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**DIRECTORATE FOR EDUCATION  
EDUCATION COMMITTEE**

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**REVIEW OF NATIONAL POLICIES FOR EDUCATION: Review of Higher Education in Ireland**

**EXAMINERS' REPORT**

**Special Session of the Education Committee  
9:30 - 18:00, 16 September 2004  
Dublin Castle, Dublin, Ireland**

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(Note by the Secretariat)

1. In 2003, the Irish Department of Education and Science invited the OECD Secretariat to undertake a review of Irish higher education to evaluate the performance of the sector and recommend how it can better meet Ireland's strategic objectives for the sector. The review was organised within the framework of the OECD's education policy reviews. Following preparation of a Background Report by the Irish authorities [EDU/EC(2004)13], a team of OECD examiners visited Ireland from 15 to 27 February and prepared a report [EDU/EC(2004)14]. These documents together with "Suggested Issues for Discussion" [EDU/EC(2004)15] comprise the documentation for the special session of the Education Committee to review Irish higher education policy.

2. The attached Examiners' Report was prepared by an independent team with assistance from the Secretariat. It is based on the Background Report prepared by the Irish authorities (EDU/EC (2004)13) and interviews and meetings that the review team conducted during its visit to Ireland.

3. The Committee is invited to:

- **NOTE** the findings and recommendations in this report;
- **DISCUSS** the findings and recommendations with the Irish authorities at its special session to review Ireland's Higher education policy to be held in Dublin on 16 September 2004; and
- **AGREE** to the publication of this report, together with the Background Report having taken into account the discussion at the 16 September 2004 review meeting.

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## I. INTRODUCTION

1. The review was undertaken at the request of the Irish Government as part of the programme of OECD Education Committee policy reviews. The team of examiners comprised:

- Karsten Brenner (Germany), former Director General, German Federal Ministry of Education and Research
- John Dawkins (Australia), Chairman of Elders Rural Bank and Law Central Ltd., and former Minister for Employment, Education and Training, and Minister for Finance, Australia
- Bénédicte de Gendron (France), Senior Lecturer, University of Montpellier III
- Abrar Hasan, Head of Education and Training, Policy Division, OECD
- Aims McGuinness (USA), Senior Associate, National Centre for Higher Education Management, Boulder, Colorado
- Jo Ritzen (Netherlands), President of Maastricht University, and Former Minister of Education, Culture and Science, the Netherlands
- Michael Shattock (UK), Rapporteur, Visiting Professor, Institute of Education, University of London.

2. The team visited Ireland from 15 to 27 February and met representatives of the Irish Government from the following Ministries: Education and Science, Finance and Enterprise, Trade and Employment members of the Joint Oireachtas Committee on Education and Science, the Higher Education Authority (HEA), the Committee of Heads of Irish Universities (CHIU), the Council of Directors of Institutes of Technology, representatives of research councils, Science Foundation Ireland (SFI) and other research funding agencies, of educational qualification bodies, of trades unions, and of the Union of Students in Ireland, together with other organisations. It also visited three universities (UCD, UCC and UL) and four Institutes of Technology (Tallaght, Waterford, Cork and Tralee). It received 88 separate submissions from organisations and individuals (Appendix B). The full programme of evidence taking sessions and visits prepared by the Department of Education and Science is given in Appendix C.

3. The Terms of Reference, agreed with the Irish Government are set out in Annexe A. These terms of reference are wide ranging in that they cover the whole higher education system and invite the examination of policy issues and options in all aspects of the system from its role, its strategic management and structure, teaching and learning, research and development, investment and financing and international competitiveness. In particular the Review was set in a context of the Government's strategic objective of "placing its higher education system in the top rank of OECD in terms of both quality and levels of participation and by the priority to create a world class research, development and innovation capacity and infrastructure in Ireland as part of the wider EU objective for becoming the world's most competitive and dynamic knowledge-based economy and society, as agreed in Lisbon (2000)". The Review was asked to

evaluate how well the higher education sector was meeting these strategic objectives and to make recommendations for further progress.

4. To assist the Review the Department of Education and Science prepared a very helpful Background Country Report, authored by Professor John Coolahan, (Coolahan 2003/4). The review team are very grateful for this preparatory work and to the authors of the 88 submissions from interested organisations and individuals which it received. The commitment of Ireland to education and, in this case, to higher education was overwhelmingly demonstrated by the extent and the wide ranging nature of advice, guidance and recommendations to the review team contained in these submissions. This commitment was fully matched in the sessions where oral evidence was taken. The review team would wish also to acknowledge the professional way in which the Department's officials responded to its request for further statistical and other material during the course of the visit and subsequently.

5. The Review Report refers throughout to tertiary rather than higher education, the term used normally in Ireland, and in our terms of reference. OECD divides tertiary education programmes into type A, which it defines as "largely theoretically-based and designed to provide qualifications for entry to advanced research programmes and professions with high skill requirements" and type B which are "classified at the same level of competencies" as type A but are "more occupationally-orientated and lead to direct labour market access". Type B programmes are "typically of shorter duration ...[and] ... generally they are not deemed to lead to university level degrees". (OECD 2003) In Ireland, the sub-degree programmes offered by the Dublin Institute of Technology (DIT) and the institutes of technology would generally be described as falling into this category while the degree programmes at both the institutes of technology and the universities would be classified as type A. Unless specifically stated the Report does not distinguish between type A and type B programmes. The Report does, however, retain the acronym HEI to describe higher education institutions as being the most easily internationally recognised shorthand for referring to universities and institutes of technology together.

## II. THE ROLE OF TERTIARY EDUCATION IN IRELAND

6. The main objectives of higher education policy in Ireland were set out for us in the Background Report as follows:

- Promotion of the responsiveness of higher education to the needs of society and the economy;
- expansion of access to higher education for disadvantaged groups and mature students;
- achieving standards of excellence in teaching and learning;
- expansion of research activity of international quality;
- achievement of quality assurance procedures which are effective and transparent;
- adoption of lifelong learning as a planning motif in higher education;
- development of innovative models of course delivery, using ICT resources;
- improvement of governance and accountability procedures within the institutions;
- promotion of higher education in addressing regional issues; and
- engagement with the “Lisbon” objectives in the promotion of the “role of universities in the Europe of Knowledge”.

These objectives are not fundamentally different from those of most OECD countries but our review suggests that they are being realised with varying degrees of success.

7. The growth in tertiary education in Ireland has been extraordinary with the age participation rate rising from 11% in 1965 to an estimated 57% in 2003 and in numbers from about 21,000 in 1965 to over 137,000 by 2003 (Department of Education and Science Ireland). Ireland was one of the first European countries to grasp the economic importance of education and economists suggest that this upskilling of the labour force accounts for almost 1% per annum of additional national output over the last decade or so. The growth of tertiary education has been accompanied by a two and a half fold improvement in average material living standards. There is general agreement among representatives of Government and of tertiary education that the expansion has been enormously beneficial both to Irish society and to the economy. Irish tertiary education also includes a small private sector which flourishes mainly in Dublin. The part-time degree programmes run by the National College of Ireland represent, numerically, a significant contribution to the national numbers of part-time students and reflect the strong demand for part-time vocational programmes in the Greater Dublin area.

8. Investment in research came much later than the increases in first degree numbers and began with the establishment of the Programme for Research in Third Level Institutions (PRTLII) in 1998. The success of this programme has created a consensus that investment in research carried out in higher education

institutions (HEIs) is a critical element in achieving and sustaining a knowledge based society with a high capacity for innovation which is at the centre of Ireland's strategy for economic development. However, a great deal more needs to be done both in terms of the size of the investment necessary and the organisational context before the research objective can be said to be met. Claims that Ireland is already "world class" in research in some areas may be justified but the overall research environment is not yet adequate to support the achievement of research of international quality in the range of fields necessary to promote the economic development that Ireland is looking for.

9. This common understanding and commitment to the social and economic role of tertiary education between HEI leaders and Government makes Ireland distinctive amongst European countries and is a source of great strength. Ireland's remarkable economic growth averaging over 9% per annum from 1997 to 2000 inclusive is seen as being fuelled by the expansion in the output of high quality graduates in the labour market but one of the consequences has been a high income society which needs to be even more competitive internationally if it is to continue to forge ahead in a period of slower economic growth. Over 90% of the expansion has been generated from the 18 to 20 year old cohort and has been drawn primarily, as in most European countries, from the professional and managerial classes. Lifelong learning, widening participation and the encouragement of mature students to enter tertiary education have not been given such emphasis and must be reinforced in the future if Ireland is to capitalise on its success over the last decade. The National Development Plan sets as a priority the "continued investment in education and training and, in particular, through developing a strategic vision for lifelong learning" (National Development Plan 2000-2006, para. 5.21).

10. A further and important element in the role of tertiary education relates to regional policy. There are considerable disparities in economic activity, personal wealth and educational attainment between Ireland's regions which the National Spatial Strategy is designed to address. The employment participation rate varies significantly for example between the Greater Dublin Region and the Border Midlands and West regions. While 62% of net new jobs which employers are expected to create in 2010 are estimated to be likely to require third level education, compared with less than 30% of existing jobs in 2001, the current percentage of 66% in the South East, South West and Mid West and Greater Dublin Regions compares with only 56% in the Border, Midlands and West Regions (FAS/ESRI Forecasting Studies, *Occupational Employment Forecasts by Region for 2010* 2004). A major challenge of the spatial strategy is to have all of Ireland identified with major technological innovation and a discussion document *Higher education and the National Spatial Strategy* (McDonagh 2003) identifies how HEIs are located in relation to regional Gateways and in particular identifies not only the critical role of HEIs in regional economic development but emphasises the importance of the network of institutes of technology as a major infrastructural asset because of their emphasis on technology and applied knowledge and their role in the provision of skills based education. (They carry the main responsibility for skills based education and training in the construction industry, hospitality/tourism, the digital content industry and arts and crafts). This regional aspect adds a further dimension to the role of tertiary education in Ireland and requires that it should be given greater emphasis in any statement of objectives. But the situation is complicated by the fact that while Dublin provides 60% of all first degree places nationally it has itself the lowest age participation rate in tertiary education with the rate in central Dublin estimated at no more than 16%; this further emphasises the importance of giving a high priority to lifelong learning, widening participation and the encouragement of mature students.

