spanish Parliament (*Cortes Generales*), comprising representatives elected every four years. It is composed of two houses: Congress and Senate. They are entrusted with legislative power, with the task of approving the state budget, monitoring Government action, and with other powers conferred on them by the Constitution. Representatives are elected by secret ballot under universal, free, equal and direct suffrage by all Spaniards in possession of their full political rights.

Since 1977, when the first democratic elections were held after the dictatorship, three political parties have held power: the *Unión de Centro Democrático* (Centre Democratic Union, UCD), which was in office from 1977 to 1982, the *Partido Socialista Obrero Español* (Spanish Socialist Party, PSOE) which was in power from 1982 to 1996; and the *Partido Popular* (Popular Party, PP), which governed between 1996 and 2004. The PSOE was back in office in 2004, having remained in power following the election held in March 2008.

The political transition from an authoritarian regime to a parliamentary democracy has brought with it profound changes in all spheres of Spanish life (social, political, economical and cultural) from which education has not been exempt. Certain social changes have proved to be significant for Spain's current society, such as the integration of women into the labour market, the decline in the birth rate, the increase in the population living in large urban centres and the increase in immigration (Eurydice, 2008).

2.2 Demography

As of January 2006, Spain had 44 395 300 inhabitants, of which almost 3.9 million were foreign citizens. In 2003, Spain received 50% of the immigration into the European Union, coming mostly from North and Sub-Saharan Africa, Eastern Europe and Latin America.

In terms of population size, three groups of autonomous communities can be identified:

- Those with more than four million inhabitants: *Andalusia*, *Catalonia*, Madrid and the Valencian Community.
- Those with one to three million inhabitants: *Galicia*, *Castilla y León*, the Basque Country, the Canary Islands, *Castilla-La Mancha*, *Murcia*, *Aragón*, *Extremadura* and Asturias.
- Those with less than one million inhabitants: the Balearic Islands, Navarre, *Cantabria*, *La Rioja* as well as *Ceuta* and *Melilla*.

In the last 35 years, the Spanish population has not followed a steady development; significant changes have occurred in its age structure, contrasting a relatively rapid growth from 1970 to 1981 (a population growth of 11%) with a more moderate one throughout the 80s (4.5%) and the 90s (4.3%) due to a marked drop in the birth rate. Since 2001, this tendency has changed again due to immigration, and population increased by 7.3% up to 2005. The population aged over 65 has also increased. In 1981, this group amounted to 11.2% of the total population, while in 2005 it rose to 16.6% (Eurydice, 2008).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.

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, namely Catalan, Galician, Valencian and *Euskera* (or Basque). 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 Cataluña, 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 Cataluña, and to a lesser extent in the autonomous regions of Valencia and the Balearic Islands. Teaching in Galician varies across tertiary institutions in Galicia. In the Basque Country, around a third of university students are taught in Basque.

The Spanish Constitution defines the country as a non-denominational state, but guarantees 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. These include Muslims and Evangelical Christians, whose numbers have grown over the past few years with the arrival of immigrants.

2.3 Economy

Spain joined the European Union in 1986, and became one of the member states of the "Euro Zone" in 1999. According to World Bank's figures, in 2004 it had the world's eighth largest economy, with a gross domestic product of EUR 799 billion and a per capita income of EUR 19 456. 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 the EU's average. The average annual growth of the Spanish economy in the period 2000-2004 was 2.55%.

The service sector in Spain has grown continuously since the 1950s, and now represents two-thirds 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. Car manufacturing is the most important industry in Spain - over 80% of produced 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 other European countries.

Over the last decade, the proportion of temporary work contracts has grown significantly. A third of all employees are now on temporary contracts. Official 2005 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%), though it should be pointed out that the latter has seen a 14 percentage points reduction over the past ten years.

According to the 2007 OECD Economic Survey of Spain (OECD, 2008a), the recent economic performance of Spain has continued to be underpinned by buoyant domestic demand and spectacular employment growth based on substantial immigration, increased female labour force participation and a marked drop in unemployment. Among the main economic challenges identified are the high inflation levels, which erode competitiveness and help widen the trade deficit; the rapid rise in household debt and property market prices; the expected consequences of population ageing for public finances; and the need to improve productivity growth. The 2005 National Reform Programme identifies these challenges and outlines a package of measures to meet them (OECD, 2008a).

3. Context and Main Features of Tertiary Education

3.1 Governance, Planning and Regulation

System structure

Although Spain's tertiary education system consists of both university and non-university institutions, unlike other European systems in practice it operates less as a binary than a unitary system made up of university institutions only. The principal law for tertiary education, the Organic Law on Universities (LOU, *Ley Orgánica de Universidades*, Law 6/2001 on Universities, 21 December 2001, amended by the Organic Law 4/2007, 12 April 2007) concerns universities only. Non-university tertiary education, consisting of post-secondary higher vocational education and specialised tertiary education, is regulated by the Organic Law on Education, (LOE, *Ley Orgánica de Educación* of 2006) together with pre-school, primary and secondary education and professional certificates for the visual arts and design, advanced art training, languages, sport and adult education.

University system

The university system is constituted by 75 universities (50 public and 25 private), a figure which more than doubled over the last twenty years (Table 3.1). According to the Spanish Constitution, universities may be publicly or privately owned. Public universities are established by means of a law passed by the legislative assembly of the concerned autonomous community or through legislation passed in the Spanish Parliament. Amongst the public universities, two are specialised universities focused on continuing education and summer courses and another is a distance learning institution. Any person or legal entity may constitute a private university with the approval of the autonomous community's legislature. There are two different types of private universities: 16 lay universities (including a distance learning university) and 7 universities belonging to the Catholic

Church. The latter are governed by special agreements between the Spanish State and the Vatican.

Table 3.1 Number of universities

	1985	1995	2007
Total	34	56	75
Public universities	30	46	50
Private universities	4	10	25

Source: Ministry of Science and Innovation, 2007.

According to the LOU, a university provides a public service through research, teaching and learning, and its obligations to society are:

a. The creation, development, diffusion and criticism of science, of techniques (technology) and culture;

b. The preparation of students for professional activities which require knowledge, scientific methods and artistic creation;

c. The diffusion, evaluation and distribution of knowledge for culture, the quality of life and economic development;

d. The distribution of knowledge and culture by university extension and lifelong learning.

Universities enjoy certain autonomy, from the development of their own statutes to, in the case of private universities, their own organizational rules and functions, as well as other internal rules. University autonomy also typically includes the creation of specific structures that act as support for research and teaching: the development and approval of study and research plans and specialized teaching for lifelong learning; admission and assessment of students; the issue of official degrees valid throughout the nation, as well as diplomas and own degrees; the management of budgets and administration of assets; and relations with other entities for the promotion and development of institutional goals. The amended LOU seeks to strengthen the autonomy of Spanish universities along with a more prominent role for quality assurance systems.

As of late 2007, the degree structure in Spanish universities was as follows:

- *Short cycle courses* (first cycle): oriented towards professional skills, with duration of two to three years and leading to the *Diploma* degree.
- *Second cycle courses*. These courses lead to the *Licenciatura* and generally last two years. Students can take this type of course once they have gained a first cycle qualification or completed the first cycle of a long cycle course.
- *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 the degree of *Licenciatura*. The duration of these courses is four to five years.
- *Third cycle courses*. These courses can be undertaken by holders of a second or long cycle degree and are aimed at specialisation in various scientific, technical and artistic fields, as well as training in research techniques. Following some course work students obtain an accreditation certificate for advanced education, after which they may submit a doctoral thesis or an original research subject to obtain the academic title of Doctor.

The degree structure described above is undergoing revision to adjust to the requirements of the Bologna Declaration, part of the formation of the European Higher Education Area. Within this framework, university education is to be structured around two educational levels: undergraduate and postgraduate.

- ***Undergraduate education*** (*Grado* cycle). This initial cycle comprises basic and general education, as well as training geared to the exercise of professional activities. Degrees are organised with a total of 240 ECTS credits (under the European Credit Transfer and System). The organisation of undergraduate studies comprises the definition of the general and specific competencies expected from graduates at the end of their studies.
- ***Postgraduate education*** is, in turn, divided into two cycles (*Másteres* and *Doctorado* cycles):
    - 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 Masters degree with between 60 and 120 ECTS credits.

- The third university cycle provides students with advanced training in research techniques. It may require a Masters degree or specific courses, and other research training activities. It also includes the preparation of a doctoral thesis based on original research. Successful completion of this cycle leads to the title of Doctor.

Universities can offer courses that lead to official degrees valid throughout Spain as well as courses that might not lead to a title but may be, for example, part of a professional specialisation. As of late 2007, official degrees valid nationwide are those that are part of the Registry of universities, centres and courses (RUCT).[5] The government is responsible for establishing the guidelines and conditions for the granting of official degrees, for they are issued in the name of the King with the Rector as his representative. To be able to provide official instruction and issue the appropriate titles, the university must have the authorisation of the autonomous community and study plans that are in accordance with the guidelines and conditions set out by the government.

This framework reflects recent changes to the LOU. Courses leading to a recognised university degree in Spain were, up to 25 years ago, those based on curricula defined by central Government; later they were those leading to a diploma, a title or a degree inscribed in a catalogue established by the Government. The modifications to the LOU establish a new structure for official university teaching and titles, stating "from now on the universities themselves will create and propose […] the teaching and titles they will offer and grant, without being subject to their previous listing in a Government catalogue, as was required until now".[6] The new legislation also adopts "measures that besides being compatible with the EHEA, make the organisation of university teaching more flexible, favouring curricular diversification […] and prompts a change in teaching methodologies which places the student learning process at its centre, in a context that now extends through life".

In this context, universities are given freedom to define the curricula. This represents the end of a historical tradition by which the state retained control over a large portion of the curriculum of each official degree in order to ensure "national diplomas".

5 Royal Decree 1509/2008, of 12 September 2008, which establishes the Registry of universities, centres and courses.

6 Royal Decree 1393/2007, BOE N. 260, 30 October 2007.

The validation of credits, titles and their foreign equivalents are also subject to governmental regulation. The government sets out the conditions for degree equivalence across Spanish universities; establishes how foreign higher education degrees or titles should be validated; determines how professional experience is to be recognised academically; and regulates the validation process between the university and non-university sectors of Spanish tertiary education.

In late 2007, the official catalogue of university titles had 140 different official degrees (*titulaciones oficiales*) registered at the undergraduate level: 60 short cycle, 56 long cycle and 24 second cycle, distributed in five branches of teaching: Humanities, Experimental Sciences, Technology (Engineering), Health Sciences, and Social Sciences and Law.[7] However, not all the autonomous communities and universities offer the same official degrees. The total offer of undergraduate official degrees in Spain was, by branch of teaching, as follows: 1 101 in the Social Sciences and Law, 789 in Technology (Engineering), 355 in the Humanities, 241 in the Experimental Sciences, and 215 in the Health Sciences (Ministry of Science and Innovation, 2007).

In addition to courses leading to official degrees, universities offer courses for professional specialisation. These are practical continuing education courses that have proved to be very successful at most universities.

Non-university tertiary education

Non-university tertiary education is subdivided into:

- ***Post-secondary higher vocational education*** (*Formación profesional de grado superior*), which covers, in student numbers, approximately 89% of non-university tertiary education. In Spain, higher vocational education is seen as a continuation of secondary education and is in a process of being integrated into the tertiary education system.
- ***Specialized tertiary education*** such as the study of the arts, sports education or military education. The various types of programmes are governed by specific legislative provisions and offer a specific qualification.

The objective of higher vocational education is to ensure that students acquire the professional skills pertaining to the qualification they are taking; become acquainted with the characteristics of the sector, including entry into

7 See *www.mec.es/educa/plantilla.jsp?id=602&area=ccuniv&contenido=/ccuniv/html*

the profession; become familiar with the relevant legislation and their rights and obligations; and acquire the knowledge and skills to adapt to changes in their field.

Higher vocational education encompasses a series of modular training programmes (*ciclos formativos de grado superior)* that vary in duration (one or two years).[8] These programmes comprise different theoretical and practical areas of knowledge; last between 1 300 and 2 000 hours; and provide for work placements to account for 350-750 hours of the training.

Higher vocational education is typically provided in centres based in both public and private schools and also through distance education. Private provision of higher vocational education may be publicly subsidized. In 2004 there were 2 355 centres providing higher vocational education (1604 public, 520 publicly-subsidised and 231 independent private). With few exceptions, the schools offering post-secondary higher vocational education are secondary schools. In some autonomous communities, *Integrated Vocational Schools*, schools dedicated to vocational education at all levels, have been established. They offer courses leading to diplomas with academic and professional value and occupational certificates, both based on the National Catalogue of Occupational Qualifications. Both vocational subsystems interrelate by means of "units of competence" which, once they have been assessed and accredited, can be capitalised to achieve a diploma.

The final secondary education certificate (*bachillerato*) is typically required to enrol in higher vocational education.[9] This is typically given as the reason why higher vocational education is considered to be part of tertiary education, in spite of the predominant view that, in practice, it is an extension of upper secondary education. The administrative structure of education within both the central and regional governments reflects this reality: higher education departments typically deal with universities while education departments deal with the rest, from pre-school to non-university tertiary education. The LOU establishes that tertiary education encompasses both university studies and vocational education, alongside higher arts education, advanced design, visual art and advanced sports studies.

8 It is planned to provide 2-year programmes only in the future.

9 An alternative way to access higher vocational education, for those without the secondary formal qualifications, is by taking a special test to demonstrate that the candidate has sufficient knowledge and skills to benefit from a higher vocational programme.

Participation

The total number of students enrolled in Spanish universities in the 2006-2007 academic year was 1 505 100, of whom 1 405 894 were pursuing a degree in the first and second cycles (93.4% of the total) and 82 850 were doctoral students (5.5%). The proportion of students enrolled in long cycle courses (including those enrolled in second cycle programmes) has decreased slightly in the last few years, from 63.2% of the total number of students in the 1996-1997 academic year to 56.0% in the 2006-2007 academic year. During the same period, the proportion of students enrolled in short cycle courses increased by 4.3 percentage points, whereas the proportion enrolled in third cycle courses rose from 3.7 to 5.5% (Table 3.2).

Table 3.2 Enrolment in university according to type of institution and study cycle

Type of programme and university	1996-1997		2006-2007	
	Enrolment	Percentage	Enrolment	Percentage
Total	1 608 671	100	1 505 100	100
Short and Long cycle				
Total	1 549 312	96.3	1 405 894	93.4
Short cycle	532 188	33.1	563 468	37.4
Long cycle	999 338	62.1	781 371	51.9
Only second cycle	17 786	1.1	61 055	4.1
Public universities	1 480 881	92.1	1 265 480	84.1
Short cycle	515 709	32.1	511 877	34.0
Long cycle	949 698	59.0	701 547	46.6
Only second cycle	15 474	1.0	52 056	3.5
Private universities	68 431	4.3	140 414	9.3
Short cycle	16 493	1.0	51 591	3.4
Long cycle	49 626	3.1	79 824	5.3
Only second cycle	2 312	0.1	8 999	0.6
Masters programmes	-	-	16 731	1.1
Doctoral programmes				
Total	59 359	3.7	82 850	5.5
Public universities	57 633	3.6	78 758	5.2
Private universities	1 726	0.1	4 092	0.3

Source: Ministry of Science and Innovation, 2007.

The total number of students enrolled in universities dropped 6.4% between 1996-97 and 2006-07. The Humanities and the Experimental Sciences suffered the largest drops (14.9% and 28.0%, respectively) (Ministry of Science and Innovation, 2007). Enrolment in private universities has expanded from 4.4% in 1996-97 to 9.6% in 2006-07 of the total number of university students.

The overall participation levels in tertiary education are around the OECD average. In 2006, 43% of a single age cohort could expect to enter a tertiary-type A programme in Spain at some point in their lives, below the OECD average of 56% (see Figure 3.1, which shows the net entry rates in tertiary-type A programmes for 1995, 2000 and 2006 in OECD countries). For the same year, 21% of a single age cohort could expect to enter a tertiary-type B programme at some point in their lives (above the OECD average of 16%, see Appendix 4). Under current conditions, an individual in Spain can expect, on average, to spend 3.0 years in tertiary education, slightly below the OECD country mean of 3.1 years (see Appendix 4).

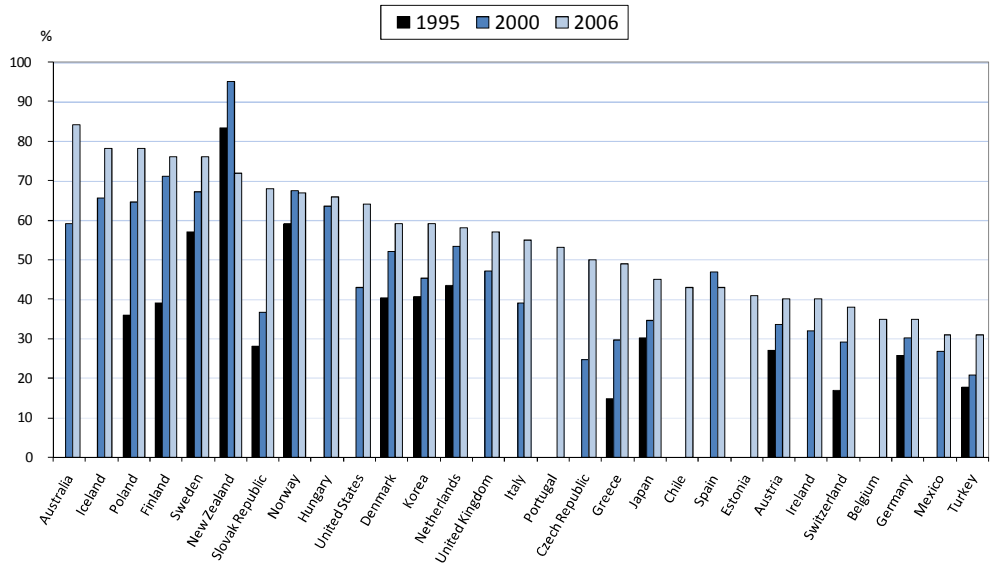
The number of doctoral students has been rising steadily over the past 30 years as reflected in the number of doctoral thesis defended: 1 177 in 1978-1979; 3 312 ten years later; and 7 235 in 2006-2007. The percentage of those obtaining their doctoral degree at a private university has remained between 4 and 5% of the total number of doctoral degrees granted each year. In 2006-2007, the largest proportion of doctoral theses was in the Experimental Sciences (32.7%), followed by the Social Sciences and Law (20.8%) while the smallest was in the Health Sciences (14.1%). In the 2006-2007 academic year, 16 731 students enrolled in 952 authorised official masters university degrees[10] and the number of doctoral students increased about 40% between 1996-1997 and 2006-2007.

Regarding fields of study, the proportion of students receiving a tertiary-type A or a research advanced degree is considerably above the OECD average in the areas of health and welfare (8th highest figure among the 28 OECD countries for which data are available) and engineering, manufacturing and construction (9th highest figure). Similarly, for tertiary-type B programmes, the proportion of Spanish students obtaining a degree in the areas of mathematics and computer science; and engineering, manufacturing and construction is considerably above the OECD average (2nd and 6th highest figures in the OECD area, respectively) (see Appendix 4).

10 In the 2007-2008 academic year, 33 021 students enrolled in 1 775 authorised official university masters degrees (Ministry of Science and Innovation, 2007).

From 1995-96 to 2005-06, enrolments in higher vocational education increased seven-fold to reach 220 262. In the 2004-05 academic year, 14.4% of students in tertiary education were enrolled in the non-university system, 89% of which in higher vocational education.

Figure 3.1 Net entry rates in tertiary-type A programmes, 1995-2005



The net entry rate of a specific age is obtained by dividing the number of first-time (new) entrants of that age to a specific type of tertiary education by the total population in the corresponding age group (multiplied by 100). The overall net entry rate for each tertiary level is calculated by summing the rates for each single year of age at that level. The *net entry rate* represents the proportion of people in a synthetic age-cohort who enter a given level of tertiary education at some point in their lives. In the case where no data on new entrants by age are available, **gross entry rates** are calculated. Gross entry rates are the ratio of all entrants, regardless of their age, to the size of the population at the *typical age of entry*. Gross entry rates are more easily influenced by differences in the size of population by single year of age. Mismatches between the coverage of the population data and the student data mean that the participation rates for those countries that are net exporters of students may be underestimated and those that are net importers may be overestimated.

Notes: Entry rates include advanced research programmes for 1995 and 2000. Data for Belgium exclude the German-speaking Community of Belgium for 1995 and 2000. Entry rates for Italy, Chile and the Russian Federation are calculated as gross entry rates. The same is the case for Japan and Korea for 1995 and 2000. Data for the United States include Tertiary-type B programmes.

Source: OECD (2007a and 2008b).

System governance and regulation

Spanish tertiary education is regulated by an abundant collection of constitutional rules, organic laws and royal decrees:

- The 1978 Spanish Constitution, which enshrines the three basic principles on which university legislation is based: the right to education, academic freedom and university autonomy.
- The Organic Law on Universities (LOU) 6/2001, amended in April 2007, regulates university organisation, administration and management, academic planning and research.
- The Organic Law on Education (LOE) 2/2006 of May 2006, which is being expanded to encompass all educational levels.
- Law 19/1997, of 9th June 1997, which modifies Law 1/1986, of 7th January, by which the General Council for Vocational Education is constituted.
- The Organic Law 5/2002, of 19 June 2002, on Qualifications and Vocational Training, which organizes an overall system of vocational training qualifications and accreditation.
- The Royal Decree 1558/2005, of 23 December 2005, which regulates the basic requirements for integrated vocational schools.
- The Royal Decree 1538/2006, of 15 December 2006, which organizes the Vocational Education System.
- Specific provisions for adapting to the European Higher Education Area (EHEA), the most significant of which are:
    - The Royal Decree 253/2003 on the recognition of qualifications related to professional activities;
    - The Royal Decree 285/2004, which regulates the conditions for recognising and validating foreign qualifications and higher education courses;
    - The Royal Decree 1125/2003 on the European credit and qualifications systems;
    - The Royal Decree 1044/2003 on the European Diploma Supplement;
    - The Royal Decree 55/2005 on the structure of university education and the regulation of official university undergraduate courses;

- The Royal Decree 1171/2003 on the mobility of professionals;
- The Royal Decree 56/2005, on the regulation of official postgraduate courses;
- The Royal Decree Amendment 1509/2005 on undergraduate and postgraduate courses;
- The Royal Decree 900/2007, which establishes the Committee for the National Qualifications Framework definition of Higher Education; and
- The Royal Decree 1393/2007, on the organisation for official university education.

In addition, the governments of autonomous communities can issue complementary legislation within the framework of their own legal powers.[11] As of April 2008 (*Real Decreto* 432/2008), responsibilities for tertiary education are shared between the Ministry of Education, Social Policy and Sports, in charge of post-secondary higher vocational education (*Formación profesional de grado superior*), and the Ministry of Science and Innovation, in charge of university education.

University system

The coordination of the university system is performed by two bodies, the General Conference on University Policy (*Conferencia General de Política Universitaria,* CGPU) and the Council of Universities (*Consejo de Universidades,* CU). These two bodies were formed in 2007 when they took over the responsibilities of the former coordinating body, the University Coordination Council. The CGPU is chaired by the Minister for Science and Innovation and is composed by those responsible for universities and research in each of the governments of the autonomous communities and five members designated by the Conference's chair. It sets out the general directives for university policy; ensures coordination with the EHEA; guarantees links with scientific and research policy; approves evaluation, licensing and accreditation criteria; proposes ways to promote collaboration between universities and the business world; and presents a biannual report

11 Legislation approved by the state and the autonomous communities which concerns education is accessible through the following website: *http://me.mec.es/me/jsp/leda/index.jsp*.

on the university system including proposals to improve its quality, efficiency and financial sustainability. The CU addresses the academic aspects of the Spanish university system. It is chaired by the Minister for Science and Innovation and is composed by the university Rectors and five members nominated by the Council's chair. It promotes academic collaboration, cooperation and coordination within the university system; formulates views on university policies which are conveyed to the Ministry for Science and Innovation, education authorities within autonomous communities and the CGPU; and it formulates proposals for discussion by the CGPU.

Governance of the university system is decentralised. The Minister of Science and Innovation, together with the CGPU, establish the national-level regulatory framework with general laws and Royal decrees. This role is complemented with additional legislation established by the governments of autonomous communities. The Ministry's role regarding the finance of universities is limited, for it is the autonomous communities that hold this responsibility with the exception of the national system of student scholarships and part of the investment in research and development.

Universities have autonomy within the restrictions imposed by the regulatory framework. A public university is organized in a way that ensures the representativeness of its own communities (*e.g.* academic staff, non-academic staff, students) in its governance. A private university develops and approves its own organisational rules, only subject to constitutional principles and the effective guarantee of academic freedom demonstrated by the freedom to teach, research and study. It should ensure, through the adequate participation of the university's communities, the effective exercise of these principles and liberties.

Another key player in the development of university policy is the Conference of Rectors of Spanish Universities (CRUE), which was founded as a nationwide non-profit association in December 1994 and represents the 75 public and private universities in Spain. Its objectives include the development of higher education and university research; the promotion of the co-operation between Spanish universities and between these and similar foreign institutions; and the pursuit of a common understanding on a range of policy issues among Spanish universities to be used in the dialogue with the public administration. Perhaps its most important role is to give a strong voice to Spanish universities which undoubtedly influence policy developments in the higher education system.[12] Other associations represent

12 CRUE's web site (*www.crue.org*) offers good examples of policy papers which illustrate CRUE's views on policy developments in Spain.

the universities of particular autonomous communities. 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). There is also the *Grupo 9 de Universidades* which represents universities that are the only public universities in their respective autonomous community.

Student organisations have not traditionally taken part in educational debates. The Coordinator of Public University Student Representatives (CREUP) is the association with the highest membership, including student unions of 17 universities with over 600 000 student members. The LOU reform proposes the creation of a General Student Council to facilitate the contribution of students to the development of tertiary education policy. Some student organizations have been established in some autonomous communities (*e.g.* Community of Madrid and *Andalusia*).

Non-university system

The central government and autonomous communities share responsibilities in the governance of the non-university system in a way similar to the governance of the university system. The coordination of higher vocational education is performed by the Vocational Subcommittee of the Sectoral Education Conference, a body which seeks to coordinate educational policy across the autonomous communities. In addition, the General Council for Vocational Education (CGFP, *Consejo General de la Formación Profesional*) is the advisory body for public authorities on issues related to vocational education, including at the tertiary level. The CGFP includes the chairman (who alternates every year between the Minister of Education and the Minister of Labour and Social Affairs), four vice-chairmen in a total of 77 members. One third of its membership represents the central government, one third represents the autonomous communities, and one third represents business organisations and trade unions. The CGFP receives technical support from the National Institute of Qualifications (INCual, *Instituto Nacional de las Cualificaciones*), which is responsible for defining and updating the National Catalogue of Professional Qualifications and the Modular Catalogue of Vocational Education. In turn, the autonomous communities also established councils for vocational education (or similar bodies), which draw up their own plans for vocational education, including facilitating the signing of agreements with businesses, trade unions and administrations (autonomous or local) to assist with the insertion of graduates into the labour market and the contact of students with working life through internships.

Specialised tertiary education such as with Schools of Art and Design, Sports or Military education are governed by their own specific regulations – both at central and regional levels -, reflecting their special status and somewhat little integration within the overall tertiary education system.

Quality assurance

The LOU states that the support for and guarantee of quality in Spanish universities, both nationally and internationally, is an essential goal of university policy. A primary goal for the quality assurance system is to evaluate the contributions of universities to public service and to society in general. Other goals include the improvement of teaching, research and university management; better information to assist policy making; and public information to encourage excellence and the mobility of students and academics. The evaluation, certification and accreditation functions are carried out by the National Agency for Quality Assessment and Accreditation (*Agencia Nacional de Evaluación de la Calidad y Acreditación*, ANECA) and by quality assurance agencies in some of the autonomous communities. The LOU sets out the role of ANECA and how it is to develop its activities in agreement with the principles of scientific and technical competence, legality, justice and transparency (see Section 3.3). Quality assurance in higher vocational education is undertaken in the framework of school policy *i.e.* mostly through the Inspectorate of the Ministry of Education, Social Policy and Sports (see Section 3.3).

Governance of public universities

Public university governance is regulated in detail by the law. The law determines the establishment of a number of collegial bodies and individual roles:

- Collegial bodies: Social Council, Governing Council, University Assembly (*Claustro Universitario*), School and Faculty Councils and Departmental meetings.
- Individual roles: Rector, Vice-Rector; Secretary General; Manager; Faculty Deans; School, Department and Institute Directors of Research.

Collegial bodies

The Social Council (*Consejo Social*) is the body intended to represent the public interest and act as a bridge between society and the university. It

supervises the university's financial activities and approves the annual plan of activities to promote its engagement with the surrounding community. The Social Council must approve the multi-year budget and programme of activities before it is submitted to the Governing Council. The membership of the Social Council's is regulated by legislation approved by the autonomous communities and typically includes a majority of individuals external to the university from the cultural, professional, economic and social life of the region where the university is located. The university community is represented by the Rector, the Secretary-General, the Manager, a representative of the academic staff, a representative of students and an administrator elected by the university's Governing Council. The chair of the Social Council is named by the autonomous community.

The Governing Council (*Consejo de Gobierno*) is the university's main governing body. It sets out the strategic and programmatic lines for teaching, research, human and financial resources, as well as the guidelines and procedures for their application. The Governing Council, which has up to 50 members, comprises the Rector (the chairperson), the Secretary-General, the Manager, the Vice-Rectors, representatives of the Deans and Directors, and representatives of the university community in agreement with the composition of the University Assembly.

The University Assembly (*Claustro Universitario*) brings together the entire university community. With a membership of up to 300 people, it comprises the Rector (the chairperson), the Secretary General, the Manager and representatives of all groups within the university community. The Assembly is responsible for the development of the statutes, the election of the Rector, and other functions as designated by the law. The Assembly can revoke the Rector's mandate with one third of the membership and convene an extraordinary assembly to elect a new Rector. The statutes and regulations of each university define the membership of the Assembly and the duration of the term for each of its members. As a general rule, the majority of its members should be full professors or hold a doctoral degree.

The Faculties or Schools elect councils chaired by the Dean or Director. The majority of the members are teachers or professors with a permanent appointment at the university. In turn, a meeting or council runs each department. It is chaired by the Director and its membership includes holders of doctoral degrees, representatives of the remainder academic personnel, a student representative and a representative of the administrative staff.

Individual roles

The Rector is the university's highest authority and representative. His or her office performs the leadership, governance and management of the university; develops guidelines for activities in a range of areas, to be approved by the relevant collegial bodies; and carries out those agreed. He or she is elected by the Assembly or directly by the university community as required by the university's statutes, which also regulate the election procedures, and the length of his or her mandate.

The Rector names the Vice-Rectors from the academic body and the Secretary General from the group of public servants who work at the university and have an appropriate qualification. The management of administrative and financial services is the responsibility of the Manager. The Rector proposes a candidate with the appropriate qualifications for the Social Council's approval. The Faculty Deans, School Directors and Directors of Research Institutes are elected by permanent academic staff and represent their unit and provide leadership.

Governance of private universities

Private universities determine their own governance structure and internal rules. However, the representation of the university's different groups needs be assured in each of the internal governing bodies, with a satisfactory gender balance. Bodies with responsibility for academic matters should have a majority of teaching and research staff. Nominations for individual positions also need to consider certain requirements such as, for some positions, holding a doctoral degree.

