

Higher education in Portugal

IHEM Country report

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Abbreviations

ADISPOR	Association of the Portuguese Polytechnic Institutes
APESP	Portuguese Association of Private Higher Education
CNAVES	National Council for Evaluation of Higher Education
CRUP	Conference of Rectors of Public Universities
DGES	Directorate-General for Higher Education
ENQA	European Network for Quality Assurance in Higher Education
FUP	Foundation of Portuguese Universities
MCTES	Ministry for Science, Technology and Higher Education
ME	Ministry of Education
OECD	Organisation for Economic Cooperation and Development
RJIES	Legal framework for higher education institutions
RJAES	Legal framework for the evaluation of higher education
CCISP	Council of Portuguese Polytechnic Institutes
FCT	Foundation for Science and Technology
OCES	Observatory for Science and Higher Education
ICCTI	Institute for International Scientific and Technological Co-operation

The CHEPS International Higher Education Monitor

The CHEPS International Higher Education Monitor (IHEM) is an ongoing research project, commissioned by the Dutch Ministry of Education, Culture and Science. The project aims to provide higher education policy makers with relevant and up-to-date information on national higher education systems and policy changes. This information is presented through in-depth country reports, comparative thematic reports, annual update reports, statistical bulletins and a statistical data-base. The core countries for which this information is collected and presented include Australia, Austria, Finland, Flanders (Belgium), France, Germany, the Netherlands, Portugal, Sweden and the United Kingdom.

Country reports

Increasingly, governments take international trends into account when developing national higher education policies. Continuing European integration, the increasing mobility of people within the European Union, as well as supra-national initiatives deployed at the European level with respect to higher education (e.g. the Leonardo and Socrates programs) necessitate such an orientation. Policy makers therefore need to have access to adequate information on higher education structures, trends and issues in Europe as well as other countries. New technologies have opened access for everyone to vast amounts of facts and figures on higher education in almost every country. Although these data are indispensable for higher education policy makers and analysts, they often do not provide much in the way of usable information. What is lacking is a frame of reference to properly interpret the data.

Such a framework is offered by the CHEPS International Higher Education Monitor country reports. These reports have a clear structure, describing the higher education infrastructure and the research infrastructure. In addition to an in-depth description of the institutional fabric of the higher education system, the reports address issues of finance, governance and quality in higher education. The country reports provide the frame of reference for the interpretation of policy initiatives, trend-analyses and cross-country comparisons.

A wide scope of sources are used for these country reports including national statistics, (inter)national journals and magazines, national policy documents, research papers, and international documents and databases.

To keep track of the latest (policy) changes in higher education annual update reports are published.

These publications and other information on the IHEM can be found on:

http://www.utwente.nl/cheps/higher_education_monitor

1 Introduction

In February 2005 the previous version of the Country Report on higher education in Portugal was published (Dima, 2005). In that same month parliamentary elections were held in Portugal in which the Portuguese Socialist Party for the first time gained an absolute majority of the seats. On 12 March Prime Minister José Sócrates and his government (XVII Constitutional Government) took office.

Education reform had been a key plank in the party's election campaign and became an important component of the new government's programme of legislative reform. In the area of higher education the government soon passed Decree Law 74/2006 introducing the "Bologna" three-cycle structure of qualifications to Portuguese higher education, and launched a number of measures to broaden access to higher education and to strengthen upper- and post-secondary vocational education.

The government also announced a three-part international review of higher education policy. In June 2005, the Portuguese Minister of Science, Technology and Higher Education, Jose Mariano Gago, approached the OECD to conduct a review of the Portuguese higher education system under the OECD Education Committee's programme of national reviews. Agreement was reached on the terms of reference for the review and a formal announcement to launch the review was made at a ceremony in November 2005 in Lisbon. Two other evaluations were launched in parallel: an assessment of accreditation and evaluation practices, to be carried out by the European Network for Quality Assessment (ENQA), and a voluntary system of institutional evaluations conducted by the European University Association (EUA) in which five public universities, four public polytechnic institutes and four other higher educational institutions participated.

One of the outcomes of these international reviews (and particularly the OECD and ENQA reports which were released in late 2006) has been a raft of higher education legislative reform measures in 2007: a new Legal framework for higher education institutions (RJIES) - Law 62/2007 of 10 September; a new Legal framework for the evaluation of higher education (RJAES) - Law 38/2007 of 16 August; the establishment of the Higher Education Evaluation and Accreditation Agency - Decree-law 82/2007 of 5 November; a Legal regime for the recognition of foreign academic degrees - Decree-law 341/2007 of 12 October; Regulations for Course Change, Transfer and Re-entry into Higher Education - Ministerial Order 401/2007 of 5 April; and a new Loan System with mutual guarantees for higher education students launched in September.

As importantly, the new government has given high priority to the implementation of the Lisbon strategy. It released the Portuguese Technological Plan in May 2006. This plan and the "Commitment to Science" policy submitted to Parliament in the same month have been strongly underpinned in the 2007 budget and include the key 2010 targets of doubling the number of PhDs and researchers in the Portuguese population and increasing the number of S&T graduates and scientific publications by 50%.

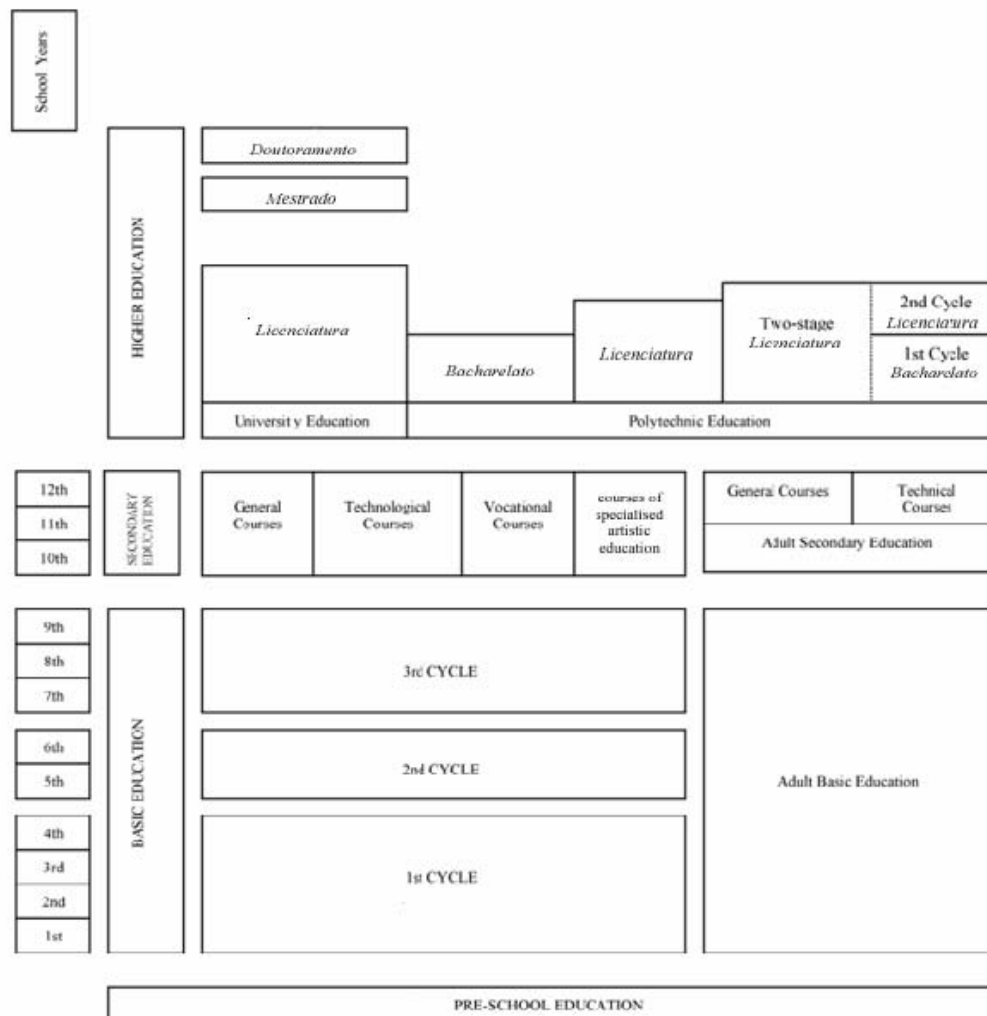
The overall situation of Portuguese higher education in 2007 is thus that it is in the process of a fairly fundamental period of reform. These reforms impact on all of the major aspects of higher education covered in this report (Access, Education Infrastructure, Research Infrastructure, Finance, Governance and Quality) and will be

considered in a final section on policy reform in 2007. In describing the pre-reform situation this report draws significantly on the IHEM 2005 report (Dima, 2005), on the Background Report produced by the Ministry for Science, Technology and Higher Education for the OECD review (2006) and on the findings of the OECD review team (2007) - a summary of which can be found in Annex 1.

1.1 Education system

Error! Reference source not found. provides an overall picture of the Portuguese education system prior to the Bologna reform of higher education qualifications in 2006. It should be noted that in Portugal the term Secondary Education corresponds to what in Europe is typically referred to as Upper Secondary Education, while Basic Education for Adults provides a second opportunity to those who failed to complete their education at the usual age or dropped out of school early and to those who seek cultural or professional improvement.

Figure 1.1: The education system



(Source: Estia, 2003, <http://www.des.min-edu.pt/estia/edu/diagindex.html>)

As is evident in Figure 1, the primary pathway to higher education is via (upper) secondary education and its adult education equivalents. The statutory minimum admission requirement to first degree programmes in higher education is the successful completion of the secondary education diploma (national examination) plus a required level of performance in national entrance tests for higher education (see below).

The two major streams within secondary education that prepare students for higher education are the “general courses” and the “technological courses” indicated in Figure 1.1. In 2005/6 there were 175,000 and 50,000 students enrolled in these courses respectively. A further 100,000 students were registered for different forms of second-chance, life-long learning and adult education often leading to the joint award of a professional vocational qualification and a secondary education diploma, while 2000 students were following specialised artistic courses (OECD, 2006). General courses aim to add to the knowledge acquired in basic education and to prepare students for further study at a higher level while technological courses include a number of compulsory general courses as well as courses with a more professional/vocational orientation. Students who follow the technological courses are also eligible to enter higher education and it is possible to transfer between the general and technological streams (Eurybase, 2005).

The fact that the technological programmes represent only 22% of regular upper secondary education, which contrasts with the situation in most European countries where vocational-type education represents in general more than 50% of the number of students, is a source of concern to the Ministry. The present government’s “New Opportunities Programme” (a joint initiative of the Ministry of Education and the Ministry of Work and Social Solidarity) includes the goal of increasing the percentage of vocational upper secondary places to 50% of the total offer by 2010, including by starting 450 new vocational programmes in upper secondary schools that currently offer only general courses. (OECD, 2006)

A further new pathway to higher education has been opened up by the introduction and development of a range of “Technological Specialisation Programmes” (CETs). These programmes lead to a diploma of technological specialisation and are offered mainly to students that have completed upper secondary education or hold an equivalent vocational qualification. The programmes are offered by secondary and technical schools, technological schools, training colleges, and universities/polytechnics under the supervision of the Ministries of Education, Economy, Work and Social Solidarity, and Science, Technology and Higher Education respectively. In 2005/6 170 such programmes were offered nationally of which 24% (enrolling more than 5000 students in 2006/7) were offered at universities or polytechnics. While the primary aim of the programmes is professional education students are eligible to proceed to higher (and particularly polytechnic) education. (OECD, 2006)

2 The Higher Education System

2.1 Types of higher education institutions

2.1.1 History

From the creation of the first Portuguese University in the 13th century to the present day, three main periods can be identified: the classical phase, the modern period and the contemporary phase. The first period includes the long time span from the 13th century to the first half of the 20th century, at the end of which four universities already existed: Coimbra University, the University of Lisbon, the Technical University of Lisbon and the University of Porto. The second period, mostly concentrated around the 1970s, saw the foundation of seven new public university institutions in the main cities of the country, and the Catholic University. The third phase, covering the two last decades of the last century, produced four new public universities, a network of public polytechnic institutes and a very significant number of private higher education institutions. (Soares and Trindade, 2004:349).