11. The importance of tertiary education to Ireland's economic and social development should not obscure its role in the intellectual and artistic life of the nation and the contribution it makes to citizenship and the civil society. The 1997 Universities Act sets out admirably the objectives of a university (paragraphs 12 and 14) but this statement needs to be brought together with the much more instrumental wording of the functions of the institutes of technology in the 1992 Regional Technical Colleges Act (paragraph 5) so that while the different roles of the two kinds of HEIs are recognised the important and

diverse roles of the institutes of technology are more fully set out along with the safeguards to academic freedom accorded to university staff. Tertiary education needs to be seen as a unity with different kinds of institutions fulfilling different roles but contributing together to sustain Ireland as the vibrant innovative society it has become.

12. We note that the international context is not included in the list of objectives and this is reflected in the relatively modest number of non-EU students which Ireland attracts to its HEIs. We believe this is a weakness for a country which at a governmental level plays such an important international role. Quite apart from the intrinsic value of having a mix of international students Ireland is failing to attract research students from overseas who could contribute to the research agenda. We, therefore, urge below that steps are taken to promote the recruitment of an increased number of international students and that this be incorporated into the main policy objectives.

### III. INTERNATIONAL COMPARISONS

#### The national economy

13. From the early 1990s Ireland has experienced a period of unprecedented economic growth: between 1990 and 1995 the average annual growth rate was 4.78% and between 1995 to 2000 it rose to 9.5% per annum, bringing with it far reaching social change (Coolahan 2003/4). The Gross Domestic Product increased by 59.8% in real terms in the second half of the decade well ahead of the European trend of 15.7% (for EU) and the OECD country trend of 18.7%. While the growth rate fell sharply after 2000, at 4.8% per annum for 2001-2003 it is still much higher than the EU average of 1.0% and the OECD of 1.6% and is forecast to continue around this level (OECD 2004a). Ireland is one of the most productive economies with its GDP per capita ranked sixth amongst OECD member countries. Unemployment remains low although it has increased from 4.3% in 2000 to 5.2% in 2003 (EDU/EC(2004)13). This growing wealth has not, however, been spread evenly and overcoming economic and social disadvantage remains an issue which is high on the political agenda and which education has an important role in addressing.

#### Educational participation rates

14. Participation in and completion of upper secondary education as a basis for entering tertiary education has risen phenomenally during the last four decades:

**Table 1. Population that has attained at least upper secondary education <sup>1</sup> (2002)**

(Percentage, by age group)

	25-34	35-44	45-54	55-64	25-64
Ireland	77	65	51	37	60
Denmark	85	81	80	72	80
France	79	68	60	48	65
Germany	85	86	84	77	83
Sweden	91	87	79	67	82
Switzerland	88	85	80	75	82
United Kingdom	70	65	62	56	64
United States	87	88	89	84	87
OECD mean	75	69	61	50	65
EU mean	75	68	60	49	64

(Source: OECD EAG 2004 Table A2.2)

The first EU Education Report *Progress towards the common objectives in education and training* suggests that in 2002 85.6% of 22 year olds in Ireland had completed upper secondary education as compared to 75.4% across the EU (CEC 2004). Participation in and completion of tertiary education have increased significantly to reach 26% surpassing the OECD average of 24% (Table 2). If Tertiary A and B type programmes are counted together the share of the 25-34 year olds completing tertiary education amounts to 37%, as compared to an OECD average of 28%.

**Table 2. Population that has attained tertiary education (2002)**

(Percentage, by age group)

	Tertiary Type B					Tertiary Type A and Advanced Research Programme				
	25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64	25-64
Ireland	14	10	7	5	10	23	15	12	9	16
Denmark	6	6	5	4	5	23	24	25	18	23
France	17	12	9	6	12	19	11	10	9	12
Germany	8	11	11	10	10	13	15	14	11	13
Sweden	17	18	14	10	15	22	16	17	16	18
Switzerland	10	10	9	7	9	17	17	16	14	16
United Kingdom	8	9	8	7	8	23	18	18	13	19
United States	9	10	10	7	9	31	29	30	26	29
OECD mean	9	8	7	5	8	19	16	14	11	16
EU mean <sup>1</sup>	10	9	7	6	8	17	14	13	10	14

(Source: OECD EAG 2004 Table A3.3)

Note 1. The average of EU member countries whose data are available from EAG 2004.

15. By 2002 net entry rates into tertiary education Type A programmes had reached 39% of the age cohort (34% men: 43% women) compared to the average for OECD countries of 42% (Table 3, OECD indicator C2.1). If tertiary sector type B courses are included the ratio rises to 57% of the age cohort (51% men: 61% women) as compared to 67% OECD-wide. In 2002 36,500 students entered higher education through the Central Application System, 90% of them in the 17 to 19 age group. The proportion of mature students entering higher education is extremely low: in 1997 the proportion of new entrants into university-level education aged 26 was only 2.3% as compared to over 19.3% in OECD as a whole.

**Table 3. Net entry rates into tertiary education (2002)**

	Tertiary-type B			Tertiary-type A		
	M+F	Males	Females	M+F	Males	Females
Ireland <sup>1</sup>	18	17	18	39	34	43
Denmark	12	14	11	50	38	62
France	22	22	22	37	30	45
Germany <sup>2</sup>	15	10	19	35	35	35
Sweden	6	6	6	75	59	92
Switzerland	14	16	12	35	37	32
United Kingdom	27	23	30	47	43	51
United States <sup>3</sup>	--	--	--	64	60	68
OECD mean	16	14	18	51	45	55
EU mean <sup>4</sup>	12	12	14	49	42	53

(Source: OECD EAG 2004 Table C2.1)

(Notes)

1. Full-time entrants only.
2. Entry rate for tertiary-type B programmes calculated as gross entry rate.
3. Data on tertiary type B are included in the data on tertiary type A
4. The average of EU member countries whose data are available from OECD EAG 2004.

16. Despite the great expansion in student numbers and the introduction of student grant schemes in 1968 great disparities continued to exist in the participation of students from families of different socio-economic status. This did not change significantly after the abolition of tuition fees for undergraduate studies in 1995/96; the take up a rate in higher education remained highly dependent on socio-economic background. While individual universities are making efforts to redress the balance it is the case that students from disadvantaged backgrounds find their way more easily to and through the institutes of technology. Failure-rates in the first years of study in the institute of technology sector are, however, relatively high and considerably more than in the universities. Completion rates differ very much between sectors. They are comparatively high at universities: according to an HEA study of 2001 83.2% obtained the degree on the course on which they had initially embarked and the drop-out rate from universities seems to be only 10% (Morgan, Flanagan and Kellaghan 2001). Non-completion is significantly higher at the institutes of technology where about one third of students leave without finishing their courses successfully. The institutes, however, take more young people from disadvantaged backgrounds and failure is highest in the first year of study at certificate and diploma level (EDU/EC(2004)13).

17. Like other countries Ireland is concerned about meeting the demand for graduates in the fields of science, technology and engineering. According to the EU Education Report, however, Ireland has a much higher proportion of graduates in mathematics, science and technology per 1000 inhabitants in the 20-29 age group, 23.2%, than the EU average 9.3% (CEC 2004).

## National expenditure on education

18. Total national (public and private) expenditure on education reached €6.0 billion in 2003, a considerable growth over the €1.74 billion in 1990. This is equivalent to 4.44% of GDP (EDU/EC(2004)13). Investment in tertiary education stands at some €1.44 billion in 2004 (Department of Education and Science Ireland). In 2001, Ireland's expenditure on education and on tertiary education as compared to a selected number of OECD countries as shown in Table 4:

**Table 4. Expenditure on Educational institutions as a percentage of GDP for all levels of education (2001)**

	Public <sup>1</sup>	Private <sup>2</sup>	Total
Ireland <sup>3</sup>	4.1	0.3	4.5
Denmark <sup>4</sup>	6.8	0.3	7.1
France	5.6	0.4	6.0
Germany	4.3	1.0	5.3
Sweden	6.3	0.2	6.5
Switzerland	5.4	m	m
United Kingdom	4.7	0.8	5.5
United States	5.1	2.3	7.3
OECD mean	5.0	0.7	5.6
EU mean <sup>5</sup>	5.0	0.4	5.3

(Source: OECD EAG 2004 Table B2.1a)

### (Notes)

"m" indicates that data are missing.

1. Including public subsidies to households attributable for educational institutions. Including direct expenditure on educational institutions from international sources.

2. Net of public subsidies attributable for educational institutions.

3. In 2001 GDP was almost 20% larger than GNP in Ireland; this figure represents 4.88% of Irish GNP

4. Public subsidies to households not included in public expenditure, but in private expenditure.

5. The average of EU member countries whose data are available from EAG 2004.

Thus, Ireland's investment into its education system as a whole is lower than the OECD average. In public expenditure it ranks only 25<sup>th</sup> out of 30 OECD countries and with private expenditure added to public, 23<sup>rd</sup> out of 27 countries for whom data are available (OECD 2004b) Public expenditure has declined from 4.7% to 4.1% as a proportion of a rapidly growing GDP between 1995 and 2000.