Governance in higher vocational education

In higher vocational education public centres, governance is the responsibility of collegial bodies typical of the school system: the General School Council (ensuring the participation of the school community) and the Teachers' Assembly. The management team typically includes the Director, Heads of Studies and a Secretary. In the integrated vocational schools, there is the provision for a Social Council, through which the participation from society is sought.

3.2 Funding

In 2005, public expenditure on tertiary education (both on institutions and subsidies to households) stood at 0.9% of GDP, the 23rd highest

percentage among the 28 OECD countries for which data are available (see Appendix 4). This level of spending amounted to 2.5% of total public expenditure (the 17th such figure among the 25 OECD countries for which data are available, see Appendix 4). For the same year, total expenditure on tertiary education institutions (including private sources) reached 1.1% of GDP, the 23rd highest percentage among 28 OECD countries, an increase from the 1.0% of GDP in 1995. Total spending on tertiary education institutions grew 14% in real terms between 2000 and 2005 (21st highest growth among the 28 countries for which data are available). More notably, given the slight decline of 7% in student enrolments, total spending on institutions per tertiary student grew by 23% during that period (the 6th largest growth in the OECD area, see Appendix 4). The latter stood at US$ 10 089 in 2005, the 17th highest value among 27 OECD countries (see Appendix 4).

In 2005, 91.8% of public spending on tertiary education was allocated as direct subsidies to institutions, with only 8.2% going to student financial aid. In 2005, the proportion of spending on tertiary education coming from private households was 18.7% (11th highest share for the 23 OECD countries for which data are available, see Appendix 4). This reflects enrolment levels in private institutions (12.3% in 2006 for tertiary-type A and advanced research programmes, see Appendix 4) and the payment of tuition fees at moderate levels in public universities (on average EUR 760 in the academic year 2007-08).

Funding Institutions

The public funding of tertiary education is a responsibility of autonomous communities, which leads to differences across communities over approaches to the public funding of tertiary education institutions. In each autonomous community the approach to funding universities is distinct from that to funding vocational tertiary programmes.

In what concerns the funding of universities, there is a general trend in the different autonomous communities to go from the traditional incremental allocation system to more transparent formula-based models. As of 2006, five autonomous communities (*Baleares* Islands, *Cantabria*, *Extremadura*, Basque Country and *Rioja*, all of which have a single public university) used an incremental allocation system whereby basic institutional funding was not linked to any clear objective criteria, being mostly the historical prolongation of dated individual agreements with institutions. Two other autonomous communities (*Asturias* and *Castilla-La Mancha*) also used an incremental allocation system but with the complement of targeted funding associated with projects with specific objectives. Another two autonomous

communities (*Castilla y León*; and *Galicia*) allocated basic funding to their institutions using formulas mostly based on student numbers and estimated costs per field of study. Finally, in the eight remaining autonomous communities (*Andalusia*, *Aragón*, Canary Islands, *Catalonia*, Valencian Community, the Community of Madrid, *Murcia* and Navarre), funding systems combining formula-based basic funding (typically related to student numbers, costs per field of study and some performance-based indicators) and project-based targeted funding were in place (CCU, 2007). In the latter group, with the exception of Navarre (with a formula based on inputs), criteria used in the formula were both input and output-based. In practically all autonomous communities, basic funding to public universities covers both teaching and research activities.

As a specific example, in *Aragón* (with a single public university), the funding of the University of Zaragoza is organised according to five main components: (1) basic funding (which accounts for about 75% of the total public subsidy), allocated through a formula based on the number of students and staff by fields of study offered; (2) a multi-year funding for infrastructure (slightly above 10% of total annual public subsidy); (3) research funding on a competitive basis (about 4% of total funding); (4) targeted funding linked to specific objectives (*e.g.* new educational offerings, performance-based rewards for academics, adaptation to the European Higher Education Area) (about 7-8% of total public subsidy); and (5) funding for "the improvement of the links to society", which seeks to reward the institution for its responsiveness to the needs of the surrounding community (about 0.5% of total public funding). Educational authorities from *Aragón* are also in the process of developing performance indicators (*e.g.* R&D results, quality of teaching) to inform the funding process.

Another example is that of the Community of Madrid. It has recently established a new university financing model for the 2006-2010 period based on three distinct streams: (1) basic funding (85% of total funding) with the separation between teaching activities (70% of the basic funding) and research activities (the remaining 30%); (2) targeted funding (10% of total funding); and (3) funding to address the specific needs of institutions (5% of total funding), such as the maintenance of historical buildings.

Each public university receives public funds as a lump sum and its budget must be approved by its Social Council, which oversees its financial activities. In addition, autonomous communities provide separate funds for infrastructure and for improving facilities by means of multi-year investment plans.

Universities derive their revenues from three major sources: government subsidies from the autonomous community, student tuition fees and external

sources of income (*e.g.* research contracts, provision of services, industry training). In the 2002-03 academic year, current transfers from the public budget accounted for 60.0% of universities' income, while tuition fees accounted for 18.2%. The proportion of each varies considerably from one institution to another.

At public universities and for specialised tertiary education (*e.g.* Schools of Art), students are required to cover a portion of the cost of their education by paying tuition fees. Each autonomous community establishes the fees for courses that lead to official university degrees, within a range established by the central government (which establishes a maximum growth rate for tuition fees). Students in Navarre, Madrid, *Aragón* and *Castilla y León* make the largest financial contribution to their university education. In 2002-2003, tuition fees exceeded EUR 700 per year in these communities. During the same academic year, the Spanish average was EUR 631 per year and students in the Basque Country, *Asturias*, *Galicia* and the Valencian Community paid less than EUR 600 per year. The Governing Council of each university establishes the fees for all other (*i.e.* university-specific) courses. Within autonomous communities, tuition fees are typically differentiated according to the field of study.

Private universities are not eligible for the public subsidy for teaching activities but do have access to some public funding. They can apply to competitive research funds and their students have access to the national scholarship system. Private institutions derive their income almost exclusively from tuition revenues.

The funding of higher vocational education bears no relation to the funding framework developed for the university sector. As it continues to be considered more an extension of secondary education rather than part of an integrated tertiary system, the basis for funding institutions providing tertiary level vocational education (most of which are secondary schools) is similar to that for funding secondary schools. Also, in contrast to the university sector, tuition fees are not charged in higher vocational education and some private schools which provide tertiary-level vocational programmes receive public subsidies for teaching activities.

Student Support

Students rely on three major sources to finance their studies: assistance from their families; scholarships; and part-time and vacation employment. The student financial aid system is relatively modest in Spain. No publicly subsidised or guaranteed loan schemes are available to undergraduate

students.[13] At the national level, a single public scholarship scheme is regulated by the central Ministry of Education and Science (MEC).[14]

The national scholarship system is a scheme of means-tested grants with an academic performance minimum requirement. The conditions, regulations and administration of the scholarship system are the responsibility of public authorities. To be eligible students have to be enrolled in an accredited programme and cannot be in the possession of a prior tertiary degree, the amount of the grant depends on the extent of financial need and the student can receive the grant for a period equivalent to the duration of the programme attended. If the number of eligible applicants exceeds the number of grants available, family income, academic merit and whether the individual has a disability, are used as selection criteria. There are two types of grants: those that cover tuition fees and those that also cover life expenses and accommodation.

From the 1995-1996 academic year to 2003-2004, there was a reduction of about 20% in the total amount spent on the national scholarship system and of 36% in the number of grant-holders. However, the average amount of the annual grant increased by 25% to EUR 1 665. The national scholarship system was reformed in 2004 to increase its scope and the amount of the grants. In 2004-2005, grant funding was increased by EUR 66 million (a 22% increase relative to the previous year). The reformed scholarship system targets university students, students in vocational education and pupils in the final, non-compulsory stage of secondary education. Priority is given to students from low-income families.

Scholarship systems also exist in autonomous communities. These are typically considered complementary to the national scholarship system (an exception is the Basque Country, where it constitutes an alternative to the national scholarship system). To apply to these grants, it is typically necessary to be registered in a town or city in the autonomous community that awards them. Some universities also award grants to cover the payment of tuition fees, accommodation, travel and cultural activities. In 2003-2004, the total expenditure in tertiary level grants schemes in the various autonomous communities totalled EUR 222 million. In the 2004-05 academic year the total number of scholarship holders was 243 707, of which 189 195 were supported by the national scholarship system and 45 512 by the autonomous communities.

13 A publicly-based loan scheme for students enrolled in masters and doctoral programmes was introduced in early 2008.

14 From 2009 on, the whole university scholarship programme is regulated and financed by the Ministry of Science and Innovation.

In addition, students at public universities can have their fees fully or partially waived in exchange for providing academic services in a system called "collaboration grants" (*Becas de colaboración*). These services, for example, include research assistance to academics or support to a research laboratory. This system also intends to improve the quality of the academic experience of the student and has strong academic requirements. The main goal is to introduce the best students into the academic system.

Given the incipient development of the student financial aid system, the assistance from the families remains the main means through which students cover their study costs. Part-time and vacation employment is a limited but growing means of supporting studies.

3.3 Quality Assurance and Improvement

As in most other countries, the traditional guarantor of quality in tertiary education in Spain has been the state, mostly through the authorisation for institutions to operate and the recognition of the programmes offered as leading to degrees officially valid throughout the nation. The development of "quality assurance" (QA) in its modern meaning started in the 1990s and has become a major feature of the Spanish university system during the last decade.

Development of the quality assurance system

Spain's QA system developed in stages starting with the "Experimental Programme to Evaluate the Quality of the University System", launched in 1992 to try out institutional assessment methods as a tool towards quality improvement. In the following year, the European Union launched its "European Pilot Project for Evaluating Quality in Higher Education" aimed at testing assessment methods common to European university systems. On the basis of these two experiments, Spain adopted in 1995 a five-year "National Plan for the Assessment of the Quality of Universities" (*Plan Nacional de Evaluación de la Calidad de las Universidades*, PNECU) in which the majority of Spanish universities (both public and private) participated on a voluntary basis.

The PNECU was successful in developing a common approach for the evaluation of degree courses and departments or services like libraries and in establishing the three-step procedure (self-assessment, external peer review, report publication) recommended at the European level. Overall, some 1 100 degree courses were evaluated, about one third of all degree courses in Spain and 63% of eligible courses (*i.e.* those who had been in

place for over 2 years). In this way, the PNECU was instrumental in raising the awareness about the importance of QA and in making it a strategic issue at Spanish universities. It also laid the foundations for a system of national QA mechanisms coordinated with regional agencies, starting successfully with the three that already existed at that time (in *Andalusia*, *Catalonia* and *Galicia*). Another contribution of the PNECU was to provide for the collection of more and better data on universities' performance in order to make this information available to society. This took somewhat longer than expected but forced universities to set up internal information systems which allowed for a substantial improvement in the quality and comparability of available data – both internally for more informed decision making and publicly through yearbooks and annual reports.

The PNECU was followed in 2001 by a second University Quality Plan (*Plan de Calidad de las Universidades*, PCU) aimed at: enhancing internal mechanisms for quality assurance and improvement in universities; encouraging the creation of more regional QA agencies and their coordination within a national network; developing a coherent information system based on performance indicators that universities and governments can effectively use as a basis for decision making; and establishing a system for the accreditation of degrees at all levels in order to guarantee that they meet European and international quality standards. The work towards these objectives still continues, although a significant part of it was transferred from 2002 to the new National Agency for Quality Assessment and Accreditation (*Agencia Nacional de Evaluación de la Calidad y Acreditación*, ANECA).

One national agency and several regional agencies

ANECA was created in compliance with the LOU as a private law foundation and is in the process of being transformed into a public agency in compliance with the 2007 revision of the LOU. It has quickly developed into a major player in Spanish higher education and has become very active at the European level: in 2007, ANECA was among the first agencies formally approved for full membership of the European association of (good quality) quality assurance agencies (European Association for Quality Assurance in Higher Education, ENQA). At the regional level, eleven autonomous communities have created their own QA agency. The oldest and hence most experienced ones are those of *Catalonia* (AQU, created in 1996 and since 2007 a member of ENQA) and *Andalusia* (first established in 1998). All others were created between 2001 and 2005, most of them as an autonomous body advising the regional authority in charge of higher education, or as a consortium linking regional government and universities or, in one case, as a department of the regional government (see CBR). All

regional agencies together with ANECA belong to REACU, the national network of QA Agencies that emerged as an initiative of the agencies and gained formal status in the 2007 revision of the LOU as a body instrumental to the activities of the General Conference on University Policy (CGPU), where the coordination between national and regional policy in higher education takes place.

A wide array of quality assurance activities

ANECA and the regional agencies (in particular the best established ones) have carried out a wide array of programmes for the evaluation of courses and university departments and for "European convergence" (by means of information and guidance of universities in their efforts to adapt to the European Higher Education Area). Another major activity has been the "accreditation" of individual teachers before a university can hire them as salaried employees (*i.e.* non-civil servants). In order to assess candidates' merits, each agency developed its own criteria and procedure for each of the profiles for which such accreditation is required: assistant professor with a doctorate, assistant professor without a doctorate and private university professor. While criteria and grading tend to be quite comparable, there is no guarantee that "accreditation" decisions are consistent across agencies.

In the various autonomous communities, academic staff are also evaluated in the context community-level compensation bonuses schemes, and regional QA agencies may be involved in this exercise, *e.g.* in the definition of assessment criteria or the choice of evaluators; this is an unusual and difficult task for QA agencies, in particular in smaller communities where the independence of evaluators may only be assured by way of cooperation with an agency from another community.

Since 2007, regional agencies were also asked to carry out a "checking" of the new masters programmes proposed by universities. As a result of the 2007 revision of the LOU, universities enjoy a hitherto fully unknown level of freedom in the design of their official masters degrees. Yet, before a new masters degree is launched at a public university, authorisation from the autonomous community is needed, which may require a prior external assessment. However, thus far such assessment has not always been required and, when it has been required, different agencies have not applied rules and procedures which are consistent across communities.

Some QA activities are the exclusive responsibility of the national agency, in particular the award of a quality label to doctoral programmes (as a condition for the access of doctoral candidates to state grants) and quality certificates to university libraries. Reforms introduced by the revision of the LOU in 2007 have considerably added to the responsibilities of ANECA, in

particular: it has been asked to carry out the prior "accreditation" of academic staff applying for tenured (civil servant) positions at universities as well as the *ex ante* "checking" and the *ex post* "accreditation" of all new degree courses (*grados*).

Quality assurance in higher vocational education

In higher vocational education, there is a dual approach to quality assurance: vocational education inspectors of the national Ministry of Education, Social Policy and Sports can be called upon by regional authorities; and institutions of vocational education are required to apply to an external evaluation conducted by ISO. Many have obtained the annual ISO 2000 certification, but others seem to still rely on their self-confidence fed by market success or on a single teacher designated to be in charge of "quality". There is some doubt about the ability of these mechanisms to cater specifically for the tertiary education segment of vocational education, while the existing QA agencies in higher education limit the scope of their activities to universities.

3.4 Equity

As regards access to tertiary education, the policy emphasis in Spain has relied considerably more on the expansion of overall enrolment rather than the question of equity of access which relates more to the question of differences in participation rates among groups of students – by socioeconomic background, region of residence, cultural background or disability. Concerns persist as regards equity of access, especially by socioeconomic background, but there has been considerable progress regarding the expansion of participation. Graduation ratios grew 78% and 88% between 1995 and 2004 for males and females respectively, which are among the greatest growth rates in OECD countries (5th and 9th highest figures among the 29 OECD countries for which data are available, Oliveira Martins *et al.*, 2007).[15] In 2004, the share of new tertiary graduates among the 20-29 population (graduation ratios) reached 3.5% for males and 4.9% for females (respectively the 16th and 17th highest figures among the 29 OECD countries for which data are available) (Oliveira Martins *et al.*, 2007). The percentage of the population aged 25-34 with tertiary qualifications grew from 16% in 1991 to 39% in 2006 (the 11th highest

15 Graduation ratios are computed using the harmonised number of graduates, *i.e.* new graduates recorded by highest diploma achieved divided by the population in the age group 20-29. See Oliveira Martins *et al.* (2007) for further details.

figure in the OECD area, see Appendix 4). Over the past three decades the number of students and universities increased three-fold.

The growth of tertiary education in Spain has been accomplished through:

- The decentralisation of the public university system with the devolution of powers to autonomous communities in the area of tertiary education. The process of decentralisation has led to a significant increase in the number of public universities, from 30 in 1985 to 50 in 2005. Today, each autonomous community offers university education;
- The expansion of the non-university tertiary sector (see Section 3.1); and
- The expansion in the fee-paying private universities sector: the number of graduates from private universities rose from 4.9% in 1996-97 to 12.4% in 2006-07. The number of private universities grew from 4 in 1987 to 25 in 2007.

The expansion might lead to different equity outcomes. One the one hand, the expansion opens up more places in tertiary education institutions, and these should enhance the ability of disadvantaged students to attend. On the other hand, given the pattern for the expansion, disadvantaged students might have gained access to lower-status institutions, more vocational-oriented programmes, and to places in the private sector with fee levels closer to full cost than is the case in the public sector.

The state has the responsibility to guarantee the uniformity and unity of the tertiary education system, including equality of opportunities and treatment within and across autonomous communities. The strategy, by the central and regional governments, to make tertiary education more equitable relies into four main approaches:

- Financial assistance for low-income students through the national scholarship system and complementary schemes administrated by regional governments, however limited the dedicated funds are.
- A policy of low tuition fee levels in public universities and no fees in higher vocational education.
- Expansion of the supply of tertiary programmes, with the creation of tertiary education institutions in each autonomous community. This has improved the geographical accessibility to tertiary education.

– Active policies of positive discrimination targeted at populations such as mature and disabled students complemented by policies to generate awareness of equity issues in particular in the area of gender equality.

3.5 Role in Research and Innovation

Funding and Governance

Research, Development and Innovation (R&D&I) activities have received increasing policy attention in Spain since the mid-1980s, reflected in increasing levels of funding, both from national and EU sources. More recently, in the context of the re-launched Lisbon Agenda for economic growth and job creation, the government has made of R&D&I policy the fourth pillar of the National Reform Programme. To comply with the European objective of increasing the ratio of R&D expenditure as a share of GDP (in Spain from 1.05% in 2003 to 2% in 2010), it was decided to increase the R&D&I budget by 25% in 2005, 32% in 2006 and 35% in 2007. The present level of total investment in R&D (around 1.6% of GDP in 2008), however, is still below the EU (1.8%) and the OECD (2.6%) averages.

The R&D&I system is characterised by a relatively high public sector involvement and a traditionally low involvement of the national business sector mainly due to the country industrial structure including only a small share of high-technology sectors and a majority of small- and medium-sized firms in the traditional sectors with low research intensity. In 2005 the share of gross expenditure in R&D (GERD) performed by the business sector amounted to 54.4%, compared to an OECD average of 67.9% (see Appendix 4).

The governance of the Spanish R&D&I system is relatively complex, controlled as it is by a two-tier structure. At central level, the national policy strategy is mainly defined and steered by the Ministry of Science and Innovation (MICINN) and the Ministry for Industry, Tourism and Trade (MITyC) while, at the regional level, the authorities in charge of higher education and research (often called *Consejerias*) of the 17 autonomous communities design and implement regional R&D&I policy strategies. Priority research areas are set in the National Science and Technology Strategy (ENCyT) established by the Inter-ministerial Science and Technology Commission. This Commission is made of representatives from the Spanish central state administration, the autonomous communities, researchers and technicians and stakeholders such as trade unions and

employers' representatives. Most autonomous communities have developed their Regional Science and Technology Act, their regional plans for R&D and the corresponding planning and decision making institutions. They determine priorities for regional research activities, targeted programmes, incentive schemes and the level of funding.

The strategic objectives established by ENCyT are:

- Place Spain at the forefront of knowledge;
- Promote a highly competitive commercial network;
- Integrate regional spheres into the Science and Technology System;
- Strengthen the international dimension of the Science and Technology System;
- Create an environment favourable for investment in R&D&I;
- Create adequate conditions for the dissemination of science and technology.

Universities play a central role in the Spanish research and innovation system, undertaking almost all research within tertiary education. Together with the Higher Council for Scientific Research (CSIC, *Consejo Superior de Investigaciones Científicas*), the university system constitutes a large part of the current Spanish research infrastructure and is responsible for doctoral programmes. The CSIC is a public research organisation made of many research institutes located all over the country, some of which work closely with universities.[16] Universities are the main performers of research activities in Spain: 56% of full time equivalent researchers (FTE) worked in the public sector: 38% of them in universities and 18% in public research centres. Around 60% of scientific publications are authored by universities' researchers, a figure that does not include research co-published with authors based in non-universities. Private universities only account for 5% of university spending on R&D&I.

16 CSIC is the biggest public research organisation in Spain. Its main functions are the carrying out of multidisciplinary scientific and technical research, scientific and technical advice, the transfer of results to the business sector, contributing to the creation of technologically-based companies, and the training of specialised personnel. It is also responsible for the administration of large facilities and infrastructure, as well as the promotion of the scientific culture. Its involvement in regional development is key as it actively participates in the scientific policy-making of all of the autonomous communities through a network of centres. Other public research centres are run by several ministries such as Education and Science and Industry, Tourism and Trade.

In 2006, R&D&I spending by Spanish universities accounted for 27.6% of gross domestic expenditure on R&D (GERD), a quite large share when compared to the 17.7% average of the OECD countries. For the same year this expenditure represented 0.33% of GDP, still below the OECD average (0.40%). Public funds represent the main source of funding for universities research, accounting for 72% of total funds in 2006. The remaining 28% of university R&D funding includes the income generated by the universities mainly via tuition fees (14%), contracts with the productive sector (7.9%), funding from international projects (5%) and funding from other sources (1%).

A weak interaction characterises the relations between universities and the business private sector with respect to R&D activities. Although the funding grew in absolute terms, the share of industry funding for R&D activities performed by universities decreased from 8.3% in 1995 to 7.9% in 2006. These figures, however, are above the OECD average (see Appendix 4).

The autonomous communities are responsible for funding teaching and operating costs of universities (see Section 3.2) and they typically do not provide specific institutional funding for research activities (block grants). For the funding of research activities, research staff are required to apply to the wide range of competitive funding programmes available from national, regional and European institutions.

The university funding specifically for R&D&I activities relies on three main sources:

- The National Research Plan, designed around a broad set of national priorities and implemented through 35 different programmes or actions managed by different ministries.[17] Between 2000 and 2003 the National Research Plan funded 23 859 research projects for a total amount of EUR 4 100 million.
- The 17 Regional Plans for R&D&I, through which regional authorities finance the research and innovation activities performed by universities and technology parks under their jurisdiction. The instruments used tend to be very similar to those on which the central government draws, although the regional policy mix varies: some autonomous communities put more emphasis on the support

17 Besides the MICINN and MITyC, another five ministries manage the research programmes: the Ministry for Health and Consumption (MSC), the Ministry of Labour and Social Affairs (MTAS), the Ministry of Environment (MMA), the Ministry of Public Works (MFOM) and the Ministry of Defence (MD).

of public research institutions and others on the support of business R&D (Sanz-Menendez and Cruz-Castro, 2005). In 2004, the sum of regional budgets for R&D&I amounted to EUR 921 million (excluding loans). Spending by four autonomous communities (*Andalusia*, *Catalonia*, the Community of Madrid and the Valencian Community) accounted for 65% of total regional university spending in R&D&I.

- The European Union, via participation in the Research and Development Framework Programme calls and specific funding from the Structural Funds and the special European Technology Fund 2007-2013. For the period 2007-2013, Spain is expected to receive around EUR 10 billion to invest in R&D&I activities.

Performance and evaluation

The contribution of Spanish universities to the country's development is to be assessed in three main domains: the development of human capital, the building of the knowledge base and the diffusion of knowledge within the national system. One of the most promising results over the last twenty years is the availability of an increasing reservoir of highly skilled human resources. The proportion of the population aged between 25 and 34 with a tertiary education qualification is higher than that in the OECD area and the share of graduates in science and engineering is also above the OECD mean (see Appendix 4). In this regard, Spain seems to be in a good position to face the emerging global competition. The presence of researchers per thousand total employment increased from 3.5% in 1995 to 5.7 in 2005, the latter figure still below the OECD average of 7.3 (see Appendix 4).

Other indicators of R&D output are the number of publications in refereed journals and the number of patent applications. Data on publications and citations are usually used to measure the quantity and impact of scientific output in this sector although it is recognised that these bibliometric indicators are imperfect. The number of Spanish scientific publications has increased considerably over the past years leading Spain to be among the top countries in terms of the number of scientific publications included in the Science Citation Index (SCI). From 1990 to 2006 the number of Spanish scientific publications increased nine fold compared to a factor of 2.4 for the average country. Universities' researchers authored 61.3% of the scientific publications with international diffusion in 2001-2003 (COTEC, 2006). However the publications' impact as revealed by citations is still low compared to that of other European countries. Universities' patents percentage is also low compared to EU and OECD averages, mirroring both

the weak interaction between the public and the private sectors and the characteristics of the country' industrial sector.

With respect to knowledge transfer and diffusion, it should be noted that transferring university results to industry was illegal until 1983, which might partly explain the little tradition of university-industry links in the country. In recent years, a large number of technology transfer offices, technology centres and science parks have emerged to fill this gap. The main entities promoting links between universities and the business sector are the OTRIs (Research Results Transfer Offices, *Oficinas de Transferencia de Resultados de Investigación*), the FUEs (University-Business Foundations, *Fundaciones Universidad-Empresa*) and the PCyT (Science and Technology Parks, *Parques científicos y tecnológicos*). Moreover most of the autonomous communities have established and finance Technology Centres.

The OTRIs have been set up in most universities, seeking the creation of profitable links with industry through the licensing of university produced knowledge. The record of the OTRIs is mixed: as in the majority of OECD countries, it has not been one of clear success. The RedOTRI is the network of technology transfer offices whose mission is to promote the role of universities in the national innovation effort.

The Science and Technology Parks, financed by autonomous communities, are established by an agreement between the concerned autonomous community and the central government. They seek to encourage the creation and expansion of knowledge-based companies and of other high value-added tertiary sector units. Of the 53 Science and Technology parks in place in 2004, one third was operating at its full capacity and 26 out of the 69 universities had their own science and technology park. The operating parks hosted 1781 companies and institutions and employed 45 492 people, but only a fifth of them declared being engaged in R&D&I. The represented sectors were Information and Technology (27%), engineering, consulting and assessment (12%), industry (10%), technology and R&D centres (10%). Agrifood, biotechnology, aeronautics and automobile were the sectors registering the highest growth rates. By 2004, Spanish universities had created 479 spin-offs, 143 of which were supported by the Technical University of Valencia and 120 by the Technical University of Catalonia. Universities in Madrid and the Basque Country follow in this list.

With respect to the evaluation and assessment of research performance, the existing mechanisms put the emphasis on the assessment of researchers at the individual level. The evaluation of research teams or centres, departments or faculties is typically not undertaken.

Ex-ante evaluation of research "excellence" is usually performed by national and regional agencies when allocating competitive funding to research projects. The National Agency for Assessment and Prospective Studies (ANEP, *Agencia Nacional de Evaluación y Prospectiva*) undertakes the assessment of the scientific and technical merit of research proposals, research teams and research units that apply for funding through the wide range of available competitive-based research programmes. In parallel, between 1996 and 2005, 11 autonomous communities have created their own regional assessment agencies. So far, evaluation standards differ between national and regional agencies and the same project can receive divergent assessments depending on the agency undertaking the assessment, possibly leading to "forum-shopping" by applicants (OECD, 2007c).

Ex- post evaluation of research performance exists at individual level but is not organised for faculties, departments or research teams. In 1989 two independent systems for the assessment of academic staff teaching and research activities were set up. ANECA evaluates the teaching activities (see Section 3.3) while the assessment of research performance is the responsibility of the National Committee for the Assessment of Research Activity (CNEAI, *Comisión Nacional Evaluadora de la Actividad Investigadora*). The CNEAI operates under the authority of the Ministry of Science and Innovation and its task is to assess the research activity of university staff in order to grant the productivity bonus for every six-year period (the *sexenio*) (see also Section 3.6). The number of publications is the main indicator used in the assessment, leaving little incentive to improve publications' quality, increase knowledge transfer or engage in university management activities. To obtain the productivity bonus researchers must submit the list of research work carried out over the last six years. However, this is an assessment undertaken on a voluntary basis and it appears that 34% of teaching staff in Spanish universities have never applied for the productivity bonus either because they are not entitled to do so or because they choose not to (MEC, 2007).

A quality award mechanism exists for certifying the quality of doctoral programmes. ANECA evaluates applications submitted by the universities for the quality award. In 2004-2005, 55 universities submitted doctoral programmes for the quality award. It is estimated that the programmes which obtained the quality award represented only about 20% of doctoral programmes offered in Spain. Currently, there is no link between the quality award and the funding of doctoral programmes.

3.6 Human Resource Management

Various categories of staff

Spanish universities employ mainly two categories of staff: teaching and research staff and administrative and support staff. Teaching and research staff (*PDI*, *Personal Docente e Investigador*) (or *academic* staff) comprise civil servants in public institutions (*funcionarios*), who enjoy nearly unconditional tenure from an early stage in the academic career, and various categories of salaried employee staff (or *non-civil servant* staff). Civil servant university teachers belong to a category that is regulated at the national level by the national government, although they are actually employed and paid by universities that are under the jurisdiction of autonomous communities. Private universities have their own categories, although an accreditation is required since 2002 for university professors at private universities. In 2006-07, some 54.8% of the 93 372 persons employed as teaching and research staff at public universities in Spain were civil servants, and 45.2% were employed on a salaried basis.

Civil service academic staff at public universities are divided into the following categories: full professor (*catedrático*), associate professor (*profesor titular* or *catedrático de escuela*, CEU) and college professor (*titular de escuela*, a category designed for teaching in first cycle professional courses).[18] Salaried employee academic staff are also divided into several categories, which may vary across autonomous communities. Some have a permanent labour status (a novelty, with specific regulation, since 2002), while others are on fixed-term contracts in the early stages of their academic career. The regulations also provide for some other categories such as associate teachers (who are external professionals hired for specific teaching assignments) and visiting or emeritus professors. Civil servants must by law be more than half the total number of academic staff at each university (in terms of full-time equivalent).

Administrative and support staff (*PAS, Personal de Administración y Servicios*) (or *non-academic* staff) employed at public universities include some 51 557 persons, with the same division between civil servants and salaried employees. Non-academic staff at public universities are

18 In 2006-07, among academic staff at public universities who were civil-servants, about 16.9% were full professors (*Catedráticos de Universidad*, C.U), 59.1% associate professors (*Titulares de Universidad*, T.U, and *Catedráticos de Escuela Universitaria*, C.E.U), and 23% were college professors (*Titulares de Escuela Universitaria*, T.E.U and other).

responsible for supporting, assisting and advising academic staff and fulfilling administrative and management functions in areas such as human resources, administration, financial matters, data processing, record keeping, libraries, laboratory maintenance, information and general services. Various categories of staff often work together in the same administrative department, doing the same work without enjoying the same benefits.

The same division between teaching and support staff and between civil servants and salaried employees also prevails in higher vocational education. Teaching staff include civil servants who are required to have the same qualifications as secondary education teachers (in particular a degree in an academic field and specific pedagogical and didactic training provided at post-graduate level) and various types of technicians who act as professional trainers or specialist instructors. To access 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, including academic training and previous experience. Teachers in higher vocational and artistic education are not covered by the status of academic staff of universities and have no separate status of their own.

Number and composition of academic staff at public universities

The number of academic staff at public universities was 95 114 in 2006-07, which reflects an increase of 34% over the previous decade. This increase has been equally strong for civil servants and salaried employees, even though universities have to pay for salaried employees (both academic and non-academic) from their own budgets, including a contribution to insurance and welfare schemes that is significantly more expensive than for civil servants.