Significantly, the polytechnic institutes were the final public institutions to be established. Many were created in regions with as yet no higher educational institutions and with a regional development focus. Seven of the 15 public polytechnics are located in the underdeveloped interior of Portugal.

2.1.2 Institutional diversity in today's higher education system

In terms of systemic diversity Portuguese higher education is fairly diverse as regards the types of institutions that constitute the system. There are three major lines of institutional differentiation: a binary distinction between universities and polytechnic institutions,¹ a distinction between specialised schools typically with a single focus area and larger integrated multi-focused institutions, and finally the co-existence of both public and private sectors of higher education. (OECD, 2007) The current system comprises in its public sector 14 universities represented (together with the Catholic University²) in the Portuguese Rectors' Conference (CRUP), and a non-integrated public University Institute (institutions awarding university degrees but not meeting the statutory conditions to be universities, primarily in terms of the range of subjects offered); 15 public polytechnic institutes, represented in the Council of Portuguese Polytechnic Institutes (CCISP), some non-integrated Polytechnic Schools (institutions awarding polytechnic degrees but not meeting the statutory conditions to be polytechnic institutes); and some public Higher Education Schools, depending both on

¹ The binary line is a complex one: 18 polytechnic schools are part of universities.

² The Portuguese Catholic University is a private university that was created with a unique status under article XX of the Concordat between Portugal and the Holy See of May 1940, officially recognized in 1971. The Catholic University is free to create faculties, institutes, departments, research centres and other organizational units but must notify MCTES of such developments.

MCTES and another Ministry (Military Schools, Police Academy, the Navy School, the Air Force School and Health Schools). (Soares and Trindade, 2004) The private sector is represented by 13 universities (some of them with various campuses in different geographical areas), some university schools and more than sixty Polytechnic Institutes and Schools. The overall institutional landscape can be seen in Table 1.

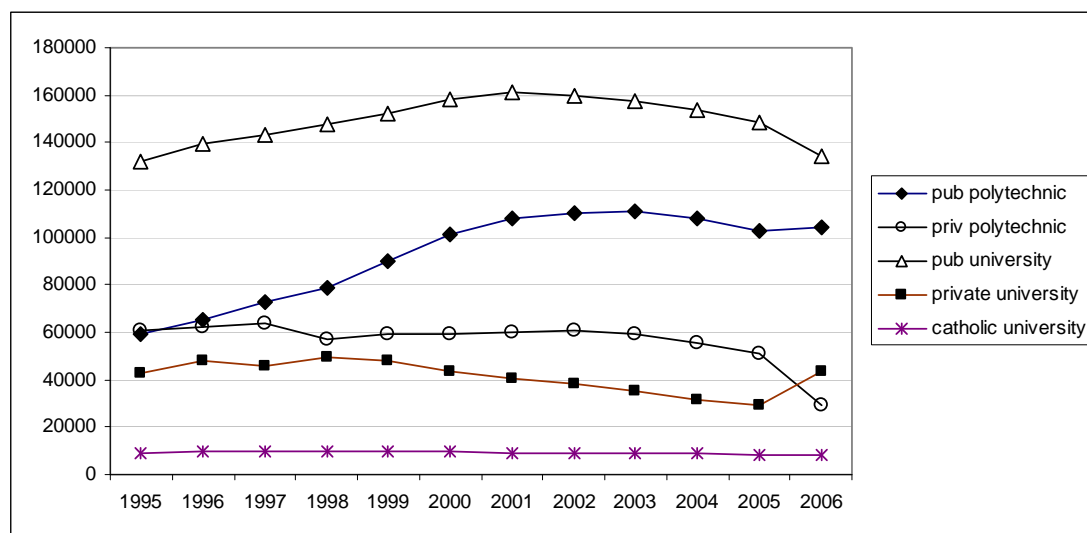
Table 1: Categorisation of Portuguese higher education institutions, 2006

	University		Polytechnic	
	Universities	Other schools (not integrated)	Polytechnic institutes	Other schools (not integrated)
Public	14	5	15	16
Private	13	35	2	60
Total	27	40	17	76

Source: OECD, 2007

These 160 higher education institutions range in size from five multi-faculty universities graduating around 3000 students each per year to 29 private institutions with an enrolment of less than 200 students each. Overall enrolments in 2004/5 were 241,000 university students (of which 67,000 were in private universities) and 140,000 polytechnic students (32,000 in private polytechnics).

Figure 2.1: Undergraduate enrolment in Portuguese higher education



source: IHEM database

2.1.2.1 A Binary System

The basis of the binary distinction between universities and polytechnics is a multi-faceted one. The first attempts to create a polytechnic system were initiated before the Revolution of April 1974. After the revolution rising demand for higher education

driven by improved schooling levels, higher expectations and significant unemployment created more pressure to increase the capacity of the higher education system. Both the World Bank and the International Monetary Fund were strong advocates of expanding but diversifying higher education provision. Preparation started in 1976 and the network of polytechnic institutions took shape in 1979 and 1980. (Decree-Law 513-T/79, 26 December and Decree Law 303/80, 1 August). This binary organization of the higher education system was confirmed by the Education Framework Act of 1986 (Law 46/86, 14 October) referred to also as The Comprehensive Law of the Education System. The 1986 Act demarcated the roles of the universities and polytechnics. This demarcation is considered by many to be not sufficiently clear and to be one of the underlying reasons for subsequent academic drift. The Act stipulates that:

“University education is designed to ensure a sound scientific and cultural background and to provide technical education equipping people for administering professional and cultural activities and furthering the development of comprehension, innovation and critical analysis” (article no.11.3)

“Polytechnic education is designed to provide a sound higher education level of cultural and technical education, develop a capacity for innovation and critical analysis and inculcate theoretical and practical scientific knowledge and its application to the exercise of professional activities” (article no.11.4).

Portuguese higher education institutions traditionally awarded the following academic degrees: *Bacharel*, *Licenciado*, *Mestre*, and *Doutor*. In addition, diploma courses that did not lead to an academic degree were offered. The two types of higher education institutions, universities and polytechnics, both awarded the degrees of *Bacharel* and *Licenciado*. The *Licenciado* was awarded after 4 to 6 years of studies and the *Bacharel* after 3 years of studies. Most of the *Licenciado* degrees awarded by polytechnics were organized into two cycles, the first of which corresponded to a *Bacharel* degree (ISCED Level 5B). This two-stage *Licenciado* degree was an attractive feature of polytechnic education. The postgraduate degrees of *Mestre* and *Doutor* were awarded exclusively by universities. In 2005/6 (before the introduction of the three-cycle system) there were 80 *Bacharel*, 1932 *Licenciado* and 622 *Mestre* programmes registered in public and private institutions. (OECD 2006) Decree-Law 74/2006 re-established the programme distinction between universities and polytechnics in the context of the Bologna three-cycle qualification structure. Both universities and polytechnics offer (the new) *Licenciado* and master degrees, only universities offer the doctorate. University *Licenciado* degrees are 180-240 ECTS³ while those in polytechnics are 180 except in very specific cases where national or European regulations or practice require this. Furthermore, the Decree-Law indicates that polytechnic first degrees “must value particularly training actions targeted at the practice of a professional activity, ensuring a component of application

³ As in most European countries there are some exceptions to the three-cycle structure with extended integrated professional programmes continuing in certain fields.

of the knowledge acquired to the actual activities of the respective professional profile”. At the master degree level polytechnic degrees must “ensure predominantly that the student acquires a professional specialisation” in contrast to university degrees that must “ensure that the student acquires an academic specialisation resorting to research, innovation or expansion of professional competences”. The research function, like PhD studies, is seen as a university responsibility with polytechnics having an important role in R&D linked to local industry and regional development. (OECD, 2007)

2.1.2.2 *The Private Sector*

The 1980s were a period of stabilization within the political and economic environment, allowing some consolidation of the higher education system. The network of public universities expanded in number and size, and the polytechnic sub-sector was emerging. However, the restrictions imposed by the *numerus clausus* and the growing number of secondary education graduates created, by the mid-1980s, an increasing gap between the number of candidates and the number of vacancies in higher education (Teixeira, Amaral and Rosa, 2003:192). The idea of significantly increasing the role of the private sector – entitled by the Portuguese Constitution to establish (higher) education institutions – gained political support as this would enable an increase in the enrolment rate without major cost to public finances. Moreover, the private sector was seen as capable of promoting a better balanced supply (from a geographical and disciplinary perspective) and of being more responsive to labour market needs.

Private higher education institutions, according to the law on private higher education, may be established on the initiative of firms, cooperatives or foundations created specifically for the development of higher education and must be officially recognised if they wish to award national degrees. This recognition is the responsibility of the General Directorate of Higher Education (of MCTES) and is based on the assessment of a proposal covering internal organization, academic staff, buildings and equipment and economic viability. Recognition of individual courses follows a similar procedure, based on curriculum and general course regulations, academic staff, physical facilities and equipment and the number of students proposed (Eurydice, 2000).

Assisted by the political decision in 1988 to relax the minimum entrance requirement to higher education (see below), private institutions rapidly increased their proportion of Portugal’s students. In 1983-84, this was approximately 10% of the country’s overall enrolment; by 1989-90 this was 22%; and private enrolments (including the Catholic University) reached a peak of 36% in 1996 before starting to decline due to a decrease in the number of candidates as a result of demographic changes and higher entrance requirements. In 2004/5 this proportion had reduced to 26%. In 2005, 22 private institutions (or constituent campuses) ceased activity while no private university has been established since 1996 and no private polytechnic since 2001. (Dima, 2005; OECD, 2007)

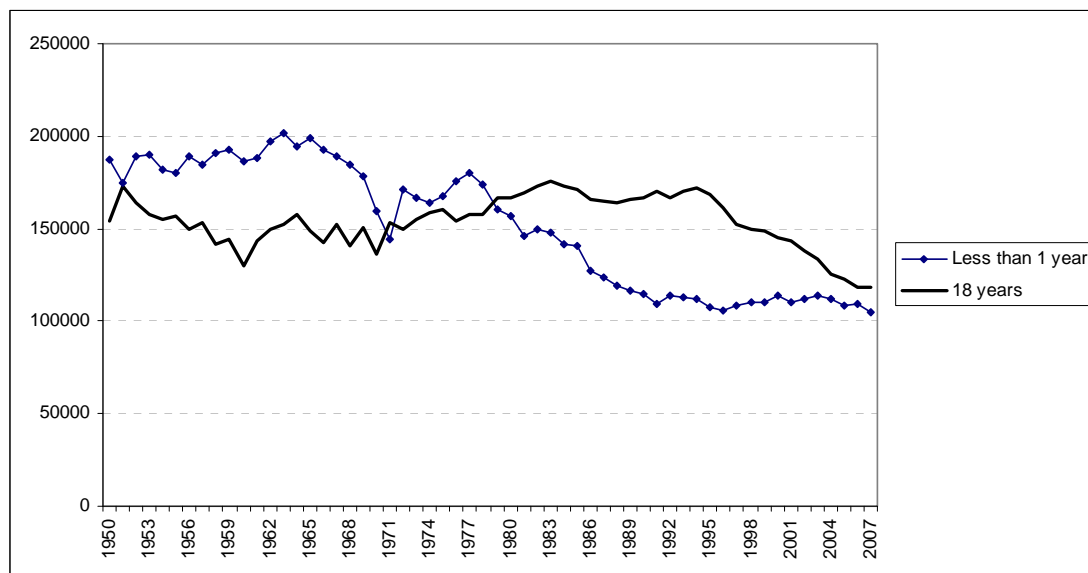
Notwithstanding its quantitative success, the rise of the private sector became a major problem for the public authorities. Its geographical and disciplinary distribution, the

balance between teaching and research, and the quality of the degrees provided were quite different from initial expectations, thus creating several tensions within the system. Furthermore private institutions did not prove to be more responsive to economic needs than the public sector (Amaral and Teixeira, 2000).