19. As shown in Table 5, investment in tertiary education, at 1.3% of GDP is slightly below average of 1.4% (OECD 2004b B2.1b) and its share of GDP stayed constant at 1.3% in the period 1995-2000 of rapid GDP growth. Its investment in 2001 put it 8<sup>th</sup> out of 26 in the OECD tables. This relatively high level of investment in tertiary education represents the effect of a strong increase in expenditure, along with a doubling of student numbers between 1995 and 2000 compared to an increase of 39% in expenditure on education in general. But this expenditure performance needs to be compared with other high spending states on tertiary education within OECD notably the USA and South Korea with 2.7% of GDP, Canada 2.5%, Denmark 1.8%, Finland and Sweden 1.7% and Australia 1.5%. By comparison Ireland is significantly below the international average when it comes to elementary, primary and secondary education.

**Table 5. Expenditure on educational institutions as a percentage of GDP by level of education (1995, 2001)**

	Primary, secondary and post-secondary non-tertiary education					Tertiary education		
	2001			1995		2001		1995
	Public <sup>1</sup>	Private <sup>2</sup>	Total	Total	Public <sup>1</sup>	Private <sup>2</sup>	Total	Total
Ireland <sup>3</sup>	2.9	0.1	3.1	3.9	1.1	0.2	1.3	1.3
Denmark <sup>4</sup>	4.2	0.1	4.3	4.0	1.8	n	1.8	1.6
France	4.0	0.2	4.2	4.4	1.0	0.1	1.1	1.1
Germany	2.9	0.7	3.6	3.7	1.0	0.1	1.0	1.1
Sweden <sup>3</sup>	4.3	n	4.3	4.2	1.5	0.2	1.7	1.6
Switzerland	3.9	0.6	4.5	m	1.3	m	m	m
United Kingdom	3.4	0.5	3.9	3.9	0.8	0.3	1.1	1.2
United States <sup>5</sup>	3.8	0.3	4.1	3.9	0.9	1.8	2.7	2.7
OECD mean	3.5	0.3	3.8	3.7 <sup>6</sup>	1.0	0.3	1.4	1.3 <sup>6</sup>
EU mean <sup>7</sup>	3.5	0.2	3.6	3.7	1.1	0.1	1.2	1.2

(Source: OECD EAG 2004 Table B2.1b)

(Notes)

"m" indicates that data are missing.

"n" indicates that magnitude is either negligible or zero.

1. Including public subsidies to households attributable for educational institutions. Including direct expenditure on educational institutions from international sources.

2. Net of public subsidies attributable for educational institutions.

3. Direct expenditure on tertiary-level educational institutions from international sources exceeds 1.5% of all public expenditure.

4. Public subsidies to households not included in public expenditure, but in private expenditure. Post-secondary non-tertiary included in both upper secondary and tertiary education.

5. Post-secondary non-tertiary included in tertiary education.

6. The average of OECD countries whose 1995 data are available.

7. The average of EU member countries whose data are available from OECD EAG 2004.

20. Expenditure per student in tertiary education amounted to US-\$10.003 in 2001 (OECD 2004 Table B1.1) slightly below the OECD average of US-\$10.052, with Ireland ranking 14<sup>th</sup> amongst 26 countries. The EU Education Report 2004 gives the following figures: Ireland €9.900 as against the EU average of €8.200 with Ireland ranking 5<sup>th</sup> out of 15. For cumulative expenditure per student over the average duration of tertiary studies Ireland ranks 13<sup>th</sup> out of 27 with a figure of US-\$ 32.411 compared to US-\$ 42.906 as the OECD average. This is mainly due to Ireland's shorter than average period of (Type ) study. The increase of government expenditure on Irish tertiary education between 1995 and 2000 (87%) has been significantly higher than the growth of student numbers (26%) and expenditure per student has

risen by 14.8% (data supplied by the Department of Education and Science Ireland) although the FGS study commissioned by CHIU claims that direct state support per student in the university sector fell by €1,240 (at 2002 prices) between 1995 and 2001 (*The Future Funding of the Irish University Sector*).

21. In the last two years the trend of public funding for higher education institutions has turned downwards. According to CHIUs estimates there was a reduction (in real terms) of 4% in 2003 and 10% in 2004.

### **Institutional funding**

22. Irish tertiary education is strongly dependent on public funding. According to the FGS study for the Conference of Heads of Irish Universities (November 2003) the sources of university sector funding in 2001/2002 were:

**Table 6. Sources of funding for universities, 2001/2002**

Exchequer funding block grant	55.5%
Exchequer funding academic fees on behalf of students	29.6%
Postgraduate fees paid by students	3.6%
Student contributions i.e. student service charge	2.8%
Fees paid by international students	4.4%
Other sources	4.1%

This indicates that the state contribution to university sector funding is about 85% (the DES estimates 82%); while the state contribution to the institute of technology sector is 90%. The introduction of “free fees” for undergraduate courses in 1995/96 resulted in a substitute of public funding for potential private (fee) contributions.

### **National expenditure on R&D**

23. Irish expenditure on R&D as a proportion of GDP is well below EU and OECD averages, but during recent years the country has rapidly increased its investment. Publicly financed research is mostly conducted in higher education institutions, predominantly in the university sector; institutes of technology engaged in applied research but on a limited scale. There is also a significant sector of government research institutes outside Higher Education. EU/EUROSTAT in its 2003 edition *Statistics on Science and technology in Europe* (2001) shows the following:

**Table 7. R&D expenditure in Ireland as a percentage of GDP, 2001 (percentages)**

	All sectors	Tertiary Institutions	Government Institutions	Business Enterprises
Ireland	1.17	0.26	0.11	0.80
EU	1.98	0.41	0.25	1.30
USA	2.82	0.40	0.20	2.10

Source: EC/eurostat: Statistics on Science and Technology in Europe (2003) Table 2.1

This relatively low level of Irish expenditure is confirmed by two other and more up-to-date indicators: in 2003 Irish government appropriations or outlays on R&D (GBAORD) amounted to 0.33% of GDP, compared to an EU average of 0.75% and the share of government investment in R&D as part of total government expenditure was 0.97%, compared to countries like Iceland (3%), Finland (2.02%), France (1.92%), Spain (1.73%), the Netherlands and the UK (1.70%) (EC/eurostat 2003 Table 5.4).

24. However, Ireland started from a very low level of research intensity. In the 1990s, and particularly since 1998, the country has undertaken great efforts to increase its level of public investment in research with quite remarkable annual growth rates: 5.9% in the period 1992-1997 and 12.3% between 1997 and 2002 (in the first years slightly lower than GDP growth, in the second well above). The new political priority has been reflected in the National Development Plan for 2000-2006 where the Government has allocated €2.5 billion to research, technology, innovation and development, a five-fold increase compared to the period 1994-1999.

25. Given the Government's firm intention for the country to be a significant international base for research and innovation the budget increases of the last years need to be sustained for a long period as is envisaged in the National Plan where it is stated that by 2010 the Government aims at public investment in research equivalent to 0.58% of GDP. But this is only one side of the coin. There is also an under-investment in R&D from business and industry. Ireland will only be able to come near the EU objective set in Lisbon, to invest 3% of GDP in the future-oriented area of R&D, if industry shoulders two thirds of the costs as is the case in the most developed economies. This will require a growing readiness amongst multinational firms to undertake R&D on their Irish sites (so far only a quarter of them are active R&D performers) as well as a greater investment amongst indigenous companies; Irish-owned firms account for only one third of total business expenditure on R&D.

26. Output indicators thus show that Ireland still has some way to go to achieve its goals in research and innovation, but they also suggest that significant progress is being made. With regard to scientific publications (per million population) Irish researchers at 327 are well below the European (460) and OECD country averages (402). Ireland contributes a relatively low number of triadic patent families (11.3 per million inhabitants) compared with the average of 36.3 for EU countries. With 49 researchers per 10,000 of the labour force Ireland is below the EU (53) and the OECD average of 62 (OECD 2002). But the growth rate of scientific productivity is, one of the fastest and the Irish research community performs above the European average and the US in terms of highly cited papers as percentage of total number of scientific publications (data from 1997-1999). Irish patent applications to the European Patent Office (year 2001) amount to 86 per million inhabitants against the EU average of 161 (Sweden is at 367, Finland 338, Germany 310) but Ireland is improving its performance steadily, at significant growth rates (EC/eurostat 2003, Table 5.4).

27. International comparisons of expenditure data are by no means the whole story but they confirm the enormous strides Ireland has made over the last 15 years in raising its tertiary education age participation rate without any evidence of lack of quality. However, as we have seen this expansion has not been evenly spread: it has concentrated on full-time tertiary education for 18 to 21 year olds at the expense

of widening access and lifelong learning. Expenditure on tertiary education has fallen as a proportion of GDP, and has grown more rapidly than expenditure on education as a whole. Tertiary education institutions are very heavily dependent on public expenditure, as compared for example to the UK. In research, Ireland is engaged in a catching up process which will require sustained investment over a long period. But the most recent data shows that both public and private investment, particularly the latter, is well below the EU average and a long way off the Lisbon target for 2010.