A particularly interesting observation is that over the last 5 years student enrolments dropped in about 7%, while the number of teachers grew by 9%. As a result, the student/teacher ratio at public universities has decreased steadily, from 21.6 students per teacher in 1995-96 to 19.9 in 2000-01 and 14.7 in 2006-07.

The proportion of civil servants and non civil servants among academic staff varies significantly according to fields of study: civil servants are a clear majority in the experimental sciences and in the humanities but, for instance, a clear minority in the health studies. Women are underrepresented, overall and in particular at the more senior level (full professors). It is also important to mention that over one third of academic staff at Spanish public universities is over 50 years old; the figure is even higher for civil servant staff (44%). This age structure of academic staff may

of course be seen as a significant challenge as well as a unique opportunity at a time of profound and rapid change throughout the tertiary education and research system.

Career pattern of academic staff

Spanish higher education has traditionally required that professors must have a doctorate in their area of specialisation, and the law requires that at least 50% of the academic staff hold a doctorate at each public or private university. But until 1970 nothing was provided at universities for the development of academic staff's teaching skills. Since then, university teachers may undergo specific pedagogical training at universities, but this was never formally required as a key competency complementing their qualifications as specialists (contrary to teachers in higher vocational education, whose qualification must include a post-degree period of pedagogical/didactical education). Overall, performance evaluation, career incentives and pay bonuses have been much stronger in research than in teaching over the past two decades.

In the complex and lengthy procedure for the selection and hiring of civil servant (tenured) academic staff, applicants are screened mainly in accordance to their research achievements by evaluation commissions comprising full professors with a strong record in research in the area concerned. The competition is organised at national level, and those deemed qualified (mainly in the light of their specialist research outcomes) become eligible to enter the internal competitive process organised by universities who have an open position in the relevant area. Selected individuals are then formally made members of the civil service. In spite of the formal requirements aimed at guaranteeing a fair competition at national level, this system has allowed the development of a considerable degree of "in-breeding", with many universities trying hard to recruit candidates from their own ranks. Acknowledging this failure, a new selection system was put in place by two regulations of 2007 (*Reales Decretos* 1312 and 1313) and henceforward all those who want to be eligible for civil servant positions at universities must undergo an "accreditation" procedure organised by the national quality assurance agency (ANECA) with somewhat broader criteria for the evaluation of their merits. Only those who get this "accreditation" may apply for positions open at individual universities, the latter now being responsible for organising their own selection procedures. In this accreditation, teaching activities are given greater relevance (about 40% of the whole activity).

Since 2001, non-civil servant staff are required to undergo an assessment procedure conducted by the national or a regional quality

assurance agency, and at each university at least half of these teachers must have received a favourable evaluation (called "accreditation") in such a procedure (about 60% of applicants have been successful in receiving "accreditation").

Compensation of academic staff

A single pay scheme defined at national level governs the compensation of civil servant academic staff throughout the country. The basic salary is the same for all teachers in the same category, and the same seniority bonus is paid to all after every three-year period in office. Small fixed teaching bonuses are added after every five-year period (hence the name *quinquenios*) up to a maximum of six, but nearly all teachers get these bonuses, which are therefore in reality strongly seniority-based rather than merit-based. On the contrary, the bonus awarded for every six-year period (the *sexenios*) of successful research activities is much higher and depends on favourable external peer-reviews. Over time, *sexenios* have become the main discriminating factor for the salary – and also the reputation – of tenured academic staff at Spanish public universities.

The autonomous communities establish pay scales for non-civil service academic staff. Non-civil servant academic staff are not eligible to any of the bonuses offered to civil servant academic staff: the seniority bonus, the *quinquenio,* and the *sexenio*.

In addition to their basic salary and bonuses from the national compensation scheme, academic staff may receive various types of top-ups provided by the relevant regional government. An increasing number of autonomous communities have established such schemes and provide bonuses based on a mix of criteria (*e.g.* teaching, research, knowledge transfer, management, languages) within which research tends nonetheless to receive the highest weight.

However, none of these bonuses makes really a huge difference and in spite of them, the salary of civil servant academic staff has diminished over recent years in comparison to the salaries of civil servants of equivalent rank in other sectors of Spanish public administration. However, unlike other civil servants, university staff in Spain is authorised to add, within limits under the control of the university, income from public and private sources other than the university that employs them.

Within the limits established by the autonomous communities, the Social Council of a particular university, at the proposal of the Governing Board, may agree to award pay bonuses on a discretionary and individual basis. These pay bonuses are institution-based and are typically funded by

revenues raised by the institution. They may cover civil servant and salaried employees alike.

At private universities, academics' salaries are established in their employment contracts, within the limits prescribed by the legislation currently in force. Private universities are excluded from the review for *sexenios*. The compensation of teachers in public higher vocational education is dictated by legislation which concerns secondary school teachers.

3.7 Links to the Labour Market

Spain's economy has grown by some 4% a year for a decade and, over the past four years, has created two-thirds of all new jobs in the Euro area's biggest four countries.[19] The way to sustain this higher-than-EU-average economic growth in the midst of relatively high inflation rates, marked increases in living costs, and an international economic slowdown is a central concern in Spain; particularly so for its tertiary education sector engaged as it is, amongst other things, in ensuring employability for its graduates and developing better linkages with communities and the business sector.

Economy and Employment

Spain's economic growth over the last decade has been higher than the EU average, and job creation has been remarkable. The latter has taken place while Spain is experimenting a period of demographic dividend due to the low birth rate and high life expectancy of its population as well as to the growing presence of non-EU immigrants.

Over the last 20 years, Spain's labour market has shown significant variations. Starting from a very poor situation in comparison with that in the EU largest countries, employment in Spain began to improve over the years. Unemployment figures for Spain in the late 80s were twice as large as those in the EU, by 1994 they had decreased to one and a half those in the EU15, reaching this last group's value in 2006.

Although there has been an overall improvement in the unemployment rate, there are differences by economic sector, region, age group and gender. Thus, while the service sector – retail, tourism, banking and telecommunications – has expanded vigorously, the primary and industrial sectors have seen reduced their share in the overall economy. Spain's

19 *The Economist*, March 15-21st 2008, p. 16.

convergence to the EU15 economic and work patterns is also apparent in the changes that have taken place in its employment sectors; they have transformed following the occupational sector changes observed in the rest of Europe. The Spanish labour market has relatively few large employers. The dominant feature of the pattern of enterprise structure is the large number of small and medium-sized businesses. This in turn shapes both the nature of the labour market for graduates and the ways in which much research and development takes place and is funded.

While it can be said that the proportion of active males (number of economically active persons as a share of the population aged 15-64) in Spain is now close to that of the EU15, this is not the case for active females; notwithstanding that in the case of females the gap reduction between Spain and the EU15 has been larger than that for males, Spanish women are still some percentage points behind their European counterparts due to their starting point being much further behind than that for men.

When considering Spain's achievements regarding employment, it is important to keep in mind that a sizeable number of the millions of jobs created over the last decade have been in the form of temporary contracts. This in itself does not make the achievements any less impressive, but shows a weak point closely related to education. Temporary contracts affect youth (among which, especially females) more than any other group and may reduce the attractiveness of a tertiary education degree.

The concern about the employment and earnings of Spain's youth led the national government and the governments of the autonomous communities to launch measures designed both to continue increasing the quality of the workforce and to ease the difficulties encountered by young graduates when entering the labour market (see OECD, 2007b).

Tertiary education and the labour market

The percentage of workers with secondary education and tertiary education has increased over the past decades. Nowadays five out of ten workers have completed their secondary education and three out of ten their tertiary education. Furthermore, while only 40% of the 45-to-54-year olds has completed secondary education and only 20% has at least tertiary education, the corresponding figures for the 25-to-34-year olds are 65% and 40% (OECD, 2007a).

The better-trained and better-educated workforce has had effects on the individual employment opportunities. In 2006, the unemployment rate for the population with tertiary education qualifications was lower than that for the population without those qualifications, even if such difference was not

as important as in other countries (see Appendix 4). The effect of educational attainment on the income of individuals is also noticeable: the higher the level of education attainment, the larger the income, with the difference in salary growing with age group, but women earning less than men of the same age group and same qualifications. However, the salary advantage of workers with a tertiary-type B qualification is not very significant (see Appendix 4). It is noteworthy that although the expansion of the system has sharply increased the number of new graduates each year, their employment prospects are still relatively favourable (see also Section 4.2).

Higher vocational education

The development and promotion of higher vocational education (*formación profesional superior*), closely linked to the labour market, is one of the strategies implemented by Spain to improve the quality of its workforce. As described earlier this type of tertiary education has expanded rapidly in the last decade and accounted for about 13% of enrolments in tertiary education in 2004-05.

Enrolment is still concentrated in a limited number of sectors and areas: 70% of students are taking higher vocational courses in the services sector, while only 6% attend courses related either to construction or to the primary sector. Furthermore, two out of 22 specific study areas -management and informatics - attract over a third of students in higher vocational education.

In recent years, legislation has been approved with the purpose of bringing this type of tertiary education closer to the changing needs of labour markets, making it more in tune with employment requirements, and incorporating life-long learning.[20] Besides recognising and regulating in-work training, integrated vocational schools (*Escuelas profesionales integradas*), and continuous education as part of the tertiary education system, the new legislation created a National System of Qualifications and Professional Training, and introduced a National Catalogue of Occupational Qualifications. Finally, in 2006, legislation was introduced to make this system more flexible in regard to admissions, enabling adults to benefit fully from its range of courses, and assuring information and vocational guidance within the education system.[21]

20 *Ley Orgánica 5/2002*, *de las Cualificaciones y de la Formación Profesional*, BOE No. 147, 20 June 2002, pp. 22437-22442.

21 *Real Decreto* 1583/2006, BOE No. 3, 3 January 2007, pp. 182-193.

University education

As mentioned earlier, after many years of continuous growth, university enrolments have declined in recent years. This fall is to be partly attributed to demographic developments, but could also be due to changes in the labour market. The distribution of graduates both from public and private universities is concentrated in the social sciences, humanities, arts and education which together account for more than half of all graduates in Spain, followed by those in Health and Welfare (14.6%) and Engineering (14.3%). It is noteworthy, however, that the proportion of graduates from both Health and Welfare and Engineering was above the OECD average in 2006 (see Appendix 4).

Notwithstanding the improvement in the Spanish workforce and its high proportion of university graduates, many of them are under temporary contracts and their average salary is much lower than the average salary in the countries surveyed in the CHEERS study (*Careers after Higher Education: a European Research Study*).

These conditions are affecting university supply and demand; generating vacant places in some areas of study and universities, while in others the demand exceeds the available places. In the 2006-2007 academic year, 15% of university places remained vacant. Several universities have offices that provide career guidance (*Centros de Orientación e Información de Empleo*), many have placement agreements with businesses and industries, and some conduct labour market insertion studies. ANECA runs a labour market insertion observatory, and the Government co-ordinates two EU initiatives – Argo and Faro projects – that provide work placement in EU companies for Spanish graduates.

3.8 Internationalisation

Spain's tertiary education system is now deeply involved in a dual process of *Europeanization* and internationalization. As noted by the Country Background Report, "The trend towards internationalization and globalization 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" (MEC, 2007).

Spain is actively building a European approach to higher education in its many manifestations:

- The adoption of a common framework of readable and comparable degrees, including the implementation of the Diploma Supplement;

- The introduction of undergraduate and postgraduate levels, with first degrees not shorter than 3 years and relevant to the labour market;
- ECTS-compatible credit systems also covering lifelong learning activities;
- A European dimension in quality assurance, with comparable criteria and methods;
- The elimination of remaining obstacles to the free mobility of students (as well as trainees and graduates) and teachers (as well as researchers and higher education administrators);
- The promotion of the necessary European dimensions in higher education, particularly with regard to curricular development, inter-institutional co-operation, mobility schemes and integrated programmes of study, training and research.

Spain is also progressively applying the various phases of the Bologna Process and is adapting the country's regulations to the specifications of the European Higher Education Area (EHEA). New 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 organization of university education and the regulation of graduate and postgraduate study (January 2005). More recently, the Royal Decree 1393 of October 2007 established the management/planning for official university teaching which the government considers constitutes "the culmination of the reform to modernize Spanish universities and place them on an equal footing with the best world university systems".

The recent modifications to the LOU, through the Royal Decree 1393 of October 2007, provides for a tripartite tertiary education structure (First degree, Masters degree, and Doctorate) and introduces an important innovation into the university system. For the first time in their history universities become responsible for the design and planning of studies that they consider to be the most attractive and in accord with their resources and interests. So it is expected that universities will become more specialised and more suitable to the needs and demands of the economy and society. The new courses/career plans will be evaluated by ANECA prior to their being applied. So too, the degrees ought to be evaluated every six years in order to renew accreditation of their quality. The three tier structure and the use of European credits will allow the universities to offer new degrees and which will be comparable to those of the other countries of the EHEA.

The most recent report which evaluates Spain's progress with the Bologna process shows satisfactory progress, with a score of 3.5 out of a maximum of 5 in the "2007 – stocktaking scorecards'.[22] The score takes into account the following indicators: establishment and recognition of joint degrees, access to the next cycle, implementation of external quality assurance, stage of implementation of ECTS, implementation of *European Standards and Guidelines* (ESG) in quality assurance, implementation of 1st and 2nd cycle, implementation of diploma supplement, student participation in quality assurance, implementation of *Lisbon Recognition Convention* (LRC) principles, recognition of prior learning, international participation in quality assurance, and implementation of national qualifications framework.

The *Bologna Process Stocktaking* report highlights the following key developments in Spain since 2005: approval of the Organic Law of Universities (LOU); confirmation of the three-cycle structure; improvement of mobility and coordination of the implementation of the Bologna reforms on a nationwide basis; and provision of funding to allow greater staff and student mobility and to encourage participation in joint study programmes. An extensive reform programme is currently under way to implement a system of tertiary education based on three cycles. Work is also under way to develop a national qualifications framework. It is expected that from 2008-2009 onwards the ECTS will replace completely the national system of credits. Internal processes necessary to ratify the Lisbon Recognition Convention have been completed, and a number of steps have already been taken to improve recognition practice. The quality assurance agency, ANECA, has developed plans for student involvement in quality assurance from 2007. Future challenges include: implementing reforms to support participation in the EHEA; consolidating the reform of the degree system; implementing the national qualifications framework; and increasing the mobility of students and staff.

Spain's relationship to Latin America could play a fundamental role for the internationalisation of tertiary education. The first Latin American University - the University of Santo Domingo - was founded by the Dominicans following the Spanish model of the Universidad de Alcalá de Henares in 1538. Throughout the centuries a living cultural community has been maintained between universities on both sides of the Atlantic, a community that has been strengthened as a result of the political support provided in recent years by annual Ibero-American Summits of the Heads of State and Government since 1991.

22 See "Bologna Process Stocktaking", London 2007, available at: *http://web.micinn.es/04_Universidades/022EdUnSu/032EEES/03-Cumbre/2007-bologna-process-st.pdf*

In 2006, the Ibero-American Ministers of Education declared their intention to proceed toward an Ibero-American Knowledge Area (*Espacio Iberoamericano de Conocimiento*, EIC), which would promote co-operation and improvements in the quality and relevance of tertiary education, research and innovation.

The active academic and scientific cooperation between Spain and Latin America serves as a foundation which, as a recent study points out, is characterised by its "high intensity, demonstrated by hundreds of inter-institutional agreements, thousands of post graduate activities, mobility and joint publications of scientific articles" (Sebastián, 2000)[23]. The recent publication *Informe 2007 – Educación Superior en Ibero América* (2007 Report – Higher Education in the Ibero-American Area) identifies a series of networks and organisations which act as the main support mechanisms for Ibero-American collaboration in tertiary education. These are:

- Ibero-American Association of Distance Higher Education (*Asociación Iberoamericana de Educación Superior a Distancia*, IESAD);
- Ibero-American University Association of Postgraduates (*Asociación Universitaria Iberoamericana de Postgrado*, AUIP);
- Ibero-American University Council (*Consejo Universitario Iberoamericano*, CUIB);
- Ibero-American School of Governability and Public Policies (*Escuela Iberoamericana de Gobernabilidad y Políticas Públicas*, IBERGOB);
- Ibero-American University Foundation (*Fundación Universitaria Iberoamericana*, FUNIBER);
- Organization of the Ibero-American States for Education, Science and Culture (*Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura* (OEI);

23 See Jesús Sebastián, "Percepciones sobre la cooperación académica y científica entre España y América Latina", *in* Antonio Colomer Viadel (Coordinator), *Congreso Internacional sobre la Universidad Iberoamericana, Actas II*, Madrid: *Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura* (OEI), in collaboration with the *Centro Extremeño de Estudios y Cooperación con Ibero América* (CEXECI) and the *Consejo Español de Estudios Iberoamericanos* (CEEIB), 2000.

- Ibero-American Guide for International University Cooperation (*Guía Iberoamericana de la Cooperación Internacional Universitaria*), of the OEI;
- Mutis Scholarship Programme (*Programa de Becas Mutis*);
- Exchange and Academic Mobility/Travel Programme (*Programa de Intercambio y Movilidad Académica*, PIMA);
- Ibero-American programme of Science and Technology for Development (*Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo*, CYTED);
- Ibero-American Network of Post Graduate Studies (*Red Iberoamericana de Estudios de Posgrados*, REDIBEP);
- Ibero-American Network for Quality Assurance in Higher Education (Red Iberoamericana para la Acreditación de la Calidad de la Educación Superior, RIACES);
- Universia Portal (*Portal Universia*).

Even with the above, the presence of foreign students in Spain's tertiary education institutions is limited, especially when compared to other OECD countries. In 2005, only 2% of foreign students (that is students outside their home country) in the world were found in Spanish tertiary institutions compared to 12% in the United Kingdom, 10% in Germany, 9% in France and 6% in Australia. One reason for this is that in Spain hardly any tertiary education programmes are offered in English, in contrast to, for instance, the Nordic European countries, the Netherlands, France and Germany. From another perspective foreign students make up around 2.9% of the Spanish tertiary level student body which is far less than the 29% in New Zealand, the 21% in Australia, the 19% in Switzerland, the 18% in the United Kingdom and the 16% in Austria (OECD, 2008b). In 2005, foreign students accounted for an average of 9.6% of tertiary students in individual systems in the OECD (see Appendix 4). By contrast, foreign students make up around 19.2% of those following Spanish advanced research programmes, whereas the OECD average is 18.5% (OECD, 2008b). Forty four percent of foreign tertiary students in Spain have European Union residence while 42% come from South America.[24]

In terms of the EHEA, since 2000 Spain has received the largest number of ERASMUS students from the 31 participating countries. In the 2006-2007 academic year, over 26 625 ERASMUS students were enrolled in

24 In 2007, the proportion of foreign students rose to 2.3% in short and long cycle studies; to 22.7% in masters programmes and to 21.9% in doctoral programmes.

Spanish universities. Participants came mainly from France, Germany and Italy. In that same year, 23 471 Spanish ERASMUS students were enrolled in universities in other European countries. The main host countries were France, Germany, Italy and the United Kingdom.

During the 2005-2006 academic year, Spain sent 2 351 university teachers abroad, 80% more than five years before, ranking second behind Germany in teacher mobility in the European Union. In the same year, Spanish universities received 2 030 university teachers from other countries, mainly France, Germany and Italy. Spain is the fourth most popular destination in this programme, behind Germany, France, and Italy.

4. Strengths and Challenges of Tertiary Education Policy

4.1 Governance, Planning and Regulation

The changing conditions of Spanish politics, economy and society have led the governance of tertiary education to adapt. This has translated into a continuous production of norms, rules and regulations both at the national and regional levels, a result of changing expectations about the center of policy gravity. These changes can be summarised as follows:

- From a strong centralist tradition to a decentralized structure of tertiary education within the framework of autonomous communities.
- From bureaucratic modalities of system coordination and control to a growing recognition of institutional autonomy and the role of quality assurance.
- From a purely national conception of tertiary education policy to its increasing internationalization and *Europeanization*.
- From inward looking institutional government modalities to modalities of governance more responsive to various stakeholders.
- From collegial and bureaucratic procedures of institutional management towards strategic planning, professionalisation of university management, and more flexible approaches to internal resource allocation as a result of the increasing scope of institutional autonomy.

Within this evolving framework, the Spanish tertiary education system has greatly improved its performance and outputs during the last three decades, achieving the OECD average in several indicators (see Appendix 4).

Decentralization and coordination

Within the context of these changes, tensions and challenges inevitably emerge for the system's governance and co-ordination. Autonomous communities have assumed, as a result of the decentralisation of the tertiary education system, key financial and coordination responsibilities and the implementation of policies and regulations centrally formulated.

From their establishment in the XIIIth century, Spanish universities have had a close dependence on the sovereign, that is to say, political power. As Rashdall writes "Their most conspicuous characteristic was their close connection with the crown. They were created by the sovereigns of the various kingdoms, and many of them long or permanently continued to dispense with any further authorization than was conveyed by royal charters. These *studia generalia* 'respectu regni' are, in any formally recognized shape, peculiar to the Spanish Peninsula" (Rashdall, 1997).

In the XVIth century, ten of Spain's contemporary universities had already been established; however during the next four centuries until 1968 only three of the currently functioning 50 public universities were created. During this long period, state dependency based on the centralist tradition was deepened particularly during the XIXth Century with the promulgation of the Law on Public Instruction (*Ley de Instrucción Pública,* known as the *Ley Moyano*). According to García Garrido this Law provided for the first-ever structuring of higher education in Spain; higher education was divided into three distinct sectors – *i.e.* the university sector, the higher education sector bringing together new subjects in technical areas, and 'professional instruction' for intermediate-grade subjects such as construction, primary school teaching, and veterinary studies. All institutions entering these three categories were to be maintained by the State (García Garrido, 1992). They adopted a Napoleonic form of organization. "Universities were organized as state agencies that were totally regulated by laws and regulations issued by the state at the national level. Universities had no specific budgets, and expenditures were regulated by the state (down to the smallest detail) […] Academic programmes were identical in all institutions – they had the same curricula, and there were no differences even among course syllabi" (Mora, 2006).[25] To this list should be added other characteristics such as the civil servant status of academics, a strong orientation toward specialist professions and what Cristophe Charles describes as the 'tyranny of the state diploma".[26]

25 A similar opinion is to be found in Salaburu (2007).

26 On the concept of the 'Napoleonic university model' and its various applications in Europe see Charles (2004).

The 1978 Constitution and the University Reform Law (*Ley de Reforma Universitaria*, LRU) of 1983 brought greater policy and geographical decentralisation to the higher education system. In particular, as noted earlier, the responsibility for funding public universities as well as the authority to create new institutions was transferred to the governments of the autonomous communities and their parliaments. This development was reinforced by the LOU (2001) and the recent amendments to it in 2007. As the preamble to the 2007 amendments LOU notes, the new Law seeks to empower university autonomy while holding universities accountable; to link the various actors – the state, autonomous communities and institutions – harmoniously so that their relations are transparent and smooth; and to support steps to make the university system more open and flexible.

It can be said that the LOU (and associated amendments) represents a clear departure from the Napoleonic model, by granting universities greater levels of autonomy in different areas. Pello Salaburu (2007) describes "So, the Assemblies (*Claustros*) are constituted to have ample authority, among which they elect the Rector and the Governing Council (*Consejo de Gobierno*). All the individual administrative positions (*órganos unipersonales*) are now elected by collegial bodies (*órganos colegiados*) in which the different university sectors are represented with different weights. There are new actors such as the professor-manager and there is a new procedure for appointing teaching staff on a temporary basis, procedures that give the universities themselves ample ways to make the selection. Departments are organized by areas of knowledge to which staff belong as a result of their disciplines and to which they are assigned for teaching and other tasks".

The resulting scheme is a university system with a diversity of governing and coordinating centres, distributed among the seventeen autonomous communities and the state, each with their own powers that often conflict with each other and lead to tensions, leading universities to face different levels of autonomy within which they determine their own development strategies. This framework raises issues of co-ordination to ensure the system's coherence and integration.

A comparative analysis of higher education typically distinguishes two basic strategies of system governance. "The first is the strategy of 'rational planning and control'. The second is the strategy of 'self-regulation'" (Neave and van Vught, 1991). At the beginning of the 1990s, the authors of this classification note that despite the dominance of the 'rational planning and control' strategy, there were glimmerings of the second strategy, *i.e.* elements of 'self regulation' in Western Europe. They write that "increased autonomy afforded to higher education would appear to indicate a significant revision in government strategies and, equally important,

suggests a loss in the confidence to be able to plan and control higher education from the center. By the same token, it reveals an increasing readiness to endorse strategies of self-regulation" (Neave and van Vught, 1991).

Burton Clark's analysis of the forms of co-ordination of higher education systems goes a step further when he proposes that governance is organized in a triangular space consisting of the three dimensions of government, market and institutions (Clark, 1983). Within this space it is possible to distinguish various types of system governance and coordination, according to the different combinations offered by the three dimensions and the implementation in different national contexts. Clark analyses four basic co-ordination types – political, bureaucratic, market and academic/professional – and shows the diverse ways they evolve and adapt.

For Spain, given its present policy and the legal norms adopted since 1978, it seems reasonable to place the system's governance and coordination along the political-bureaucratic-corporative dimension but within a system that is broadly (geographically) decentralised. For in spite of the increasing degrees of autonomy, the universities are far from being self-regulating. And the system as a whole is far from being that of a market, for neither the central government nor those of the communities are willing to employ market or quasi market mechanisms intensively in the regulation and financing of universities.

How in practice is this political-bureaucratic-corporative system within a highly decentralised context, coordinated and managed? As noted in Section 3.1, co-ordination is undertaken through two bodies – the General Conference on University Policy (CGPU) and the Council of Universities (CU). The former is charged with facilitating intergovernmental relations and the latter with the management and coordination of the system. The CGPU embodies the political-bureaucratic dimension and the CU represents the interests of the institutions and the academics. In the CGPU, the policy and bureaucratic components are owned by the state-central government representatives and those responsible for universities in the autonomous communities' government councils (*Consejos de Gobierno de las Comunidades Autónomas*); whereas it is in the CU that professional and institutional interests are represented by the presence of university rectors.

It appears that there is a clear delimitation between the 'consensus building, coordination and cooperation of general university policy' which falls within the mandate of the CGPU; the implementation and funding of that policy through the governments of the autonomous communities; and the 'academic collaboration, cooperation and coordination' offered by the Council of Universities.

There are some risks of lack of coordination between governments (state and autonomous communities); across the autonomous communities themselves; and between the autonomous governments and universities, which need to work at the three different levels. In fact, besides their participation in the CU, which allows them to comment on regulations that affect the university system and to formulate proposals to the government and the CGPU, they directly participate in the policy process at the level of autonomous communities and continue to exercise their influence through the Conference of Rectors of Spanish Universities (*Conferencia de Rectores de las Universidades Españolas*, CRUE).

The risk of over-regulation

A risk associated with the current governance arrangements is that of over-regulation. In the middle of a complex distribution of powers with the participation of a range of bodies with diverse but cross cutting areas of action, there is a risk that those responsible for the system's integration and co-ordination will go for an increasing number of regulations. If the coordination is inefficient or in practice does not achieve coherence, it can easily fall into the trap of adding more rules, through an increasingly specific definition of powers for the diverse groups involved, and so continue or revive the ancient bureaucrat tradition of the *studia generalia* 'respectu regni'.

There are analysts of the Spanish university system that have noted this trend. For example, Salaburu (2007) has commented that "the wish to regulate these powers until exhaustion has given way, in practice, to a wave of state, community and university regulations […] so that the university system is one of the most regulated environments that exists today. There are two consequences: the difficulty of university authorities to take autonomous decisions with agility – there is always a regulation to consult – and the difficulty of demanding that someone is responsible because it is not completely known which body should assume responsibility; on one occasion someone said that in the university everyone is empowered but no one is responsible".

Little differentiation within the university and tertiary systems

In addition, bureaucratically regulated systems tend toward homogeneity, with less or reduced differentiation and diversification in the supply of services. A study by the Conference of Rectors of Spanish Universities (CRUE, 2006) indicates that, as a whole and polytechnic universities excluded, public universities have the same teaching offer

profile, and concludes that the official degrees offered by public universities do not respond to the needs of labour markets, and that although "the number of official degrees offered by each university varied significantly […] it could not be said that their offer pattern responded to objective criteria related to either complementarity, demand, or economic efficiency". The university system is regulated with great precision and allows little room for differentiation across individual universities.

Spain's tertiary education is not a diversified system as defined by Trow: "[…] the existence of distinct forms of post-secondary education, of institutions and groups of institutions within a state or nation that have different and distinctive missions, educate and train for different lives and careers, have different styles of instruction, are organised and funded and operate under different laws and relationships to government" (Codling and Meek, 2006). University behaviour is considered to be mimetic, one in which universities tend to imitate what others do rather than have developmental policies and plans of their own.

In a fully developed mass tertiary education system it is highly desirable that institutions should specialise not only in particular fields but in their approaches to their different roles. Some obvious examples might be specialisms in teaching methods and approaches, recruitment of particular categories of students, service to industry and the community, vocational emphases, interdisciplinary work and so on.

The non-university sector does contribute to institutional diversity within tertiary education. It has had a significant development in the last decade, has its own identity with tight connections to working life and is recognised as part of the tertiary education system. However, its organisation and operation are disconnected from those of the university system in what translates into a non-integrated tertiary education system (see below).

In general it can also be said that the Spanish university system shows low levels of competition among institutions. The majority of the students study at the universities closest to their home in the community of their original residence.[27] The careers of academics are, for the most part, regulated at the national level (see Section 3.6). There is no proper market for university positions, except for contracted researchers and lecturers,

[27] At the national level, student mobility between the autonomous communities is very small as only 9.9% of new university entrants enrol outside their own autonomous community and 45% do it within their specific province (CRUE, 2006). In 2006-07, student mobility between autonomous communities was higher, reaching 12% (CRUE, 2008).

within specific limits and subject to legal regulations. The financing of public universities depends principally on the resources assigned by governments and parliaments and income generated from sales of university services typically only represent a small part of the institutional budget. Finally, the prestige of public universities depends more on their tradition and the quantity and quality of their inputs than on the result of their performance.

These concerns are expressed by the University Coordination Council, the former coordinating body which was split in 2007 into the CGPU and the CU: "… in this situation university institutions discern as very weak the signals about the way they are to be financed, the relation between the funding they receive and the services provided and their quality. These circumstances make good governance more difficult to achieve at universities and do not drive changes towards users and the satisfaction of their expectations" (CCU, 2007). There is the perception that university behaviour is driven more by the compliance with the official regulations rather than the concern to meet the expectations of users in a competitive setting.

Weak integration between the university and non-university sectors

One of the distinguishing features of the Spanish tertiary system, as pointed out by local analysts, is the difficulty it has had in assimilating non-university tertiary education. García Garrido, for example, noted that in the early 1990s "in Spain, the terms 'higher education' and 'university education' have come to mean exactly the same in theory and in practice" (García Garrido, 1992). More recently Mora confirms that "higher education in Spain consists almost exclusively of universities" (Mora, 2006).

In practice, an integrated tertiary education system does not exist. The university system, higher vocational education and specialized tertiary education are in fact three components of tertiary education virtually isolated from each other – in terms of strategy, policy design, tradition and procedures. There are few linkages and collaboration across the three sectors. Higher vocational education is seen as an extension of secondary education and key elements of its policy framework such as the place of provision, funding, human resource management and quality assurance are identical or comparable to practices in the school system. There is little or no discussion of the research role to be played by higher vocational education. Specialised tertiary education such as that provided by Schools of Art and Design has its own specific status - which might be different across autonomous communities – with no relation to other parts of the tertiary system. This situation reflects the fact that, in Spain, there is no vision of

tertiary education as a whole coherent system in which the mission and profile of each institution within each subsystem is well identified and agreed.