2.1.2.3 Demography, geography and enrolment trends

Portugal has experienced a massive expansion of its higher education system over the last three decades – the highest growth rate of the EU 15 countries. Student numbers rose from 30,000 students in the 1960s to over 400,000 by the end of the 20th century. The dramatic increase began in the early 1970s when the system was opened to young people of all social classes. Enrolment doubled over the 10 years period ending 2002/3 but has begun to decline since then, primarily as a result of a demographic decline in the number of young people in the Portuguese population – the number of 20-24 year olds is expected to decrease from 783,000 in 2000 to 610,000 in 2010 and 565,000 in 2020. (OECD, 2006)

Figure 2.2: Trends in new bornes and 18 year olds in Portuguese population



source: Eurostat, table demo_pjan

Regional location is an important factor as regards demographic changes: four of the 14 public universities and seven of the fifteen public polytechnic institutes are located in the interior of mainland Portugal, while two public universities are situated on Portugal's islands. In general, these institutions are experiencing the brunt of the declining number of entrants and the increased competition for students that this has brought with it. Portugal's higher education capacity is heavily concentrated in the two major cities: 40% of public and 70% of private higher education places are offered by institutions in Porto and Lisbon. While this mirrors demographic trends (the United Nations estimates that 85% of the Portuguese population may live in these two cities by 2015) it raises a series of questions concerning the role of higher education in regional economic development and the level of internal student mobility that is desirable and achievable. (OECD, 2007)

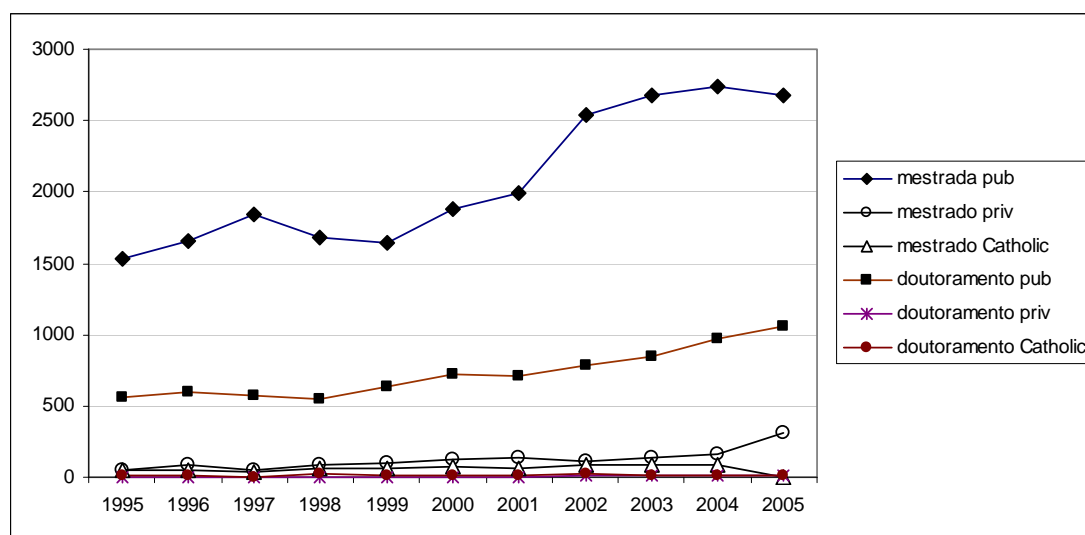
Portugal has a comparatively high drop-out rate from secondary education, a comparatively low proportion of higher education graduates in the population, a low proportion of adult learners in higher education and significant social class inequalities in access to higher education.

2.1.2.4 Postgraduate students

The number of postgraduate students in Portuguese higher education remains relatively low in European terms although this has grown significantly over the past 15 years. Masters students constitute some 8% of the students in public universities although the leading science and technology schools in Lisbon and Porto have postgraduate enrolment rates (masters and PhD) of around 20%. In 1990 there were 3237 Masters students (222 in private universities) but this had risen to 11 422 (1670 in private universities) by 2004. 3162 students graduated from Masters programmes in 2004. (OECD 2006) The introduction of the new Bachelor-Master structure will lead to a significant increase in “masters” registrations, and will allow polytechnic institutes to offer masters programmes (the first 20 programmes were approved in 2006).

The number of Doctoral degrees awarded by Portuguese universities over the period 1990 until 2004 increased almost four-fold, from 250 degrees awarded in 1990 to 926 degrees awarded in 2004. At the same time the proportion of Portuguese PhDs gaining their degrees from foreign institutions has declined. In 1990 this figure was 87 (26% of all PhDs awarded) while in 2004 it was 142 (13%). (OECD 2006) Eight universities – all in major coastal cities - produce around 85% of the PhDs awarded by Portuguese universities. (OECD 2007)

Figure 2.3: Post graduate degrees awarded



source: IHEM database

A major initiative to enhance the internationalisation of Portuguese higher education, and science and technology in particular, was launched in 2006 by MCTES. Multi-year, multi-million contracts and protocols have been signed by universities and R&D

centres with the Massachusetts Institute of Technology in the areas of engineering and management, and with Carnegie Mellon University to develop joint masters and doctoral degrees in various ICT fields. Similar agreements will be made with the University of Texas Austin, and the Fraunhofer Institutes in Germany.

2.2 Admission

While the possession of a secondary education diploma makes students eligible for access to higher education, actual access is highly dependent on two further factors: national higher education entrance examinations and the *numerus clausus* system for all (public and private) higher education programmes. Both require further explanation.

Before April 1974, access to higher education was restricted to a privileged few. After the revolution, the expectations of the population were raised and the pressure on the system increased dramatically. This increase in demand and the limitations of available facilities and academic staff led the Government to impose the *numerus clausus* system in 1977 as a way of preventing a loss of quality in education provision. Despite the subsequent increase in the capacity of the higher education system through the creation of polytechnics and new universities, the public system was unable to provide the number of places required to meet demand. This fact encouraged an increase in the number of private providers of higher education, especially from the second half of the 1980s onwards (Eurydice, 2005).

In terms of the national entrance test for higher education, candidates are required to sit national examinations in a set of subjects relevant to their proposed programme of study. In order to qualify for the award of a place a candidate must achieve above a national minimum score on this test, although individual higher education programmes may set requirements that exceed this minimum, particularly where there is high demand for the programme in the context of its *numerus clausus* enrolment ceiling. The level at which this national minimum score has been set has varied, and has been an important instrument of access policy.

In 1988 the Minister Roberto Carneiro increased the demand for higher education by reducing the requirements for access to higher education (entrance examinations were used only for ranking students in the national tender for vacancies, without any minimum required levels). This resulted in almost double the number of qualified candidates that created very favourable market conditions for the rapid development of the private sector (Amaral and Teixeira, 2000). Since 1998 the government has become more concerned with quality than with quantity, and more demanding conditions for access to higher education were again introduced. These conditions, together with demographic changes produced a sharp decrease in the number of candidates qualified to enter higher education, thus shrinking the market for private institutions (Rosa, Veiga and Amaral, 2004).

In summary, the Ministry of Science, Technology and Higher Education (MCTES), following consultation with the higher education institutions responsible for the study programmes, annually establishes the value of the *numerus clausus* for each programme. New students must compete for a vacancy on a national tender, each student applying for a maximum of six study programme/institution combinations, ranked in his or her order of preference. Students are then placed according to their

preferences and their relative marks in the national entrance examination. These conditions apply also to private higher education institutions (Teixeira, Rosa and Amaral, 2004).

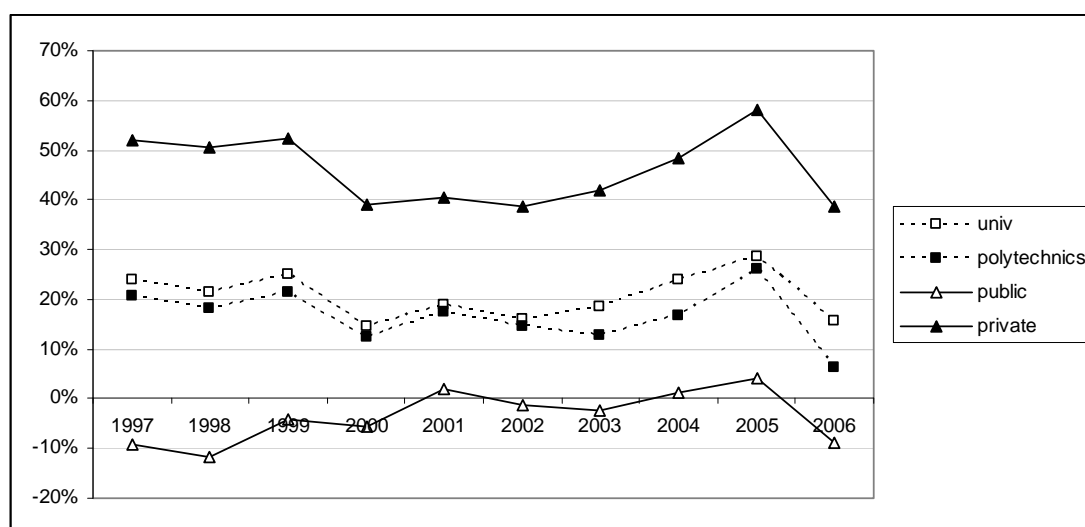
Although there are no legal restrictions on students' freedom in choosing a provider, there are important economic considerations. First, students enrolled in public institutions pay only very modest tuition fees while students enrolled in private institutions pay full cost fees. Secondly, it may well happen that a student cannot find a place in a particular study programme in a public institution at a reasonable distance from home. In this case, he or she may prefer to enrol in a similar study programme at a local private institution, instead of enrolling in a distant public institution. This also means that enrolments in private institutions are almost exclusively local, as students are unlikely to add the payment of higher fees to the costs of moving away from their parents' residence (Teixeira, Rosa, and Amaral, 2004).

Candidates aged 25 years old or over, who do not hold a secondary education diploma, may sit a special entrance exam to enter higher education. Until 2005 this test was administered and set nationally but Law 49/2005 decentralised decisions on whether to admit mature students to the higher education institutions to which they have applied. From the academic year 2005/6 this special dispensation has been extended to candidates aged 23 years or older. This has had a significant impact on access with the number of mature students entering higher education programmes via this route increasing from 550 in 2004/5 to 10,900 in 2006/7 primarily in the private and polytechnic sectors. (MCTES/OCES)

2.3 Access

The demand for higher education is higher than the capacity of the higher education system. The private higher education institutions have almost twice as many applicants as new entrants to their programmes. For the public higher education institutions, the situation is completely different: there the number of applicants is similar to the number of new entrants.