#### **IV. A CROSSROADS IN THE DEVELOPMENT OF IRISH TERTIARY EDUCATION**

28. As the above international comparisons show the development of Irish tertiary education is at a significant point of departure. It has achieved an improvement in the age participation rate in tertiary education which puts it amongst Europe's leaders and it is beginning to invest significantly in research. All this was fuelled by a very fast growing economy, as well as being a signal contributor to that growth. The slow down in the economy, and the likely flattening off of the growth rate, was paralleled in the rate of expenditure on tertiary education. But this adjustment is not the only reason why a review of tertiary education is timely. The very full evidence, both written and oral, that we received suggests that there are a number of other major factors which put the tertiary education system at a crossroads:

- Ireland's determination to move from being a technology-importing, low cost economy to an innovation-based, technology-generating society requires that Irish tertiary education and research, and innovative indigenous enterprises, have to become the new drivers of economic development and of the country's international competitiveness;
- as the National Development Plan makes clear, Ireland is facing considerable pressure for increased public investment in a number of fields other than tertiary education, relevant to economic development, notably in health, transport and the environment as well as in primary and secondary education;
- the birth rate, which at 23 per thousand population in the 1970s was about twice the European average, is forecast to decline to 13 per thousand by 2016. With the concentration of the entry into tertiary education being predominantly in the 18 to 20 age group (90%), this could lead to a decline in the annual cohort of second level school leavers from around 70,000 in 1990 to around 53,000 by 2015 unless school staying on rates improve considerably. HEA projects an increase in the age participation rate to over 66% by 2015 but this will require a significant improvement in the staying on rates of pupils from economically disadvantaged backgrounds;
- the recognition that more needs urgently to be undertaken to widen participation in higher education (although not a task for tertiary education alone), to increase the mature entry and invest in lifelong learning as well as to address regional issues in line with the National Spatial Strategy;
- the need to sustain investment in research and innovation and to address research infrastructure issues in a coordinated way so that the investment can be effectively and strategically managed;
- the need to determine the future role in research and the status of the institutes of technology and to respond to the recommendations of the Cromien report on the responsibilities of the Department of Education and Science;
- the evidence that present resource allocation approaches, financial management methods and accountability requirements are increasingly at odds with managing a productive higher education system;

- the urgent need to modernise and rationalise the higher education system after a period when institutions have concentrated on very rapid growth so as to ensure that the system and the institutions are managed to achieve full effectiveness and value for money;
- a perception that Irish tertiary education is not punching its weight, or achieving adequate recognition, internationally; and
- the need to position Ireland to be internationally competitive, innovative and successful in the economic conditions of the next two decades.

29. Ireland has moved exceptionally quickly and with much foresight to address the weaknesses apparent in the early 1980s and has reaped extraordinary benefits in the way its economy has grown. But the need to embed a research culture, manage institutions better, broaden the base of funding, and redress imbalances that inevitably developed in the years of rapid growth sets a new agenda both for Government and for higher education.

### **The structure of the Irish tertiary education system**

30. Ireland has 20 main publicly funded tertiary education institutions, seven of them universities and 13 of them institutes of technology (together with some small teacher training institutions). There are also some mainly privately funded tertiary education institutions of which the largest, the National College of Ireland, has some 900 full-time and nearly 3000 part-time students. Two of the universities, Dublin City University and the University of Limerick, were created from national institutes of higher education in 1989. Most of the institutes of technology were originally designated as regional colleges of technology and were given their present titles in 1998 but three institutes have been formed since then and one, Limerick, was upgraded from technical college status. The Dublin Institute of Technology (DIT), which was established in 1978 on the basis of an amalgamation of six vocational colleges is the largest institute and unsuccessfully sought a transfer to university status in 1997. DIT, after a long period of partnership with Trinity College, Dublin has, since 2001, been accorded full degree awarding powers (for first, masters and doctoral degrees). In 2003 the Higher Education and Training Awards Council (HETAC) accorded Waterford and Cork the right to award their own first degrees and Waterford has now been permitted to award masters and degrees (teaching). Other institutes are seeking similar powers and all are engaged in fostering studies to the doctorate level. The universities are funded through the Higher Education Authority (HEA) and the institutes direct by the Department of Education and Science (DES). The Cromien Report recommended that the DES should divest itself of the executive funding role in respect to the institutes (Department of Education and Science – Review of Departments Operations, Systems and Staffing Needs, The Cromien Report, 2000).

31. One of the consequences of there being so many HEIs in a country with a population of 4 million is that even in spite of the high age participation rate institutions are comparatively small by international standards. The largest university is University College, Dublin (UCC) with just over 15,000 full-time and 4000 part-time students, while the smallest is Maynooth with 4500 full-time and 600 part-time students. The institutes are much more diverse in size with the DIT standing out with nearly 10,000 full-time and over 5,000 part-time higher education students but with many being much smaller, at around 3000 and below, full-time and usually much smaller part-time numbers. Since many of the institutes are strategically sited in areas where populations are low that is not surprising but the question of institutional size becomes important when issues of research concentration and postgraduate numbers have to be addressed because of the high cost of providing the appropriate infrastructure, both physical, in terms of facilities, and human, in terms of size of research teams and technical and other support.

### **The diversity of the system**

32. One of the strengths of Ireland's tertiary education system is the extent to which a diversity of mission has been maintained between the university and the institute sectors, as well as within the sectors. This has been reinforced by organisational differences and the difference in funding regimes and accountability mechanisms between the two sectors. We believe that it is critical to maintain that diversity even if (see below) some of the organisational factors change. We are particularly impressed by the extent to which the institutes see themselves as different from the universities and the role they play in respect to the National Spatial Strategy in local economic development, in encouraging wider participation through local catchment, their support for apprenticeship and craft skill training and the provision of ladders of opportunity through different educational levels, and in the applied character of their work. We do not believe that location in a designated regional Gateway provides a justification for the transfer of an institute to university status; indeed we think it is essential that the applied focus which their current differentiation of mission prescribes for their role in regional Gateways is preserved and utilised to the full. The role of DIT is significantly different to other institutes by reason of its age, size, academic range and location in Dublin but we believe that its mission too as a comprehensive higher education institution serving the very broad educational and vocational needs of Dublin must be retained. The success of the institute sector needs to be nurtured and celebrated so that its differentiation from the university sector is not seen as conferring lower status but defining it as an equal partner in a dynamic higher education system which covers a diverse range of functions. For this to be fully realised some of the organisational disadvantages of the present structure need to be addressed and these are dealt with below.

### **The lack of a unified concept of a tertiary education system**

33. The Irish case has demonstrated that a mass higher education system should respond both to the diversity of interests, talents and inclinations of young people but also to the demands of the labour market and the economy for a range, rather than a single set, of qualifications. We therefore believe that Ireland should retain a differentiated tertiary education system but should take steps to integrate the components better than it does at present. In spite of the general recognition of the complementary roles of the institute and university sectors the concept of a unified tertiary education system remains unrealised; we were constantly told of the fragmentation of policy and policy implementation which has stifled development. This is reinforced by the separation of the management of the two sectors between the DES and the HEA. Although we saw evidence of local co-operation in, for example, Cork between the University and the Cork Institute of Technology, and we heard of other examples, we gained the impression that even though the PRLTI had greatly stimulated partnership arrangements the sense of a unified system was lacking. Even in the case of Cork, where collaborative arrangements over degree programmes works well, an attempt by the two institutions to develop a joint marine/nautical research and teaching centre was frustrated by an inability to arrange complementary funding from national sources within a workable time frame. Internationally, competition between institutions is generally regarded as a force for quality and institutional development but Irish HEIs need to recognise that they are relatively small and that the undoubted strength of the system will only be fully realised through institutional collaboration whether in research, postgraduate programmes, first degree work or lifelong learning. We believe that collaboration should be incentivised in funding mechanisms in order to break down the sectoral and other barriers that undoubtedly exist. Such collaboration, particularly in relation to widening access and to lifelong learning generally needs to be extended to the further education colleges in order to ensure that ladders of opportunity reach down as far as possible into local communities.

### **A Tertiary Education Authority (TEA)**

34. A major step towards reinforcing the sense of a single system of tertiary education would be taken if the institutes and the universities were brought under a single funding authority which we propose

should be called the Tertiary Education Authority (TEA). This has been in prospect for some time, and we firmly recommend it, but do so with the caveat that the new Authority must contain machinery to prevent mission drift in either direction. The new machinery required for this is described below. Not the least of the advantages of the transfer will be the removal of a range of managerial constraints that the institutes believe disadvantage them in comparison with universities and hinder them from reacting quickly to pressures and opportunities in their own regions: the absence of a block grant and the requirement that they obtain approval for the filling of vacancies or the establishment of new posts from the Department; Ministerial approval for the declaration of redundancies; the provision of monthly accounts; the absence of borrowing powers (even within the constraints imposed currently by the HEA on universities); the reversion to the Department of income from 'entrepreneurial' activities; the need to gain approval from the Department for new academic programmes; the special arrangements for the appointment of institute directors, and other bureaucratic controls that might have been appropriate when the institutes were much smaller and less mature than they are now; and, we were told that institutes suffered from six separate reporting mechanisms. It is essential that the institutes which have performed so well in the last decade should be given every incentive to continue to do so because the future economic success of their local and regional communities is strongly linked to their success and their freedom of manoeuvre. It could be argued that there are dangers in freeing up the institutes in this way as would occur if they were transferred to a 'lighter touch' regime under a new Authority, and inevitably an element of management risk is involved, (some controlling mechanisms are proposed below), but all over Europe, and perhaps particularly in the nearby UK, governments are devolving responsibilities and freedoms to educational institutions, balanced by tough accountability mechanisms, in order to encourage them to act more innovatively and to be more adaptable and responsive to local opportunity. Such changes require balances to be struck between effective governance (see below) and greater budgetary freedom and accountability, but evidence suggests that they can motivate initiative and encourage local flexibility.

35. There are three particular areas where institutes want change, seeing themselves at a disadvantage as compared to universities. The first is in relation to the need for them to obtain approval from the Department before a new degree programme is initiated, unlike the universities who are free to develop programmes when and as they see fit. In a system threatened with demographic downturn this complaint has real substance and we agree with the need to provide a more 'level playing field'. On the one hand, we believe that in general the market is the best mechanism for determining which programmes survive in a situation of a downturn in applicants, whether demographic led or not, but on the other we think it is inappropriate for institutions to take academic decisions which will have the effect of destabilising partner, and usually neighbouring institutions. We propose below a new approach to funding higher education Institutions (HEIs), which will in part achieve this but in addition we recommend as a safeguard that machinery be established in the new funding Authority to which HEIs can take their case if they can show that a neighbouring institution is deliberately creating new programmes to cut into their market. The Authority's decision must be binding on both parties.