A university governance which undermines connections with the external environment

Within the public sector, university governance reflects the over-regulation at the system level. Universities are to comply, in the smallest detail, with the state law that imposes a broad democratic regime with a large number of collegial bodies and reduced authority for individual roles in executive and administrative functions (see Section 3.1). In these circumstances it is not possible to expect that a "managerial revolution" (Amaral *et al.*, 2003) in the university system, with the greater professionalisation of university management, will have the same impact as in other European systems (Sporn, 2002). In fact, "in terms of governance, the main responsibility for managing institutions lies among the academics. Although some institutions hire professional managers for some managerial positions, they are always dependent positions, while most of the decision-making power lies in the hands of academics who are temporarily occupying a managerial post" (Mora, 2006). It appeared to the Review Team that even in large institutions the potential contribution of the senior management team was not always exploited to the extent that would be common elsewhere, either in industrial enterprises or in universities in other European countries.

The difficulty with collegial and voting-based university government and administration arrangements, observed in other parts of the world, is that the institutions turn in on themselves - governance becomes self-centered, decisions slow and cumbersome and the elected authorities are continuously subject to a veto against change. The risk is that under this type of governance and administrative arrangements the public university loses its adaptive capacity and continues circulating around corporate academic interests and loses its connection with users and the external environment.

From the University Reform Law of 1983, which established this type of participatory and representative government – in part surely as a reaction to the control imposed from outside the universities during the dictatorial regime – there have been attempts to limit the tendency for universities to be in-ward looking. The Social Council was established as a body within individual institutions to address this concern, acting as a bridge between society and the university. Still, during the visit the Review Team did not find clear evidence that the Social Councils are successfully meeting the objectives established for them by the LOU (see Section 3.1). Many

expressed the view that this body has little impact on universities' strategies does not or cannot properly reflect a role on behalf of society.

Academically-driven and in-ward looking university system

It can be said that the university system is mostly academically driven and inward-looking, and hence insufficiently responsive to the diverse needs of the present-day economy and society. The processes by which it is governed, and the values and culture from which these processes are derived, are primarily internal and institutional rather than those of societal needs.

Another common criticism is that the Spanish university system and most of its institutions are still 'supply-driven' and 'producer-dominated'. There are a number of signs, including the little local or regional engagement, the rare use of external stakeholders in institutional governance and the few initiatives in the areas of continuing education and consultancy. During the visit the Review Team was also given examples of structural inertia, such as difficulties in launching new programmes (especially interdisciplinary and inter-faculty initiatives) and the rarity with which outdated and low-enrolment programmes are closed down.

The implementation of the new degree structure

The reorganisation of university teaching according to the new structure for degrees and titles in the context of the Bologna Process, as the Review Team understood during the visit, has become a major concern for the university authorities, the teaching staff and the students. While there is strong support for the new approach, concerns were also expressed in relation to the delays by the state government in issuing guidelines and models. The new legislation sets out highly detailed procedural norms and fixes a strict timeline for their implementation. From the 2010-11 academic year, student places can no longer be offered for pre-Bologna degrees. These prescriptions, as the Review Team observed, lead to tensions between greater autonomy for universities and instructions from the center. While educational authorities hope for greater initiative and capacity for action from the universities, these in turn expect educational authorities to supply the normative framework and regulations that will determine their actions. In the end, the risk is that an academic transformation that should originate bottom-up, and from within university departments, might become little more than a formal and bureaucratic adaptation of older, previous teaching structures to new norms and regulations passed on by the government. So,

the challenge here is to avoid Lampedusa's trap: *If things are to stay as they are, things will have to change…*

Capabilities of educational authorities to keep pace with changing responsibilities

It is an open question whether the current leadership and management capacities found at the top of the tertiary education system – both centrally within the Ministry of Science and Innovation and the Ministry of Education, Social Policy and Sports, the General Conference on University Policy and at the level of the autonomous communities – can respond effectively to the challenges raised by the complex processes of strategic planning, policy formulation and coordination in an increasingly supra national context. System governance requires the capacity for engaging in prospective analysis, processing complex information, and developing policy instruments, with the necessary sophistication to address the highly decentralised policy-making process in a context of European policy, Ibero-American leadership and the overall global scope of tertiary education.

Inefficiencies

There is ample evidence to indicate that Spain's tertiary education could be more efficient. For example, the available university data indicates that the number of students completing their studies in a given year is lower than expected when compared to total enrolments (Table 4.3), and that times to completion are long (see Section 4.2).

Table 4.3 University students - enrolments and graduations

	1996-1997			2006-2007		
	Students (S)	Graduates (G)	G/S (%)	Students (S)	Graduates (G)	G/S (%)
Long Cycle	999 338	98 378	9.8	781 371	90 218	11.5
Short Cycle	532 188	80 246	15.1	563 468	86 963	15.4
Second cycle only	17 786	3 090	17.4	61 055	10 350	16.9

Source: Ministry of Science and Innovation (2007).

In addition, upper secondary graduation rates in Spain remain low in international comparison. In 2005, the percentage of upper secondary graduates to the population at the typical age of graduation was 72%, ten percentage points below the average in the OECD area (OECD, 2007a).

This is largely explained by the high proportion of pupils leaving school without the lower secondary education certificate (*Grado en educación secundaria obligatoria*, GESO), expected to be obtained at the age of 16. In 2005, 28% of pupils left lower secondary education without the GESO. The upper secondary graduation rate is especially low for the vocational track (mostly *Ciclo Formativo Profesional de Grado Medio*, CFPM). Eighty percent of lower secondary education graduates choose the general education path in upper secondary education, with most entrants into CFPM coming from more disadvantaged families. Of the latter about 72% obtain the corresponding degree (OECD, 2008a). Furthermore, and unlike many other OECD countries, the upper secondary vocational track does not offer students easy pathways into higher vocational education (*Formación profesional superior*). The regular access mode to higher vocational education is the *bachillerato* (secondary education certificate). In contrast to *bachillerato* graduates, CFPM graduates have access only to a limited range of higher vocational education degree courses and have to pass a special entry exam. The share of CFPM graduates pursuing any further education immediately upon graduation is only 5% (12% in the subsequent five years). Only 0.5% gain access to university following their graduation, by passing a special exam (OECD, 2008a).

4.2 Funding

The funding of tertiary education in Spain presents a number of positive developments. To begin with, there has been a significant expansion of public resources invested in tertiary education in the recent decade. From 1995 to 2004, public expenditure per student on tertiary education institutions grew 71% in real terms, the greatest such growth in the OECD area. Spain is the only country in the OECD area in which public expenditure per student on tertiary education institutions grew more than public expenditure per student on pre-tertiary institutions (OECD, 2008c) during the period 1995-2004. This reflects efforts by Spanish educational authorities to improve public investment in tertiary education, which was among the lowest in the OECD area in the 1990s. In 2005, despite the recent efforts, public expenditure on tertiary education remained, at 0.9% of GDP, the 23rd highest percentage among the 28 OECD countries for which data are available. The increased funding between 1995 and 2004 has permitted to accommodate the growing student demand with no jeopardy of the quality of educational services. Public expenditure on Research and Development has also increased appreciably in recent years (see Section 3.5). In addition, in the last two decades, local, regional and national governments in Spain have made a considerable effort to improve facilities and the infrastructure of universities. A large part of current university

facilities, the quality of which impressed the Review Team, are less than 20 years old. In Spain, the share of total expenditure on tertiary education institutions going into infrastructure is very significant reaching 16.8%, the second highest figure in the OECD area compared with an OECD average of 9.5% (see Appendix 4).

A second major area of strength are the positive developments in relation to the mechanisms to allocate public funding to institutions. There has been an encouraging trend in the different autonomous communities to go from the traditional incremental allocation system to more transparent formula-based models. By now most autonomous communities distribute public funds to institutions on the basis of formulas and many use performance-based indicators in formula funding. The criteria for the distribution of funds are typically clear to all involved and allocations no longer reflect ill-founded historical trends or the lobbying power of given institutions. In many autonomous communities, growing funds are also allocated to institutions on a targeted basis to achieve explicit objectives such as the improvement of the quality of educational programmes, the introduction of innovative curricula, the improvement of management practices, or the development of partnerships with the region where the institution is located. A related positive development is the access of private institutions to competitive money for research.

Another positive feature of institutional funding is that the basic public subsidy is delivered directly to institutions as a bulk grant and institutions decide on their internal allocation of resources. This gives institutions more flexibility and autonomy than line-item arrangements, enabling them to determine their preferred distribution of funds in accordance with their particular mission.

An important element of the system is the national scholarship system. It is a means-tested programme to promote access to tertiary education by more vulnerable groups, in particular those with greater financial need. Its reform of 2004 and the growth of its budget in 22% in 2004-05 are to be applauded. The national scholarship system is complemented by similar initiatives by regional governments. Another aspect to support are the initiatives of some institutions to use their own funds to confer scholarships to their students, especially in those cases where aid is granted on the basis of financial need. Further, a particularly interesting scheme is that of "collaboration grants" (*Becas de colaboración*), whereby students at public universities can have their fees fully or partially waived in exchange for services provided to the institutions such research assistance to academics or support to the institution library. This scheme serves as an additional means for students to support their studies. Also, quite appropriately, students who attend private institutions benefit, under the same conditions, from the same

basic financial support to cover living costs and tuition fees. This clearly facilitates students' freedom of choice and enables the development of institutions with distinct approaches and purposes.

Despite these strengths, Spain's approach to funding tertiary education is currently faced with important challenges. First, great inefficiencies in the use of resources can be identified. There are concerns about accountability, value for money, and cost control and there is a growing awareness of the need for institutions to operate with higher degrees of efficiency. The best expression of inefficiency in the system are the very long times for degree completion. For degrees with a nominal duration of five years (long cycle), the actual average time for degree completion in the academic year of 2000-01, in engineering, experimental sciences, health sciences and social sciences were 7.9, 6.6, 6.5 and 6.4 years, respectively. For tertiary-type A and advanced research programmes the average duration of studies was 5.54 years in 2004, the fourth highest figure for the 23 OECD countries for which data are available (see Appendix 4). The Review Team also formed the impression during the visit interviews that the long time for completion was often accepted as "normal" and, as expressed by some students, taken with pride by some teachers as a reflection of the "quality" of the programme.

Student staff ratios are among the most favourable in the OECD area, at 10.8/1 for the entire tertiary system (the fifth lowest among the 23 OECD countries for which data are available, see Appendix 4), considerably below the OECD average of 15.3. In tertiary-type B programmes, considering the OECD area, student staff ratios are the lowest in Spain at 6.9/1 (for tertiary-type A and advanced research programmes, student staff ratios lie at 12.2/1, the second lowest figure in the OECD area). And despite declines in student enrolments in the past several years, staffing has increased: the number of academic staff in public universities has increased by 33.2% from 1995-96 to 2005-06 while the number of students in public universities decreased by 3.5% from 1994-95 to 2004-05. The relatively low levels of utilisation mean that unit costs are excessively high. Low enrolment in specific programmes and duplication of programmes across institutions is also common. There is also too little evidence of cross-institution cooperation to share facilities, consolidate programmes, and ensure a higher level of quality with greater efficiency. In addition, student mobility across institutions for portions of their degree work is still very low.

Second, despite the considerable improvement in resourcing tertiary education in the recent decade, total spending in tertiary education remains below the OECD average. A concern is whether the current heavy reliance on public money for funding tertiary education hinders overall investment levels in tertiary education. Even if, notably, the principle of cost-sharing between the government and users has been introduced, the extent to which

(more affluent) students contribute to the costs of their tertiary education seems to be fairly limited. The moderate level of tuition fees leads the government to bear a disproportionate share of the costs of an individual's tertiary education. This happens at a time when there are growing pressures to contain public spending.

Other priorities such as increasing spending on pensions, medical care, or combating social exclusion impose pressure on the education budget. In addition, within the education system, tertiary education competes with school education and two sectors likely to require more public resources in the years to come: early childhood education and care, rightly to receive growing public funding and the training of the current workforce (*i.e.* continuing education). However, demand for tertiary education is likely to stabilise or decline slightly in the coming years. On the one hand, the proportion of individuals in a given age-cohort who enter tertiary education is slightly lower than the OECD average. In Spain, in 2005, about 43% of an age-cohort could expect to complete a tertiary-type A programme, against a proportion of 54% across the OECD area (for tertiary-type B programmes the proportion is of 21% in Spain against an OECD average of 16%). Therefore, tertiary enrolment rates can still be expected to increase in Spain. But, on the other hand, the population aged 20-29 is expected to shrink by 34% from 2005 to 2015, the greatest such decline in the OECD area (see Appendix 4).

Besides, in light of the evidence of the private benefits of a tertiary degree in Spain, it can be argued that graduates should bear a greater share of the cost of the services offered by tertiary institutions. In Spain, the completion of a tertiary-type A programme leads to a 44 percentage point increase in earnings relative to people with upper secondary education (see Appendix 4). Internal rates of return to tertiary education reach 4.9% and 6.5% for men and women, respectively (Oliveira Martins *et al.*, 2007). Such returns are, however, among the lowest in the OECD area. Between 1995 and 2002, the rates of return seemed to have somewhat diminished for university graduates and rose for graduates from vocational courses (García Montalvo, 2007).

Third, formula-based funding, targeted funding and the use of performance indicators in formula-funding are still not unifom practices in the country. In some autonomous communities where formula-funding and targeted funding have been established, the extent to which public funding relates to indicators of the quality of services provided is still limited. This limits institutional incentives for the strengthening of quality. Similarly, in most autonomous communities, there is a lack of strategic components among the streams used to fund institutions. More specifically, a modest level of funds are allocated on a targeted basis to achieve explicit objectives,

limiting the extent to which public funds to institutions steer institutions towards a better alignment with national economic and social goals.

Fourth, higher vocational education continues to be funded with rules similar to those applied to schools. No specific funding framework has been developed for this particular sector. As a result, concepts such as formula-funding, performance-based funding or targeted funding have not been introduced in higher vocational education. This hinders the extent to which the funding of higher vocational education is used to steer the subsystem towards a better alignment with national economic and social goals.

Fifth, institutions do not seem very dynamic in seeking external sources of funding. There is a growing but still incipient tradition of providing services such as industry training or serve as consultants to businesses or public authorities. Resources raised externally by institutions typically represent less than ten percent of their budgets.

A final major area for concern is the narrow scale of the student support system. As revealed earlier, the share of student financial aid in public expenditure on tertiary education is only 8.2%, below the OECD average of 10.4% (see Appendix 4). This suggests that the ability of the system to facilitate the participation of academically qualified students who do not have the financial means to access tertiary education is still fairly limited. Even if tuition fees are modest, living costs and giving up a salary make it particularly difficult for disadvantaged students to attend tertiary education. The scholarships currently offered are not sufficient to cover realistic costs of living and a limited number of students access them. In addition publicly-subsidised or guaranteed loans are not available to students to provide financial liquidity at the time of attendance. An exception is the recent creation of an income-contingent loan scheme for Masters degree students, which is to be applauded. The new loan scheme called *Préstamos Renta Universidad*, was launched in 2007 for Masters-level studies. The programme started with 50 Million Euros for 2007 and a further 150 Million Euros for 2008. Overall, it can also be said that the narrow scale of the student support system hinders student mobility in the country.

The funding approach also raises concerns of equity. Section 4.4 provides evidence that access to and completion of tertiary education differs according to the socio-economic background of students. There are also indications that the system is regressive, that is, public subsidies for tertiary education favour middle- and upper-income over lower-income families. Some individuals benefit more from the system than others. The degrees of mainly better-off people are paid for by people who on average are less well off. In addition, while some graduates perceive a higher private financial benefit from a tertiary degree, all students are subsidised at similar levels

(given that both fees and scholarships are low). What's more, some individuals decide not to undertake tertiary studies as a result of a given disadvantaged background (*e.g.* financial poverty, less well-informed about the benefits of tertiary education, poor school education). Overall the system seems to favour *high earners* graduates and penalises *low earners* graduates and non-tertiary-graduates.

4.3 Quality Assurance and Improvement

In the area of quality assurance, the main strength is that Spain already has a multifaceted array of quality assurance (QA) schemes and agencies in place at the national, regional and institutional levels. They deal only with teaching activities of universities, since the evaluation of research is the responsibility of specialised agencies (which are currently being merged into a single one responsible for the evaluation of the National Plan for Research and Development). A separate set of QA mechanisms are also developed for higher vocational education.

Another favourable factor is that while the mission of ANECA is still in the process of closer definition, its core role in the system has been gradually accepted and consolidated. ANECA has acquired a solid and diverse experience on the evaluation of institutions, programmes, services and academic staff (short, however, of any form of programme "accreditation"). It has played an active international role, both in Europe and in Latin America and enjoys a positive image among its foreign peers – which was further strengthened in 2007 with the confirmation that it complies with the quality criteria for full membership of ENQA. The extensive experience of other agencies, notably AQU in Catalonia, which also enjoys the status of full member of ENQA, points in the same direction.

At the level of higher education institutions, the issue of quality assurance and improvement has gained considerable importance. Until recently, Spanish universities used to function in a minutely regulated system with uniform rules for staff, curricula, admission and funding, no or low incentives for higher quality and no penalties for poor performance. In such an environment, the creation of a culture of quality and the legitimacy of accountability were more difficult to establish: progress towards a culture of quality cannot be seen in isolation from progress towards more institutional autonomy and the development of legal and financial tools relating acknowledgment and compensation to achievements. Against this background, Spanish universities have taken important steps in the direction of quality assurance over the past few years. Most now have information systems based on quantitative data and performance indicators. The majority have adopted action plans for the evaluation and improvement of quality,

and many have taken concrete steps to redesign curricula on the basis of competencies to be acquired by learners, to decrease dropout and failure during the first year, to better coordinate multidisciplinary activities, etc.

Hence, another positive aspect is that the quality of data available on university education in Spain has improved considerably in the wake of the PNECU. The University Coordination Council, the body formerly in charge of the system co-ordination, defined and approved a catalogue of common indicators for all universities which has been in use throughout the country and is still being fine-tuned. This means that universities have become more clearly accountable for their performance and that comparative data may be used to guide policy decisions and funding systems. The Conference of Rectors of Spanish Universities (CRUE) now publishes a yearly survey on "Spanish universities in figures". Another factor that may prompt the university community to the gathering and publication of reliable data and indicators relevant to students, families and society at large is the recent proliferation of university rankings in Spanish newspapers.

The main concern is that many of the initiatives referred to above were not taken as part of a comprehensive QA programme, but in relative isolation from each other and have therefore resulted in a complex set of evaluation processes that are not easily readable by society and have, in reality, a rather weak impact. Academic staff are evaluated for *sexenios*, *quinquenios*, bonuses, accreditation, research, etc., and there is a widespread fatigue about recurrent evaluation bureaucracy (some speak of "evaluation madness"), all the more so that it goes together with a feeling that these evaluations make little difference in the end.

The other major issue relates to the clarification of the respective roles of the several agencies, a step which would contribute to the European/international readability and credibility of the Spanish QA system. The sharing of tasks between regional agencies and ANECA, acting as the national agency or on behalf of certain autonomous communities, remains unclear. The level of development of regional agencies is very uneven and there is no mechanism at national level to discriminate between credible and weaker ones – which means a threat to the credibility of the Spanish QA system as a whole. The main activity of regional agencies (evaluating individual teachers in view of their "accreditation" or their selection for the allocation of regional bonuses) is usually the responsibility of universities themselves in other countries. But the major issue lies with the involvement of regional agencies – including very "young", local and inexperienced ones – in the *ex ante* evaluation of new master programmes. A major concern is that while the future of universities is largely determined by the quality of their postgraduate programmes, these may be evaluated in Spain applying local rather than European standards and using regional rather than national

and international evaluators. The move towards very short master degrees (60 ECTS points) observable at Spanish universities may become a serious threat to their international status and seems to go unnoticed by QA agencies. The planned forthcoming formal accreditation of master programmes (after 5 or 6 years of operation) may alleviate some of this concern, but it can hardly be expected to redress possible strategic misconceptions about the purpose and role of master degrees in the European and international arena.

Overall, the relation between assessed performance and the reward and funding system remains weak. There is still much volatility in the criteria used to assess performance. Some universities and higher vocational institutions prefer relying on a handful of indicators (the employment rate among graduates, the ratio of applicants to available places or the amount of funds raised from industry) rather than on a comprehensive internal QA system. Some tools commonly used may even distort performance evaluation, for example when the number of *sexenios* is used for the appointment of evaluators of teaching programmes or performance, or when funding is allocated on the basis of enrolment rather than throughput and thus favours universities or faculties failing a large proportion of students.

There is an obvious need for a national system (if not an agency) for quality assurance and development encompassing the whole spectrum of higher vocational (including artistic and sports) education and looking at it as an integral part of tertiary education, including in particular its cooperation with universities in a lifelong learning perspective.

4.4 Equity

Female participation in tertiary education has improved significantly in recent decades and women's participation is now dominant. In 2003, females represented about 53.1% of tertiary enrolments (close to the OECD average of 53.2%). The share of females is higher in tertiary type-5A programmes (53.7% above the OECD average of 53.2%) than in tertiary type-5B programmes (50.5% below the OECD average of 54.8%). More notably, women are also dominant at post-graduate level with 51% of enrolments in 2003 against an OECD average of 44.0% (the third highest such share among the 28 OECD countries for which data are available, see Appendix 4), a rise from a share of 48.5% in 1995. However, women are: underrepresented in some areas such as mathematics and computer science (27% of tertiary-type A and advanced research qualifications awarded to females in this field in 2006) and engineering, manufacturing and construction (with 32% of graduates in 2006); and overrepresented in areas such as health and welfare (with 78% of graduates in 2006) and the

humanities, arts and education (with 74% of graduates in 2006) (OECD, 2008b). Given the favourable trend in women's participation in tertiary education, it can be expected that female representation in leadership positions will also evolve satisfactorily over time.

Spain has also been very active in developing initiatives to raise awareness of the importance of equal opportunities for men and women. The LOU reform 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 includes the right to receive non-sexist treatment and the right to non-discrimination for reasons of sex, race, religion or disability. 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 women's role in research (*e.g.* the inclusion of female participation in research teams as an additional criterion for awarding grants for research projects; the creation of a Women and Science Unit to tackle women's problems in research institutions and increase the number of women working in them). Furthermore, activities to increase awareness within the education system stress the importance of putting non-discriminatory attitudes into practice in the classroom when, for instance, forming student groups, assigning tasks, or organising seating arrangements.

Another positive feature are the opportunities offered to adults to undertake tertiary studies. The proportion of university students aged 26 and older in short and long cycle programmes increased from 20.7% in 1997-98 to 30.9% in 2007-08. 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 students over 25 entering university by this procedure has almost doubled from 2.4% in 1994-95 to 4.1% in 2004-05. In addition to courses leading to official and national diplomas, universities offer professional specialisation courses. These courses of continuing education have a practical approach and are successful in most universities. Similarly, access to higher vocational education can be gained by taking a special test designed to demonstrate that the candidate has sufficient knowledge and skills to benefit from a tertiary level vocational course, without prior qualifications. Additionally, students are allowed to enrol on professional modules linked to occupational units of competence provided they accredit the access requirements before ending their studies.

There has also been an improvement of the geographical accessibility to tertiary education. The expansion of tertiary education in Spain and the devolution of responsibilities in the tertiary sector to autonomous communities has led to the establishment of tertiary education institutions and universities in each autonomous community. The access to tertiary education programmes in regions has also been favoured by the development of opportunities for distance learning. However, some differences persist in tertiary education attainment across regions. In the early 2000s, the proportion of individuals over 16 with a tertiary education degree ranged from 9.5% in *Castilla-La Mancha* to slightly above 15% in Navarre and the Basque Country in communities other than Madrid, where such proportion had reached 20.7%.

Another valuable development is the establishment of positive discrimination intended to improve the access to tertiary education of underrepresented groups, and whose motivation is to redress the effects of past unequal educational opportunities. In practice autonomous communities must reserve a certain percentage of places on all courses leading to official university degrees for the following student groups:

- Students over 25 years of age: 1% to 3% of the places on all courses to obtain official university qualifications.
- Students who have completed a higher vocational education course: 7% to 30% of the places, depending on the degree course.
- Students with an officially accredited disability rating of at least 33%: 3% of the available places.

The diversification of tertiary education with the expansion of tertiary level vocational education also creates opportunities for more disadvantaged groups who may not otherwise gain (or wish to gain) access to the more traditional academic forms of tertiary education. This responds to the needs of a pool of prospective students in the secondary system which is larger and more varied with respect to social backgrounds, academic preparation, and aims.

Despite these positive developments, equity issues persist in Spanish tertiary education. In spite of recent efforts, equity is not yet prominent among the priorities of tertiary education policy: a limited number of initiatives are targeted at improving equity, little information is collected to assess the extent of the problem, and a relatively small share of public funds are set aside for need-based grants.

A number of concerns about the equitable provision of tertiary education still remain. Principally, there is evidence that access to and completion of tertiary education differs along the socio-economic background of students.

A study based on a survey of tertiary education students in a limited number of European countries (Eurostudent, 2005) reveals that, in Spain, the proportion of higher education students' fathers with higher education is greater (32%) than the proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population with higher education (21%). Similarly, the proportion of higher education students' fathers from a blue-collar background is lower (40%) than the proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population from a blue-collar background (45%). A study with similar objectives conducted in Spain (CCU, 2003) indicates that the proportion of young people taking a university course when their parents had primary school only was 13%, whereas this proportion was 65% (five times greater) for young people whose parents had completed a long-cycle university degree. Socio-economic background also greatly impacts on the aspirations for tertiary studies of secondary students. Aspirations expressed by 15-year olds who took the 2003 PISA (Programme for International Student Assessment) test, reveal that they depend on the student socio-economic class. While 84% of 15-year-olds belonging to the highest quartile of the PISA student's economic, social and cultural status index[28] expressed aspirations to complete tertiary studies, only 37% of 15-year-olds belonging to the lowest quartile revealed the same aspirations. The Review Team formed the impression that there is a clear sense in the system that tertiary education in Spain is inequitable in that access to tertiary education (particularly to the most prestigious institutions) is disproportionally granted to students from families with the highest educational attainments.

The issue of access to tertiary education by the immigrant population could also become part of the equity policy debate in tertiary education. In recent years, there has been a significant wave of immigration, the total number of foreign inhabitants having reached 8.7% of the population in 2004. South Americans are the main immigrant group (31% of all foreigners), followed by EU citizens (24%) and Africans (19%).

As access to tertiary education is largely determined by outcomes in preceding levels of education, it is important to indicate that Spain has comparatively low rates of completion of upper secondary education (80% against an OECD average of 87% in 2005). Much of the inequities found in tertiary systems are rooted in factors experienced earlier in life, and are usually traced back to preceding levels of education. As also noted in detail

28 This index includes the highest International Socio-Economic Index of Occupational Status of the parents or guardians, the highest level of education of the parents converted into years of education, an index of the educational resources in the home, and the number of books at home.

in Section 4.2, the student financial support system is still underdeveloped and does not assist adequately those students with financial need. The grants currently offered are not sufficient to cover realistic costs of living, are available to a small proportion of students and a public loan system is not available.

Provisions for students who prefer or need to study part-time, combining work and family responsibilities with study, are limited in Spanish tertiary education. Offerings of institutions generally assume full-time participation that is difficult for individuals already in employment.

Equity policies in Spain, as in other countries, have traditionally emphasised equity of access. At present, there is little focus on equity of outcomes. The Review Team formed the impression that little emphasis is placed on student progression throughout tertiary studies with little special support and follow-up measures to assist those students which reveal more difficulties. In the institutions we visited, we saw little evidence that students' progress is closely followed by a teacher and that students whose disadvantaged background has been identified receive any particular attention.

Transfers between different types of institutions, and in particular between vocationally oriented tertiary institutions and universities have the potential to enhance equity in the system but seem to be underdeveloped in Spain. In every country, more disadvantaged students tend to be more likely to attend vocationally oriented tertiary institutions. If transfers were enhanced, then these students would have a better chance of earning higher-level degrees, which provide access to better and higher-earning occupations. Formal arrangements for inter-institutional transfer across tertiary education sectors and within each sector are nonetheless incipient.

Another equity challenge is the fact that expenditure per student in tertiary education varies significantly across autonomous communities. In the public university sector it ranges from less than EUR 4 000 in *Andalusia* and *Extremadura* to over EUR 5 500 in the Balearic Islands and Navarre. This is a challenge for the central government which is entrusted with the task of guaranteeing equality of opportunities and treatment in tertiary education across autonomous communities.

A final challenge is the gender inequity in tertiary education outcomes. In Spain, women's earnings are below men's earnings for all levels of educational attainment and age groups. In 2005, the average annual salary of women in the 20-29 age group who attained, respectively tertiary vocational education, first-cycle of university education, and either the second or third cycles of university education was 22.6%, 19.2% and 15.4% lower than the

corresponding average annual salary of men in the same age and qualifications categories. Differences were greater for older age groups.

4.5 Role in Research and Innovation

Funding and Governance

With respect to the funding level, the observed general growth of the R&D budgets over the years corresponded mainly to an increase of soft loans: the level of public subsidies and transfers for R&D reached the level of 1990 in 2002 only. This dynamic seems to have changed since: in the 2006 public budget the raise of subsidies within budget appropriations was of 25%, the highest increase in 15 years (OECD, 2007c).

The average R&D expenditure per researcher within universities in Spain remains low. It stood at 50% of the EU15 level in 2001. In 2004, the average public expenditure in R&D per university researcher was 117 000PPP$ in Spain, compared to 219 000PPP$ in Germany (80% more) and 195 000PPP$ in France (65% more) (COTEC, 2007). This level is low even when considered the national context. In 2005, internal university spending per university researcher in Spain (including all spending in R&D&I activities carried out within a unit or research centre) was around EUR 50 000, well below the Spanish average of almost EUR 89 000 per year, when all research settings are considered.

As regards funding allocation mechanisms for research, project-based funding is the dominant approach. Indeed, even if block grants for teaching and learning activities typically include elements of research funding, the proportion going to research activities beyond academics' salaries is marginal. Hence, core research funding and research centre funding do not significantly complement project-based funding. Therefore universities haven't been provided with a consistent stable funding stream specifically devoted to research that could be earmarked, at university level, to implement a research strategy. This also implies that no specific funding covers the costs generated by research-related activities that are not imputable to projects or grants, such as time devoted to project drafting, negotiation or communication.

As for the governance of the research system, the Review Team formed the impression that the framework to publicly support research and innovation activities in universities is fairly complex. The National R&D&I Plan is implemented through over 30 National R&D Programmes and Strategic Actions, managed by different ministerial departments or agencies

and it runs in parallel to the regional plans and programmes. The large number of actors, instruments and procedures involved results rather burdensome for the stakeholders involved. There is certainly room for efficiency gains in order to reduce the fragmentation of funding per research teams and projects so as to create greater critical mass necessary to effectively compete for international research projects and to achieve excellence.

Moreover, a national research space doesn't exist when researchers from one autonomous community cannot apply for competitive research funding from another community. This is so even if their projects fit the priorities of the community providing the funds and they work with a research team based in that community. As noted by OECD (2007c), "there is a risk that regional policy will duplicate the policies of the national government, at times with little synergy, and even create conflicting incentive structures for research and innovation actors."

Autonomous communities are providing growing shares of the funding of R&D&I performed in the universities under their jurisdiction and in other research institutions located in their territories. Increasing resources are devoted to R&D&I by the regional budgets and the financing of research in local universities' hospitals and on agriculture issues is a regional competence.