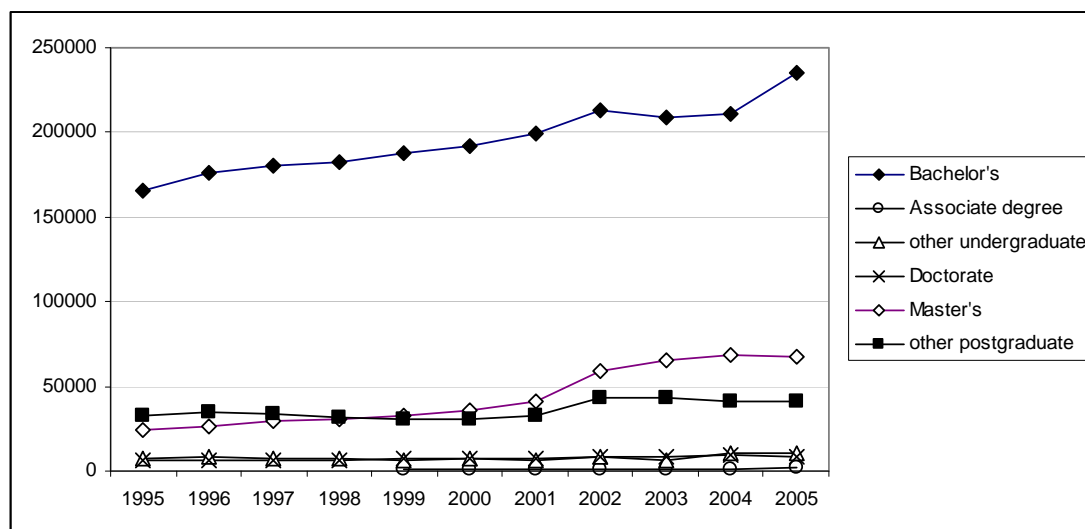
Figure 2.4: Unmet demand in Portuguese higher education, by type of institution and control



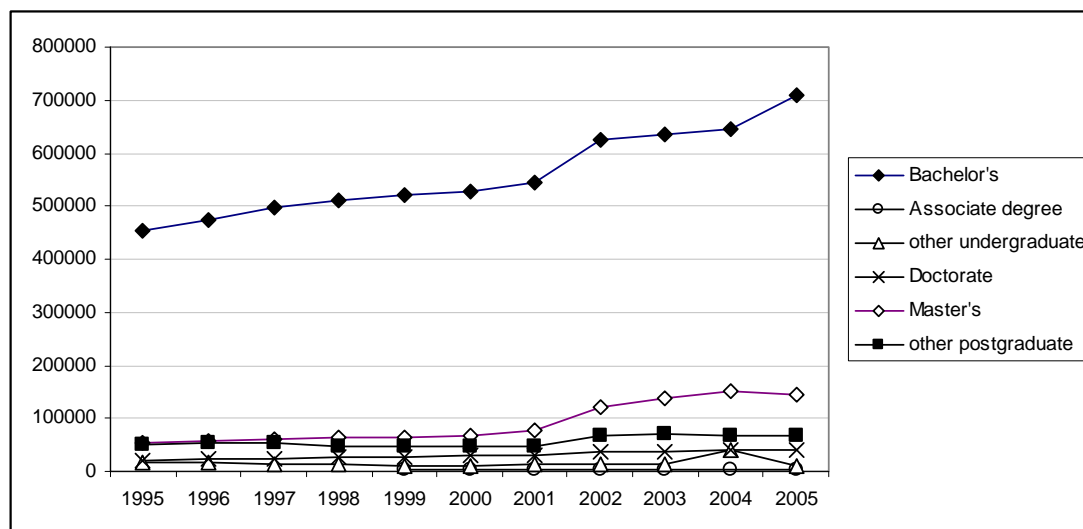
source: <http://www.estatisticas.gpeari.mctes.pt/index.php?idc=47&idi=203500>

note : 1- (new entrants as a ratio of applicants)

Figure 2.5: New entrants in university programmes

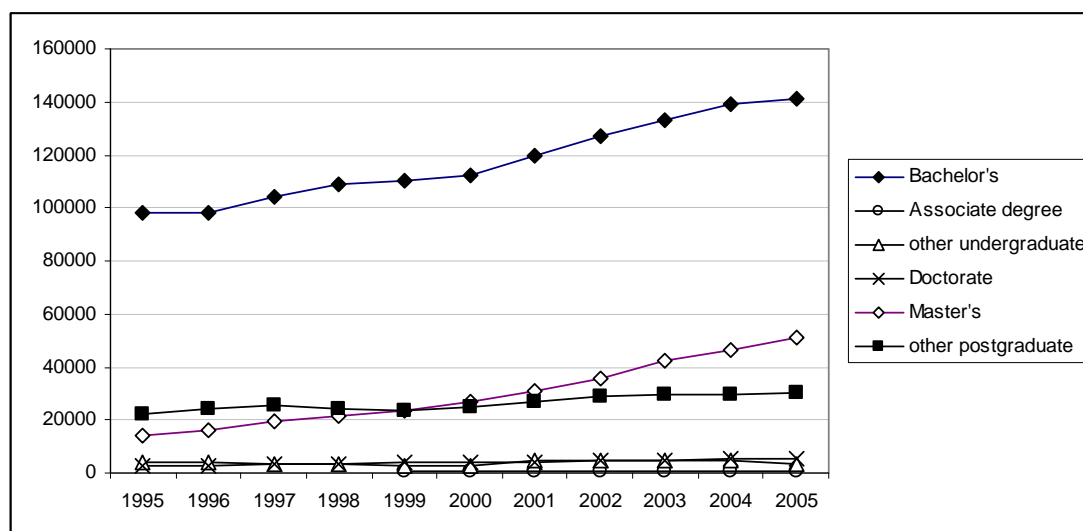


Source: CHEPS IHM

Figure 2.6: Enrolment in university programmes (headcount)

Source: CHEPS IHM

Comparing the levels of inflow and enrolment, it can be noticed that the level of bachelor enrolment is relatively high. This is due to the length of the programme (three to four years) which is longer than the rest of the programmes.

Figure 2.7: Higher education graduates by programme

Source: CHEPS IHM

2.4 Staff

There are main categories of teaching staff in public universities are full professor (*catedrático*), associate professor and assistant professor. In public polytechnics, the main categories are coordinator, aggregate and assistant.

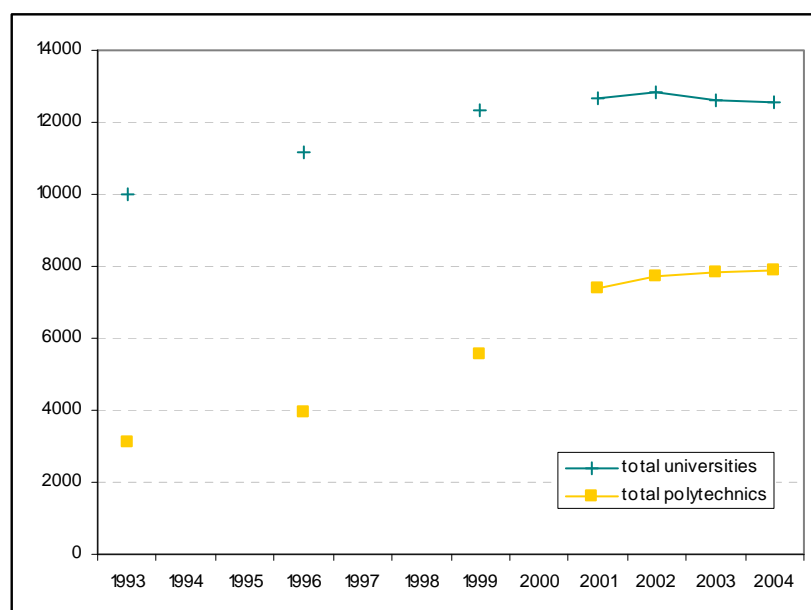
The number of places for academic staff in public universities and polytechnics is regulated in detail by the government. One notable trend is the high proportion of polytechnic staff hired on special contracts (over 50% in 2002/3, OECD 2006) as the number of approved places is well-below that requires in practice. Procedures and criteria for academic careers are set out in Law 448/79 of November 1979 (amended nine times since then).

Three major policy issues concerning academic staff are the significant effort that has been put into increasing the proportion of academic staff holding a PhD; concerns about the high level of “inbreeding” within Portuguese universities; and increasing concerns about the perceived over-regulation of the academic career structure.

With regard to the first issue, the number of academic staff in Portuguese public universities holding a PhD increased from 3232 in 1993 to 7295 in 2004 representing 55% of all academic staff. The corresponding proportion for public polytechnics is 24% and that for private universities 27%. (OECD 2006).

In terms of inbreeding, many university faculties have a majority of academic staff with PhDs awarded by the same faculty. Part of the reason for this lies in the regulations governing the academic profession which guarantees progression into a tenured academic position over a number of years after being awarded the PhD (see section 5.1 below). The OECD review team recommended that the system of academic careers be fundamentally reformed as part of giving universities more managerial and financial freedom and removing university staff from the civil service (OECD 2007 – see Annex 1).

Figure 2.8: Total number of teaching staff in public higher education institutions, 1993-2004



Source: CHEPS IHM

3 Research infrastructure

3.1 Introduction

The Ministry for Science, Technology and Higher Education coordinates the activities of the following authorities that have responsibilities in the area of research and development (Dima, 2005):

- The Foundation for Science and Technology (FCT) is in charge of promoting, financing, following-up and evaluating institutions, programmes and projects, as well as education and human resources training
- The Observatory for Science and Higher Education (OCES) is responsible for collecting, processing and diffusing information on the S&T system and the HE system
- The Institute for International Scientific and Technological Co-operation (ICCTI) coordinates the international collaboration activities
- The Academy of Sciences of Lisbon is responsible for the national and international promotion of Portuguese culture, literature and national history

Major reform measures were initiated in the second half of the 1990s to increase R&D potential by investing in advanced training of human resources, in project funding, in strengthening R&D institutions and their internationalization. The following are some of the measures that have been employed:

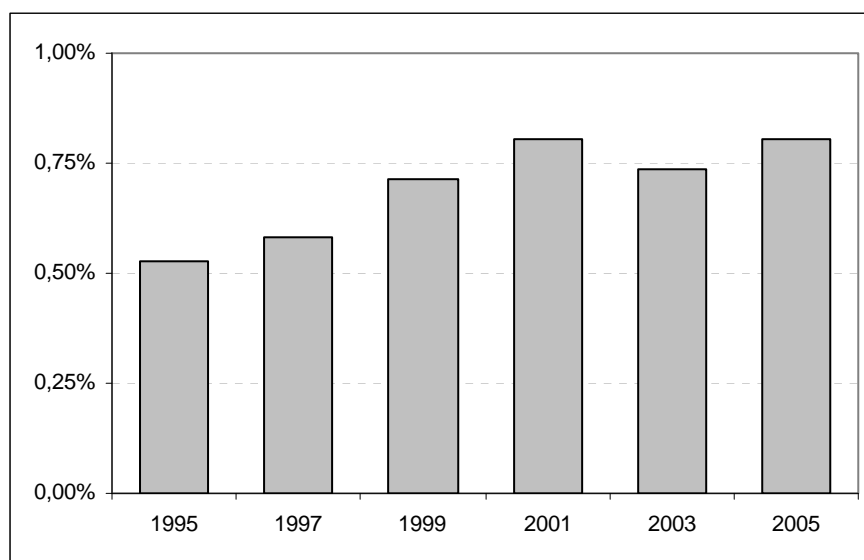
- R&D programs integrate scholarship grants for initial (graduate) and advanced (postgraduate: MA, PhD and Post-doc) training and the start of scientific careers;
- Project funding is dependent on team and project quality assessment by independent evaluation panels including a majority of international experts. Application for funding is opened yearly by the FCT for all areas of knowledge. Beneficiaries are research teams in public or private institutions with R&D activities and business enterprises in consortia with R&D institutions. Since the aim is to develop the general science base, there is no thematic prioritization in the general programme, project selection being based on project and team quality assessment.
- Dedicated thematic programmes are also opened on public interest issues (e.g. research on forest fires, marine science, ethnic minorities, protection of natural environments, drug addiction) and for participation in international R&D institutions. Evaluation parameters and procedures are similar to those of the general programme.