36. A second area of concern is that the universities and the institutes should have a common quality assurance scheme for their programmes. We support this in principle but note that the Inter-University Quality Board has not been in full operation for long. We believe it would be sensible to allow this to mature and settle down before imposing more changes. Moreover, there are moves in the European tertiary education area to establish new quality arrangements under the Bologna Declaration and it would be unwise to establish, no doubt after considerable argument, a new unified quality system in Ireland only for it to be overtaken by new Europe-wide cross-border systems of quality assurance that are emerging which might offer an attractive internationally based alternative.

37. Finally the institutes, some of which have attracted quite significant research support either through PRTLTI or from other sources, believe that they should be allocated research infrastructure funding

on a recurrent basis to enable them to compete on an equal terms with universities for research grants and contracts. This is dealt with below in Section VII under Research.

**Recommendations**

1. *That the differentiation of mission between the university and the institute of technology sectors is preserved and that for the foreseeable future there be no further institutional transfers into the university sector;*
2. *That steps be taken to coordinate better the development of the tertiary education system by bringing the universities and the institutes under a new common Authority, the Tertiary Education Authority, but that machinery be established within the Authority to prevent mission drift;*
3. *That in transferring the institutes of technology to the new Authority the managerial controls on their freedom to manage themselves to meet institutional objectives be reviewed with a view drastically to lightening the load of external regulation;*
4. *That greater collaboration between institutions be encouraged and incentivised through funding mechanisms in research, first degree and postgraduate degree work and in widening access and lifelong learning;*
5. *That in a situation of potential demographic-led decline in student numbers institutes of technology be given the same freedom to initiate new academic programmes as the universities and that the new funding Authority establish a mechanism, which should be binding on both institutions, to deal with complaints that an institution was deliberately creating a new programme which would cut into the established market of a neighbouring institution;*
6. *That, in principle, there should be a common quality assurance machinery covering both sectors of tertiary education but that implementation should be deferred to give the university quality assurance machinery created under the 1997 Act more time to develop and pending longer term clarification of the cross-border systems of quality assurance that are emerging under the Bologna process.*

## **V. THE GOVERNANCE AND MANAGEMENT OF IRISH TERTIARY EDUCATION INSTITUTIONS**

38. Paragraphs 18 to 21 suggest that by international comparisons Ireland has funded its higher education system well for teaching (and remarkably well from the point of view of keeping up with the rapid expansion of the system) but less well for research (paragraphs 23-26). This is borne out by the evidence provided by academic staff: student ratios which in 2002/3 stood at 1: 17.8 for the university sector and 1: 13.8 (or 1: 14.8 if DIT is excluded) in the institute of technology sector (data provided by the Department of Education and Science, Ireland), figures which would be regarded as generous, at least for the institutes of technology in comparison with many parts of Europe, where the consequence of the move to mass higher education has been a considerable worsening in the ratios of academic staff to student numbers. If Ireland's ambitions are to be met, not only will further investment be required but it will need to be better targeted and its expenditure better managed at institutional levels in order to achieve the best results. Although the system has adjusted remarkably to the considerable expansion in student and staff numbers and resources, which has characterised the last decade and a half, it has not made major adaptations yet in the way institutions are managed. Ireland has funded the expansion very effectively but that phase is now over and attention must now be given to modernising the system and giving HEIs the environment in which the modernisation of their own management can take place. The issues set out in paragraph 28 render this to be an essential next step; unless modernisation takes place there is a risk that the investment of additional resources will fail to be effective.

### **Changes required to the financial environment**

39. Institutions will only operate effectively, develop strategies and implement them if the financial environment encourages good practice and provides a reasonably secure platform for decision-making. Although the funding methodology to be adopted by the new Authority (see paragraphs 79 to 82) will be critical in this regard, there are areas of government financial practice which themselves need to be addressed. Some of these, which are particular to the institutes of technology, have been referred to above (paragraph 34) and in our Recommendation in respect to the transfer of their management and funding to the new Authority. But others were raised with us constantly in written and oral evidence and are commented on below.

### **Multi-year-funding**

40. This is really two problems: the first relates to the fact that the Government's financial year runs on a calendar basis from 1 January to 31 December whereas the HEIs' runs on an academic year; the second is that Government financial allocations are made so late in the year that the financial year has often run through a first quarter before the recurrent allocation for the year is confirmed. The first is essentially a technical issue but we believe that it should be addressed if only to remove confusion and unnecessary uncertainty. The second is critical to the effective management of institutions. Fluctuations in government funding, while undesirable, are perhaps an inevitable consequence of modern conditions, but should not be visited on institutions mid year. To do so destroys credible planning and vitiates efforts to develop longer term strategies for institutional development. Uncertainties about longer term funding are particularly damaging in building research environments and managing research teams and will undermine future investment programmes in research.

### **Offsetting income earned by institutions**

41. There is considerable uncertainty in both sectors in regard to the incentives for generating private (non-state) funding particularly through external earnings, and practice is not consistent. The university sector is dependent for over 80% of its funding from the HEA and the institute of technology sector for 90% from the DES. We are of the opinion that this is no longer a balanced way of funding HEIs and is increasingly out of line with the situation and trends in some other advanced industrial nations where non-state income is a growing element in institutional budgets. We recommend that the Government makes an unequivocal statement that generating non-state resources whether through fees from overseas students, income from short courses for industry, income from spin out companies, or from other commercial activities should be retained by the institution concerned and should not taken into account in any way in the calculation of recurrent grant. This will remove any disincentive to institutions to generate additional resources by their own efforts and will encourage institutional diversity.

### **Generating and carrying forward institutional surpluses**

42. Good institutional management requires that institutions generate surpluses and create reserves but both appear to be discouraged under current financial rules. A recent OECD/IMHE report on institutional sustainability in higher education (OECD/IMHE 2004) drew attention to the need to put aside 4% to 5% of the insured cost of all HEI buildings for long term maintenance in order to cope with major refurbishment or replacement costs in later years. Nearly all Irish HEIs have buildings dating from the 1960s and 70s which already need substantial renewal programmes, and because of the rapid expansion, all of them have a significant tranche of newer buildings for which no financial provision for renewal has yet been made. This represents a serious financial overhang which will place increasing demands on institutional or government expenditure in the future and which needs to be addressed now before the situation worsens. HEIs need reserves to cover equipment and furniture replacement costs, to build up resources to invest in major new activities or to cover significant downturns in income or fluctuations in student numbers. For a research intensive institution anxious to compete in a global academic market for key research leaders, the availability of reserves to meet unanticipated demands represents a critical weapon in an institution's armoury. We recommend that restrictions on retaining surpluses and building up reserves are dispensed with and that institutions should be encouraged to aim to achieve surpluses equivalent to 3% of expenditure and to set aside funds for long term maintenance.

### **Academic and academic-related salaries**

43. By international comparisons academic salaries are quite high and, being linked to civil service salary scales, are provided with some protection against fluctuations in institutional fortunes. But the linkage also creates inflexibilities. This particularly applies in recruiting from overseas where a larger salary package may be required than is provided for in civil service scales. We were told that ways have been found around these problems in individual PRTLTI or SFI grant situations where HEIs have found ways to attract leading researchers from overseas outside the established salary structures. But this is not an adequate basis for competing in an international market for key research leaders, as will be necessary, if Ireland is to compete internationally in research. We believe that salary restrictions need to be removed so that HEIs can act more entrepreneurially and more quickly to attract or retain particular individuals who have key skills, academic expertise or experience that the institution needs. We are confident that efficient and accountable internal procedures can be devised to ensure that the freedom to offer individualised salary packages is not abused.

## **Accountability**

44. We recommend below (paragraph 81) that institutions are funded through a contract against an agreed strategic plan which will significantly increase accountability for performance. However, at the most basic level of financial accountability we believe the current situation could be much improved. At the moment HEIs, while having their own 'internal' auditors, rely on the Comptroller and Auditor General to audit their accounts. This process is often subject to delay because of the other demands on the Comptroller and Auditor General's staff and is conducted on a purely financial basis. We recommend that, except in exceptional circumstances, HEIs be not audited directly by the Comptroller and Auditor General but be required to have an internal audit service reporting to an internal Audit Committee and to employ external auditors from the private sector whose reports would be available to the Tertiary Education Authority which itself would employ an audit team to act on behalf of, and in consultation with, the Comptroller and Auditor General. The Authority could then require audited accounts earlier than is now the case (and act on them more quickly if required) and would be in a better position to analyse them, both individually and on a system wide basis and report accordingly to the Department and to the Comptroller and Auditor General.

## **Institutional governance and management**

45. In a period when internationally there is intense competition between public sector agencies for resources questions about the delivery of services whether in health, or in education, or in welfare become paramount. In every country resources are finite but their investment can be enhanced or diluted by the effectiveness or weakness of the organisations through which they are targeted. Irish universities and institutes of technology have been transformed through extremely rapid growth over the last 15 years but their internal structures have not been much modified to adapt to the new pressures they find themselves under and their governance and management now need to be reformed in order to be able to compete not just with one another but in broader international settings. Fortunately the likely slow down in expansion, if not decline, in student numbers provides the opportunity to undertake the necessary modernisation process. This is particularly the case for the universities where so much of the research investment must be placed if they are to become significant vehicles for the continued development of what the National Development Plan describes as the 'knowledge-based' economy where "intellect and innovation will determine competitive advantage...[and to which] the accumulation of 'knowledge-capital' represents a key contribution" (National Development Plan 2000-2006 para 6.35). We received testimony on all sides of the culture changing role of the PLTRI programme in focussing institutions to make selective choices but if this programme's success is to be built on effectively the process of making decisions between competing claims, the recognition that resources should be allocated against potential outcomes, the construction of strategic plans that reinforce certain academic areas at the expense of others, and the human resource policies that reward excellence and discourage lack of performance must be reinforced. This does not represent a case for the introduction of crude managerialism or the elimination of collegiality but of creating the decision-making mechanisms where priorities can be agreed and carried through. If Irish universities wish to be among the best they will take note of the way the best universities world wide equip themselves to take decisions in intensely competitive environments.