Each autonomous community has its own universities, science park, and agency for the transfer of technology/innovation. The Review Team was impressed by the quality of the infrastructure in universities and considers this capacity a key enabling factor for the future development of the Spanish research and innovation system. However, as noted by OECD (2007c), "However, given the proliferation and diversity of science parks as well as relatively loose criteria for hosting firms, there is a risk that some become general business ventures or real estate offices with few links to needs as regards R&D and innovation."

The Review Team also formed the view that there is an oversupply of third cycle programmes, some of which attract very few students. As a whole, the number of third cycle official degrees currently offered is larger than that of first and second cycle official degrees even though the number of students in the latter is 20 times greater than in the former (CRUE, 2006).

The R&D&I activities of the higher vocational sector are restricted to improving teaching materials and adapting them to local labour market conditions.

Performance and evaluation

The Review Team was impressed by the sustained development of human capital for R&D in the country as, for instance, reflected by the annual growth rate of Science and Engineering graduates between 1998 and 2003 which was, by far, the highest among EU countries, at 5.1% (European Commission, 2005). Similarly, during the period 1978-2004, the number of doctoral thesis per year multiplied by 6 from 1 117 to 7 474.

It must be noted, however, that the proportion of doctoral students completing their studies within the nominal time is low. The average duration of doctoral studies is of about six years compared to the four years which are common in other countries. Therefore, despite the great number of enrolled doctoral students (around 75 914 in 2006), only some 8 000 graduate every year.

The strong human resources potential is limited by low inter-sectoral and geographical mobility within the national territory. The double accreditation system to select research staff in universities, performed by the national and regional agencies, reinforced by the double research proposals' evaluation system by national and regional agencies and the "relatively" large project-based funds from regional sources, tend to maintain researchers inside their region of origin.

There is also a need to improve research career training and, in particular, to improve the ability of researchers to respond to the needs of the private sector. Currently, research activities in the public sector are mainly evaluated on the basis of scientific publications. The Review Team formed the view that better indicators for research excellence, including the extent of co-operation with the private sector are to be used in assessing research activities. Also, as noted in OECD (2007c), "the focus on PhD-level researchers has drawn attention away from training technical support staff." This has been reinforced by the relatively limited scope of vocational education. Strengthening the training of technical personnel is a well identified need in the system.

As far as knowledge diffusion activities are concerned, many mechanisms for university-company collaboration such as patent licenses, spin-offs and science parks are gradually being established but their development is still, in some cases, incipient. As of 2004, only thirty-seven of the sixty nine universities had a unit for creating companies and in only three universities the unit was exclusively dealing with the creation of spin-offs. Also, only two of these units were monitoring the progress of the spin offs they helped establishing.

The lack of evaluation of research teams, departments and faculties hinders, within universities, the process of establishing research strategic priorities supported by appropriate funds. As pointed out by Connell (2004), "Institutions need their own internal systems for evaluating research quality in the light of institutional strategic planning, and several case studies illustrate these. Such mechanisms should be transparent, fair and formative in effect. Performance targets against internal strategic plans are one example."

4.6 Human Resource Management

The Spanish tertiary education system shows a number of strengths in the area of human resource management. As noted earlier, there are very favourable student/teacher ratios. The qualification level of academic staff is good, as reflected in the high proportion of those holding a doctoral degree even among non tenured staff and in the development of Spanish university-based research over the past two decades.

A significant proportion of staff are aware of, and adhering to the need for change, as a consequence of the knowledge society and globalisation, the transformations in the Spanish economy and society and the emergence of the European Higher Education Area. There are also a large number of training schemes, pilot experiments and innovative initiatives launched in recent years and currently in progress, which have set the system in motion and spread awareness about the main issues and possible avenues into the future. Among these are the development of quality assurance measures, the new emphasis on higher vocational education as a part of tertiary education and the growing internationalisation of programmes and institutions.

The age structure of the academic body, in particular for the highest ranks, reflects the ageing of the profession over the last decade. While this may be preoccupying, the need to recruit or promote a large number of young academics over the next decade(s) may also be taken as an opportunity for change with a more open system for the recruitment, evaluation, compensation and promotion of staff in view of their actual contribution to institutional objectives in research, teaching and management.

Overall, there are good reasons to agree with the "Bricall report" on the University of the Second Millennium which in 2000 concluded that the "human capital" available in Spanish higher education had never been strongest (Bricall, 2000). There seems to be plenty of talent and experience but also a perception that the system does not make the best possible use of these resources. The issue is not new and has long been acknowledged by

analysts, university leaders and politicians of post-dictatorship Spain. The "Bricall report" in 2000 devoted a good deal of its in-depth analysis of the state of Spanish higher education to the poor use and management of human resources, in particular with respect to selection and promotion mechanisms and the lack of incentives for change and improvement (Bricall, 2000). The Review Team formed the view that there is, among academics, a feeling of fatigue about seemingly never-ending waves of change combined with lasting uncertainty, and that the main issues concern the status, selection, evaluation, and reward system of academic staff.

The Country Background Report itself acknowledges that over the years the rigid rules governing civil service and the fragmentation of staff into non-permeable categories have become obstacles to the diversification of tasks, salaries and duties that characterise universities in a modern, fast-changing and competitive society. The Review visit showed that private universities tend to see the way in which they can recruit, compensate, evaluate, motivate and promote their staff as a competitive advantage in the growing competition between Spanish universities. Another difficulty in the Spanish context is that while civil servants are state employees and hence subject to national rules for their recruitment, promotion and compensation, they actually work at universities that depend on autonomous communities. These add their own regulations to national ones, especially with respect to staff employment and compensation (*e.g.* by adding yet another category of bonuses of varying significance and based on different criteria).

For teaching and research staff, the recruitment, pay and promotion are nearly exclusively determined by just one domain of their activity: research, or even more specifically, publications. Research projects not aimed at scientific publication (such as project work or patent development) are less rewarded. Teaching is hardly an evaluation item and tends to be severely neglected throughout the system: all groups and individuals met (including students and academics) agreed that teaching is a weakness of Spanish higher education that needs to be addressed. Management and leadership functions are poorly rewarded and "third pillar" activities (interface with, and services to society) are conspicuously absent from the list of factors governing career development.

The current pay scheme seems to be one of the major deficiencies in the system. While Spain is among the OECD countries dedicating the highest proportion of overall spending on higher education to staffing costs (see Appendix 4), the actual level of salaries is comparatively low and hardly differentiated on the basis of individual performance. On top of this low basic salary, a whole series of bonuses have been put in place at national level (mainly on the basis of the number of the recognised six-year research periods called *sexenios*) and in more recent years at regional level. Yet, the

outcome seems to be far from satisfactory: these bonuses affect only civil-servant staff and have generated an additional layer of evaluation and bureaucracy, they tend to be distributed according to the same traditional criteria as the basic compensation, and – apart from the *sexenios* system - in the majority of universities the trend is that nearly every eligible teacher receives the bonus. This means that instead of actually differentiating according to individual merit, in particular in "neglected" areas like teaching and the management of change and services, bonuses contribute on the contrary to perpetuating the prevailing narrowly based compensation system. Hence, the system fails to reward those activities most required to underpin a culture of change and of service to society in the spirit of the knowledge era. The system is also discriminatory as academic staff who are not civil servants, while having responsibilities similar to those of their civil servant colleagues, have not access to the same benefits, in particular bonuses systems.

In line with traditions pertaining more to the elite university of the past than the mass university of today, academic staff are in control of the governance and running of most aspects of university life, including management and support services. In terms of governance, this has led in many cases to delays in the adaptation to the needs and demands of society (such as cooperation with industry, lifelong learning, in-depth renovation of curricula and learning methods, acknowledgement of high quality teaching). In terms of human resource strategies, it entails a lower level of investment in administrative and support staff and its insufficient involvement in the design of change strategies and the conduct of professional management (*e.g.* in order to support research and innovation activities, to adopt more active learning methods or computer-assisted tutoring, or to design comprehensive human resource management strategies).

The evaluation and compensation of individual merits by way of promotions and bonuses mostly bypasses university leadership. In the current understanding of the notion of "university autonomy" in Spain, these aspects of staff management and development tend to be handled via external commissions and/or agencies (mostly at the regional level) marked by a high level of bureaucracy and a strong influence of the best established tenured professors. Universities as such have no control over these important factors for the design of change and reforms. Most rectors and members of their teams that the Review Team met seem to be in favour of a greater level of differentiation in the remuneration of academic staff, but few have established an internal bonus schemes under the control of the university's Governing Council. Where they exist, such internal schemes are funded from external activities of the university (*e.g.* professional education courses, R&D activities, contracts with industry or government) and are

seen as effective tools for the motivation of teachers and the reward of activities that are not taken into account in national and regional bonus schemes.

Another major issue is related to the low level of staff mobility in Spanish higher education, which is directly related to recruitment regulations and practice. On top of guaranteeing that research and teaching staff have the necessary qualifications (through a complicated and very lengthy national procedure for academic staff recruited as civil servants and also, since 2000, through an "accreditation" process at regional level for the various categories of salaried employee staff), national rules have for a long time tried to prevent – or at least to limit – the traditional in-breeding prevailing at universities throughout the country (including through requirements for some postdoctoral mobility in accreditation processes). Overall, these efforts have failed: local/regional preference has continued to prevail and staff mobility has remained low (even more at national level than internationally), while the recruitment and promotion of academics as civil servants has become even more complex, lengthy and costly. The new system put in place in 2007 aims at guaranteeing the level of qualifications of teachers/researchers throughout the country (through a system of prior "accreditation"), while leaving universities free to choose from the national list of "accredited" candidates. This new system acknowledges an inevitable consequence of the devolution of Spanish higher education to regions and of the greater autonomy of universities. Yet, the issue as such remains: the best universities in the world publish the positions they wish to fill not only nationally but internationally, and the Spanish law on universities still favours (or even organises) in-breeding through other measures, such as the requirement that the rector should be elected from within the university. As a result of these regulations and practices, a "labour market" for academics and university leaders remains limited in Spanish higher education.

In spite of resistance and scepticism against the customisation of salaries, the culture prevailing at Spanish universities is marked by a high degree of individualism and marked difficulties with teamwork and common objectives. Academic freedom is interpreted in such a way that course coordination and organised change in curricula and methods are made unduly difficult. Signals of this are numerous: students and institutions accept that certain teachers fail the vast majority of their students rather than adapting their teaching; low quality teaching is widely lamented (not least by the rather disillusioned students met during our interviews) but tolerated in most cases; project work (in research, but even more so in teaching) is difficult to reward through the current funding system; mobility and hence the exposure to other ways of teaching and working with foreign colleagues is limited. This individualistic trend in Spanish university culture is a

formidable obstacle to institutional change, management and responsibility. Those in government and in universities trying to counteract this cultural obstacle can only succeed over a rather long period of time and with explicit support from society at large.

A final challenge relates to the status of teachers in higher vocational education. Reflecting the little integration within tertiary education, the whole conceptualisation of the academic career in higher vocational education is associated with that of teachers in secondary schools. For instance, it provides little for the reward of academic achievements, no definition of the research role and few possibilities to interact with the university system.

4.7 Links to the Labour Market

There are a number of positive developments regarding the links between the tertiary education system and the labour market. First, the Spanish tertiary system is increasingly able to accommodate the needs of a more diverse set of learners. Considerable expansion has taken place, which has permitted to better accommodate overall demand for tertiary education. Also, the further development of the higher vocational sector has made the supply of programmes more diversified and more aligned with the needs of industry. The proportion of students enrolled in higher vocational programmes has grown from about 2% in the mid 1990s to about 13% in the mid 2000s. More varied training opportunities at the tertiary level are now available to the population. However, as is the case in many other countries, higher vocational tertiary studies still suffer from a lack of parity of esteem relative to university studies. This is exacerbated by the perception that higher vocational education is an extension of secondary education rather than part of an integrated tertiary education system. In addition, an obstacle that remains in terms of the equitable and efficient development of the nation's skills is the inability of the student support system to alleviate the substantial problems of credit constraints faced by potential students at the time of their enrolment decision.

Second, there are good examples of partnerships between institutions and industry. These can take the form of consulting services, joint research projects, student internships or employers as members of Social Councils. Most universities in Spain have now introduced schemes and offices devoted to improve their links with the labour market, as well as to help students and graduates get closer to the world of employment. In higher vocational education, a specific course module is undertaken in the workplace allowing students an experience with working life. Practical training in companies is also typical of specialised tertiary education such as

with the visual arts and design or sports education. However, the Review Team formed the impression that strong, systematic co-operative arrangements with industry do not seem to be a generalised practice in institutions. Such arrangements seem to be more developed in the non-university sector (specialised tertiary education and higher vocational education) where ties between faculties and communities of professional practice are stronger. In these institutions, programmes are practice-oriented, and programme content is informed by advisory groups which include employers and practitioners. A general problem across the system seems to be the limited opportunities for practical training experience through internships in the productive sector. There is a broad lack of interest of companies in taking students for short periods and acting as their mentors.[29] This limits the opportunities for students to develop skills closely attuned to the demands of the labour market, and a clear understanding of employment prospects and compensation in their intended field of employment.

Third, tertiary education institutions seem to have a reasonable sense of the labour market outcomes of their graduates. Some institutions conduct surveys of graduates which provide useful information about career paths and the views of graduates on their preparation. The surveys have the potential to inform the design of institutions' programmes and put them in better relation with labour market needs. However, the extent to which such surveys are developed and used varies considerably across institutions. ANECA, as well as some regional quality assurance agencies, also run a labour market insertion observatory.

Fourth, career placement and advisory services appear to be available for students in most Spanish tertiary institutions. Universities often have career guidance and information centres (COIE, *Centros de Orientación e Información de Empleo*). These institutional offices might include careers advice, information about prospects in the different professions, links to potential employers and often some training on job seeking, and a free pre-selection service to companies for certain posts. However, career guidance seems to be an area in which the potential for improvement is large.

Another positive development, which results from the integration of Spanish tertiary education into the EHEA, is the establishment of the

29 However, in recent years, there has been an improvement in student access to work placements as part of the curriculum. The Conference of Rectors of Spanish Universities (CRUE) estimated that, during the 2000-2001 academic year, 8% of the undergraduate population participated in work placement programmes in companies, compared to 5.1% two years earlier.

Spanish Qualifications Framework. It will allow learning processes to be defined in relation to the competencies required by the labour market.

Despite these strengths, there are still considerable challenges in linking the tertiary education system to the labour market. First, it is not clear whether the current offerings do respond to actual labour market needs. The labour market seems to be mostly absorbing tertiary education graduates as suggested by the relatively low unemployment rates among tertiary graduates. According to a survey by ANECA cited in the Spanish Country Background Report, only one out of 10 degree holders who graduated in the year 2000 was unemployed about 5 years later. Additionally, 77% of those interviewed found work within less than a year, and 65% considered that their work was appropriate to their training. However, data from a recent survey conducted in sixteen countries which examines the "The Flexible Professional in the Knowledge Society" (the REFLEX survey) indicates that five years after their graduation in 2000, Spanish tertiary graduates are the ones with the lowest average salary. There are also indications that rates of return for university graduates have declined between 1995 and 2002 (García Montalvo, 2007). García Montalvo (2007) argues that this decline might reflect the fact that demand for university qualifications did not accompany the additional supply of university graduates. He also points to the existence of surveys that denote mismatches between university qualifications and the skills required for jobs taken by university graduates.

Second, the current policy framework seems to limit the degree of responsiveness of tertiary education institutions to labour market needs. There are rigidities which constrain the ability of tertiary educational supply to respond to emerging labour market needs. The historical little autonomy for institutions to design their programmes and determine their educational supply is certainly prominent among these. However, the recent reforms giving universities the freedom to decide their educational supply as well as the adaptation to the EHEA are expected to reduce imbalances between university supply and labour market demands. Universities have also traditionally had very little flexibility in redeploying academics across programmes to adjust their educational offerings to changes in labour market demand.

A major feature of the university system is that it is not student demand-driven. The number of students admitted in public universities used to be fixed until recently by the University Coordination Council, the former coordinating body which was split in 2007 into the CGPU and the CU. The decision relied mostly on the proposals put forward by the autonomous communities and the per-student cost for each course. Labour market demand has not been a major factor in decisions on the number of students admitted for most university courses. Such a system distorts the extent to

which students respond to labour market signals. By contrast, in higher vocational education, there is a concern to identify labour market needs. The National Institute of Qualifications (INCual) assesses labour market needs and defines the qualifications sought by different economic sectors, including them in the National Catalogue of Occupational Qualifications.

The gap between university education and Spain's development needs is documented in a report by the Knowledge and Development Foundation (*Fundación CyD, Conocimiento y Desarrollo*) (Fundación CyD, 2005). Based on a survey of over 400 businesses, the report shows that few of them view universities as a driving force in Spain's development, two thirds of the businesses have no relations with universities, and less than 10% of university graduates find their first job through the university employment services. Perhaps more important is the report's conclusion that university teaching has limited practical contents and does not provide graduates with competencies valued in the business world: leadership, creativity, English language, and management and communication skills.

Third, the input by employers/industry to tertiary education policy appears to be somewhat limited. There seems to be no forum at national level where representatives of business and industry could systematically contribute to the development of tertiary education policy. We also formed the view that there is little tradition of the active involvement of industry in the daily activities of institutions, especially in universities. The formal participation of employers and representatives of industry as external members of Social Councils seems to have little impact on institutions' practices as the Social Councils play a modest role in institutions' decision-making. The executive bodies of institutions (governing councils) did not provide until recently for the participation of members external to the institutions. A good step, even if still limited, is the new provision in the 2007 reforms of the LOU for the possibility to appoint up to three external members to the governing council. At the same time, the Review Team formed the view that employers and the business community do not seem prepared to contribute at the level of institutions' and the system's expectations. The situation is more satisfactory in regard to employers' involvement in higher vocational education through, for instance, their participation in the General Council for Vocational Education (CGFP).

Fourth, it was clear for the Review Team that lifelong learning offerings of tertiary institutions are underdeveloped and the needs of adult learners do not seem to be a focus of tertiary institutions. Strategies for promoting lifelong learning are incipient which is, for instance, reflected in the limited supply of training for company employees. The cooperation between institutions of tertiary education and companies for developing tailor-made programmes is still in the initial phase. A good exception, however, are the

professional specialisation courses offered by universities. Also, the opportunities for adults to undertake tertiary education on the basis of assessed competencies (rather than formal qualifications) after an experience in the labour market are still limited but possible in the higher vocational sector.

A final issue of concern is the mobility of students within the system, which affects the efficiency of labour market outcomes. Most students do not move to another region to study and labour market mobility is also low. The mobility across institutions is limited, in particular between the university and the non-university sectors. A good development in this respect is the current development of curricula in higher vocational education on the basis of credits, which has the potential to facilitate the transition to university studies. According to the ETEFIL Survey (*Encuesta de Transición Educativo Formativa e Inserción Laboral*), about 25% of graduates from higher vocational education in the 2000-01 year entered university.

4.8 Internationalisation

Historically, in the first two centuries of their existence, the Spanish universities in a way similar to those in Portugal, but in contrast to other European universities such as Bologna, Paris and Oxford, relied on local students. Paradoxically, from the XVIth century on, Spanish universities (especially Salamanca) became a model for the first universities in *New Spain*: Santo Domingo in 1538, Lima and Mexico City followed by other *estudios generales* over the following three centuries in Quito, Santiago (Chile), La Plata, Chuquisaca, Córdoba, Santa Fe (Bogotá), Yucatán, Cuzco, San Carlos (Guatemala), Ayacucho, Havana (Cuba), Caracas, Buenos Aires, Nueva Granada, Panamá, Nueva León, and Nicaragua (Roberts *et al.*, 1996). Later in the XXth century, Spanish universities again began to experience a type of national imprisonment, isolated from the world, from Europe and its Latin American inheritance.

From the moment that democracy was restored in the 1970s, change occurred rapidly. The Spanish university system opened itself to the world again and became an active part of the convergence with Europe, also resuming its leading role in the Ibero-American higher education area. Internationalisation became a prominent area in university policy and soon presented new challenges.

In particular, Spain's participation in the development of the EHEA presents a number of challenges for policy. As the prologue of the revised LOU states, the new law has "bet on the harmonisation of higher education

systems as part of the European Higher Education Area and assumes there must be a profound reform of the structure and organisation of teaching based on the three cycles of Graduate, Master and Doctorate". So now one of the most important functions of the state in relation to the university system – the organization of official learning – has become part of a European supranational coordination. In accordance with this approach, recent legislation (*Real Decreto* 1393/2007, see Section 3.1) establishes a new structure for official university teaching and degrees which makes official university teaching in Spain consistent with the general guidelines issued by the EHEA. It specifies the characteristics of each of the three cycles and the way by which the new study plans should be developed and approved.

The other area in which Spain's higher education policy shows clear evidence of internationalization and *Europeanization* is quality assurance. In fact the creation of the National Agency for Quality Assessment and Accreditation (ANECA) in 2002, together with the policies it promotes, aligns well with developments within the EHEA. For example, the Agency's quality policies make the following commitments:

- The introduction and improvement of quality management systems consistent with the international criteria and directives for quality assurance; and
- cyclical external reviews to assess institutional/programme quality relative to national and international standards.

In other aspects Spain's coordination, planning policies and modalities are being strongly influenced by opening the system toward and a determination to become part of the European Higher Education Area. This has happened, for example, with the considerable effort of the Spanish higher education system with respect to the other European countries and other OECD members: with the frequent use made of benchmarks developed by the leading countries in terms of higher education and/or the technological and scientific progress; the constant concern shown by the national, community and institutional authorities about how to increase student and academic mobility (in the two senses of coming to Spanish and going to other European universities); the growing participation of Spanish researchers and research centers in European research programmes etc.

In spite of the significant advances that can be observed in international opening – and in *Europeanization* in particular – in Spanish higher education, the Review Team's visits to different institutions demonstrated backlogs and challenges that have as yet not found a satisfactory response.

Of these problems and challenges, the first remains the weak institutionalisation of the internationalisation activities; that is, the as yet incipient organisation and reduced funding of these activities within universities although, of course, there are different levels of development among different universities. The limited involvement of the higher vocational education sector in international activities should also be noted. In general, internationalisation activities – except for those which relate to the Bologna process – do not appear to be an important focus for higher education institutions' development plans. On the other hand, the number of foreign students enrolled in undergraduate programmes is low, growing ever so slightly: in the academic year 2006-2007, they represented less than 2% of the total undergraduate students (MEC, 2006).

This is partially compensated for by efforts that universities have made to comply with the Bologna standards by 2010. However, while a maximum priority for the government and universities, progress is below that demonstrated by other countries, for example Denmark, Hungary, Ireland, Norway and Portugal. And there are crucial aspects – such as the implementation of teaching cycles, the application of the Lisbon Convention on degree recognition and the weaknesses in the teaching of a second language – that for the moment are only at the initial phase of implementation.

Given Spain's historical role in Latin America's higher education, it could be expected to play a bigger role in linking policies on both sides of the Atlantic, with Spain taking the lead in constructing an Ibero-American knowledge area. If Spanish universities are to play this crucial role and act as a conduit between higher education in Latin America and Europe, its special position could be used to promote tertiary education collaboration in the Spanish and Portuguese speaking world. In particular, Spanish universities are today in the position to organize and lead longer term initiatives particularly in post graduate education and complex research projects including both governments and universities in Latin America. An increasingly global world requires these kinds of skills.

Spain has other advantages, apart from language, to expand and deepen co-operation with universities and higher education institutions in Latin America. These are the growing business links, which with the economic opening has resulted in a group of Spanish companies becoming principal actors within the Latin American region. For the first time, Spanish universities have the possibility of promoting initiatives with the Spanish private sector in Latin America. A successful example is the *Portal Universia* that links over 800 universities from the Ibero-American region and can rely on the support of the Conference of Rectors of Spanish Universities (CRUE) and the Santander Group. But there are many other

educational and policy areas that need broad and multi-institutional support to explore new and innovative collaborations with Ibero-American education and advanced research.

One of main challenges facing Spanish universities is to compete with other European universities and to improve their global ranking. While there are 34 European universities among the top ranked one hundred universities, according to the *Academic Ranking of World Universities* of the Institute of Higher Education, Shanghai Jiao Tong University, none are Spanish. And the same source reports only one Spanish university among the 80 European universities that make up the first 200 ranked universities. Regardless of the ranking's limitations, one should not underestimate their influence, for example, on students from the rest of the world who decide to study abroad often with nationally funded scholarships that support doctoral courses at leading universities.

5. Pointers for Future Policy Development

5.1 Governance, Planning and Regulation

The Spanish tertiary education system has made impressive strides since 1976 in evolving from an authoritarian background to a democratic regime. The changes in tertiary education are consecrated in the various laws and Royal Decrees which reflect the principles declared in the 1978 constitution: academic freedom, university autonomy and education as a right for all Spaniards. Subsequent developments included an expansion of higher educational pluralism both in terms of types of institutions (*e.g.* an increasing number of private universities) and the assumption by regional governments of the responsibility for the funding and support of tertiary education in their autonomous communities. At the same time the central government maintains authority over staffing, curriculum and quality control but in crucially different ways.

The application of the constitutional provisions and the laws, particularly that of 1983, can be seen as a required political cycle to ensure that universities were integrated and responsive to the federal structure; that academics, not the government (neither central nor local), ran universities; and that universities' predominant character was to be that of learning and research. This has been successfully achieved and Spanish universities are vital elements in national public discussions. A second cycle, initiated with the Bologna Process and the creation of the EHEA, is more technical in that it challenges Spanish tertiary education to meet academic and curricula standards consistent with those of other European countries. This second cycle is not yet complete, while it is now becoming apparent that a third cycle is in progress, which can be described – loosely – as universities as social enterprises. The focus of policy thus shifts from regional to institutional pluralism and from academic independence to academic output.

This discussion of cycles and the changing emphasis – to institutions and output – is important as background to any discussion of system and institutional governance. Governance is not simply about how different institutions are integrated and, in federal systems, how the different levels

relate to one another – but how they are to be evaluated principally in terms of what participants believe tertiary education systems are for and what they do. A system that wishes to educate only the liberal professions will be judged quite differently from one that wants the majority of school leavers to enter tertiary education and to learn the useful arts (applied technology, computer literacy etc.). The key question for any governance system is to determine the participants that judge and decide. An elite system principally educating the professions can safely limit 'participants' to membership of professional colleges (almost always central or regional government monopolies). A 'massified' tertiary education system not only has a greater number of participants but a greater range of needs to meet. Moreover the tertiary education institution becomes one part of a larger puzzle and is often regarded as a contributor to a process - that is judged as much by labour market as educational outcomes. Thus it appears sensible that those involved in labour markets (public and private employers, graduates and employees) should have as much or as a big a say as academics. This could be interpreted as infringing academic autonomy and much ink has been spilt where that line might be drawn. The challenge for most systems has been where to draw that line – maintaining autonomy but ensuring relevance in a changing environment.

The changing environment has a strong impact on system governance and the criteria by which tertiary education systems are to be evaluated; if the environment is relatively stable then small changes, at the margin (like those approved in 2007), are sufficient. If on the other hand change is expected to be dynamic and likely to alter the *status quo* then Spain's current governance structure may not meet new and/or pressing demands. The *expected degree of change* then becomes the key perception for proposals to change the tertiary education governance structure and to meet future challenges. However it should be admitted that it is probably easier to identify the 'environmental' challenges than to identify the organisational solutions that might help deal with them. For these solutions, inevitably partial, depend on how people want their tertiary education systems to function. The Review Team is only too conscious that there has been considerable change and much discussion prior to the 2007 law and it is unlikely that there will be sympathy for new legislation or interminable discussion about the strengths and weaknesses of the tertiary education system, unless it can be shown that there is a mismatch between governance structure and tertiary education opportunities which is punitive to its development.

The changing environment can be crudely categorised into two trends – those common to Europe and those particular to Spain. The most dominant issues common to European systems are public austerity and public

accountability - that is a reduced rate of public financial support and an increasing interest in auditing tertiary education results. To this has to be added the increasing competition for resources among institutions across Europe. The most prominent features of the Spanish tertiary education environment are:

- The division between university and non-university tertiary education;
- The balance between central, regional and local authority over conditions of academic staff;
- The absence of widespread student support;
- The limited role of external stakeholders in the governance and management of tertiary institutions;
- The increasing role of regional and international standards for teaching, research and outcomes.

It can be argued that the current balance within the system – central government, autonomous communities and the institutions themselves can tackle these issues with current arrangements. However there is a case, shared by a number of commentators interviewed by the Review Team, for greater commitment to change at both the system and institution level as there is a risk that if some of these coordination issues are not tackled satisfactorily, the potential impact of tertiary education on social and economic change might be reduced.

The overall goals for the 2005 National Reform Programme calls for closer alignment with European standards (joint degrees, new curricula and teaching) and expanded access to tertiary education from 46 (2004) to 53% (2010) of the relevant age range increasing the proportion of science, mathematics and technology students from 12 to 13.5%. There is little discussion and apparently no indicators about the equally important creation of human capital and its contribution to productivity. The National Reform Programme also called attention to the role of ICT and the need to upgrade middle level professional training. As these are closely related to labour market and employment skills, there are good reasons to ensure the existence of a national/regional forum which can associate the two, discuss skills gaps and how the different types of institutions within tertiary education may share responsibilities. For the universities to be absent from such a discussion would be for them to lose an opportunity to maximise their role in the society.

Strategic planning councils

While there are a number of coordinating national bodies for both higher vocational education and universities and which do valuable work, the Review Team sees a role for a new function, a strategic planning council at both the national and community levels, which would advise on new opportunities, funding and provide intelligence to each of the ministries (national or autonomous community), linking the different types of tertiary education and with a broad membership. This council would provide the reflection and debate to establish a vision and objectives for an integrated tertiary education system. It would assist with the integration of strategic leadership, policy planning and co-ordination among the main actors. The membership of this council or advisory group would consist of representatives of the government(s), institutions (private and public, universities and non-universities), students, teaching staff and academic community, and civil society; independent tertiary education experts and external stakeholders such as employers and labour unions. Such a body would be complementary to tertiary education authorities – as it would make recommendations, not develop policy.

The council or advisory body would become a useful means by which stakeholders can be consulted and express their opinions in a way that does not directly influence the autonomy of the university, as currently defined. Further, if properly used, it might assist with the building of a regional consensus on the overall pattern of autonomous communities' tertiary educational investments and specialisations so reinforcing community needs and obligations. The values of these 'councils' would be based on broad stakeholder representation but also on the willingness of the individual institution to take a more active role in change. The impression of the Review Team is that, for instance, many universities have interpreted autonomy and powers of self-regulation in a quite conservative way. A relatively slow but steady student contraction means that universities will compete as much on quality as numbers because the economies of scale in all subject areas will be reduced.

It would also be important to give appropriate voice in the system to students. Students should have a prominent role in overall system-level policy development and areas such as quality assurance processes (both internal and external) and student services. They could also contribute to the development of the institutional strategy and the setting of institutional priorities.

Strategic review and integration of the tertiary education system

A major priority for Spain should be to develop a comprehensive and coherent vision for the future of tertiary education, to guide future policy development over the medium and long term in harmony with national social and economic objectives. It should result from a systematic national strategic review of tertiary education, bring together the relevant stakeholders along the lines suggested above and entail a clear statement of the strategic aims.