As indicated in the introduction, research and innovation are a key part of the growth strategy and competitiveness programme of the current Government's Technological Plan. This is defined as "an action plan to put into practice an articulate set of policies aimed at stimulating the creation, dissemination, assimilation and use of knowledge". In terms of the science base and capacity building key targets for 2010 of the strategy are:

- To raise the share of S&T graduates in the population aged 20-29 by 50%, to raise PhD production from around 1000 to 1500 per year (and to double new PhDs per 1000 population aged 25-34)
- To double Gross Expenditure on R&D (GERD) financed by the Government and to triple the Business Expenditure on R&D (BERD)/GDP ratio.
- To double the total number of R&D personnel in the population, and more than double the number of researchers per 1000 population
- To increase by 50% the number of scientific publications per million population

The implementation of the public investment part of the strategy has had a good start. Firstly, the budget for 2006 had research and innovation as a key priority. In May 2006 the Government presented to Parliament a special *Commitment to Science* document. The state budget for 2007 includes a net increase of 77 % in S&T funds for MCTES and a net increase of 90 % in overall national funding for S&T. Secondly, increasing the number of new PhDs is proceeding as planned (see previous section). Thirdly, many of the remaining targets, for example, increasing scientific productivity, are likely to flow from the achievement of the two first objectives. (OECD 2007)

Figure 3.1: GERD as a percentage of GDP



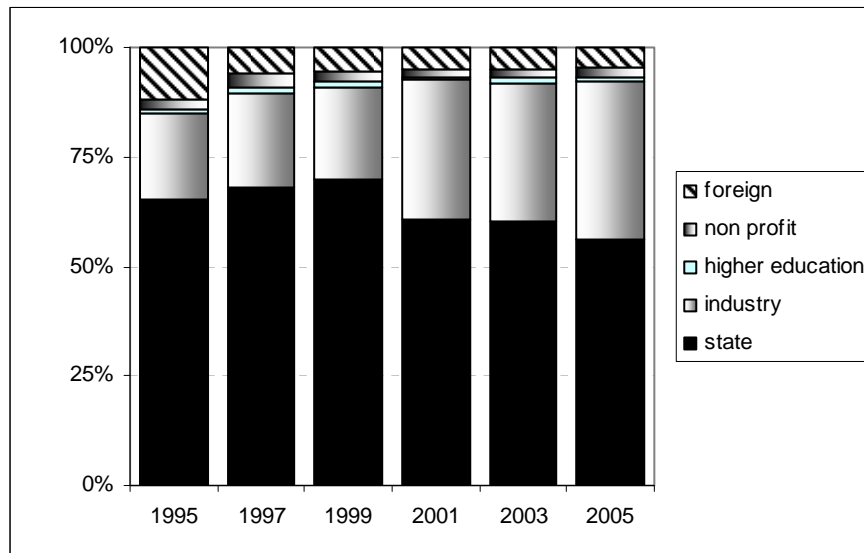
source: <http://www.estatisticas.gpeari.mctes.pt>

3.2 Providers

Although the Portuguese research system has been growing exceptionally fast since the latter half of the 1990's, the absolute figures are still relatively low. The expenditure on R&D in 2003 was one of the lowest in Europe (0.78% of GDP). In addition, public sector funding of R&D is over 60% while the EU 15 average is around 35%. While Portugal had one of the lowest numbers of researchers per population in the EU-15 it has caught up with the European average since the beginning of the 1990's. (OECD 2006, 2007) The rapid growth has been due to the

implementation of the CIÊNCIA programme in the beginning of the 1990's and the programme of advanced training fellowships funded by the Science and Technology Foundation (FCT) which encompassed the measures outlined above.

Figure 3.2: Distribution of GERD by provider of funds



source: <http://www.estatisticas.gpeari.mctes.pt>

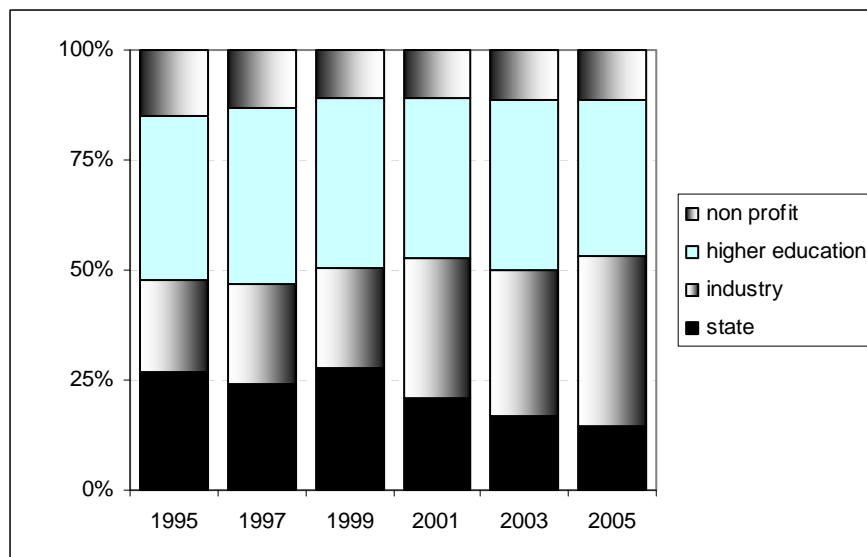
3.2.1 Portuguese government/Foundation of Science and Technology

The Portuguese Government favours competitive funding as is evident in the budget for 2007, where the share of competitive and semi-competitive funding has increased from 26% to 37% as a part of the increased public funding of S&T. In 2005 the funding of the main Foundation of Science and Technology programmes was as follows (with the percentage increase since 2000): funding of Research Projects €29 million (308%), funding for fellowships €83 million (173%) and funding for Research Centres and Associated Laboratories €56 million (320% increase since 2003). (OECD 2006)

As indicated above, private sector funding of research and development is low compared to the situation in most EU-15 countries and is one of the target areas of the Government's Technological Plan.

3.3 Performers

Figure 3.3: Distribution of GERD by performers



source: <http://www.estatisticas.gpeari.mctes.pt>

3.3.1 Public sector research agencies

The public Universities are the major research performers in Portugal. Research is organized into research units and associated laboratories.

3.3.1.1 The FCT accredited research units.

The vast majority (over 10,000) of the new PhDs have remained in the universities employed primarily in academic research, which is organised in research units. Over 90% of these research units are associated with public universities. The number of FCT accredited research units has increased from 270 in 1996 to 433 in 2004 and the number of PhDs employed in the units has increased from 3,575 in 1996 to 8,324 in 2003. 27 research units are based at private institutions, a further 14 at the Catholic University, 8 at public polytechnics and the remaining 384 at public universities. There are over 30 research units in some scientific areas such as electrical and computer engineering, health sciences, economics and management, and history. The implementation of a new model for the assessment and funding of the FCT accredited research units was launched in 1996. The assessment, which has occurred three times to date, has been managed by the FCT and undertaken by evaluation Review Panels composed mostly of international members. Those units which have been awarded the lowest grade have lost funding.

3.3.1.2 Associated laboratories

The research units are the principal instrument for building science capacity in Portugal together with the Associated Laboratories. These laboratories were first

formed in 2000 from those research units evaluated as being excellent or very good or which were working in areas of high relevance and had significant research capacity. They now number 21, with 2200 researchers, of which 1450 have PhDs; the total financing allocated over 10 years is €268 million. The policy of the Ministry is to enlarge the Associated Laboratory system.

3.3.2 Industry

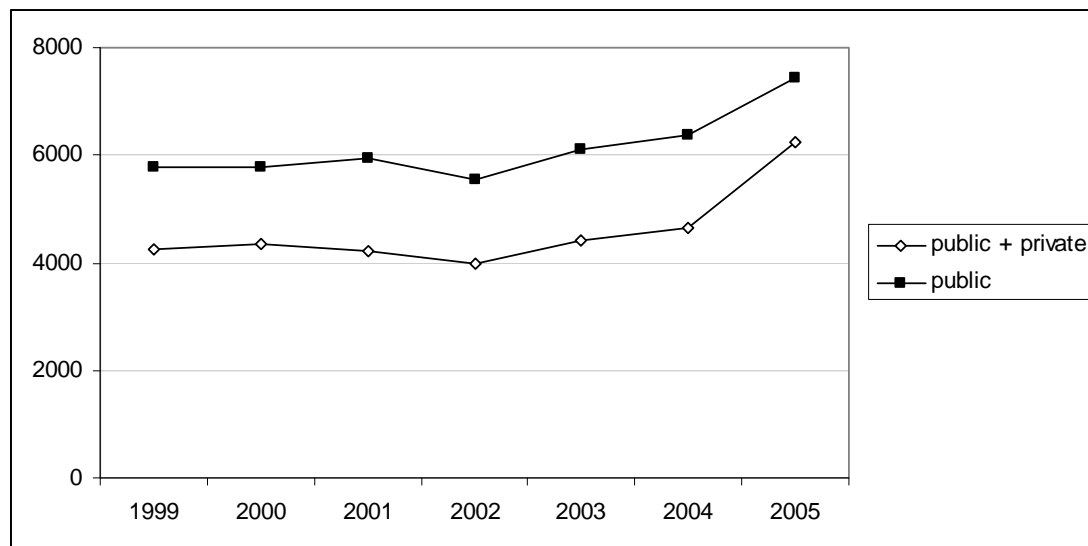
The contribution made by private R&D was relatively low, but it has increased over time considerably.

4 Financial aspects

4.1 Introduction

Educational expenditure per student in Portuguese public tertiary education institutions is around the EU-19 average. If all expenditures are included (including R&D), Portugal is well below the EU-19 average (OECD, 2008). Since 2003, expenditure per student has gone up. The difference in the expenditure per student between the public and private institutions is diminishing as the expenditure per student at private institutions are growing faster than in public institutions.

Figure 4.1: Annual expenditure on public and private educational institutions per student in EUR PPS, at tertiary level of education (ISCED 5-6), based on full-time equivalents

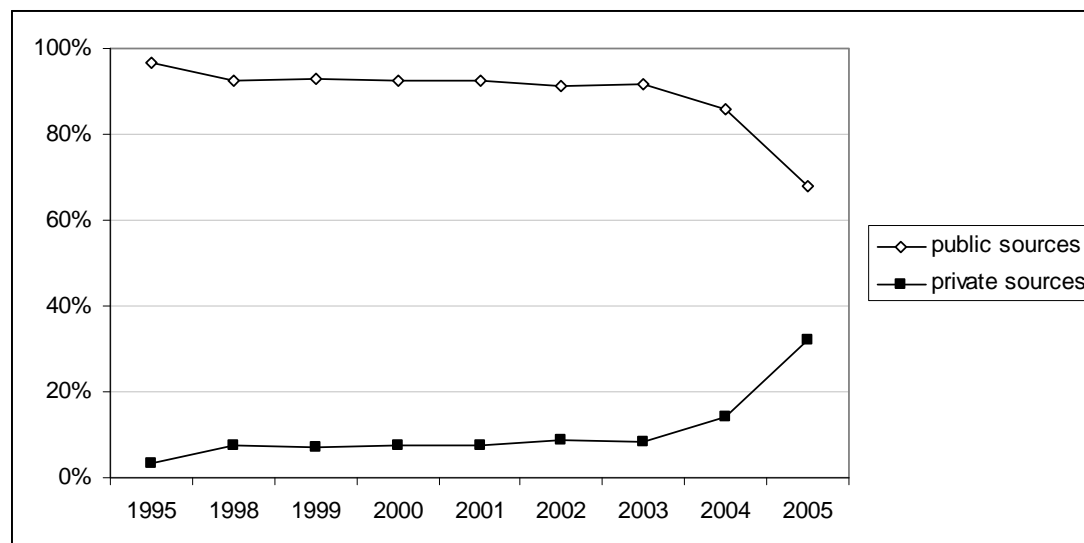


source: Eurostat

Portuguese tertiary education has historically been heavily dependent on state funds; in 2002 (the most recent year for which comparative data are available), over 90% of tertiary educational expenditures came from public sources, in contrast to the OECD average of 78% (OECD 2007). This is changing, as tuition revenues and private funds are increasing (see

Figure 4.2)

Figure 4.2: Relative proportion of public and private expenditure on public tertiary educational institutions



Source: OECD, Education at a Glance

Current expenses – the operating support for institutions of higher education – are funded predominantly from the state budget. Private institutions generally do not receive direct state support, but their students are eligible to receive scholarship assistance. European Structural Funds are used for strategic investments in science and technology and the information society, and for capital outlay. Private funds, primarily in the form of contracts for research and development, are typically restricted by the donor and not available for general purposes.

4.2 Funds for teaching

4.2.1 Funding mechanism

Despite a difficult budget situation, the new national Government has protected spending in the strategic areas of science and technology, where funding increased in 2006 by 17% (in contrast with a 2% increase in institutional funding) and in 2007 by 60%. This is consistent with its priority to invest in scientific and technological areas with the greatest potential to contribute to future economic growth in Portugal. (OECD 2007)

Current expense budgets for public institutions are allocated based on prior year appropriations, adjusted for changes from year-to-year using a performance-based budget formula. The performance-based approach was introduced in 2005 and implemented for the first time in 2006. Prior to 2005, allocations were distributed using cost-and enrolment-based formula, where the major cost drivers were the student/faculty ratio, the qualifications of the teaching staff, the field of study, and the proportion of students in post-graduate programs. The performance based criteria added in 2006 include graduate and post-graduate completion rates. Universities are funding at an average of €4,403 per student for initial training programmes, compared

to €3,383 in the polytechnics. Institutions also obtain higher state funding for post-graduate programmes, averaging €5,052 per capita in the universities.