## **Governance**

46. There is a considerable interest both in the corporate world and in universities in Europe in governance issues. Many European countries which have not previously had lay elements in their governance have now introduced them and are increasingly using them as 'non-executive directors' both to provide institutional accountability mechanisms, in for example, the remuneration of senior post holders and in audit but also to play important roles in strategy. The former role was highlighted in *The Financial Governance of Irish Universities* (HEA and CHIU 2001) but the latter was emphasised in the Hoare Report

in Australia (Commonwealth of Australia 1995) and the Dearing Report in the UK (The National Committee of Inquiry into Higher Education 1997). If one excludes from the statistics Trinity College, Dublin which has an almost wholly academic governing body, analogous to the situation in Oxford and Cambridge, Irish universities' governing bodies have an average of 36 members; half of the members are drawn from outside the university (i.e. laymen). This pattern should be compared to US boards of regents or trustees which are smaller and, other than the university president, are made up entirely of lay people or to the UK where external (lay) members have a large majority over academic representation. We believe that governing bodies in Ireland are too large to play the important strategic role they should now be exercising and that the balance of lay to academic members is too low. We would favour governing bodies of no more than 20 members (including student members) with a significant majority of lay members. We think that this would make them better placed to think strategically. We would expect that the major conduit of academic views on strategic issues would come via reports from the senate but that the role of a governing body, either acting on its own or through some joint body with the senate, must be to reconcile, and if necessary, prioritise academic requirements with financial considerations and the requirements of physical planning.

47. This reduction in size would necessitate a review of the composition of governing bodies. We would favour a simpler process of determining membership than that contained in the 1997 Act to the effect that the chair would always be drawn from the existing lay membership, but elected by the whole governing body, and that the lay membership would be nominated by a nominations committee of the governing body, made up primarily of lay members after the governing body had itself determined the range of skills and experience it wished to attract onto the board. This would emphasise the strategic needs of the institution over the representative nature of the present governing bodies, leaving the governing bodies themselves to determine the size and depth of local representation, the range of professional skills, business links and other factors which would contribute most effectively to the development of the institution.

### **Leadership**

48. We received clear evidence from the universities we visited of the recognition of the importance of institutional leadership. We believe that the post of university president should be publicly advertised and that universities should always encourage and seek out external applicants. However, leadership needs to be distributed in universities, not concentrated in a single post, and we recommend that procedures are created for the rotation of headships of departments so as to stimulate new ideas being fed into departmental processes and for mechanisms to be created to ensure that such appointments are approved by the governing body on the recommendation of the president. We strongly endorse the idea of "the central steering core" (Clark 1998), to assist the president in the management of the institution and in maintaining its strategic focus. Universities are multi product organisations with core missions in teaching, research and service to the wider society and they benefit from shared decision-making and a sense of corporate responsibility in priority setting.

### **Resource allocation**

49. We did not find clear evidence of internal resource allocation processes within universities through which central strategic plans, for example, for the investment in one subject area, or department, at the expense of reductions elsewhere, were translated into actual allocations of resources. In a period of rapidly expanding student numbers such decisions are easier to make because funds themselves are increasing each year, but in a steady state situation, matching priorities to resources is much more difficult. Essential data about academic performance, staffing levels and other costs were not easily available and processes which promoted equity over rewarding performance seemed to predominate. But if universities are to become major research institutions with sustainable research profiles differentiated investment in

new staff, incentives for performance and the allocation of research infrastructure support are critical for long term success. In many cases allocations of increased resources need to be balanced against the need to withdraw funding from less academically successful areas to pay for such investments. To establish such an organisational culture universities need to create transparent resource allocation mechanisms closely reflecting their strategic plans and mission statements as approved by their governing bodies and put in place processes by which they can be implemented.

### **Human resource management in universities**

50. Universities have not, until the PRTL programme, had to consider a differential reward system to recognise success or lack of it in research. Academic staff are appointed on a two year probationary period and in effect therefore are judged on their performance in order to be given a permanent appointment shortly after completing their first year. This gives an inadequate period in which to judge an academic record. We recommend that tenure decisions are significantly delayed perhaps to the fifth year of service as in the US, and that research performance is given equal prominence to teaching. At more senior levels, staffing structures are too inflexible and contain too few incentives for high performance. Promotion to personal chairs, that is, non-established professorships conferred solely on the basis of individual performance in research and research leadership, is almost unknown so that top researchers are forced either to look for posts elsewhere, often abroad, or to wait till a professorial vacancy occurs. Most universities would agree that they have a significant body of staff who are not research active, and with student numbers unlikely to increase by much, if at all, there will be difficulty in bringing in new blood except on limited term research contracts. We believe that universities need to address this situation actively: they need to be more selective at the tenure stage, be more flexible about promoting staff to reflect research excellence, develop ways either of incentivising research inactive staff back into research or of creating space, through early retirement schemes, to continue to make new blood appointments. All this emphasises the need for a more positive approach to staff development in both universities and institutes of technology and the commitment of institutional resources to staff development programmes covering the whole range of work in tertiary education, in particular in the development and updating of teaching skills, in addressing wider societal needs such as access and widening participation or in areas relating to research and the exploitation of research findings. We believe that this is of such importance that we recommend that the new Authority set up a monitoring process to ensure that a high priority is given to staff development in all HEIs.

### **Governance and management in the institutes of technology**

51. Some institutes have suffered from a confusion in the roles of governing bodies and institute directors as to which should be responsible for the control and conduct of their institutions. (see paragraphs 14 The Governing Body and paragraph 1 The Director, Regional Technical Colleges, Act 1992). We recommend that these powers be removed from the remit of the governing body as pertaining to the managerial rather than the governing function of institutions. We also believe that the terms of membership of the external (lay) members should be amended so that the institutes can themselves appoint members using the nominations committee system we recommended for the universities. We are confident that they will continue to draw on local (stakeholder) bodies as this will reflect their best strategic interests. We also believe that their governing bodies should elect their own chairs, rather than have them appointed from outside and that the institutions should be regarded as now mature enough for the governors to appoint a director using whatever committee structure they deem appropriate rather than through the machinery outlined in the 1992 Act.

**Recommendations**

7. *That the issue of 'multi year' funding should be addressed both in relation to the alignment of financial years and in relation to mid year allocations in order to give HEIs a secure base for financial planning on a year to year basis;*
8. *That in order to incentivise HEIs actively to seek external sources of funding the Government make a clear statement that income they generate from sources outside those provided by the State will not be subject to offsetting against state fundings;*
9. *That HEIs be required to plan to generate financial surpluses and encouraged to build up reserves against future necessary expenditure;*
10. *That greater flexibility be introduced into academic salary structures in order to permit institutions to take special steps to attract or retain particular individuals with key skills or experience that an institution needs;*
11. *That the present arrangements for auditing HEI accounts be amended in accordance with the recommendations in paragraph 44;*
12. *That university governing bodies be reduced in size to a maximum of 20, including student members, to improve their effectiveness and that lay members be required to constitute a substantial majority;*
13. *That each university or institute governing body should create a nomination committee made up primarily of lay members, to propose replacements for vacancies amongst lay members against a template of skills and experience required on the board to be determined by the governing body;*
14. *That university or institute governing bodies should elect their own chairs;*
15. *That the post of university president or institute director should be publicly advertised and external candidates encouraged to apply. Appointments should be made by governing bodies through appointing machinery they should devise;*
16. *That the headships of university departments be given limited terms so that there can, when appropriate, be rotation, and that appointments or re-appointments should be made by the governing body on the recommendation of the president;*
17. *That universities review their resource allocation processes with a view to ensuring that resources are allocated in line with established institutional strategic priorities;*
18. *That universities review their human resource strategies with a view towards making the probation period longer and the granting of tenure more rigorous and to providing promotion routes to personal chairs as a reward for exceptional research performance or leadership;*
19. *That HEIs give higher priority to staff development issues and allocate resources accordingly and that the Tertiary Education Authority be asked to monitor the process.*

## VI. WIDENING PARTICIPATION AND LIFELONG LEARNING

52. Entry to tertiary education for the great majority of students is via the “points system” allocated on the basis of performance on six subjects of the Leaving Certificate Examination. The maximum potential points which can be scored is 600 and to obtain entry in high prestige, professional courses like medicine, dentistry, pharmacy, veterinary and some other programmes a performance of more than 550 points will be required. 90% of the entry are school leavers aged 17/18 who have just taken the Leaving Certificate; mature students (over 23) represented only 5% of new entrants in 1998, and about 2% of the university based student body, although the points system is flexible enough to permit a student to enter on the basis of personal assessment which can include an interview. 95% of those who apply for a place in higher education through the central admissions system receive an offer of a place though not necessarily at their first choice institution or in their first choice programme (*Commission on the Points System 1999*). The Clancy Report illustrated the social disparity of this intake: nearly 100% of the children of higher professionals and over 80% of the children of employers and managers enter higher education as compared with only around 20% of the children of unskilled and semi-skilled manual workers. The report also provided evidence that within the university sector the offspring of the higher professional group clustered in medicine, law, veterinary science and dentistry (*Clancy 2001*). Overall these figures may not in themselves be much out of line with many other European countries. What is surprising, however, is that if the figures for the National College of Ireland are excluded, part-time numbers make up only 20% of total student numbers.