An important part of the reflection should go into the design of a coherent tertiary education system, one in which the university system, higher vocational education and specialised tertiary education are effectively integrated. This reflection should see these three subsystems as equal components of the tertiary education system, agree on their distinct missions and contributions, and establish the appropriate linkages between them. One critical issue is to build an identity for higher vocational education as a prominent part of the tertiary education system, which implies its dissociation from secondary education. Clearly, this would entail fundamental reforms in higher vocational educational as with the design of a proper status for teachers in higher vocational education (*e.g.* specific career structure), quality assurance arrangements and funding mechanisms integrated with those currently in place for the university system and possibly specific infrastructure for the delivery of the programmes. We are not advocating the integration of higher vocational programmes in the universities but, instead, proposing the strengthening of a separate higher vocational education as an integral part of tertiary education with a proper policy framework more in tune with the objectives and mission of tertiary education.

In a higher vocational sector fully integrated into the tertiary system, institutions in this sector would need to develop and take collective ownership of their own distinctive mission, in which they can take pride – and with which they can compete with each other to excel. The rewards for their excellence have to be substantial enough to discourage academic drift. In these institutions, the primary criterion for accreditation to award degrees should be a demonstration of adequacy of education provision with labour market demand.

Mechanisms to define the role of individual institutions in the system and incentives to ensure that individual institutions stick to their agreed mission and profile should be put in place in order to avoid the fragmentation of the different subsystems of the tertiary system. The risk is that each subsystem evolves independently of others, diverts from its alignment with the system's objectives, leading the overall system to lose

coherence. Improving the ways in which institutions collaborate can also help create a more coherent system. In addition, it is essential to guarantee linkages between the several sub-systems. For instance, opportunities should exist for students to move across the vocational-academic divide (in both directions) with appropriate support. This would be part of a strategy to stimulate more vigorously flexible learning paths and the validation of previous learning experiences for students throughout the system. This concerns both the transfer across sectors and between institutions in a particular sector. The national qualifications framework currently being developed is likely to be instrumental.

Diversification

Extensive and flexible diversification provide countries with a wider capacity to address varied national needs – in terms of research and innovation, the development of a skilled workforce, social inclusion and regional development – than a system of limited and fixed diversification. Given the little diversity characteristic in particular of the university system, educational authorities may want to assess how to foster further diversification of the educational supply to better meet the strategic goals of the system. The autonomy to develop degrees and curricula recently granted to universities will certainly assist with the diversification of programmes and will encourage institutions to specialise.

Higher vocational education has a major role in the diversification of the Spanish tertiary education system. The aim should be to promote quality professional and vocational education and training within a tertiary sector which is strongly employer-oriented and closely integrated with the specific labour market needs of each locality and region. The objective is for tertiary-level vocational qualifications to generate their own high status so that professional/vocational programmes are not seen as second-best. In a country where academic qualifications have been dominant, further expansion should concentrate on professionally-orientated programmes.

The outward focus of institutions and institutional autonomy

An imperative is to ensure the outward focus of institutions. This entails strong educational links to employers, regions and labour markets; effective university-industry links for research and innovation; participation of external stakeholders in system and institutional governance and in quality assurance; a significant share of external funds in institutional budgets; and a broad internationalisation policy portfolio.

It would also be important to review options to widen the scope of institutional autonomy of institutions, in particular universities, so as to allow for greater responsiveness (to students, stakeholders, regions) and efficiency in operations. The guiding principle should be to grant institutions considerable room for manoeuvre while reserving the steering role for the government. Institutions are to be given wide latitude in managing their own affairs for accomplishing public priorities consistent with their missions. The objective is to enhance institutions' responsiveness to challenges and their ability to diversify, to take initiative and to innovate. Areas in which there is room to widen levels of autonomy of universities include human resource management (*e.g.* selection, employment, promotion and working conditions of staff), funding (*e.g.* right to build up a portfolio of assets and to accumulate financial capital) and institutional governance (*e.g.* freedom to set up internal governance structure).

External membership in institutional governing bodies

An influential external membership in institutional governing bodies is likely to bring a range of benefits. External representatives provide useful perspectives and insights, thereby enhancing the relevance of tertiary institutions to their communities. They are also a valuable means of promoting accountability. While it is encouraging, for example, that universities can, under the 2007 amendments to the LOU, appoint up to three external members to the governing council, this remains only 6 percent of the total membership and possibly not enough (given the range of stakeholders) to encourage new and innovative voices. Under these circumstances the university will certainly retain its corporate identity (membership being open to academic, non-academic staff and students) but probably at the expense of innovation.

At the same time, educational authorities should consider, and consult on this with the institutions, the possibility of giving the Social Councils more significant powers. Granting some specific powers to this body – *e.g.* financial oversight; agreeing and revising the mission and setting the broader strategic plans of the institution, as advised by and in consultation with the academic staff; oversight of senior post-holders – could encourage the active participation of external stakeholders. When councils have real powers, external members tend to take them very seriously and it is possible to recruit both wise and influential people to help institutions to shape their future.

Steering and the new responsibilities of tertiary education authorities

An imperative for successful policy implementation is the development of steering instruments to achieve accountability and link institutional performance to national/regional purposes while also permitting a wide scope for institutional autonomy. Typical instruments to meet these two goals include performance contracts, performance-related funding or targeted funding. Especially important is the way money streams – in particular those dealing with research funding, funding of a strategic nature and the funding of programmes – may be coordinated to give optimal outcomes in the area of quality, efficiency and system responsiveness (see subsequent Sections). One concrete objective should be to reduce the inefficiencies identified in the system such as the long times to completion and the number of low-enrolment programmes (see Section 5.2).

Steering should ideally strike a balance between stability and innovation. There are certainly many instruments (*e.g.* competitive funds, special projects, centres of excellence, etc.) which educational authorities can use once there is a broad agreement for active, rather than passive, change. There should be a willingness to experiment at a time when the system and its components are faced with the need for greater research and development, improved European integration, and better response to external opportunities such as those in the Ibero-American region.

As educational authorities divest some responsibilities such as the direct administration of academic institutions and take on others in terms of policy steering and performance evaluation, they need to change their competencies and organisation. For example, they no longer need staff expert in managing government procurement systems, but they need instead to strengthen their capacities with respect to data collection and analysis, policy experimentation, and policy analysis. The objective is to reinforce the steering capacity of tertiary education authorities both at the national and the autonomous community levels. An evaluation of their staff expertise and current skill needs may be useful to identify potential mismatches and to develop professional development and training programmes to keep pace with changing demands.

Evidence-based policy

Policy development and implementation are likely to be more effective if there is a good basis of information, and should, wherever possible, be evidence-based and associated with an information strategy. It is needed for assessing the performance of the system, costing and planning new developments and monitoring outcomes. Published information is also a

necessity in a system that is responsive to stakeholders. A comprehensive information strategy should thus be developed, laying out what is to be collected, how often, the methods for collection, but also what is to be published, to whom, and how information is to be disseminated. It would also be important to monitor and review the success (or otherwise) of tertiary education policies and their implementation, and to contrast policy practices across autonomous communities and with those of other comparator countries in a systematic way to inform policy development.

Teaching and learning

Aspects that require closer attention in teaching and learning are:

- The balance between general and specialised knowledge:

  The design of teaching programmes that prepare students for specific professions and occupations should give sufficient emphasis to the generic skills and interdisciplinary knowledge required by present day labour markets. It should be recognised that achieving consensus as to what constitutes specialized knowledge or generic skills is a difficult task.

- The shift to competency-based teaching:

  Transforming teaching structured around professional or disciplinary knowledge into competency based teaching, as required by the current reforms, can only be attained if teachers both engage in an analysis of what it means and are willing to go through a process of learning and training. The use of competencies in tertiary education continues to be associated with those in vocational education and in activities generally performed in a repetitive and highly prescribed manner. Far removed from the complex learning of tertiary education, this usage of competencies frequently derives in a trivialization of academic and professional knowledge. It is therefore convenient to organize training activities to assist tertiary education staff, in particular university teaching staff to: *i*) identify and define the competencies proper to their teaching, ensuring the proper balance between what is academic and what is professional; and *ii*) develop competency-based teaching, where the contexts in which the competencies are used and the various levels of mastery are well articulated with the academic environment.

– The move to learning-centred teaching:

  Reorienting teaching towards student learning is a difficult change to achieve but fundamental in the context of the current reforms.[30] In a system in which the lecture continues to be the dominant pedagogical practice, learning-centred teaching constitutes on its own a cultural change of great consequence and with the potential to lead to more personalized and independent learning, a greater research vocation and interest for postgraduate studies, and more entrepreneurial and innovative attitudes. The changes will not come about by the mere fact that they are part of the spirit of the Bologna process or because they are enunciated in the law. They require will and commitment of all involved. In this respect the proposals formulated by the Commission for the Renovation of Educational Methodologies in the University are to be supported (CCU, 2006).

Co-ordination between secondary and tertiary education systems

It is essential to achieve a great degree of co-ordination between the secondary and tertiary education systems. Issues such as whether secondary students receive sufficient guidance to grasp the benefits of tertiary education, whether they have access to adequate information to assess the labour market outcomes of different study options, and the extent to which the secondary curricula provide a sound basis for successful tertiary study are key to make the transition between secondary and tertiary education both efficient and equitable. This provides a strong case for close collaboration between officials and practitioners with responsibilities in both secondary and tertiary education systems. Linkages also need to be strengthened between vocational secondary education and tertiary education, by developing tracks from vocational pathways to tertiary-level study, and providing those students with adequate support to thrive – in the form of remedial and bridging programmes. This is particularly valid for graduates from the secondary education vocational track (mostly *Ciclo Formativo Profesional de Grado Medio*, CFPM), whose transition to tertiary education is particularly challenging.

30 As stated in CCU (2006) it is also the "perfect opportunity to push forward a reform that [does not become] a simple change of structure and contents, but [one that reaches] the core of university activity […]: the student-professor interaction in the generation of learning".

5.2 Funding

The overarching principle for the development of the funding strategy should be that public funds are to be directed at steering the tertiary education system in a way that its contribution to society and the economy is facilitated. The purpose is that public funds for tertiary education are used to support priority public objectives. Hence the funding approach should be designed to meet the policy goals sought for the tertiary education system. Policy also needs to ensure that the funding approach embraces a number of desirable features. A funding approach is more likely to succeed in steering the tertiary education system if it: is transparent, flexible, predictable, fair (to institutions, students and taxpayers), ensures public accountability, permits freedom to innovate, is sensitive to institutional autonomy, is demand-driven, and recognises the missions and profiles of individuals institutions.

An immediate priority for Spain, prior to any plans to increase funding in tertiary education, should be reducing the current inefficiency in the use of resources. Possible responses include more funding on the basis of graduation rates (rather than enrolment levels), the reduction of public subsidies to students who remain too long in the system (*e.g.* higher tuition fee beyond nominal time for degree completion), the elimination of duplicative low-enrolment programmes with possible redeployment of academics across education programmes, rationalising faculty to respond to student contractions, increasing use by institutions of shared facilities (including the provision of joint degrees), and increasing student mobility between institutions (*e.g.* with mobility grants or the expansion of the student support system). A particularly important objective is to create incentives to reduce non-completion rates and the length of study time. Responses in countries where student loan systems exist have included the conversion of a fraction of loans into grants in relation to students' success in completing their studies, and tax benefits making payments of the loan deductible from taxes if studies are completed within a given time period.

Funding of tertiary education in Spain should be motivated by three main principles: cost-sharing, on the basis of relevance, and backed by a comprehensive student support system. Given the current state of play, securing these principles would entail the following priorities for policy development: *(i)* re-assess whether the current cost-sharing balance is desirable and appropriately reflects the relative importance of private and societal benefits of tertiary education; *(ii)* sustain existing efforts to improve the transparency of the allocation of funds to institutions and make it more consistent with the tertiary education strategy; and *(iii)* significantly expand the student support system.

As the earlier analysis showed, competing priorities and the heavy reliance on public money for funding tertiary education raise concerns about the ability for tertiary education in Spain to be resourced at the average level in the OECD area. Even if the principle of cost-sharing is accepted within the university system, the government still bears a disproportionate share of the costs of an individual's university education and the full attendance cost of an individual's vocational tertiary education. This tradition is largely based on the objective of facilitating access and on the grounds that the derived societal benefits justify the dominant public funding. There are no doubts that tertiary education creates benefits to society such as growth, social cohesion and citizenship values and, as a result, should be financed by public money at least in part. But it does not follow that the public purse should bear a top-heavy share of the costs, especially for those students who can afford the costs of tertiary education.

In light of the fact that Spain aspires to join the group of OECD countries which invest the most in tertiary education, and there are competing priorities for public spending, it might prove timely for education authorities to embark on a wide-ranging debate on the current approach to funding tertiary education. This could be organised in the larger context of debating the overall approach to publicly finance the different strands of the educational system. This debate would help clarify crucial issues for the financing of the tertiary sector such as: *(i)* whether further investment in tertiary education can be achieved through the public purse; *(ii)* whether private benefits are as low as to justify the modest levels of private contributions in the public university system and free tuition in the vocational tertiary sector, especially of the more affluent students; and *(iii)* whether the public savings from greater private contributions of the more affluent students could consolidate the student support system. A key fact to inform the discussion is that in order to facilitate access it is enough to make tertiary education free for the individual while a student, which does not mean free *per se* as most individuals, once they graduate, can afford a retroactive contribution.

A system whereby tuition fees more fully reflect costs of delivery both in public universities and the vocational tertiary sector, and the student support system is expanded, might better target public subsidies to students who would otherwise not be able to attend tertiary education. It would also permit the expansion of the overall resources available to tertiary institutions.

As regards the allocation of funds to institutions, the use of formulas to determine the basic public subsidy to institutions, the introduction of programme-based targeted funding as a new component of funding for institutions and the distribution of research money on the basis of

competitions are to be supported. Clear progress has taken place in this area in most autonomous communities and it is expected that these practices become common in the entire country. Therefore, efforts in this direction should be sustained and institutional funding should become increasingly strategic, formula-based and related to performance indicators.

A good rule to follow is to allocate public funds on the basis of the relevance of programmes, that is to publicly subsidise those programmes which bring more benefits to society at large. In practice it is difficult to make an accurate assessment of public and private benefits from tertiary courses. But some principles can be followed. For instance the approval of new programmes should be preceded by an assessment of relevance – *e.g.* whether they respond to labour market needs, foster innovation or serve communities' aspirations. The approach to ensure relevance is also closely interconnected with quality assurance mechanisms since low quality programmes are unlikely to be relevant, for instance, for the labour market. For an approach based on relevance to be successful a robust system of quality assurance needs to be in place. Another circumstance in which programmes should receive supplementary public funds is when there are shortages in areas deemed strategically important for the country (*e.g.* teaching, nursing).

Indicators used in performance-based funding systems should relate to aspects to be enhanced in institutions such as internal efficiency (*e.g.* costs, completion rates) and external efficiency (*e.g.* quality of graduates). Performance indicators should also reflect public policy objectives rather than institutional needs and trigger incentives for institutional improvement. A wide range of indicators are used in countries which have implemented performance-based allocation mechanisms. Indicators more associated with study completion are student graduation/completion rates, number of credits accumulated by students, average study duration, ratio of graduates to beginners, or number of degrees awarded. Other indicators focus on the labour market outcomes of students: employment rates of graduates, extent to which employment is in a field related to the area of studies or student performance on licensure professional exams. Some countries also use stakeholders' views (*e.g.* employers, student, government, social partners) of programmes' effectiveness, including assessments of the quality of graduates and about the extent to which a range of needs are being met, and degree of graduate satisfaction.

However, performance-based funding mechanisms should be carefully implemented because they can have undesired effects. For instance, if institutions are funded on the basis of degrees awarded or credits accumulated by students, some may be tempted to lower their standards in order to improve their funding. This would require adequate quality

assurance mechanisms in place. Another possible effect is to induce risk-avoiding behaviour among academics and administrators leading to an emphasis on outputs that are easily attainable and measurable (*e.g.* effort shifted away from hard-to-measure activities such as the development of creativity and problem-solving attitude). There are other instances in which the pursuit of a goal (*e.g.* improving completion rates by offering remedial courses) may have adverse consequences on another important objective (*e.g.* research activities or public service activities by academics).

One way to address these concerns is to develop a balanced funding mechanism based on a mix of input and output indicators. A typical input indicator used is the level of student enrolments, typically weighted by funding rates which are differentiated by field of study and qualification level. It is important to note that enrolment-based funding may also provide incentives for improving the quality of programmes as a result of having institutions respond to the needs of students who "vote with their feet" as long as some conditions are met (Jongbloed and Vossensteyn, 2001): *(i)* largely there are no restrictions on (publicly-funded) enrolment numbers in institutions; *(ii)* students have access to reliable information on programmes; *(iii)* credit recognition facilitates student mobility between institutions; *(iv)* tuition fees are high enough to trigger a wise choice of programme; and *(v)* student support systems allow for student's choice of institution. The more these conditions are met the greater weight should input indicators have in the funding formula. A small share of performance-related funding is sufficient to influence institutional behavior as long as the conditions above are largely met. It happens that in Spain some of these conditions are not met: the system is mostly supply-driven, credit recognition is under developed, tuition fees are set at modest levels and the student support system is incipient. This suggests that some reliance on output indicators for the funding formula might be needed to ensure the desired institutional behavior.

Some prerequisites need to be in place for the successful introduction of performance-based funding. First, because gathering information is costly, it is important to use simple measures which are more readily available. Second, it is important that indicators are valid measures of performance and can easily be interpreted. If outcomes are poorly measured or measures are not valid, the goals of output-based funding may not be realized. Third, it needs to be ensured that there is administrative capacity in place to manage and interpret a great deal of information. Fourth, it is imperative to ensure that the measures being used are transparent to all stakeholders involved. This highlights the need to achieve political agreement among a broad range of stakeholders regarding the terms for introducing an output-based component for institutional funding.

Another effective approach potentially instrumental in aligning the mission of institutions with the overall strategy for tertiary education, already in use in a number of autonomous communities, is programme-based targeted funding (for activities other than research). It consists of allocating funds to institutions through programmes with precise objectives such as the introduction of innovative curricula, the development of tutoring schemes for students, the improvement of management practices, the expansion and upgrading of the infrastructure, the development of national and international collaboration of academic staff, or the strengthening of postgraduate education. These programmes can also encourage the strategic planning of institutions and grant an opportunity to reflect on their specific mission in light of local, regional and national needs.

There is a need for institutions to diversify and enlarge their income from sources other than public funds and which are consistent with their mission. Clear guidelines between institutions and the educational authorities need to be drawn up in relation to how this is to be supported and encouraged. This also reflects the inevitable corollary of the adoption of the "third mission", especially in the context of regional development. Diversifying sources of funding is likely to be facilitated by an institutional legal status which enables the institution to behave entrepreneurially in terms of costing and pricing of activities; budget flexibility; swift decision-making on commercial possibilities; a market-oriented culture among the staff; and a responsive supply of educational programmes and research activities.

Another pressing and clear need is the development of a proper funding framework for the vocational tertiary sector which follows the principles described above. This would grant the overall tertiary system a coherent and integrated approach to funding. However, the basis to allocate funds to institutions should follow a tailored approach recognising the diversity of roles and missions of institutions. Therefore, the criteria for funding should vary for different institutions. For instance, if the mission of the institution stresses links to the community, a performance-based approach should consider including indicators such as the number of graduates in areas critical to the region or the number of faculty involved in community-related projects. This might prove useful in promoting greater diversity and specialisation among tertiary institutions, with possible gains in the efficiency with which available public funds are used.

The remaining key element of the funding framework, the student support system, needs to be significantly expanded and diversified. It is suggested that it is based on a system of means-tested scholarships (both at national and regional levels) complemented with a universal loan scheme with income-contingent repayments. It would represent an important

component in a system based on the principle of cost-sharing as it would offset the effects of possible higher private contributions for academically qualified students who are financially needy. The savings from the likely drop of tertiary enrolments in the coming decade (with the predicted sharp decline of the population aged 20-29) could facilitate the expansion of the student support system.

The looked-for student support system would require the significant expansion of the current national scholarship system and the regionally-based grants systems. These schemes should be the main promoters of the access of the more vulnerable groups, keep their accent on the financial need of students, and ensure that they are effective and equitable across the different regions of the country.

To complement the scholarship system, a far-reaching student support system should encompass the creation of an income-contingent loan scheme at the national level. Given the initial massive investment it requires, it could be launched on a means-tested basis but it should become universal (*i.e.* not means-tested) as it reaches maturity. The availability of the loan scheme would reduce the liquidity constraints faced by a wider range of individuals at the time of study. Its income-contingent nature would address the risk and uncertainty faced by individuals, and improve the progressiveness of the overall system. In such a system the repayments of graduates correspond to a proportion of their earnings. As a result, low earners make low or no repayments and graduates with low lifetime earnings end up not repaying their loans in full. Income-contingent loans protect borrowers from excessive risk as they provide insurance against inability to repay. They also make the system more progressive. Those individuals who derive greater private benefits from a tertiary degree see the level of their public subsidy reduced vis-à-vis that of other students.

A number of features could make the loan scheme more effective. If subsidies on interest rates are to be provided, those should be given on the basis of financial need. There should be a maximum number of years during which interest rates are subsidised, an entitlement for students to borrow with a subsidy, and a larger loan entitlement at market interest rates (or the government's cost of borrowing).

Students who receive scholarships should also be able to take up student loans, with the loan entitlement being abated by the amount of the scholarship. Overall, once the student support system reaches maturity, aid amounts – scholarships and loan entitlements – should be large enough to effectively remove liquidity constraints faced by students. It is also recommended that student financial aid is tied to costs of living across regions if substantial differences are observed. Students who attend private

institutions should also benefit, under the same conditions, from the same basic financial support to cover costs of living. It might also prove instrumental to create an agency, within or outside the Ministries, to be responsible for the administration and delivery of student loans and scholarships.

5.3 Quality Assurance and Improvement

The development of a comprehensive QA system geared towards quality improvement and trusted both in Spain and internationally is of crucial importance for the further development of Spanish tertiary education and its successful integration into the European Higher Education Area. The recommendations concern two main areas: the setting in place of a system (mechanisms, agencies) for quality assurance and improvement encompassing the whole of higher education in a nation-wide coherent framework; and the refocusing of evaluation activities with a view to avoiding an overload of assessments while strengthening their impact.

Setting up a comprehensive and coherent framework for QA

Spain needs a coherent system at national level. The planned harmonisation of criteria used by the various agencies in the REACU network - which is a priority within the new Commission for the Coordination of Higher Education Policies - points in this direction. But what is required is much more: there should be an explicit sharing of tasks between the national and the regional QA agencies. The German approach may provide a useful source of inspiration here, not least since the German federal structure of the education system is easily comparable to the Spanish one. In Germany, the national accreditation agency controls the use of a single national seal of quality, but the actual accreditation of programmes (and hence the right to use the national seal) is through regional or specialised agencies approved by it. It is not suggested that Spain should adopt exactly the same approach, but that the role of ANECA and of the various regional agencies should be better delineated, and that there should be a set of quality standards for the approval of regional agencies. This seems indispensable not only to avoid the current confusion and inefficiency in the system, but also in order to ensure that Spanish quality assurance is fully understood and trusted, not only domestically, but also in the European and international arena - including of course in Latin America.

Within the short period of its existence, ANECA has succeeded in establishing an international profile both in Europe and in Latin America, and this *acquis* should be carefully preserved and developed. The role of

regional agencies may be enhanced, but only if they have: a sufficient critical mass (which may imply in certain cases the creation of agencies common to various autonomous communities); proven independence from local authorities and institutions (which means a strong minority or even a majority of non-local members and experts), and suitable QA procedures and criteria capable of convincing national and international stakeholders. The review of regional agencies could be entrusted to ENQA or ECA (European Consortium for Accreditation) but, under the current circumstances, it is to be expected that the majority of them would not meet the European standards and guidelines and would therefore not be able to join the "European Register" of (good quality) quality assurance agencies. This would strengthen the role of ANECA, not as a national agency above regional ones, but as a common point of reference within Spain and internationally. The planned role for ANECA in the accreditation of civil servant academic staff (as long as hiring and promoting staff is not yet the direct responsibility of universities) and the new master programmes after their induction period point in this direction.

In addition to these activities, the national agency should be encouraged to carry out more evaluations leading to the award of "quality labels" for specific parts of tertiary education: in addition to the current quality seals for doctoral programmes and libraries, there could be others rewarding *e.g.* innovativeness in curricula and teaching methods, internationalisation, support services like OTRIS, career services, guidance/orientation services, tutoring, strategies to enhance survival rates after first-year, integration of non-traditional learners, etc. The quality of internal QA systems in place at universities should also be subjected to periodical reviews coordinated between ANECA and qualified regional agencies. Another role of ANECA should be to ascertain the quality of data and pertinence of indicators used for quality assurance purposes throughout the Spanish system; particular emphasis should be given to the need to compare performance indicators not only nationally but also internationally, in particular in the European context. All QA agencies should include students and foreign experts not only in the evaluation teams, but also in their decision-making bodies.

With respect to higher vocational education, the proposed coordination plan between relevant regional authorities is a welcome initiative, especially if it leads to the training of leaders and staff at all institutions and the generalisation of an external certification. This should however not prevent existing agencies, including ANECA, from including institutions of higher vocational education into the scope of their evaluations and surveys like those proposed above.

With respect to external teacher evaluation, which should be seen mainly as a temporary, intermediate activity until universities are fully free

to select their own staff, the aim should be to reach sufficient harmonisation between the agencies for the mutual acceptance of their outcomes. REACU, with encouragement from the Coordination Commission for Higher Education Policies, is probably the right vehicle for this, although some kind of quality requirement may need to be formalised for agencies that want to join the network or stay part of it. Overall, the evaluation of teaching performance should be made more independent from the *sexenios* system, both with respect to the selection of evaluators and the design of evaluation grids.

Fewer and more effective evaluation activities

Another main direction for change in the overall area of quality assurance and improvement concerns the volume, coordination and effectiveness of evaluation activities.

Concerning the evaluation of teachers, fewer and better coordinated procedures with more visible consequences would be better accepted and more effective as vectors of change. There should also be more evaluations for group work, combined with rewards (in terms of acknowledgement as well as funding) for the successful completion of projects of all types.

Concerning programme evaluation, there is a need to better distinguish the role of the *ex ante* evaluation and that of the *ex post* accreditation of the new master programmes. The *ex ante* evaluation for the purpose of authorisation should be organised in a more systematic way, both to avoid widely diverging regional approaches and to prevent it from becoming a premature near-accreditation that could deprive universities from their new freedom in curricular design. The evaluation of doctoral programmes should also be a priority, with a view to easing the transition from the current model of doctorates at Spanish universities to one more in tune with international standards and structures, with *e.g.* doctoral schools and post-doctoral training emphasising multidisciplinarity, international cooperation, links with society, research management and teaching enhancement. Programme evaluation and accreditation should underpin greater programme differentiation and reward curricular and methodological innovation. The risk always exists that QA mechanisms be used or interpreted as tools to enforce the sheer compliance with existing patterns. One possible way to avoid this is to make innovation and differentiation a specific evaluation criterion and to reward it positively.

Overall, the role of performance indicators should be strengthened and should result in more differentiated, performance-related funding (not least in order to eliminate those mechanisms that actually reward inefficiency).

In order to disseminate good quality and innovation throughout Spanish tertiary education (universities as well as higher vocational education schools) a suitable approach may be to identify and distinguish - through evaluation/accreditation agencies – a small number of centres, programmes, teams and possibly whole institutions which outperform their peers in terms of "quality" defined in a global (*i.e.* not only academic) way, *e.g.* renovated programmes in specific disciplines, tutoring systems and teams, industry liaison units, etc. This could be supplemented with top-up funding and in this way constitute a means for government(s) to explicitly reward top quality ("excellence") and innovation.

5.4 Equity

Clearly, issues of equity in tertiary education in Spain need to become more prominent in national debates and policy making. A coherent and systematic approach to equity would in the first instance assess where equity problems arise: whether they are related to income constraints faced by families and insufficient student support; whether they are related to inequity of opportunities at the school level; whether they are linked to admissions issues; or whether they are related to other barriers such as the lack of knowledge about the benefits of tertiary education. This requires the systematic collection of data such as the socioeconomic background of the tertiary student population, completion rates by family background, regional flow of students, student's part-time work, or the social and economic conditions of student life. The objective would be for the equity framework to use an empirical performance indicator system to monitor access, participation, retention and success of groups identified as disadvantaged.

The response to reduce inequities in the access to and completion of tertiary education should include initiatives in five areas: *(i)* schooling policies; *(ii)* financial assistance to needy students; *(iii)* incentives for tertiary education institutions to widen participation and provide extra support for students from disadvantaged backgrounds; *(iv)* diversification of provision and transfers between institutions; and *(v)* policies targeted at particular populations.

To lessen inequality of access to tertiary education, policy needs to intervene at much earlier educational levels. Interventions on these levels may be more effective than at the time of the transition to tertiary education. Policies to enhance the efficiency and equity of school systems will without doubt improve access to tertiary education. OECD (2007d) proposes a set of policies to improve the fairness and inclusiveness of schools systems. These include removing dead ends and preventing dropout in upper secondary education; offering second chances to gain from education; providing

systematic help to those who fall behind at school; strengthening the links between school and families; and targeting resources at the students with the greatest needs. A positive development in this respect is the conferral of grants to pupils in non-compulsory secondary education as part of the national scholarship system.

In view of the equitable access to tertiary education, other initiatives include interventions that aim to shape the aspirations and expectations of young people whose parents have not themselves completed upper secondary or tertiary education. Students whose parents have lower levels of education underestimate more often the net benefits of tertiary education. To offset this information gap, career guidance and counselling services in schools should strengthen their role in making poorly informed school children aware of the benefits of tertiary education and in raising their attendance aspirations. In this respect it is important to put in place a network of career guidance services at the school level that is adequately staffed and undertaken by individuals with the appropriate training. It is suggested that career guidance place more emphasis in the transition from upper secondary to tertiary education for students from disadvantaged backgrounds. The models suggested by a recent OECD review of career guidance can be useful in this respect (OECD, 2004c). This can be complemented by exchanges between schools and institutions of tertiary education whereby school children are mentored by tertiary students, preferably from similar backgrounds, school children are given the possibility of visiting tertiary education institutions, and institutions of tertiary education offer bridging programmes in the context of their own outreach and access initiatives.

Another crucial element for ensuring the equitable provision of tertiary education is the financial assistance provided to needy students. As described in detail in Section 5.2, the student support system should be expanded and diversified. It is suggested that it is based on a system of means-tested scholarships complemented with a universal income-contingent loan scheme.

Tertiary education institutions also need to be provided with incentives to widen participation by less represented groups and assist those groups with extra support. A possibility worth considering is the creation of a special financial incentive for institutions to attract less represented groups. This could be achieved, for instance, through a premium in the student component of the funding formula to particular groups of students such as students with disabilities. Institutions could also develop initiatives to support students from disadvantaged backgrounds in their studies progression. Possibly more emphasis should be given to support studies progression by, for instance, extending tutoring services for students with

academic difficulties. This could be complemented with a funding incentive to encourage institutions to graduate more disadvantaged students by increasing the graduation premium for such students (in those communities where funding is partly on the basis of the number of graduates).

Another priority should be improving transfers between different types of institutions, and in particular between vocationally oriented tertiary institutions and universities. Some practices and policies could be instrumental in enhancing transfers between different types of institutions within tertiary education. These include improving information for students about programmes and transfer possibilities; extensive co-ordination of transfer policies and practices; and the development of a system of course credits valid across the tertiary education system. Sustained efforts should also go into the further diversification of the supply of programmes at the tertiary level to cater for a much wider diversity of learner backgrounds, experiences, aptitudes and aspirations. The increase in student numbers would go along with a rebalancing in favour of vocationally oriented programmes. This rebalancing would more effectively provide for two new groups of participants: an expanded cohort of school leavers who have undertaken vocationally oriented studies; and adult learners who seek to upgrade their qualifications, with recognition of their prior learning through experience. A significant area of growth should be first-cycle professionally orientated programmes and short-cycle vocationally orientated programmes.