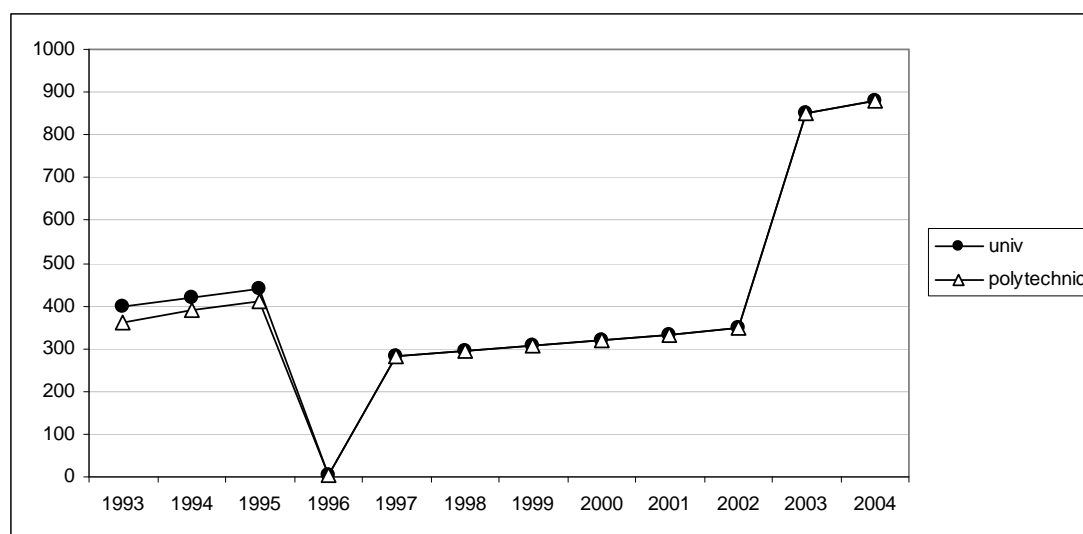
The 2006 funding formula is designed to provide a stable basis for institutional planning, while providing incentives to institutions to improve performance in degree completion. The formula is also adjusted to stabilise funding changes from year-to-year, through a “cohesion factor” designed to insulate low-performing institutions from excessive budget cuts. Institutions have the autonomy to decide how to spend funds internally once they receive them from the Government although public sector personnel policies effectively limit the ability to significantly reallocate resources across programmes and schools.

Capital funding is determined on a project-by-project basis and is linked to regional development plans. Investment plans are negotiated directly by the institutions with the Directorate General of the Ministry.

4.3 Tuition fees

In the Portuguese public higher education system, every student enrolled in a public higher education institution has to pay an annual fee fixed by each institution between a minimum and maximum amount. Fees paid by students enrolled in public institutions do not cover the real costs of higher education, being in fact a very small proportion of it (about 7 to 8% of total costs). (Teixeira P., Rosa M.J, and Amaral A, 2004)

In the early 1990's student social support became entangled with the government's attempts at increasing cost sharing by raising tuition fees. In Portugal the nominal value of tuition fees had been frozen since 1941 and in 1990 students enrolled in public institutions paid only about €6 per annum. The 1976 Portuguese Constitution determines that higher education must become progressively free of charge. However, with the approval of the Constitutional Court it was agreed that although tuition fees could not be raised, updating their value by taking into account inflation since 1941 was not considered a price increase. The current law (Law 37/2003) allows public HEIs to set the value of undergraduate tuition fees between a minimum of 1.3 times the minimum monthly wage and a maximum determined by updating the value of 1941 by inflation to €900. The rationale behind this was to allow institutions to compete (but within a very limited price range and within the context of the *numerus clausus* system). (Dima, 2005)

Figure 4.3: Tuition fees in €

source: http://www.gse.buffalo.edu/org/inthigheredfinance/region_Eupore_Portugal.pdf

Revenue from student tuition and fees represented around 17% of total revenues in 2006, close to the OECD average of 19%. Current tuition levels among most public universities are close to the maximum of €902 annually; charges among the polytechnics are lower, averaging closer to €500 per year. Institutions are free to set tuition levels for postgraduate programmes; in 2005 those fees averaged €1,820. Tuition revenues have been growing as a proportion of revenues in Portuguese higher education, growing at an average annual rate of change of over 21% since 2000, in comparison to less than 1% growth in public funds although the major increase (45%) occurred in 2003-04 following the new law. (OECD 2007)

In 2006 MCTES clarified the question of tuition fees in terms of the newly introduced “Bologna” three-cycle degree structure. According to the constitutional rules tuition fees for the second level of higher education studies (masters) are differentiated: programmes that are indispensable for professional activity where the fee is identical to that for the first level; other masters programmes (and the PhD) where the tuition fee can be set by higher education institutions themselves without any Government imposed limits.

4.4 Student support

Higher education has developed in Portugal on the assumption that the family rather than the state is responsible for the living costs of students. Slightly more than half of Portugal’s higher education students currently come from the relatively better-off families. Some 70% of students derive their income from their families, and about 50% of students live at home. Only 20% of students undertake some form of paid work. (OECD 2007)

Following the introduction of increased tuition fees in 2003/4, the Government increased student support expenditure primarily in the form of means-tested grants for tuition and living costs. The Government also extended student support to students in private as well as public institutions. State funding for scholarships and student social

support is provided in a separate budget. Funds go for direct support (means tested scholarships to needy students), and indirect support (housing or housing subsidies, subsidies for meals, and other student services). Total funding for scholarships and social support in 2006 was slightly over €204 million, €155 million from state funds and the remainder from private revenues, predominantly tuition fees (OECD, 2006). Scholarship aid is provided on a means-tested basis to pay for tuition costs for needy students. The formula for the student grants is based on student (or family) income, and grants cannot exceed the minimum wage. Scholarship awards to pay for tuition fees go directly to the institution rather than to the students. Approximately 17% of students in public institutions receive some form of grant assistance, compared to around 14% in private institutions. The average scholarship for students in public universities was €1,481 per student, in contrast to just €1,201 for students in the polytechnics, and €1,698 in private institutions. (OECD, 2006).

5 Governance structure

This section considers, first, how key elements of the Portuguese higher education system are currently co-ordinated and managed and the steering instruments that are available to the Portuguese Government and, second, institutional level governance.

5.1 System governance

There are two separate ministries for education: Ministry of Education (ME) and Ministry for Science, Technology and Higher Education (MCTES) within the structure of the Portuguese government. The Ministry of Education determines policy at the basic and secondary levels of the Portuguese educational system. MCTES determines higher education and science policy in general. While higher education institutions are autonomous they are subject to a wide range of regulations and government steering mechanisms (see below).

The Parliament and the Government represent the state in all matters regarding higher education policies. The Parliament usually approves framework laws either by taking the initiative or by approving proposals or by changing the decree laws of the government. The Government has the main role in higher education issues. It approves or proposes to Parliament legislation regarding budget, financial and human resources, management, careers and employment conditions, pedagogical matters, and any other matters that are not assigned to the institutions.

The Rector's Conference (CRUP) and Polytechnics Presidents' Coordinating Council (CCISP) are legal partners in all discussions concerning higher education policies. CRUP has been proactive in proposing specific legislation (e.g., funding formula, legislation regarding flexibility in the management of universities, the evaluation of study programmes) (Soares, 2001). The Portuguese Association of Private Higher Education (APESP) represents private institutions and is considered as a partner of the Ministry in matters of interest to its associates or in matters related to higher education policies involving these institutions.

Many of the steering instruments used in system level co-ordination have already been discussed in the previous sections so will only be briefly mentioned here. One of the most fundamental issues of system co-ordination is the number and type of institutions that constitute the system and their respective roles and responsibilities.

Within a broad binary framework, the Portuguese government exercises close supervision over the entry of new institutions into the system. The role of the Ministry in the establishment of new private institutions is to ensure that they meet legal, financial, capacity and programme offering requirements. Once established, institutions, both public and private, are free to determine their own missions and strategies within the broad binary framework but subject to the important proviso for public polytechnics and private institutions that all new study programmes need approval from the Ministry (public universities need only to register new programmes). For public institutions a further constraint is that if new programmes require an absolute increase in staffing levels at the institution this needs the approval of the Ministry of Finance, which is difficult to secure. (OECD 2007)

The Ministry plays an important role in steering the overall size and shape of the higher education sector through overall access and admissions policies and through

the determination of *numerus clausus* limits for new students for all study programmes in both the public and private sectors.

The direct basic (“teaching”) funding of higher education institutions despite the recent introduction of performance indicators in the funding formula is predominantly driven by student numbers. While the concept of “students enrolled for courses approved for public funding” is part of the legislative provision, the option of not funding certain study programmes at public institutions has only been adopted since 2005/6 in terms of the Ministry’s decision not to fund students in programmes with an intake of less than ten students (rising to 20 in 2006/7). Alongside this direct basic funding are contract funds for specific programmes and development activities. These “earmarked” funds provide a useful policy lever for the Ministry to encourage institutions to develop in areas seen as high priorities for the system.

In the area of human resources policies and management Portuguese public higher education institutions have very limited degrees of autonomy. While the situation varies between the university and polytechnic sectors (the latter having less autonomy in this respect), the overall situation is one of staff members (academic and support) being employed by the institutions as civil servants, the Ministry of Finance controlling the overall numbers of staff as well as those that can be hired on a permanent basis. Salaries and conditions of service (including teaching loads which are nationally monitored) are set on a national basis with very little room for institutional innovation or merit-based reward systems, and the academic career structure is prescribed in law for both the university and polytechnic sectors. All of these regulations have a profound effect on the public higher education institutions. A very different steering approach has been used in the area of research and innovation. Research funding has been strongly brought into line with an overall strategy to enhance Portugal’s capacity in science and technology. This has entailed new and innovative approaches and procedures including direct performance based funding of research units (linked to periodic international review), competitive funding for R&D projects and the establishment of new organisational units with more financial and human resource flexibility than universities. (OECD 2007)

5.2 Institutional governance

The autonomy and governance of public universities and public polytechnics in Portugal are defined and provided for by law. The public universities are regarded as either being an element of the State’s indirect administration or of its autonomous public administration. The University Assembly is the superior body and its functions – which include the election of the Rector- and its membership, are specifically legislated for. The law is framed in such a way as to ensure that all universities have similar governing structures.

In Portugal, some universities, mainly the old ones, have adopted more participative and collegial governance structures, and have been characterized by their traditional internal division into faculties, while younger institutions were able to adopt more flexible governance systems supported by a more horizontal organizational structure. (Teixeira, Amaral and Rosa, 2003). Each university is free to establish its own Statutes (within general limits set by law) and to organise its internal structure. There

are universities organised by departments (without faculties), there are universities organised by faculties, without departments, and there are also universities organised by faculties and at least some of the faculties organised by departments. There are also universities that include polytechnic schools (Aveiro and Algarve). So there is considerable diversity in the internal organisational structure. However, there is less diversity in terms of the governance structures of these internal entities.