53. Ireland has an impressive legislative framework for dealing with adult education and lifelong education: the 1997 Universities Act identified a role for the universities in promoting lifelong learning through the provision of adult and continuing education; in 2000 the Government issued a White Paper *Learning for Life*; and this was followed by The Qualification (Education and Training) Act in 1999 and the National Training Fund Act; the Adult Learning Council was established in 2002 (but has apparently not yet met) and the National Qualifications Framework in 2003. Concern about the impact the points system was having on second level education prompted the appointment of a Commission on the Points System which reported in 1999. In addition the following major reports have been published: *Access and Equity in Higher Education: An International Perspective* (2000) *The Report of the Action Group on Access to Third Level Education* (2001) and *Supporting Equity in Higher Education* (2003), and the National Development Plan has allocated very significant funding for 2000-2006 for a Third Level Access Fund.

54. The range of these reports and the weight of Government activity provide clear evidence of the extent of official concern to rectify social disparity in access to tertiary education but their impact has not so far been very great in changing the position. The problems, self evidently, begin much earlier in the education system and higher education entry is largely a reflection of this. One sixth of children do not attempt the Leaving Certificate Examination and in some disadvantaged areas the proportion not attempting the exam rises to one third. Indeed the representatives of the Cork City Partnership argued strongly that the problems began at the primary school level and that unless they were addressed vigorously there, and especially in the most deprived areas, change would be very slow to come (oral evidence). The St. Vincent de Paul Society described the sums available for early childhood education as “grossly inadequate to begin the work and investment needed to facilitate and encourage disadvantaged children to engage with and study in school” These issues then remain complex, wide ranging and not soluble by higher education alone.

55. Similar difficulties seem to apply to students with disabilities. Again the legislative framework is now in place or being put in place through the Education for Persons with Disabilities Bill. However the

Disability Federation of Ireland (DFI) told us that there would still be a potential shortfall in supporting people with disabilities in third level and further education. Despite the legislative advances the Federation argued that people with disabilities “continue to experience practices of exclusion” often because the complexities of individual impairment “demands a more fluid approach to ‘mainstreaming’ that can challenge individual pieces of legislation, strategies or supports” (DFI submission to the Review).

### **The need for renewed action by HEIs**

56. Nevertheless, we believe the time is ripe for a further attack on the problem not least because, with the demographic downturn, not only will HEIs need to broaden their catchment of students to retain resources but there is the risk of a national shortfall of qualified new entrants to the labour market. We saw and heard many examples of good practice and would particularly commend the Area Partnerships movement for its concentration on local development social inclusion programmes. In Cork we found examples of the University and the Institute of Technology working together on these issues and establishing special relationships with schools in deprived areas (the Bridging the Gap project) to provide routes into higher education outside the points system. The fact remains that in spite of the Points Commission recommendation that target dates of 2005 and 2015 be set for institutions to establish quotas of 15% and 25% respectively for the admission of mature students in each third level institution the first target is unlikely to be met by all institutions. We received evidence that many mature student applications were rejected because the quota was already met on a particular programme rather than against an overall institutional target. It has also been argued by some of our witnesses that the recommendations of the Points Commission have not always been vigorously pursued and implemented. The National Qualifications Framework now provides a basis for recognising qualifications obtained through further or community education courses. HEIs should utilise them much more widely than they do at present. An increasing number of Leaving Certificate students (21% in 2001) are taking the Leaving Certificate Vocational Programme which includes three activity-driven link modules on enterprise education, preparation for work and work experience. These link modules are awarded more points by the institutes of technology than the universities thus giving a negative view of how the universities rate them, in spite of the Points Commission’s recommendation that universities should give the same level of points as the institutes of technology. The Points Commission also supported the view of the National Council for Curriculum and Assessment that the Leaving Certificate should recognise a wider range of student skills and attributes. A National Office for Equity of Access to Higher Education has now been established and we recommend that it be tasked with following up all the recommendations of the Points Commission to establish which have been implemented and where more needs to be done. We are also conscious of the rising costs of widening access and the complementary investment necessary for improving retention rates. Indeed one institute of technology told us that it had to maintain a staff student ratio of nearly 1:1 in an Engineering support service for this reason. We recognise that special support arrangements may be required for some students and recommend that in its allocation model the new Authority provides a supplement to the normal grant to serve as an incentive to institutions to recruit and retain students from disadvantaged backgrounds.

### **Part-time education**

57. Another important area is part-time education, which is normally seen in many countries as an established route through tertiary education for students, often mature students, from disadvantaged backgrounds. In Ireland the attractiveness of such a route is dissipated by the fact that, unlike full-time students, part-time students are not eligible for maintenance grants and have to pay fees. We were told of a foundation course in an institute of technology that failed solely because students were forced to pay fees and that, in an industrial area like Tallaght, there was potentially a huge market for part-time programmes if fees were remitted. We believe that discriminating between part-time and full-time students in this way creates a severe disincentive to students. Moreover, there was very little incentive to institutions to take

special steps to recruit part-time students because they were not clear whether or not the fee income was being offset against their recurrent grant. We believe that part-time numbers should be significantly increased as a proportion of total student numbers in tertiary education. We recommend that part-time and full-time students be treated on a similar basis in respect to fees and eligibility for maintenance grants and that institutions be reassured that part-time students should count fully (on a pro-rata basis) in the calculation of recurrent grant. Similar considerations should apply to continuing education carried out in the evening so that such activities can be fully integrated into institutional life rather than being often regarded as a separate and distinct operation employing different staff. Continuing education must be 'mainstreamed' if it is to feed into main stream programmes and its priority in higher education programmes must be given due recognition.

### **HEA projections of future student populations**

58. The most recent projections of future student populations put forward by the HEA suggest a full-time age participation rate for school leavers over 60% by 2010. We have two comments: the first is that the figures take no account of the growth of part-time student numbers which we would strongly urge and perpetuates the sense that manpower needs will only be satisfied by increasing the numbers of full-time students, and the second is that it is very important that any increase in the age participation rate is not achieved by simply drawing more on the dominant socio-economic groups currently entering tertiary education, as has happened, for example, in the expansion of numbers in the UK. The recognition that Ireland needs a higher age participation rate to fulfil projected skilled manpower requirements must act as a spur to ensuring that measures are taken to greatly increase the participation by lower socio-economic groups or the current disparities in participation will widen and will in the future be even more difficult to even up.

### **Credit transfer and the Accreditation of Prior Experiential Learning (APEL)**

59. The Department's Green Paper *Adult Education in an Era of Life Long Learning* (1998) argues that the key elements of the concept of lifelong learning are "providing learning opportunities over a life span rather than only in the early years, widening recognition to embrace new forms of learning [and] recognising that learning takes place in a range of settings wider than schools and colleges". We regard it as critical that the cause of lifelong learning is reinvigorated. It is self evident that significant generations of potential graduates did not penetrate higher education in the past and that, though on a lesser scale, the situation continues now. It is important both on grounds of equity but also for the pragmatic reason that the demographic downturn will demand it that new routes into higher education should be found for those who missed opportunities in their early school years. Much more needs to be done to facilitate credit transfer and accumulation, including the recognition of work experience and prior experience. This is an intrinsic part of the agenda of the NQAI, which is seeking to promote a culture change whereby emphasis is placed on the outcomes of programmes achieved by the learner. The NQAI is working to standardise qualifications so that transfers between institutions and the recognition of prior certified learning can be facilitated. However, progress is slow and there is an urgent need to secure agreement across the various providers and to move on to develop a mechanism to enable the introduction of APEL to encourage adult students to resume learning. We recommend that the Department and the new Authority put their weight strongly behind the NQAI's efforts.

60. Workplace learning is an important element of lifelong learning. OECD countries are using a variety of measures to promote access to learning opportunities for adults, including at the workplace, through legislation, financial incentives and contractual agreements. One approach, used in France, Spain, the Province of Quebec and in one canton of Switzerland, is for a company levy. In France, company expenditures surged beyond the 1.5% levy on company payroll after the introduction of the levy, but there remain downsides to this approach, notably its weak impact on small firms and on the quality of training

achieved (OECD, 2002). For these and other reasons Australia and Korea have abandoned this approach and attempts are being made to improve both the levy approach and develop a range of others. Among the latter, co-financing mechanisms, such as learning accounts, are being experimented with in several countries (OECD 2004c). A key element of the more successful of approaches is a closer involvement of the social partners from the early stages of their development. Schemes funded by central and regional governments, can be successful in engaging public authorities, social partners and companies in greatly expanding lifelong learning opportunities.

## **Retention**

61. The institutes of technology are on the front line of the widening participation agenda and will be key players in this in future years. They have higher proportions of local students and attract far more students from less advantaged socio-economic groups than the universities. They also provide ladders of opportunity through apprenticeship and other training and through sub-degree professional qualifications to degrees. It is not surprising, therefore, that this sector also has the lowest retention and completion rates. But low retention rates seem to be exacerbated by certain factors. Wastage is primarily a first year issue. Students told us that there was an inadequate investment in counselling services in schools so they received little advice on courses they should choose or institutions to apply to. Selection via the “points system” often led to students accepting places on courses they had not applied for to get into an institution of choice and this created difficulties, especially for students who may be only 17 or just 18 when they leave home for the first time for tertiary education. One institute of technology told us that their analysis of student wastage was that 85% of the cases in their institution were caused by students entering the wrong courses. In addition no institution has introduced a full credit accumulation system and students are mostly required to pass all the modules of one year before passing to the next year. The Government’s fee exemption system contributes to this rigidity as students who fail to pass all modules within a year are not eligible for further fee exemption until they pass all the modules of that year. Many students who fail some modules at the end of the first year, or any subsequent year, drop out of the system with no credit for what they have achieved rather than repeating a full year in order to pass the small number of modules failed. We note that there is already an Inter-Universities Retention Network in being but the retention issue, as we have seen, goes much wider than the universities and there are many overlapping issues with the institutes of technology which in any case have larger retention problems. We believe that these issues need to be re-addressed and we recommend that CHIU and the Council of Institute Directors should tackle them together in conjunction with the new Authority. We also recommend that the funding methodology should take account of high wastage rates to provide an incentive at institutional level to remove some of the structural issues which appear to increase the wastage problems.