Finally, some particular groups call for targeted policies. The Review Team formed the impression that more effective support needs to be developed for disabled students. This should include improvements in the accessibility to the buildings, more resources for institutions to provide special support for this group of students, and allowances to assist disabled students to face the costs of attendance.

Policies to allow attendance on the basis of acquired competencies (rather than academic qualifications) should be sustained. But the supply of programmes should be made more flexible to account for the particular circumstances of adult learners and, in particular, part-timers. Enrolment on a part-time basis should be facilitated, allowing part-time students to take their degree over a longer period, and with teaching organised to better suit those who are employed or have caring responsibilities.

The efforts to improve gender parity at all levels of tertiary education should be sustained, including the initiatives to raise awareness of the importance of equal opportunities for men and women. This would assist efforts to redress gender inequities in tertiary education outcomes. The issue of gender stereotyping in subject choice is difficult to address, and solutions take time. Primarily, work needs to be undertaken in schools to encourage

girls to pursue the sciences and boys to pursue the more 'caring' professions and studies. In this respect, career guidance and counselling can prove valuable. Tertiary education institutions can also help, by liaising with schools to encourage both boys and girls to undertake less traditional subjects for their gender. These initiatives can be complemented more widely through media campaigns showing women and men in non-traditional jobs.

Finally, in assuming its role as the guarantor of equality of opportunities and treatment across autonomous communities in tertiary education, the central government should convene a discussion on how to ensure more uniform spending per student across autonomous communities. Another priority would be to bring to the equity policy debate the issue of the access to tertiary education by the immigrant population.

5.5 Role in Research and Innovation

The government is addressing most of the challenges highlighted earlier with the strategic initiative *Ingenio 2010,* integrated in the National Reform Programme 2005-2010. The programme aims to gradually concentrate the increased financial resources, allocating them to strategic initiatives involving a shift of focus from research projects to research lines, from atomised to large projects, from individuals to groups and networks. The driving logic behind the initiative is to build critical mass for research by fostering networking and increasing governance coordination including with regional authorities. Within this initiative the *CONSOLIDER* programme intends to increase critical mass and excellence in public research by concentrating long term funding on the best teams.

In addition, the 2007 reforms to the LOU aiming at increasing universities' autonomy, flexibility and accountability, include measures to facilitate the incorporation of public researchers into the private sector and enhance the importance of technology transfer initiatives. There is the expectation that new models for funding universities can better link funding to new criteria such as research targets and performance measures. Research funding should be linked to clear objectives, performance goals and a stronger evaluation system not just for projects and individual researchers but also for institutions. Reducing the fragmented nature of funding for research could be tackled when addressing the lack of core research funding for most of the Spanish universities. However, the law will need to be complemented with appropriate incentives and greater competition to enhance research performance. There is also scope for assisting the universities in the development of their multi-annual plans by encouraging

the diffusion of research results, improving research management and designing strategic planning tools.

While patenting and other commercialisation activities are receiving great policy attention, the results seem thus far to be highly skewed. This suggests undertaking an assessment of the impact of the substantial resources going into the commercialisation of university R&D results. The diffusion capabilities and interactive support activities of institutions may be at least as important as the commercialisation of discovery processes. Methods and instruments for strengthening the diffusion capabilities of universities deserve closer policy consideration at present.

There is also the need to clarify the role of the autonomous communities in the definition of the national research strategy and its consequent implementation. While decentralisation has its benefits in terms of local actors' involvement and the commitment of the regional authorities, it is necessary to face the challenge of economic globalisation and the increasing costs associated with the development of a national strategy alongside regional research strategies, with potential duplications and conflicting objectives. Therefore an increased level of coordination among national and regional actors shall be fostered and internal barriers to the mobility of researchers and to knowledge flows should be eliminated.

Linkages and collaboration between the tertiary education sector and other actors in the research and innovation system, such as firms and public research organisations, need to be further developed, with the aim of improving knowledge diffusion. The tertiary education sector should be flexible and responsive to industry needs in terms of co-operative projects. Policy also needs to ensure that small and medium-sized enterprises (SMEs) and firms from all technological sectors are considered when programmes are designed.

Inter-sectoral mobility is one of the main carriers of knowledge diffusion. Mobility between firms, tertiary institutions and public research organisations should be more actively encouraged. Staff mobility enhances tacit knowledge flows and stimulates the circulation of ideas and the development of new capabilities. Each individual's skills and expertise can improve as a result of even short-term moves, thus increasing the global stock of skills. Policy makers need to provide incentives to facilitate mobility, and ensure that barriers are removed such as inflexible pension schemes and restrictive leave of absence policies in tertiary institutions.

There is much scope for improving the knowledge flows between Spanish universities and industry: the large infrastructure of intermediaries shows a low coordination capacity and relatively low outputs. Efforts should be exerted to improve the capacity and the management of technology

transfer by enhancing networking and encouraging consolidation of existing transfer organisations. In order to gain the critical mass similar to that in institutions in other EU countries, and ensure financial sustainability beyond the period during which funds are provided by the European Technology Fund (to come to an end in 2013), it would be appropriate to support networking, collaboration and mergers of technology centres (such as the technology transfer offices which exist in almost all universities). This process would facilitate their specialisation and increase their capacity to commercialise research results nationally and internationally. Fostering cooperation and networking across autonomous communities could also enhance synergies and the transfer of know-how. The university-business interaction could also benefit from greater cooperation between autonomous communities and the central government in developing clusters.

A variety of indicators are used to measure the quality of research conducted in tertiary education institutions, but these indicators are problematic. It is known from experience in other countries that linking research funding to quantifiable output measures, such as publications and patents, has had unintended impacts on the quality of research. This suggests a broad range of robust performance indicators should be developed and used to ensure the quality of research in institutions is maintained and enhanced. Indicators can also be supplemented with other evaluation mechanisms such as peer reviews. Particular care needs to be taken to ensure that research assessments capture the wide differences across disciplines and significant time lags. Moreover, appropriate performance indicators and incentives could be designed in order to enhance research staff motivation to foster science-industry links.

The heavy reliance on project-based funding needs to be examined in relation to the long-term development of the research and innovation system. Investment in equipment and instruments and the share of basic research conducted in tertiary institutions is declining in many countries, as a result of such trend. International evidence also indicates that the type of research undertaken seems to be shifting towards shorter and safer projects and project-based funding might be having an impact on the training of researchers. These issues should be carefully monitored over the coming years. A mix of competitive and non-competitive mechanisms should be used to balance undesired effects.

Finally, there is a challenge for educational authorities to develop, in close interaction with the higher vocational sector and industry, a vision and appropriate framework for research development in the higher vocational sector to best serve regional development. Entrepreneurship and innovation can be useful general criteria for research development and knowledge transfer in the higher vocational sector. Examples of initiatives are:

entrepreneurial activities of teaching staff and matching teaching programmes to industry demands. This is a good opportunity to translate innovation and research excellence of the tertiary sector, now grounded predominantly in academic criteria, to practical and relevant initiatives that serve local industry and regional development.

5.6 Human Resource Management

Human resource management is likely to be the most important area for decision-making in individual institutions. The analysis presented earlier suggests that in Spain external regulations still considerably delimit institutions' autonomy over the management of their human resources, creating inflexibilities and limiting them in finding responses to the challenges they face. This happens at a time institutions are being asked to provide swift responses to society's demands in an increasingly competitive environment.

Universities are likely to be more effective in achieving their mission if they benefit from more autonomy in the area of human resource management. Given the current circumstances in Spain, this autonomy could progressively include the following aspects: *(i)* institutions having some discretion over the setting of academic salaries (*e.g.* through salary bonuses); *(ii)* institutions with the freedom to create academic positions in line with their strategy; *(iii)* institutions having responsibility to design promotion, assessment and professional development strategies.

The status of civil servant for the highest categories of academic staff is deeply ingrained into Spanish society. Yet, some of its implications raise concerns such as the little autonomy given to institutions in human resource management and the extent to which it is seniority based. In addition, there is a clear discrimination between staff (both academic and non-academic) with civil servant status and staff with salaried employee status. Similar tasks and responsibilities are often rewarded differently. At the very least, this situation calls for a reflection on how to reform academic and non-academic careers in Spanish institutions of tertiary education so greater degrees of fairness for staff and flexibility for institutions can be achieved.

The absolute security and independence enjoyed by tenured staff should be counter-balanced by broader-based evaluation of performance and a more open labour market for academic staff. Instead of having only civil servants as permanent staff with fixed-term contracts for other academics, the possibility should exist for universities to employ academic staff directly (and not as state employees assigned to them) on the basis of a permanent contract (as is already the case in Catalonia). This simple measure seems

indispensable, as it would have the potential to accommodate over time the necessary change in attitudes and management style.

Universities should become responsible for the evaluation of their staff and for the management of all types of bonuses added to the basic compensation. If the system of *sexenios* is maintained, the top-up salary related to it may be considered part of the basic compensation. The budget for all other types of bonuses should be substantial in order to establish teaching and service to the community as equally important pillars of universities. Teaching, community service, technology transfer and dissemination activities should grow in importance among criteria for appointment, promotion and merit-based rewards. In this exercise, the evaluation of teaching and examinations provided by students should be formally taken into account. While individual incentives are important change factors, it is equally important to encourage and reward collective work and effort. Incentives, including financial ones, should be awarded to teams willing to carry out necessary tasks and changes, as specific *ex ante* incentives for *e.g.* the renovation of curricula, cross-faculty cooperation in multidisciplinary courses, the diversification of learning methods or the orientation of examinations towards competencies rather than mere disciplinary knowledge, or pilot experiments and the dissemination of their results as good practices.

In a (geographically) decentralised system, localism cannot be eradicated by decree or minute national regulation. The newly proposed system for the recruitment of professors, with preliminary national accreditation and local choice, seems more realistic, but should be supplemented by other measures aimed at guaranteeing the level of qualifications of those who are recruited and at organising an effective academic labour market. Within institutions, job specifications and selection criteria should be collectively developed and agreed, with the participation of staff at all levels (even for the most senior posts). All senior positions (professors, deans, rectors and managers) should be published not only at the national, but also at the European/international level and selection panels should include external assessors, drawn (a) from within the institution but outside the discipline, (b) from the discipline outside the institution, and (c) in the case of key appointments, even from outside the country. The regulation reserving the right to apply for the position of rector (as well as other academic and non-academic leadership positions) to internal candidates should be abolished.

Ideally, in a context of institutional autonomy over the management of human resources, the role of national/regional legislation should focus on principles rather than specific processes. This would entail, for instance, the requirement for institutions to observe the principles of open competition for

positions, selection on the basis of merit and transparency of process in recruitment without specifying exactly how this were to be achieved. Similarly, the principle that continued employment in a public institution is based on the meeting of performance criteria could be enshrined in legislation without specifying how it was to be implemented in any particular case.

A major effort to inform, train and develop staff is key to the success of the change process currently in progress. Universities should be responsible for this essential task, with national and regional governments acting as facilitators for the funding of plans for the development of human resources and the dissemination of good practice: multi-annual training programmes for academic and non-academic staff should be encouraged and supported financially. There is still a huge need to train academic staff on the requirements of modern universities in highly developed countries and as part of the EHEA, *i.e.* in areas such as effective teaching/learning, curricula development, examinations and other forms of student assessment, teamwork with other teachers and other departments/faculties, etc. The regulation prohibiting teachers to teach outside of their own area of specialisation should be abolished as an indispensable and symbolic change in the system. This would allow more flexibility for institutions to reallocate their internal resources so their educational supply can better respond to labour market needs and students' preferences. Post-doctoral programmes providing a suitable preparation for better teaching, linguistic and international aspects should all receive due attention.

Another training priority should be for administrative and support staff (*e.g.* heads of technical and support services) in the change process towards the EHEA, including through more professional support to academics in their tasks as researchers and teachers. Training in languages and international aspects (including through a much higher level of mobility) should be a particular priority for administrative and support staff. Spanish universities should be encouraged to put more efforts and resources into the better organisation, management and support of learning and research activities. Two good examples of this could be: the setting up of examination commissions (possibly with an "external examiner" like at British universities) in order to enhance the quality of examinations and grading and avoid unilateral failing by a single teacher; and the appointment of "course leaders" as coordinators of all academic (including multidisciplinary) and non-academic aspects of the learning process leading to a given qualification.

These recommended measures are unlikely to produce their full positive impact without parallel changes in the regulations of university management and funding. Thus, leadership positions should be better compensated and

leaders' performance better evaluated; funding should be based to a significant extent on the number of graduates rather than enrolled students; the funding formula should include a premium for part time or lifelong learning students and a penalty for universities in which students have to repeat entire academic years for a few missed credits (which is against the spirit of the ECTS and any other credit system as well as against the basic logic of lifelong learning). There is a strong synergy between such changes in governance and funding and any significant and sustainable improvement in human resource management.

The teaching staff in higher vocational education should have their own career structure as dedicated members of a vocational/professional teaching force, appropriately trained for its distinctive role. Human resource management within higher vocational education is likely to be more effective if academic ranks, associated roles, responsibilities, qualifications and performance expectations for career advancement are aligned with the particular missions of institutions within the sector. The desired profile for a staff might encompass intellectual sharpness and scholarship (Masters or Doctorate), professional practice, and "third mission" skills, which should be reflected in recruitment and promotion processes, entry rank and legal requirements (*e.g.* three years in professional practice). Basic research would not be expected for staff in these institutions; but applied research, development, consultancy, training and other externally-funded services should be encouraged. In this fast growing sector of tertiary education, there is also a huge need for information on the EHEA, the training of teachers and managers and a greater exposure to their European and international counterparts.

Sustained efforts should be devoted to enhancing the development of female representation in leadership positions over time. Initiatives that could prove useful include family-friendly policies (*e.g.* provision of child-care, assessment schemes which account for child raising periods), equal opportunity plans to avoid gender discrimination in appointments, promotions and remuneration, and institutional strategic plans to recruit more female academics.

Another priority is to improve the entrance conditions of young academics. Well-structured induction schemes, recruitment processes that ensure the best candidates get the available jobs, and prospects for a stable and rewarding merit-based academic career, are critical. A supporting environment upon entry into the academic career involving a reduced teaching load, the availability of mentoring by senior academics, special funds to create or resource a research group, and availability of training programmes to help the young academic become familiar with a number of key processes (*e.g.* applications to research grants; patenting processes;

consulting opportunities; dissemination activities including publishing research results) could prove critical in making the academic profession attractive for young academics. Further, it is important to provide young academics with prospects for a stable academic career following the recognition of their accomplishments by well-established assessment procedures.

Finally, there is a need to put in place mechanisms within institutions to support the work of academics and recognise the wide variety of tasks that academic work actually entails. Examples of initiatives to protect academics from excessive demands include the creation of administrative units to assist them with administrative tasks (*e.g.* unit to assist academic with research applications; department to deal with accountability requirements); technology transfer offices; teaching and learning centres; and offices to advise students on career and other issues.

5.7 Links to the Labour Market

The size and shape of modern tertiary education is rooted in its relationship to labour markets. Improving this relationship can assist in the development of a highly-skilled workforce instrumental to increase the knowledge intensity of traditional industries, expand the capacity of innovative economic sectors and by this means increase the potential for growth. Given the current limited responsiveness of Spanish tertiary education to labour market needs, improving the linkages between tertiary education and labour markets should be among the priorities for tertiary education policy. This could be part of a wider strategy to promote youth employment.[31]

Initiatives to strengthen the connections between tertiary institutions and the labour market can be grouped into a number of categories. A first generic way of ensuring that the provision of educational programmes match labour market requirements is to create a policy framework that permits both student enrolment choices to respond to labour market signals and educational supply to respond to students' preferences. The principal means by which educational offerings can be aligned to labour markets is through the decisions of students themselves, about what to study and where. A

31 A recent OECD study on jobs for youth in Spain concludes that there would be benefit if the government took advantage of the existing consensus to develop an effective and coherent strategy to promote youth employment (OECD, 2007b). The study emphasises the importance of reducing early school leaving and the need to strengthen the links between the skills acquired in education and labour-market requirements.

demand-driven system requires system policies (*e.g.* funding of study places) and institutional policies (internal resource allocation) that permit the number and type of tertiary study opportunities to respond to the preferences of students. This calls for the adjustment of the current institutional funding approach along the lines suggested in Section 5.2 and more flexible ways for institutions to manage their staff to more easily adjust their educational supply to labour market needs and students' preferences.

For a demand-driven system to work well, information about available programmes, labour market outcomes and employment requirements must be made available to students, institutions and employers. Students need to be informed about the labour market, the kinds of jobs available, and the types of educational preparation needed for those jobs. This helps students make well-informed decisions about their fields of tertiary study. Thus, educational authorities at the national and regional levels must develop data systems that permit prospective and current students to understand the labour market outcomes of different study choices. For a given occupation/profession, indicators could include graduates by gender, proportion of graduates in employment, proportion in employment in area of graduate competence, average salary at different stages of career, level of position, status of employment (*e.g.* part-time or not, whether in self-employment), or employment growth rates. Evidence obtained from a systematic analysis of labour market outcomes could also provide a crucial input to key decisions about the approval of new programmes, or quality assurance reviews. ANECA's labour market insertion observatory is a good model on which to build.

In this respect it is also important to ensure that career guidance in secondary schools and career placement services in tertiary institutions make good use of such detailed data on labour market outcomes. The system could greatly benefit from the strengthening of career services at all educational levels. It is also important to make transfers among fields of study, types of institutions and among institutions within the same type, flexible. This would allow students who realise they are in the wrong field of study to change, both reducing these kinds of mismatches and potentially allow greater responsiveness to changing labour market patterns.

A second generic way in which the policy framework can assist the alignment of tertiary education practice and labour markets is through governance systems. Efforts should be sustained to involve labour market actors (businesses, professions, labour unions) in the formulation of national and regional tertiary education policies through their inclusion in bodies that provide advice and analysis to educational authorities, such as with employers' involvement in the General Council for Vocational Education

(CGFP). For this dialogue to be effective, it needs to be ensured that businesses and employers develop an interest in participating in this dialogue, and that the views of the latter are valued and taken into account in the formulation of policies. Education authorities should also include in deliberative and advisory bodies those within government who bear responsibility for employment and skills policies, since they bring different perspectives and competencies to tertiary policy choices. This is the already the case within the CGFP with a rotating chairmanship between the Minister for Education and the Minister for Labour and Social Affairs. Additionally, public authorities should seek to widen participation of labour market actors in the bodies responsible for the strategic governance of tertiary education institutions, namely institutions' governing councils. A good initial but still insufficient step is the new possibility to appoint up to three external members to the governing council (with up to 50 members) provided by the 2007 reforms to the LOU. We do believe that the direct involvement of the business community in the daily running of institutions has the potential to improve the responsiveness of institutions to labour market needs and more institutions should consider such arrangement.

A third approach is to create a policy framework that permits institutions to learn about and adapt to graduate labour market outcomes. Tertiary education institutions will often want to focus on responding to the labour markets experiences of their graduates – either because this responsibility is part of their institutional mission, or because they recognise that it is in their interest to do so as a means of attracting students, especially in the current context of student contraction. While there are many ways that institutions may be encouraged to learn about and respond to the labour market experiences of graduates, three deserve special consideration. First, public authorities should ensure that public data systems permit the development of long-term graduate labour market experiences, so that institutions can develop an understanding of the longer-term career paths of graduates. Second, public authorities can use the policy instruments available to them to encourage tertiary institutions to engage employers, both public and private, in identifying graduate skills and competencies – in the design of programmes and assessment of students, *e.g.* through the approval of new study programmes, or the re-accreditation of existing programmes. Third, institutions should be provided with enough autonomy in the management of their human resources to allow them flexibility to redeploy academic staff according to the educational offerings which best respond to labour market needs. To achieve a better alignment with labour markets it is crucial that institutions take full advantage of the autonomy they recently acquired to design their programmes and associated curricula.

In this context, it is important to strengthen partnerships between institutions and the business sector. Practices to be reinforced include internships for students and teachers in industry, offices in institutions to liaise with the business sector, and the participation of employers in institutional governance. A good practice to sustain is the provision of course modules in higher vocational education granting students an experience in the labour market. There is a need to make the partnerships more sustained and systematic across the entire tertiary education system. There is also a need to evaluate the variety of partnerships more carefully, to determine which of them are likely to be more effective.

Fourth, it needs to be ensured that the tertiary system offers sufficient opportunities for flexible, work-oriented study. Universities have long experience and often considerable competencies in transmitting discipline-based knowledge and training young people in the development of academic and professional capabilities. However, they are much less familiar with – and adapted to – the use of work-based learning to develop professional skills. Likewise, they are typically less skilled in the education of mature students, of whom many may work and have other obligations that prevent them from following a continuous and full-time mode of study. Policy-makers should support the diversification of study opportunities so that undergraduate education oriented toward working life and short-cycle practice-oriented programmes are sufficiently available, and strengthen the capacities of institutions charged with their provision (*e.g.* higher vocational education) so that the quality is widely recognised by students and employers alike.

In this respect, the current emphasis on the development of the higher vocational sector is to be supported. A key step, as proposed earlier, is to better integrate higher vocational education in a coherent tertiary education system and no longer view it as an extension of secondary education. Improving the higher vocational system is of major importance to ensure the responsiveness of the educational system to labour market needs. The priority should go to raise the profile of vocational education, improve the transition between secondary and tertiary education, expand choice in practice-oriented programmes, and better respond to the needs of industry and businesses. The success of these reforms will also greatly depend on policies to prevent the potential academic drift of some tertiary vocationally-oriented institutions.

Teaching practices, in particular in universities, also need to promote skills required by labour markets. Creativity, leadership, innovation, learning autonomy are better fostered by new pedagogical approaches, a new teaching culture, and not only a new curricular structure. To provide a flexible, student-centred, learning-oriented, and work-based education is

tantamount to achieving a needed transformation of teaching and learning in tertiary education institutions.

Along the same lines, institutions should widen opportunities for lifelong learning by increasing the flexibility of provision (*e.g.* part-time and distance provision), by providing financial support to address the difficulties facing low-income workers, and by reviewing the suitability of education and training alternatives. A good practice to sustain is the provision of professional specialisation courses by universities. Further, institutions should ensure that assessment and recognition of prior learning is widely accessible and attractive to use, both on the part of students and institutions, and that a national qualifications framework provides clear signals to students, institutions and employers.

5.8 Internationalisation

Europeanization and internationalization are playing key roles in most European countries and if actively pursued by Spain could bring considerable benefits to tertiary education and its overall purposes. In general there is a much greater need at all levels to prepare for and encourage the breadth and spirit of these processes. Further, this dual process - *Europeanization* and internationalization - is important in building confidence in the tertiary education system in order to attract external students to a degree or continuing studies in Spain. Compared to the average European country – which has a greater proportion of foreign tertiary education students - there is considerable potential for Spain to increase its number of foreign students. Also, given the important role that Spain plays in Latin America, it is surprising that linkages in the area of tertiary education are not more intense.

To meet this challenge, Spanish tertiary education authorities and institutions should consider:

- Accelerating the process of *Europeanization*;
- Encouraging institutions to become proactive actors of internationalisation;
- Fostering internationalisation in the non-university system;
- Developing on-campus internationalisation, including specific courses for foreigners, in particular taught in English;
- Building world class specialised centres;
- Encouraging and organising stronger links with Latin America in post graduate and distance education.

Internationalisation activities are pursued at the institutional level, and within institutions at the discipline level. The principal potentials for national/regional level policy lie more in creating the framework conditions for institutions to become proactive actors of internationalisation, through interventions designed to remove blockages, by granting more autonomy to institutions to make them more responsive to their external environment, or by making the preparation of an internationalisation strategy as a requirement to obtain public funding.

Spain's curriculum reforms began in the 1980s as a result of the University Reform Law and their modular form has facilitated the adoption of the Bologna Process. The completion of these reforms in 2010 is intended to lead to the fully operating EHEA in which students can choose from a wide and transparent range of high quality courses and benefit from smoother recognition procedures. The main elements of this process concern mobility, degree structure, recognition, qualification frameworks, lifelong learning and quality assurance. These changes are interrelated and are intended to have an impact on both the form and the content of tertiary education. Thus the three-degree cycle is not only intended to facilitate applications, transfers and qualifications but to reenergize teaching methods. Our site visits revealed that spirit and attitude toward reforms have a strong correlation with their impact. Some correspondents thought of it as little more than a formality; others understand that it is a key part of the reform process. As the rest of Europe moves toward greater integration, links of the Spanish system to other systems will increase and judgments about courses and their content will not be limited to a region or a nation but have supranational implications.

The range of international activities could be diversified further to better serve national objectives or take national/regional circumstances into consideration, *e.g.* development of 'twinning' programmes requiring residency in different countries to obtain a degree, joint degree programmes developed in cooperation with foreign institutions or the recognition of distance education degrees offered by an institution located abroad.

Building-up a culture of mobility amongst students can be achieved by encouraging institutions to integrate short-term exchanges as regular parts of their programmes and develop twinning programmes with foreign institutions, through dissemination information on the benefits of mobility, the development of credit transfer schemes and recognition mechanisms, the portability of public funding as well as financial support such as means-tested mobility grants or loan schemes and their adaptation to the specific needs of students (mature, with family responsibilities or with a disability). Incentives to promote the mobility of academics could take the form of

including international activities and mobility among the criteria for promotion and career advancement.

Policy initiatives and institutions' efforts should also be targeted at the development of on-campus internationalisation, in recognition that only a small proportion of students take part in international student mobility, and the latter are more likely to belong to privileged socio-economic backgrounds. It would therefore be appropriate to integrate an international or intercultural dimension in tertiary curricula, and develop the language and cross-cultural skills of domestic students directly on-campus. This can be done by allowing – and encouraging – institutions to deliver part of their programmes in foreign languages – particularly at the post-graduate level - and to intensify international enrolments in order to widen the scope for intercultural exchanges on-campus. International perspectives and cross-cultural exchanges may also be brought through the academic staff delivering lectures and classes, by a more active policy of recruiting foreign academics in institutions as a way of establishing creative research environments and truly cross-cultural campuses.

Fostering a small number of world-class centres of excellence in areas of comparative strength could prove valuable to attract international students at the post-graduate level. Advanced high quality graduate courses in English – as MBA (Masters in Business Administration) courses have shown - can provide valuable education and academic spin offs as well as a useful income source.

It would also seem important to focus attention on ensuring that international students are spread throughout the tertiary education system, regardless of the type, size or location of their host institutions, both from an equity perspective in terms of internationalisation at home and to temper the risks resulting from an over-reliance of some institutions upon international students. Particular efforts should go into promoting the internationalisation of the non-university sector, in particular higher vocational education.

The Review Team's visits confirmed that many universities see internationalisation as an interesting add-on or source of funds. But given the tradition, cultural links, common language and significant demand, Spanish universities could become far more than at present useful bridges between Latin America and Europe as sources of knowledge and technology transfer. Universities are not, as noted, the only contemporary bridge to Latin America, nor have they been the pioneers, except in distance education. Given the growing interest and demand for advanced technological and scientific education, they could provide a valuable stimulus to the various organisations that make up and are linked to the Ibero-American summits and in this broader context support joint research and development.

6. Concluding Remarks

Spanish tertiary education has changed in remarkable ways in the last three decades. The years since 1976 involved the *democratisation* of the tertiary education sector, the response, with great quantitative success, to the rapid growth in demand, and then putting in place a comprehensive framework of governance and quality assurance which provides the conditions for a successful integration into the European Higher Education Area. Developments also included the expansion of higher educational pluralism both in terms of types of institutions (*e.g.* an increasing number of private universities; the expansion of the non-university sector); the assumption by the autonomous communities of the responsibility for the funding and support of tertiary education; and the departure from the *Napoleonic model* by granting institutions autonomy over the design of their educational programmes. Now that the speed of growth has slowed and the groundwork for the system has been undertaken, with particular progress in the area of quality assurance, this would be an excellent time to shift the focus to making tertiary education better, more diversified and relevant – to Spanish society, to wider social needs and to working life.

This report has reviewed the development of tertiary education policy in Spain, its considerable strengths and the challenges that it still faces. The report makes a number of suggestions in which policy directions in Spain could be strengthened and hopefully made even more effective. The Review Team believes that the priority today is to ensure that Spain has a tertiary education system that is able to function effectively in an increasingly competitive European and international higher education area, and that contributes to the development of Spain in the context of the knowledge society. Spain is now ready to put greater emphasis on the quality, coherence, and equity of tertiary education. This is a favourable time to materialise such changes given the demographic trends mean that there will be fewer individuals in the system and resources will be freed to enhance relevance, expand the vocationally-oriented sector, improve equity, and develop the innovation potential of tertiary education institutions.

On the positive side, the expansion of the tertiary education system has enhanced the participation of a more diverse group of learners; institutional

autonomy is increasingly recognised, with guarantees of academic freedom and self-government; institutional government modalities are more responsive to various stakeholders; the principles of selective and – to a certain extent – earmarked funding are accepted; quality assurance systems have been developed and implemented in line with international good practice; there are provisions in the legislation for a bachelor's-master's framework in line with the Bologna process. The resources devoted to research and development have also considerably increased in recent years, with visible improvements in human resources for R&D and in the knowledge transfer system.

In some other important respects the process of modernisation is incomplete, and some of the major requirements of a system responsive to societal needs are not yet in place. For instance, the diversity of governing and coordinating centres raises concerns about the system's integration and coherence with the risk of overregulation; the university system exhibits little differentiation, is mostly academically-driven and insufficiently responsive to the diverse needs of the present-day economy and society; there is relatively little involvement in 'third mission' activities (external service, training and consultancy) and in continuing education and training; and there is a weak integration between the university and non-university sectors. In addition, there is no proper academic labour market and there is excessive in-breeding; the extent to which graduates contribute to the costs of their tertiary education is limited; the student support system is insufficiently developed; and a number of concerns about the equitable provision of tertiary education remain. Furthermore, institutional management and governance are weak and the provisions for external involvement are underdeveloped; teaching (both programme offerings and curricula) is supply-dominated and links with the labour market are weak; and the input by employers/industry/trade unions to tertiary education policy appears to be limited.

In our view policy priorities for tertiary education development in the immediate and near-term future include:

- The development of a comprehensive and coherent vision for the future of tertiary education agreed with the relevant stakeholders;
- Achieving the integration of the tertiary education system with agreement on the distinctive missions and contributions of the university system, the higher vocational sector and specialised tertiary education;
- Fostering the further diversification of the educational supply to better meet the strategic goals of the system;

- Ensuring the outward focus of institutions and strengthening institutional autonomy;
- Funding tertiary education with three main principles: cost-sharing, on the basis of relevance and backed by a comprehensive student support system;
- Setting up a comprehensive and coherent framework for quality assurance;
- Making more prominent equity issues within tertiary education policy;
- Improving knowledge flows between tertiary education and the other actors of the R&D system;
- Modernising the academic career; and
- Encouraging institutions to become proactive actors of internationalisation.

In the longer run it may be that Spain will be better served by a system of tertiary education with much more scope for variation in mission, programmes and modes of delivery, with institutional missions grounded in national/regional need coupled with responsiveness to students, employers and localities. It will be necessary to move towards greater autonomy, accountability, flexibility, mobility and cross-sector collaboration.

The key to many of the improvements suggested will be strengthening system management capacities. These include: the capacity of educational authorities (both national and regional) to establish a strategic vision and develop policy (in coordination with other areas of policy and a widened range of external stakeholders); their capacity to steer the system and the institutions towards a better balance between institutional autonomy and public accountability; the collection and dissemination of more and better information, for system monitoring, policy development and information to stakeholders; and the capacity of the tertiary education institutions to develop their own ability, and willingness, to change so they meet societal expectations.