The functions and membership of many internal bodies within the university are also specified in the law. The law provides for a number of bodies for each such unit; these are the Assembly of Representatives, the Directive Council, the Pedagogic Council and the Scientific Council. The membership of these bodies is quite large; the membership of the University Assembly in 14 Public Universities varied between 64 and 331, while the corresponding figures for University Senates varied from 36 to 179. (OECD 2006) Provision is made for student and academic staff representation to be equal on a number of key bodies. Portuguese legislation allows for the participation of external stakeholders in the governing bodies of public universities, but this participation is mandatory for public polytechnics, while there are no legal rules concerning their participation in private institutions. The University Autonomy Act (Law 108/88) allows for the establishment of advisory boards and the presence of representatives of external interests in the Senate (up to 15% of the total membership) (Amaral and Magalhães, 2002:16). About half of the universities have made such provision with the percentage ranging from a low of 3% to a high of 12%. (OECD 2007)

The legal basis for the governance of the public polytechnics is enshrined in the Polytechnic Autonomy Act (Law 54/90). Law 46/86 –the Basic Law on Education refers to the autonomy of the polytechnics, though unlike in the case of universities the Portuguese Constitution does not. Schools are relatively independent entities within each polytechnic. Whereas the law defines the Governing Body, the statutes devised by the polytechnic define the internal organisational structure. The governance structures provide for a President, the General Council and the Administrative Council. External participation in the General Council is provided for, although at a low level of some 13%. The President is elected by the General Council and can be internal or external to the polytechnic. External participation is relatively high in the Schools of the Polytechnic, reaching some 70% on average in their Advisory Councils. There is a network of bodies provided for within each School: the Director or the Directive Council, the Scientific Council, the Pedagogical Council, the Advisory Council and the Administrative Council. The polytechnics appear to be much less autonomous than the Universities. For example, they cannot create or eliminate programmes of study and their staffing is controlled by government to such an extent that some 50% of the staff is hired under special contracts.

Law 9/79 - the Basic Legal Framework for the Private and Cooperative Education-provided the legal framework for the establishment of private higher education institutions. Specific regulations were promulgated in 1985 and conditions for the creation and operation of private higher education were established in the Private and Cooperative Higher Education Act (Decree-Law 16/94). As a result the founder must adopt the statutes of the higher education institution and present them for governmental approval. The law establishes that each private higher education

institution must have at least the following governing bodies: a Rector (for university institutions) or a President (for polytechnic institutions); a Director or a Directive Council; a Scientific Council; a Pedagogic Council. Whether the membership of these bodies includes external persons is a matter for the institution. (OECD 2007)

6 Quality assurance

6.1 Introduction

A major review of the accreditation and quality assurance practices of Portuguese higher education was performed by an international review committee formed through the European Network for Quality Assurance in Higher Education, ENQA, following a request made by the Government in November 2005. The review committee was asked to provide advice on the current legal framework supporting accreditation and quality assurance methodologies, as well as on appropriate structures for implementing a national accreditation and evaluation agency following current best quality assurance and accreditation practices in Europe.

6.2 Accreditation

Although at present there is no national accreditation system, public regulation of higher education in terms of the approval of new degree programmes has been exercised through the Directorate-General for Higher Education (DGES). Different requirements apply to the different subsystems of higher education:

- Public Universities: have full autonomy in the creation and delivery of degree programmes, but are required to register these with DGES;
- Public Polytechnics: the creation of new degree programmes requires prior approval from Government, through DGES;
- Private Institutions: the creation of new degree programmes require prior approval from the Government, through DGES, after assessment by expert teams, which are nominated by the Government.

This system has been increasingly criticised by polytechnic and private institutions given the preferential position of public universities and considerable delays in the approval process (in 2005, 140 new public university programmes were registered and 250 requests from the private and polytechnic sectors were submitted – OECD 2006). In response, the alteration of the Portuguese Comprehensive Law on the Education System in August 2005, and Decree-Law 74/06 of 24 March 2006, adapted the system to the Bologna principles and committed Portugal to the introduction of a national accreditation system. During the ENQA review process, the Portuguese government announced that the present evaluation system (see below) would be dismantled by the end of 2006 and replaced by a new system for accreditation by the beginning of 2007.

6.3 Quality assurance

Quality assurance of higher education in Portugal has been based on the Higher Education Evaluation Act, Law 38/94 of November 1994, which was developed in close collaboration with the Council of Rectors of Public Universities, CRUP. This quality assurance system was implemented over the last decade and had the following major characteristics:

- the evaluation process entails two phases: self-evaluation and external evaluation;

- the coordination of external evaluation is the responsibility of representative entities recognised by the Government.
- there are no direct links between the results of the evaluation and the financing of teaching activities, although continued negative results may have consequences on financing and on the recognition of degrees. However, the formula for the funding of higher education institutions does not contain any component dependent on the results of quality evaluation;
- the system aims at the improvement of the quality of higher education in the different fields of study, taking into account the nature of teaching, the qualifications of the academic staff and the provision of the necessary resources.

Soon after the publication of Law 38/94, the Minister of Education signed a protocol with the Presidents of CRUP and the Foundation of Portuguese Universities (FUP), which recognised FUP as the representative entity for the evaluation of public universities (and the Catholic University) and defined the general guidelines to be met by the evaluation system. A direct consequence of this process was that a pilot project launched by CRUP in 1993 was integrated into the new framework and considered as the “first round of evaluations” to be concluded by 1999 under the coordination of the evaluation council already established by FUP.

The other sectors of higher education organised the creation of their own evaluation agencies and Decree-Law 205/98 created the National Council for the Evaluation of Higher Education (CNAVES), as a global coordinating body of the evaluation system. It included representatives from the different sub-systems (public universities and polytechnics and private institutions) and from the Government. A few foreign members were initially invited but never played a significant role. The protocols for the recognition of the two new representative entities – the Association of the Portuguese Polytechnic Institutes (ADISPOR) and the Portuguese Association of Private Higher Education (APESP) – were signed in December 1998 and March 1999. Four evaluation councils were established corresponding to the different higher education sectors:

- the Evaluation Council for Public Universities (including the Catholic University and the military institutions for university education), managed through FUP;
- the Evaluation Council for Public Polytechnics, managed through ADISPOR;
- the Evaluation Council for Private Universities, managed through APESP;
- the Evaluation Council for Private Polytechnics managed through APESP.

The responsibility for the harmony, cohesion and credibility of the overall national quality assurance system rests with the CNAVES which has the responsibility of ensuring that the same review teams evaluate both the public and the private sectors in each field of study and that the same guidelines for self-evaluation apply to the University and the Polytechnic subsystems, allowing for some differentiation between them.

Two rounds of programme evaluations have taken place. The first round (1995-2000) included only the public universities and the Catholic University. It was exclusively a programme-oriented exercise, assessing 376 programmes in 44 fields of study. The

second round (2000-2005) continued to be programme-oriented and included programmes at all the higher education institutions, assessing a total of 1 209 degree programmes (432 in public universities, 164 in private universities, 421 in public polytechnics and 192 in private polytechnics) The review teams involved 637 experts for the university subsystem, of which 16% were foreign and 18% were from the external community, and 524 experts for the polytechnic subsystem (4% foreign, 9% non-academics, 46% from the universities and 41% affiliated to polytechnic institutions). It should be noted that successive Governments took no action or position based on the reports from the evaluation teams. (OECD 2006)

6.4 The ENQA report

The report assesses the existing system of quality assurance of higher education in Portugal based on the Higher Education Evaluation Act 1994. As described above this act was closely developed in cooperation with the Conference of Rectors of Public Universities (CRUP) and forms the backbone of what is widely termed “the contractual model inspired by the Dutch system where responsibility for quality assurance lies with an organisation representing the institutions of higher education. In Portugal this has created a strong sense of ownership and commitment to the quality assurance processes” (ENQA 2006). The major strengths and weaknesses of the past and present quality assurance system identified by the ENQA panel are the following:

Major strengths:

- Establishment of a self-evaluation culture
- Appropriate methods that are in many respects in compliance with European standards and practice.
- A comprehensive system that includes all higher education institutions; public/private and universities/polytechnics.

Major weaknesses:

- Limited independence: European standards emphasise that agencies must be independent from ministries and higher education institutions. The representative nature of CNAVES compromises this independence.
- Lack of sufficient operational efficiency and consistency: the two-tier organisational structure of CNAVES as the meta-organ and the evaluation councils is unduly complicated.
- A crucial deficiency of the existing quality assurance system is the lack of consequences or follow-up on evaluations resulting from passiveness on the part of the Government, a lack of commitment from higher education institutions and a lack of activity by CNAVES.
- The dominant use of national experts has limited inspiration from experts with an international background and perspective.

The panel agrees that a system change is now due regarding quality assurance of Portuguese higher education with the basic change being the introduction of a new accreditation system. The panel’s key recommendations are (ENQA 2006):

- Combine programme accreditation with academic audit at institutional level: this combination of different quality assurance methods will make it possible

to include both the element of control (accreditation) and the element of improvement (academic audit).

- Establish one strong independent national agency for quality assurance: the panel recommends a single one-tier agency responsible for accreditation as well as for audit processes.
- The agency must be truly independent of the government and higher education institutions with a small independent board with the authority to make accreditation decisions. Members should be appointed by government in their personal capacity on the basis of a procedure that secures representation in relation to Portuguese society and higher education institutions. The operational independence of the agency should be ensured through legislation.
- To ensure a wider involvement of relevant stakeholders in quality assurance, the board should be supplemented by an advisory council with representatives of relevant stakeholders, including higher education institutions, employer organisations and professional associations.
- Ensure professionalism and consistency in the work of the quality assurance agency
- Create a quality assurance system with clear consequences and well-defined procedures for follow-up: the consequences of accreditation and follow-up procedures in connection with academic audit should be clearly defined in the legal framework.
- The new agency should ensure that international experts are invited as members of the expert panels in order to bring in an outside perspective and increase the credibility of the panels and should have sufficient funding to cover the added costs of panels working in a non-national language.

The Government's response to the ENQA recommendations is considered in the next chapter of this report (section 7.1).

7 Major policy reforms in 2007

As indicated in the introduction to this report, Portuguese higher education is currently in the midst of a wide ranging process of policy reform. This section outlines the major areas of reform, including policy changes initiated by the Government in response to the recommendations of the ENQA and OECD reports. The higher education legislative reform measures in 2007 included a new Legal framework for higher education institutions (RJIES) - Law 62/2007 of 10 September; a new Legal framework for the evaluation of higher education (RJAES) - Law 38/2007 of 16 August; the establishment of the Higher Education Evaluation and Accreditation Agency - Decree-law 82/2007 of 5 November; a new Loan System with mutual guarantees for higher education students launched in September; a Legal regime for the recognition of foreign academic degrees - Decree-law 341/2007 of 12 October; and Regulations for Course Change, Transfer and Re-entry into Higher Education - Ministerial Order 401/2007 of 5 April.

The last two measures were taken within the framework of the government program of administrative and legislative simplification known as SIMPLEX 2006 and are intended to simplify the process of contracting foreign faculty and researchers by eliminating bureaucratic measures which made access to highly qualified teaching staff from foreign countries difficult, and to integrate transfer and change of studies procedures into one regime allowing greater mobility to students from national and foreign institutions by applying the European system of credits (ECTS) and making the procedures less complex.

The new loan system announced in September 2007 involves an extension to the activities of the Portuguese Mutual Guarantee Fund (initially set up to support the SME sector) where public funding is used to lower the risks to the banking sector of providing loans. Loans will now be available to higher education students including students at private institutions up to a maximum of €5000 per year of study without the need for parental guarantees and with favourable interest rates (including incentives for academic performance) and repayment conditions. The fund will guarantee the commercial banks (initially six) against losses of up to 10% of their student loan portfolio.

The remainder of this section concentrates on the reforms in the policy areas covered by the ENQA and OECD reports.

7.1 Quality assurance and accreditation

Law 38/2007 of 16 August sets out the legal framework for the evaluation of higher education institutions and study programmes. The object of the evaluation is set out as follows (MCTES English version of Law 38/2007):

1. The evaluation has as its object the quality of the performance of higher education institutions by measuring the degree to which they fulfil their mission through performance parameters related to their operation and to the results that arise from this.

2. In defining and applying the performance parameters, the evaluation takes into special consideration the difference between the objectives of university education and those of polytechnic education.
3. The evaluation takes as its reference good international practices in this area.

The objectives of the evaluation are quality improvement, the development of a quality culture and the provision of well-rounded information to the public on the performance of higher education institutions. Accreditation of higher education institutions and their study cycles is to be based on the quality evaluation and is aimed at ensuring the fulfilment of minimum requirements which will lead to the official recognition of higher education and their study programmes. Quality evaluation is compulsory and will take place within the framework of the European system of quality assurance in higher education.

The quality evaluation will consist of a self-evaluation followed by an external evaluation carried out by “the evaluation and accreditation agency for quality assurance in higher education”. The law makes provision for the participation of students, external stakeholders and international experts in different parts of the evaluation process, allows for the possibility of cross-institutional comparisons and classifications and requires the results of the evaluation (including the response of the institution) to be made public. The agency has decision-making powers although its decisions are open to appeal by “the respective competent authority”.

Importantly, the results of the external evaluation must form the basis of decisions about the accreditation of higher education institutions and study programmes and must inform “the contracting procedures between the State and higher education institutions which form the basis of their funding”.

Decree Law 82/2007 of 5 November established the Higher Education Evaluation and Accreditation Agency as a foundation in private law recognised as a public utility. The Agency has been structured to ensure its independence both from “political powers” and “evaluated entities”. Its key body, the Management Board, will consist of up to a maximum of seven members appointed by the Board of Trustees of the Agency (five members appointed by the Council of Ministers and including 2 members - who can not be the President - from a list submitted by the three representative bodies – CRUP, CCISP and APESP). A maximum of four members (including the President) will be full-time executive members, and a maximum of three will be non-executive members who can not be in a management position in a higher education institution. This Board is responsible “with total independence” for decisions regarding the accreditation and evaluation of institutions and study programmes although institutions may appeal its decisions to a Revision Board (appointed by the Board of Trustees).

The Agency also includes a Consultation Board which advises the Management Board on issues of quality assurance. This Board is composed of six representatives of the bodies representing the different higher education institutions, two students, a representative of the Council of Associated Laboratories, three representatives of employer organisations, two from trade unions and up to five specialists from other Ministries.

The primary tasks of the Agency are to give effect to the legal framework for the evaluation of higher education. The preamble to the Decree Law establishing the agency stresses that the new evaluation system “recognizes the fundamental role of Orders and other public professional associations, which will now participate in the accreditation process, leading to the cessation of their anachronistic a posteriori intervention in the process of professional recognition of higher education courses, which had been necessary, in certain cases, due to the absence of a system such as that now established.”

7.2 A new legal framework for higher education institutions

Law 62/2007 of 10 September establishes a new legal framework of higher education institutions, specifically governing their constitution, attributions and organisation, the functions and powers of their various bodies and their guardianship and public supervision by the State within the framework of their autonomy.

The Law is a comprehensive one containing 184 Articles covering numerous aspects of higher education. Only some of the major areas of reform are described in this brief summary. The Law reconfirms both the binary nature of the Portuguese higher education system and the role of private higher education within the system. In terms of the binary system it sets different requirements for universities and polytechnics in terms of teaching staff: universities should have one PhD holder per 30 students while for polytechnics this can be either a PhD holder or a “specialist” – a new position still to be defined but intended to recognise experts with relevant professional experience but not necessarily a PhD.

The Law recognises the principle of diversity of institutional organisation and enables each higher educational organisation to develop its own statutes within a broad framework. (In 2008 institutions will submit new statutes for approval). This broad framework includes a number of significant changes including provision for a General Council of 15 – 35 members with 30% external membership as the senior decision making body within public universities and polytechnics. This Council is responsible *inter alia* for the election of the rector or president (by majority vote) who can be drawn from outside the institution or even outside Portugal.

Perhaps the most far reaching change is the provision for public higher education institutions to request an alteration to their legal status to become foundations governed by private law. Institutions that wish to follow this route will enter into discussions with the Ministry leading to a formal agreement on the institutions plan, development programme, statutes and organisational structure as well as (multi-year) agreements on public funding for the foundation. While clarity on this new form of legal status will only be reached once the first foundations are established this is clearly intended to give (some) public higher educational institutions more financial, human resource and operational autonomy. The Universities of Porto and Aveiro together with ISCTE in Lisbon have entered into negotiation with the Ministry with a view to transferring to this new public foundation status.

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9 Annex 1 The OECD review

The widest ranging of the three international reviews of aspects of Portuguese higher education initiated by the Government in 2006 was the OECD review of the entire tertiary education system. The terms of reference agreed between the Minister and the OECD included the following areas of focus (OECD 2007):

- The role of Higher Education in meeting... an increasing diversity of needs and demands associated with the knowledge society, lifelong learning, globalisation, national and regional economic performance
- Strategic Management and Structure: Structures and arrangements for overall strategic planning and management of the higher education sector having regard to... the need for an integrated and cohesive approach to the development of the roles of different higher education institutions... and the development of greater procedural, systemic and institutional transparency in higher education.
- Research and Development: ...to examine how research and development in the higher education sector can best be supported and further developed to highest international standards and how the outcomes of this knowledge can be best applied
- Investment and Financing: ... the future resource allocation of the higher education sector... having regard to the governance, accountability, efficiency and effectiveness... broad public policy interests and principles of academic freedom and institutional autonomy.
- International Competitiveness: ...how a critical mass of consistently high quality and standards can be developed having regard to the promotion of greater inter-institutional collaboration within a competitive national and international environment

The OECD review team concluded that the nature and severity of the problems facing Portuguese higher education requires fundamental reforms of the system - its structure, orientation, and functioning. Reforms need to address the two fundamental problems of system management and of governance of higher education institutions as well as to address the closely related issues of financing arrangements and resources for tertiary education. Measures were also needed to improve the quality of tertiary provision, equity of access, and to develop and improve the performance of the research and innovation system. The major OECD recommendations are summarised below within the six themes identified by the review team. (OECD 2007)

System steering and management

The various goals and policy objectives that impinge on higher education should be integrated into a single policy planning framework that is translated into a broad picture of what this may mean for the system in terms of changes in student enrolments in different sectors, fields and programmes over the next five years, and how this will be resourced.

The establishment of a new national council charged with the responsibility for overall higher education strategy in Portugal within the framework of Decree-Law 214/2006 of 27 October 2006 that makes provision for such a council: the *Conselho Coordenador do Ensino Superior (CCES)*. The CCES should have the highest level of authority, a “statutory committee” charged with strategic decision making, possibly chaired by the Prime Minister.

The Review Team believes that - in a context of planned growth, broadened access and limited resources - existing higher education capacity should not be lost, and that while existing institutions may need to be “down-sized” amalgamated or linked with others they should not be closed. It cautions against a major national reconfiguration of the institutional landscape via forced mergers, and recommends a case-by-case approach within a strengthened binary framework and through the mechanisms of institutional performance contracts (see below).

The binary framework should be maintained and strengthened. The mechanisms for resource allocation, levels of institutional autonomy, programme accreditation procedures and human resource management policies all need to be reformed to create a policy environment in which professionally orientated polytechnic institutions can create a sustainable future that is distinct from universities. Within the broad binary framework confirmed in Decree-Law 74/2006 the primary institutional location of first- and short-cycle professional programmes should be the polytechnic sector.

The private sector can play a particularly important role where there is insufficient capacity in the system. The Ministry could periodically issue tenders for the provision of study programmes for which both private and public institutions could submit proposals. This would avoid adding additional public capacity where it is not needed and would help preserve the valuable private capacity that Portugal has and should continue to profit from.

The Review Team proposes performance agreements or contracts negotiated between the Ministry and individual institutions as a way of translating national objectives differentially into institutional plans.

The governance and legal status of higher education institutions

The Review Team indicates an urgent need for new legislation governing the higher education institutions. The new legislation should establish institutions as self governing foundations. While clearly continuing to be supported financially by Government they would operate and be seen as belonging more to the private sector. For instance, managerial freedom would be the norm, finances would be separately accounted for outside of the state system and it should include the removal of the civil service designation from all employees of the higher education institutions.

The establishment of governing authorities of universities and polytechnics with a chair and the majority of members drawn from external stakeholders; the appointment rather than the election of the rector; and the appointment of deans and heads of department by the governing authority on the recommendation of the rector.

Financing, system efficiency and student support

Enrolment numbers, tapering off as a result of the demographic developments, need to expand because Portugal lags behind other European nations in tertiary attainment levels. This expansion can come from raising the proportion of the young cohorts and adult learners that enrol in the tertiary sector.

The Review Team believes the National Technological Plan provides an exemplary model of a policy-based vehicle for funding policies and accountability structures. It recommends that a similar approach be developed for the distribution of operating resources for the institutions of higher education, based on the negotiated contracts between the institutions and the Ministry differentiated appropriately for each institution.

The public sector alone cannot meet the resource requirements for increased investment to any great extent, if the capacity of the sector has to be expanded significantly. The private sector would need to contribute an increased share of tertiary level costs. Philanthropic efforts must be stepped up and other sources of funding – in Portugal and abroad- should be pursued actively. But a more significant contribution would need to come from the students themselves through increased fees. The Review Team recognises that, under current conditions, tuition fees cannot be raised in Portugal, partly because of political opposition, but also because of the constitutional constraint. In this context it recommends that Portugal retain its current policies which allow tuition fees to increase consistent with inflation and minimum wages. Tuition charges for post-graduate students should be deregulated and allowed to increase to rates closer to the full-costs of the programmes. In the long term Portugal should aim for increased fees through a well-designed fee contribution scheme with a Government-supported income contingent student loan scheme and a more generous student support system.

Improving quality and building excellence

The tertiary education system must aim at higher levels of quality and excellence. It should be recognised that excellence is not the domain of universities and research centres alone. Portugal needs to build real excellence in the polytechnic sector and the private sector as well, through a stronger focus on goals and outcomes. All HEIs must address the high student attrition rates in their institutions, a major source of inefficiency.

Full use should be made of the unique opportunity provided by the implementation of the “Bologna process” for the renewal of study programmes in Portugal and for a reconsideration of educational processes with a greater focus on student learning and outcomes, as well as a more explicit concern for the links between study programmes and the labour market.

The current differential requirements for the approval of new programmes for universities and polytechnics and for public and private institutions should be discontinued, as should detailed control over curriculum changes.

The accreditation of all new higher education programmes should be based on rigorous evaluation by an independent external authority. The continued provision of

higher education programmes should be subject to periodic external review, programme by programme, and at the whole-of-institution level. The frequency and intensity of quality auditing of institutions should reflect their performance records. A consultative process of programme by programme evaluations, involving providers, employers, professional bodies and students, should be undertaken to build a national consensus of expectations about standards of learning outcomes for university and polytechnic awards in particular subject areas. Institutions should track the employment record of their graduates.

The science and technology system

The Portuguese science base and capacity should be further developed with the targets designed in the Technological Plan and within a stable and coherent S&T policy evaluation structure, which should be based on a more complete database, with the information and knowledge of the working of the whole system.

The establishment of a Portuguese graduate school system could be considered to assure the quality of graduate education, to provide systematic education and guidance, to increase efficiency and to network the HEI's.

A new system of academic careers and clarification of research careers should be designed and implemented in order to eliminate inbreeding and to enhance teacher and researcher mobility. The promotions and recruitment decisions within institutions should be based solely on teaching and research merit. Processes should be competitive, transparent, and open and the evaluations should be performed by external peers supported by international expertise.

The Ministry and funding agencies should develop a more effective network of research units larger than the present ones. International evaluations should have a stronger influence on a more selective funding policy. The Portuguese Government should adopt more active instruments to encourage firms to invest in R&D, to work together with higher education institutions in research and to enhance mobility between firms, universities and polytechnics.

Outward orientation and external stakeholder involvement

Portugal's tertiary education system needs to provide greater diversity and choice of provision and to be more connected with the wider community, the labour market and the business sector. Universities and polytechnics should consult more broadly and systematically on the development of their educational programmes, including with employers of their graduates.

The Review Team recommends that each higher education institution should have a majority of external stakeholders as members of its governing authority and this should include the Chair. The proposed *Conselho Coordenador do Ensino Superior (CCES)* should have a substantial external stakeholder presence on its board.

The Ministry of Science, Technology and Higher Education should take steps to encourage the higher education institutions to take on a more proactive

internationalisation role possibly by including internationalisation strategy as a part of the annual negotiations on performance contracts between the Ministry and higher education institutions. The strategy of each institution would include, among other things, the development of study programmes in foreign languages – particularly English - the establishment of joint degrees offered in collaboration with foreign partners, the development of international research cooperation and the planned use of EU programmes.