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Appendix 3. Programme of the Review Visit

Monday 21 May, Madrid

09:00 – 10:15 Ministry of Education and Science, Directorate General for Universities
Director General for Universities
Deputy Director General for Universities

10:30 – 11:45 General Council for Vocational Education (CGFP, *Consejo General de la Formación Profesional*) and National Institute of Qualifications (INCual, *Instituto Nacional de las Cualificaciones*)

12:00 – 13:15 University Coordination Council (CCU, *Consejo de Coordinación Universitaria*)

13:30 – 14:15 The National Agency for Assessment and Prospective Studies (ANEP, *Agencia Nacional de Evaluación y Prospectiva*) and the National Committee for the Assessment of Research Activity (CNEAI, *Comisión Nacional Evaluadora de la Actividad Investigadora*).

14:30 – 15:45 Ministry of Education and Science
Directorate General for Research
Directorate General for Technological Policy
Science and Technology Commission (*Consejo Asesor Ciencia y Tecnologia*)

16:00 – 17:00 Higher Council for Scientific Research (CSIC, *Consejo Superior de Investigaciones Científicas*) and Spanish Institute for Oceanography.

17:15 – 18:00 Research Results Transfer Offices (OTRIs, *Oficinas de Transferencia de Resultados de Investigación*).

Tuesday 22 May, Madrid

09:00 – 10:15 National Agency for Quality Assessment and Accreditation (ANECA, *Agencia Nacional de Evaluación de la Calidad y Acreditación*)

10:45 – 13:15 Institutional Visit 1: *Universidad Pontificia de Comillas*
- Rector and Management Group
- Academic Staff Representatives
- Students Representatives

13:30 – 15:00 Conference of Rectors of Spanish Universities (CRUE)

16:00 – 18:30 Institutional Visit 2: *Universidad de Alcalá de Henares*
- Rector and Management Group
- Academic Staff Representatives
- Students Representatives

Wednesday 23 May, Zaragoza

10:30 – 11:30 Regional Government of *Aragón*
- Director General for Professional Training (*Formación Profesional*)
- Director General for Higher Education
- Director Quality Assurance Agency of Aragón (ACPUA, *Agencia de Calidad y Prospectiva de Aragón*)

12:15 – 15:15 Institutional Visit 3: *Universidad de Zaragoza*
- Rector and Management Group
- Academic Staff Representatives
- Students Representatives

15:30 – 17:00 Institutional Visit 4: Centre of Professional Training providing higher vocational education - *Centro de Formación Profesional I.E.S. Corona de Aragón*
- Director and Heads of Department
- Teachers Representatives
- Students Representatives

Thursday 24 May, Valencia

12:00 – 14:15 Institutional Visit 5: Schools of Arts and Design (Specialised tertiary education), *Escuela de Arte y Superior de Diseño*, Valencia
- Management Group
- Academic Staff Representatives
- Students Representatives

16:00 – 18:00 Institutional Visit 6: *Universidad Politécnica de Valencia*
- Rector and Management Group
- Academic Staff Representatives
- Students Representatives

Friday 25 May, Valencia

09:30 – 11:15 Group of stakeholders
- Confederation of Valencian Businesses (*Confederación de Empresas Valencianas*)
- Social Council of the *Universidad Jaume I - Castellón*
- Social Council of the *Universidad de Alicante*
- INGENIO-CSIC, initiative integrated in the National Reform Programme
- Finance and Budget authority of the Valencian Government
- ADEIT, University-Business Foundation (*Fundación Universidad-Empresa*) of the University of Valencia

11:45 – 14:15 Institutional Visit 7: *Universidad de Valencia*
- Rector and Management Group
- Academic Staff Representatives
- Students Representatives

14:30 – 16:30 Regional Government of the Valencian Community
- Authorities with jurisdiction over vocational education, universities, research, and scientific infrastructure.

Sunday 27 May, Madrid

Review team meetings

Monday 28 May, Madrid

09:00 – 10:30 Representatives of educational authorities in Autonomous Communities
- Director General of Universities of *Castilla y León*
- Director General of Universities of the Basque Country
- Director General of Scientific and Technological Promotion of the University System of *Galicia*

10:45 – 12:15 Ministry of Education and Science, Directorate General for Professional Training (*Formación Profesional*)

13:30 – 15:45 Institutional Visit 8: Centre of Professional Training providing higher vocational education - IES (*Instituto de Enseñanza Secundaria*) *de Hostelería de Alcala de Henares*
- Director and Heads of Department
- Teachers Representatives
- Students Representatives

16:30 – 18:00 Group of stakeholders
- Network of University-Business Foundations, REDFUE (*Red de Fundaciones Universidad Empresa*)
- University-Business Foundation (*Fundación Universidad-Empresa*) of the University of Oviedo
- President of organisation gathering Social Councils (*Consejos Sociales*)
- Representative of Professional Associations (*Colegios Profesionales*)
- Confederation of Chambers of Commerce (*Confederación Cámaras Comercio*)
- Spanish Confederation of Business Organisations – Spanish Confederation of Small and Medium-Sized Businesses, CEOE-CEPYME (*Confederación Española de Organizaciones Empresariales - Confederación Española de la Pequeña y Mediana Empresa*)

18:00 – 19:00 Trade unions
- *Comisiones Obreras*
- *Unión General de Trabajadores*
- *Central Sindical Independiente y de Funcionarios*

Tuesday 29 May, Madrid

09:00 – 09:45 Ministry of Education and Science
- Miguel Angel Quintanilla, Secretary of State for Education, Universities, Research and Development.
- Eugenio Tiana, Secretary General for Education
- Javier Vidal, Director General for Universities

10:00 – 12:00 Research Seminar
- Sebastián Rodriguez, *Universitat de Barcelona*
- Francisco Solé, Fundación CyD (*Conocimiento y Desarrollo*)
- Francisco Michavila, *Universidad Politécnica de Madrid*
- Miguel Valcárcel, *Universidad de Córdoba*

12:15 – 13:00 Parliamentary Commission for Education and Science (*Comisión de Educación y Ciencia del Congreso de los Diputados*)

13:30 – 15:30 Oral Report by Review Team with preliminary conclusions
- Ministry of Education and Science, Directorate General for Universities
- Director General for Universities
- Deputy Director General for Universities

Appendix 4. Comparative Indicators on Tertiary Education

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
OUTCOMES				
% of the population aged 25-64 with tertiary qualifications (2006)				
Tertiary-type B – Total	9	8	14/25	113
Males	10	8	7/25	125
Females		9	13/25	78
Tertiary-type A and Advanced research programmes – Total	20	19	15/30	105
Males	18	20	16/30	90
Females	21	19	10/30	111
% of the population aged 25-34 with tertiary qualifications (2006)				
Tertiary-type B	13	10	8/26	130
Tertiary-type A and advanced research programmes	26	25	16/30	104
% of the population aged 55-64 with tertiary qualifications (2006)				
Tertiary-type B	3	6	17/26	50
Tertiary-type A and advanced research programmes	12	14	17/30	86
% of the population aged 25-64 with tertiary qualifications – time trends				
1991	25	18	-	139
1998	20	21	19/30	95
2006	28	27	17/30	104
% of the population aged 25-34 with tertiary qualifications – time trends				
1991	16	20	-	80
1998	32	25	8/30	128
2006	39	33	11/30	118
Average years in formal education (2004)[3]	10.6	11.9	25/30	89
Survival rates in tertiary education (2004) Number of graduates divided by the number of new entrants in the typical year of entrance				
Tertiary-type A education	74	71	8/23	104
Tertiary-type B education	79	67	4/17	118
Advanced research programmes	-	67	-	-

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Average duration of tertiary studies (2005)[4]				
All tertiary education	4.66	4.11	8/22	113
Tertiary-type B education	2.15	2.28	12/17	94
Tertiary-type A and advanced research programmes	5.54	4.50	4/23	123
Tertiary graduates by field of study[5] (2006)				
Tertiary-type A and Advanced				
Health and welfare	14.6	13.3	8/28	110
Life sciences, physical sciences & Agriculture	7.1	6.9	14/28	103
Mathematics and computer science	5.4	5.2	10/26	104
Humanities, arts and education	23.8	24.9	17/28	96
Social sciences, business, law and services	34.6	37.1	18/28	93
Engineering, manufacturing and construction	14.3	11.9	9/28	120
Unknown or unspecified	0.1	0.6	13/14	17
Tertiary -type B				
Health and welfare	13.4	15.2	13/23	88
Life sciences, physical sciences & Agriculture	0.5	2.3	22/23	22
Mathematics and computer science	9.7	5.0	2/20	194
Humanities, arts and education	15.7	23.8	13/25	66
Social sciences, business, law and services	38.9	39.2	13/24	99
Engineering, manufacturing and construction	21.7	13.3	6/23	163
Unknown or unspecified	-	1.2	-	-
Employment ratio and educational attainment[6] (2006). Number of 25 to 64-year-olds in employment as a percentage of the population aged 25 to 64				
Lower secondary education				
Males	85.0	73.0	5/29	116
Females	49.7	50.1	14/29	99
Upper secondary education (ISCED 3A)				
Males	85.3	82.9	11/29	103
Females	65.6	66.6	18/29	98
Post-secondary non-tertiary education				
Males	92.8	87.1	2/20	107
Females	64.6	72.4	19/20	89
Tertiary education, type B				
Males	88.8	88.5	12/26	100
Females	74.8	79.0	21/26	95
Tertiary education, type A and advanced research programmes				
Males	87.8	89.4	23/30	98
Females	80.1	79.8	17/30	100

	Spain	OECD mean	Spain's rank[1]	% to OECD mean[2]
Employment ratio and educational attainment (2005)				
Number of 30 to 34-year-olds in employment as a percentage				
Lower secondary education				
Males	88.4	77.8	7/29	114
Females	51.2	50.4	17/29	102
Upper secondary education (ISCED 3A)				
Males	88.2	88.7	13/20	99
Females	69.8	66.8	8/20	104
Post-secondary non-tertiary education				
Males	98.1	88.9	2/21	110
Females	72.9	76.7	12/21	95
Tertiary education, type B				
Males	92.4	93.6	20/25	99
Females	72.8	80.6	23/25	90
Tertiary education, type A and advanced research programmes				
Males	91.3	93.0	17/22	98
Females	81.8	82.4	13/22	99
Unemployment ratio and educational attainment[7] (2006)				
Number of 25 to 64-year-olds in unemployment as a percentage of the labour force aged 25 to 64				
Lower secondary education				
Males	5.7	9.6	16/27	59
Females	13.9	10.9	6/28	128
Upper secondary education (ISCED 3A)				
Males	4.7	5.0	14/25	94
Females	9.4	6.5	4/26	145
Tertiary education, type B				
Males	4.1	-	6/20	-
Females	8.1	-	2/19	-
Tertiary education, type A and advanced research programmes				
Males	4.1	3.1	8/29	132
Females	6.5	3.9	3/29	167

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Unemployment ratio and educational attainment (2005)				
Number of 30 to 34-year-olds who are unemployed as a percentage				
Lower secondary education				
Males	6.4	13.1	23/29	49
Females	16.1	16.6	10/29	97
Upper secondary education (ISCED 3A)				
Males	6.6	5.5	7/20	120
Females	10.0	8.7	6/20	115
Post-secondary non-tertiary education				
Males	1.9	3.8	14/21	50
Females	-	6.6	-	-
Tertiary education, type B				
Males	4.6	3.3	7/25	139
Females	8.5	4.0	3/25	213
Tertiary education, type A and advanced research programmes				
Males	5.1	3.8	7/22	134
Females	7.1	4.8	2/22	148
Ratio of the population not in the labour force and educational attainment (2006)				
Number of 25 to 64-year-olds in unemployment as a percentage of the labour force aged 25 to 64				
Below upper secondary				
Males	6.3	9.5	15/28	66
Females	13.8	10.6	7/28	130
Upper secondary and post-secondary non-tertiary				
Males	4.6	4.7	15/29	98
Females	9.8	6.5	5/29	151
All tertiary education				
Males	4.1	3.2	9/29	128
Females	6.9	3.9	3/29	177

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Ratio of the population not in the labour force and educational attainment (2005)				
Number of 30 to 34-year-olds not in the labour force as a percentage of the population aged 30 to 34				
Lower secondary education				
Males	5.6	10.6	23/29	53
Females	39.0	39.7	16/29	98
Upper secondary education (ISCED 3A)				
Males	5.6	6.2	7/20	90
Females	22.4	27.0	12/20	83
Post-secondary non-tertiary education				
Males	0	7.5	-	-
Females	27.1	18.1	4/21	150
Tertiary education, type B				
Males	3.1	3.2	14/25	97
Females	20.4	16.0	5/25	128
Tertiary education, type A and advanced research programmes				
Males	3.8	3.4	8/22	112
Females	11.9	13.4	12/22	89
Earnings of tertiary graduates aged 25-64 (2004) (upper secondary and post-secondary non tertiary education = 100)				
Tertiary B	104	-	-	-
Tertiary A	144	-	-	-
Earnings of tertiary graduates aged 30-44 (2004) (upper secondary and post-secondary non tertiary education = 100)				
Tertiary B	105	-	-	-
Tertiary A	141	-	-	-
Trends in relative earnings of tertiary graduates aged 25-64 (upper secondary and post-secondary non-tertiary education = 100)(2004)				
1997	149	-	-	-
2004	132	-	-	-

	Spain	OECD mean	Spain's rank[1]	% to OECD mean[2]
PATTERNS OF PARTICIPATION				
Participation rates of all persons aged 15 and over by programme (2002)				
Per cent of all persons aged 15 and over in tertiary type-5A programmes	4.3	4.0	12/26	108
Per cent of all persons aged 15 and over in tertiary type-5B programmes	0.7	0.7	9/26	100
Per cent of all persons aged 15 and over in tertiary type-6 programmes	0.2	0.2	10/23	100
Per cent of all persons aged 15 and over in all tertiary programmes	5.2	4.9	11/26	106
Index of change in total tertiary enrolment (2004) (1995 = 100)				
Total	120	149	16/23	81
Attributable to change in population[8]	92	96	13/19	96
Attributable to change in enrolment rates[9]	128	151	12/19	85
Enrolment rates (2006)				
Full-time and part-time students in public and private institutions, by age				
Students aged 15-19 as a percentage of the population aged 15-19	80.2	81.5	21/29	98
Students aged 20-29 as a percentage of the population aged 20-29	21.8	25.1	18/29	87
Students aged 30-39 as a percentage of the population aged 30-39	3.8	5.7	16/29	67
Students aged 40 and over as a percentage of the population aged 40 and over	1.1	1.4	12/27	79
Age distribution of enrolments (2003)				
Persons aged 35 and over as a per cent of all enrolments in tertiary type-5A programmes	6.7	10.3	16/24	65
Persons aged 35 and over as a per cent of all enrolments in tertiary type-5B programmes	3.5	16.2	18/21	22
Persons aged 35 and over as a per cent of all enrolments in tertiary type-6 programmes	23.0	30.2	14/22	76
Persons aged 35 and over as a per cent of all enrolments in total tertiary programmes	6.9	11.7	16/24	59

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Persons aged less than 25 as a per cent of all enrolments in tertiary type-5A programmes	68.0	63.9	10/26	109
Persons aged less than 25 as a per cent of all enrolments in tertiary type-5B programmes	84.1	58.9	6/26	143
Persons aged less than 25 as a per cent of all enrolments in tertiary type-6 programmes	13.2	10.2	9/21	129
Persons aged less than 25 as a per cent of all enrolments in total tertiary programmes	68.0	61.5	11/27	111
Persons aged less than 20 as a per cent of all enrolments in tertiary type-5A programmes	17.3	13.9	12/27	124
Persons aged less than 20 as a per cent of all enrolments in tertiary type-5B programmes	24.0	17.2	10/27	140
Persons aged less than 20 as a per cent of all enrolments in tertiary type-6 programmes	-	0.4	-	-
Persons aged less than 20 as a per cent of all enrolments in total tertiary programmes	17.5	15.0	13/27	117
Gender distribution of enrolments (2003)				
Females as a per cent of enrolments in tertiary type-5A programmes	53.7	53.2	17/29	101
Females as a per cent of enrolments in tertiary type-5B programmes	50.5	54.8	21/29	92
Females as a per cent of enrolments in tertiary type-6 programmes	51.0	44.0	3/28	116
Females as a per cent of total tertiary enrolments	53.1	53.2	18/29	100
Net entry rates into tertiary education[10] (2006)				
Tertiary-type B				
Total	21	16	8/23	131
Males	20	14	8/23	143
Females	23	18	6/23	128
Tertiary-type A				
Total	43	56	20/27	77
Males	36	50	21/27	72
Females	51	62	19/27	82

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Distribution of students in tertiary education by type of institution[11] (2006)				
Tertiary-type B education, public	79.1	65.5	11/26	101
Tertiary-type B education, government-dependent private	15.6	19.1	12/16	82
Tertiary-type B education, independent private	5.3	13.8	10/14	38
Tertiary-type A and advanced research programmes, public	87.7	78.5	15/26	112
Tertiary-type A and advanced research programmes, government-dependent private	-	9.1	-	-
Tertiary-type A and advanced research programmes, independent private	12.3	13.9	7/15	88
Distribution of students in tertiary education by mode of study (2006)				
Tertiary-type B education				
Full-time	98.1	70.7	8/24	139
Part-time	1.9	25.3	17/17	8
Tertiary-type A and advanced research programmes				
Full-time	88.2	79.8	11/26	111
Part-time	11.8	20.2	16/21	58
Age distribution of new entrants into tertiary education, tertiary-type A (2006)				
Age at 20th percentile (20% of new entrants are below this age)	18.4	-	19/27	-
Age at 50th percentile (50% of new entrants are below this age)	19.0	-	24/27	-
Age at 80th percentile (80% of new entrants are below this age)	22.8	-	21/27	-
Foreign students as a percentage of all students (2006)[12]	2.9	9.6	21/27	30
Index of change in foreign students as a percentage of all students (2006) (foreign and domestic students) (2000 = 100)	200	210.9	5/29	95
National students enrolled abroad in other reporting countries relative to total tertiary enrolment[13] (2004)	1.5	4.0	24/29	38
Expected changes of the 20-29 age group by 2015 relative to 2005 (2005 = 100)[14]	66	97	30/30	68
Upper secondary attainment rates (2006) % of persons aged 25-34 with at least upper secondary education	64	78	25/29	82

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Expected years of tertiary education under current conditions (2004) Full-time and part-time[15]	3.0	3.1	13/27	97
EXPENDITURE				
Annual expenditure on tertiary education institutions per student, public and private institutions (2005) In equivalent US dollars converted using PPPs, based on full-time equivalents				
All tertiary education (including R&D activities)	10089	11512	17/27	88
Tertiary-type B education (including R&D activities)	9059	-	3/13	-
Tertiary-type A and advanced research programmes (including R&D activities)	10301	-	11/17	-
All tertiary education excluding R&D activities	7182	8102	15/24	87
Annual expenditure on tertiary education institutions per student relative to GDP per capita, public and private institutions (2005) Based on full-time equivalents				
All tertiary education (including R&D activities)	37	40	18/27	93
Tertiary-type B education (including R&D activities)	33	22	2/14	150
Tertiary-type A and advanced research programmes (including R&D activities)	38	42	13/18	90
All tertiary education excluding R&D activities	26	29	14/24	90
Cumulative expenditure on educational institutions per student over the average duration of tertiary studies[16] (2005) In equivalent US dollars converted using PPPs				
All tertiary education	47015	47159	10/21	100
Tertiary-type B education	19478	-	3/10	-
Tertiary-type A and advanced research programmes	57069	-	7/15	-
Change in tertiary education expenditure per student relative to different factors Index of change between 1995 and 2005 (GDP deflator 2000=100, constant prices)				
Change in expenditure	114	130	21/28	88
Change in the number of students	93	118	26/26	79
Change in expenditure per student	123	111	6/26	111

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Change in tertiary education expenditure per student				
In equivalent US dollars converted using PPPs (2001 constant prices and 2001 constant PPPs)				
1995	5624	9284	16/22	61
2005	7455	10052	18/26	74
Expenditure on tertiary education institutions as a percentage of GDP, from public and private sources				
All tertiary education, 2005	1.1	1.5	23/28	73
All tertiary education, 1995	1.0	-	16/25	-
Relative proportions of public and private expenditure on educational institutions, for tertiary education				
Distribution of public and private sources of funds for educational institutions after transfers from public sources				
Public sources, 2005	77.9	73.1	13/26	107
Private sources, household expenditure, 2005	18.7	-	11/23	-
Private sources, expenditure of other private entities, 2005	3.4	-	16/20	-
Private sources, all private sources, 2005	22.1	26.9	14/26	82
Private sources, private, of which subsidised, 2005	1.8	1.4	6/12	129
Public sources, 2000	74.4	78	20/27	95
Private sources, all private sources, 2000	25.6	22	8/27	116
Distribution of total public expenditure on tertiary education (2005)				
Public expenditure on tertiary education transferred to educational institutions and public transfers to the private sector, as a percentage of total public expenditure on tertiary education				
Direct public expenditure on public institutions	90.0	73.8	4/25	122
Direct public expenditure on private institutions	1.8	8.4	15/20	21
Indirect public transfers and payments to the private sector	8.2	17.6	21/28	47
Expenditure on tertiary education institutions as a proportion of total expenditure on all educational institutions (2004)	25.2	23.9	10/26	105
Public and private institutions				

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
Total public expenditure on tertiary education (2005)				
Direct public expenditure on tertiary institutions plus public subsidies to households (which include subsidies for living costs, and other private entities)				
As a percentage of total public expenditure[17]	2.5	3.0	17/25	83
As a percentage of GDP	0.9	1.3	23/28	69
Public subsidies for financial aid to students as a percentage of total public expenditure on tertiary education (2005)				
Scholarships / other grants to households	8.2	10.4	18/27	79
Student loans	-	7.8	-	-
Scholarships / other grants to households attributable for educational institutions	2.2	1.6	4/8	138
Expenditure on institutions by service category as a percentage of GDP (2005)				
Educational core services	0.79	1.05	20/24	75
Ancillary services (transport, meals, housing provided by institutions)	-	0.06	-	-
Research and development	0.32	0.37	16/25	86
Expenditure on tertiary education institutions by resource category (2005) (public institutions only)				
Distribution of total and current expenditure on tertiary education institutions from public and private sources				
Percentage of total expenditure				
Current	83.2	90.4	25/27	92
Capital	16.8	9.5	2/27	177
Percentage of current expenditure				
Compensation of teachers	59.3	43.5	1/16	136
Compensation of other staff	21.5	24.3	13/16	88
Compensation of all staff	80.8	68.0	2/26	119
Other current	19.2	32.0	25/26	60

	Spain	OECD mean	Spain rank[1]	% to OECD mean[2]
PATTERNS of PROVISION				
Ratio of students to teaching staff in tertiary education[18](2006) Based on full-time equivalents, Public and private institutions.				
Type B	6.9	16.0	14/14	43
Type A and advanced research programmes	12.2	16.0	16/17	76
All tertiary education	10.8	15.3	19/23	71
EXPECTATIONS OF 15-YEAR-OLD STUDENTS				
Students' expected educational levels (2003) Source: PISA 2003 (OECD, 2004)				
Per cent of 15-year-old students who expect to complete secondary education, general programmes (ISCED 3A)	60.3	48.9	8/28	123
Per cent of 15-year-old students who expect to complete secondary education, vocational programmes (ISCED 3B or C)	18.0	29.9	17/26	60
Per cent of 15-year-old students who expect to complete post-secondary non-tertiary education (ISCED 4)	-	16.4	-	-
Per cent of 15-year-old students who expect to complete tertiary-type B education (ISCED 5B)	13.5	20.5	21/26	66
Per cent of 15-year-old students who expect to complete tertiary-type A education or an advanced research qualification (ISCED 5A or 6)	47.9	44.0	14/29	109

	Spain	OECD mean	Spain's rank[1]	% to OECD mean[2]
RESEARCH AND DEVELOPMENT				
Gross domestic expenditure on Research and Development (R&D) as a percentage of GDP Source: OECD (2007)				
2005	1.12	2.25	18/24	50
1995	0.79	2.07	21/27	38
Higher education[19] expenditure on R&D as a percentage of GDP Source: OECD (2007)				
2005	0.32	0.40	15/24	80
1995	0.25	0.34	18/27	74
Percentage of gross domestic expenditure on R&D by sector of performance (2005) Source: OECD (2007)				
higher education	28.6	17.7	6/24	162
(higher education in 1995)	32.0	16.3	5/26	20
business enterprise	54.4	67.9	15/24	80
Government	16.9	11.8	9/24	143
private non-profit sector	0.1	2.6	19/20	4
Percentage of higher education expenditure on R&D financed by industry Source: OECD (2007)				
2004	7.5	6.1	7/19	123
1995	8.3	6.2	6/27	134
Total researchers per thousand total employment Source: OECD (2007)				
2005	5.7	7.3	13/20	78
1995	3.5	5.8	7/25	60
Researchers as a percentage of national total (full time equivalent) (2005) Source: OECD (2007)				
higher education	49.0	-	5/20	-
(higher education in 1995)	58.4	26.9	3/26	217
business enterprise	32.4	64.4	16/21	50
Government	18.4	-	6/20	
Share in OECD total "triadic" patent families[20] (%) Source: OECD (2007)				
2005	0.39	-	16/30	-
1995	0.25	-	17/30	-
Foreign PhD students as a per cent of total PhD enrolments (2003)	16.1	13.7	7/17	118

Notes for the Tables

Sources:

All data are from Education at a Glance, OECD Indicators 2004, 2005, 2006, 2007 and 2008 unless indicated otherwise in the table.

Other sources:

OECD (2004), *Learning for Tomorrow's World, First Results from PISA 2003*, OECD, Paris

OECD (2007), *Main Science and Technology Indicators, volume 2007/1*, OECD, Paris.

General notes:

1. "Spain's rank" indicates the position of Spain when countries are ranked in descending order from the highest to lowest value on the indicator concerned. For example, on the first indicator *"% of the population aged 25-64 with tertiary qualifications, Tertiary-type B - Total"*, the rank *"x/x"* indicates that Spain recorded the xxst highest value of the xx OECD countries that reported relevant data. The symbol "=" means that at least one other country has the same rank.
2. "% to OECD mean" indicates Spain's value as a per cent of the OECD value. For example, on the first indicator *"% of the population aged 25-64 with tertiary qualifications, Tertiary-type B - Total"*, the percentage *"xx"* indicates that Spain's value is equivalent to xx% of the OECD mean.
3. The calculation of the average years in formal education is based upon the weighted theoretical duration of schooling to achieve a given level of education, according to the current duration of educational programmes as reported in the UOE data collection.
4. Two alternative methods were employed to calculate the average duration of tertiary studies: the approximation formula and the chain method. For both methods, it should be noted that the result does not give the average duration needed for a student to graduate since all students participating in tertiary education are taken into account, including drop-outs. Hence, the figure can be interpreted as the average length of time for which students stay in tertiary education until they either graduate or drop out.
5. This indicators show the ration of graduates as a proportion to all fields of studies. The 25 fields of education used in the UOE data collection instruments follow the revised ISCED classification by field o f education
6. The employed are defined as those who during the survey reference week: *i)* work for pay (employees) or profit (self-employed and unpaid family workers) for at least one hour, or *ii)* have a job but are temporarily not at work (through injury, illness, holiday, strike or lockout, educational or training leave, maternity or parental leave, etc.) and have a formal attachment to their job.

7. The unemployed are defined as individuals who are without work, actively seeking employment and currently available to start work.
8. The impact of demographic change on total enrolment is calculated by applying the enrolment rates measured in 1995 to the population data for 2003: population change was taken into account while enrolment rates by single year of age were kept constant at the 1995 level.
9. The impact of changing enrolment rates is calculated by applying the enrolment rates measured in 2003 to the population data for 1995: the enrolment rates by single year of age for 2003 are multiplied by the population by single year of age for 1995 to obtain the total number of students that could be expected if the population had been constant since 1995.
10. The net entry rates represent the proportion of persons of a synthetic age cohort who enter a certain level of tertiary education at one point during their lives.
11. Educational institutions are classified as either *public* or *private* according to whether a public agency or a private entity has the ultimate power to make decisions concerning the institution's affairs. An institution is classified as *private* if it is controlled and managed by a non-governmental organisation (*e.g.,* a Church, a Trade Union or a business enterprise), or if its Governing Board consists mostly of members not selected by a public agency. The terms "*government-dependent*" and "*independent*" refer only to the degree of a private institution's dependence on funding from government sources. A *government-dependent private institution* is one that receives more than 50 per cent of its core funding from government agencies. An *independent private institution* is one that receives less than 50 per cent of its core funding from government agencies.
12. Students are classified as foreign students if they are not citizens of the country for which the data are collected. Countries unable to provide data or estimates for non-nationals on the basis of their passports were requested to substitute data according to a related alternative criterion, e.g., the country of residence, the non-national mother tongue or non-national parentage.
13. The number of students studying abroad is obtained from the report of the countries of destination. Students studying in countries which did not report to the OECD are not included in this indicator.
14. This indicator covers residents in the country, regardless of citizenship and of educational or labour market status.
15. School expectancy (in years) under current conditions excludes all education for children younger than five years. It includes adult persons of all ages who are enrolled in formal education. School expectancy is calculated by adding the net enrolment rates for each single year of age.
16. The estimates of cumulative expenditure on education over the average duration of tertiary studies were obtained by multiplying annual expenditure per student by an estimate of the average duration of tertiary studies.
17. Total public expenditure on all services, excluding education, includes expenditure on debt servicing (*e.g.* interest payments) that are not included in public expenditure on education.

18. "Teaching staff" refers to professional personnel directly involved in teaching students.

19. "Higher Education" includes all universities, colleges of technology and other institutions of post-secondary education, whatever their source of finance or legal status. It also includes all research institutes, experimental stations and clinics operating under the direct control of or administered by or associated with higher education institutions. For detail, see OECD (2002), *Frascati Manual 2002: Proposed Standard Practice for Surveys on Research and Experimental Development.*

20. "Triadic patent" means patents filed all together to the European Patent Office (EPO), the US Patent and Trademark Office (USPTO) and the Japanese Patent Office (JPO). This indicator shows each country's share in total triadic patents filed by OECD countries. Reference year is when the priority patent is filed. Data is estimated by the OECD Secretariat and provisional. Because a few countries share large proportion of triadic patents, other countries have small share.

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OECD Reviews of Tertiary Education

SPAIN

In many OECD countries, tertiary education systems have experienced rapid growth over the last decade. With tertiary education increasingly seen as a fundamental pillar for economic growth, these systems must now address the pressures of a globalising economy and labour market. Within governance frameworks that encourage institutions, individually and collectively, to fulfil multiple missions, tertiary education systems must aim for the broad objectives of growth, full employment and social cohesion.

In this context, the OECD launched a major review of tertiary education with the participation of 24 nations. The principal objective of the review is to assist countries in understanding how the organisation, management and delivery of tertiary education can help them achieve their economic and social goals. Spain is one of 14 countries which opted to host a Country Review, in which a team of external reviewers carried out an in-depth analysis of tertiary education policies. This report includes:

- an overview of Spain's tertiary education system;
- an account of trends and developments in tertiary education in Spain;
- an analysis of the strengths and challenges in tertiary education in Spain; and
- recommendations for future policy development.

This Review of Tertiary Education in Spain forms part of the *OECD Thematic Review of Tertiary Education*, a project conducted between 2004 and 2008 (***www.oecd.org/edu/tertiary/review***).

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