## **Recommendations**

20. *That the National Office for Equity Access to Higher Education be tasked with following up the recommendations of the Points Commission to establish where more needs to be done;*
21. *That the Tertiary Education Authority recognise in its funding formula the additional costs of recruiting and retaining students from disadvantaged backgrounds;*
22. *That every effort be made to increase part-time student numbers as a proportion of total numbers in tertiary education and to this end distinctions between part-time and full-time students be removed for the purpose of the obligation to pay fees and receive maintenance support and that part-time students should count (on a pro rata basis to full-time) for the calculation of recurrent grant;*

23. *That continuing education evening courses (other than those strictly for leisure) should be supported by recurrent grant and should be fully integrated into an HEI's academic programme;*
24. *That the DES and the new Tertiary Education Authority put their weight strongly behind NQAI's efforts to secure agreement between providers of non-standard qualifications and developing mechanisms to enable the introduction of APEL;*
25. *That CHIU and the Council of Institute Directors jointly address the question of issues surrounding retention, in consultation with the Tertiary Education Authority and make a report;*
26. *That the Tertiary Education Authority find ways of taking account of wastage figures in the calculation of recurrent grant in order to provide an incentive to institutions to remove some of the structural barriers to retention.*

## VII. RESEARCH, R&D AND INNOVATION

62. The period 1996 to 2002 saw the most radical increase in the funding of research in Ireland's history. From 1998 the PRTLTI programme, managed by the HEA, has committed €605m to research infrastructure in universities and institutes of technology. Apart from representing an enormous fillip to research in the tertiary education sector it also emphasised in a dramatic way the importance of selectivity within institutions, the value of competition and the advantages that can spring from collaboration between research groups in different institutions (and sectors). There is a general agreement that PRTLTI changed the culture. In addition the Government set up a Technology Foresight Fund of €711m over seven years addressed particularly at research niche areas of Information and Communications Technologies and Biotechnology, and the Science Foundation for Ireland (SFI) was established by the Department of Enterprise, Trade and Employment in 2000 to administer the Fund. The SFI has awarded over €250m to fund outstanding researchers and their research teams and has invested €42m in three new centres for science, engineering and technology (CSETs) to create research partnerships which will connect Irish universities with world leading research corporations and with Irish ICT and biotechnology companies. The National Development Plan envisages nearly a doubling of annual spending from public sources on research between 2001 and 2006 (€341.8m per annum to €664.8m per annum) and a further increase up to €765.2 per annum by 2010 (National Development Plan 2000-2006 para 6.35 – 647).

63. This record of investment represents a remarkable attempt to change the fundamentals of the Irish economy, and is well documented in the HEA's 2002 Report *Creating and Sustaining the Innovation Society*. It is evident that significant steps have been taken towards this goal. But if the Lisbon target of 3% is to be met not only will industry, which is lagging in R&D expenditure, need to invest another €1.600m over the period to 2010, but a corresponding increase of €800m in public funding is required. However, for these resources to be invested effectively, whether at the current level or at the level that would be required to meet the 2010 Lisbon target, a number of measures need to be put in place to create a sustainable research culture which will provide the depth of resource necessary to attract overseas companies in far greater numbers than currently to invest in R&D in Ireland, and to sustain and enhance indigenous industry which at the moment accounts for only a third of the current Business Expenditure on R&D (BERD) in Ireland. These measures include:

- A clear distinction between the roles of institutes of technology and universities in research;
- better coordination of funding for research (and research infrastructure), through research funding agencies under the Department of Enterprise, Trade and Employment and other departments, and funding for university infrastructure through the DES and the new TEA;
- a continuous investment in generic, or basic, research to sustain the flow of new research ideas, some of which, but not all, will lead to strategic 'downstream' R&D;
- a much greater investment in postgraduate support with the aim of more than doubling the number of doctoral candidates by 2010;
- implementing the reforms in HEI governance and management outlined in paragraphs –45 to 51 above; and

- rationalising the number of resourcing bodies for research and producing an organisational structure better able to sustain a research strategy over a long period.

### **The distinctive roles of institutes of technology and universities in research**

64. Under the present division of responsibilities institutes of technology are designated as being restricted to applied research. Nevertheless, many have research active groups and are participating with university partners in PRTLTI research projects and one, Waterford, is a lead partner in a PRTLTI project. The institutes are quite naturally keen to receive research infrastructure support as part of their recurrent grant and argue with conviction that their regional role requires them to be research active across many areas if they are to fulfil their role of working with industry, and particularly SMEs, and partnering local economic activity. There can be no doubt that individual institutes of technology and individual staff in them have performed outstandingly in maintaining a research profile and attracting external research support in disadvantageous circumstances and in spite of high teaching loads. However, international experience suggests strongly that research support needs to be institutionally concentrated in order to yield the most effective results. Ireland's size suggests that it is already well supplied with universities and that even within the present university sector some greater concentration of research funding will over time emerge. It would, therefore, not be effective to fund institutes of technology as a sector to support a generalised research function on the same basis as the universities. The role of the institutes of technology should be much more targeted towards particular areas of applied research so that they can act as technology development partners to industry, especially SMEs, particularly on a regional or even a national basis. To undertake this role they will require research infrastructure support to identifiable areas of specialist expertise. We believe the research support should be provided not from the Tertiary Education Authority but from Enterprise Ireland to ensure that the support is targeted against clear national or regional economic priorities and that such support should be firmly aligned to specific designated areas of activity. The institutes as we have said above (paragraphs 32) must not be allowed to lose their focus as key actors in regional economies. It would represent a dissipation of scarce resources if they were to become entitled to automatic recurrent research funding support on a non-targeted basis.

### **Coordination of research, research infrastructure and capital funding**

65. The pause in PRTLTI funding caused widespread concern because of the implication that what had been regarded as a considered long term investment in research infrastructure was not as stable and secure as had been thought. This has now been rectified but the concern illustrates the extent to which research can be destabilised by stop-go funding policies. The PRTLTI programme primarily fed capital support to HEIs to build new facilities for research to take place in. However, for as long as teaching and research are seen as closely linked and mutually supportive activities the capital requirements of, for example, a physics department will be a function not just of teaching needs but of growth in research and in postgraduate numbers. Because until 1998 Irish universities were not funded explicitly for research, research capacity in terms of buildings was given a low priority. Many science and technology buildings built in the 1960s and 70s are no longer fit for purpose and are seriously in need of renewal to meet the new research priority. Capital support, however, is fragmented between HEA either through PRTLTI or through capital programmes funded from the Department, or increasingly through SFI and the Department of Enterprise, Trade and Employment or through the Health Research Board. Such a situation demands coordination and rationalisation. We make some organisational proposals below. But we regard it as important that the development of research is not made dependent on capital grants from central agencies for new buildings and that universities should be resourced recurrently so that they can plan the use of their resources strategically (and occasionally utilise their borrowing capacity) to provide for the development of their physical requirements as part of a total strategic process, which takes into account general infrastructure needs and long term maintenance.

66. Developing a research infrastructure to sustain a research intensive environment goes beyond the provision of appropriate capital facilities, however, and includes equipment, technician, library and IT support and the provision of appropriate career paths and remuneration packages for research staff so that expertise can be built up in research teams that is sustainable and where teams do not break up, if there is a temporary hold up in grant moneys or specialist staff leave. We are strongly supportive in this respect of Professor Downey's Report *Creating Ireland's Innovation Society: The Next Strategic Step* (2003). Again, if basic research provides the feedstock necessary to generate applications and innovation universities need to have built into their resources an element that can be allocated differentially and on a selective basis (see paragraph 49 above) to those areas of the institution that are research active (so that some departments may have considerably more favourable staff student ratios than others). Unless a university is able to fund academic departments so that they can pump prime new young lecturers to enable them to move into research immediately on appointment in a competitive research funding market it will be difficult for such staff to get started in research and may waste their potential. A university also needs to be funded so that it can encourage research on a broader basis than merely in those areas selected by national research bodies. A 'dual funding' system both offers the prospect of bottom up innovation and provides 'floor funding' to maintain an institutional research infrastructure. Ireland will need to translate its investment in niche research areas in universities into a Broader & Deeper research culture before one or more of those universities can be classed as a 'world class' research university.

#### **The need for continuous investment**

67. Research and researchers need stable funding to succeed: research teams have to be built and sustained; doctoral students need an assurance both of secure funding to stay in research and career structures which offer them personal security; research leaders who are working abroad need to be assured of a long term research funding regime to be tempted to return; technician support needs long term training to establish the requisite specialist skills base, and so on. Consideration even now needs to be given to the future of the PRTLTI programme, whether the recurrent support is to be absorbed into institutional budgets or made the subject of future competitive bids. Decisions need to be taken to sustain and enhance the Technology Foresight Fund. The conviction that Ireland must be an Innovation Society to succeed economically is now deeply rooted but needs constant reinforcement with assurances of continuous funding support not just for strategically targeted research but for basic research in universities which will provide the seed corn of people and ideas for future targeted programmes.

#### **Postgraduate numbers**

68. Comparative data suggest that Ireland must broaden its personnel base in R&D. The share of R&D personnel as a proportion of the labour force was 0.95% in Ireland as against an EU average of 1.39 with some competitor countries much higher: Finland, 2.60; Sweden, 2.43 and Denmark, 2.11. The number of PhD graduates per 1000 head of population aged 25-29 is at 1.8%, much lower than the EU average of 2.9 and far below countries like Finland and Sweden (5.8%) or Germany (5.5%). Postgraduate numbers have not grown as fast as might have been expected. For example, in science, numbers have only increased from 1,500 to 2,072 between 1991-2 and 2001-2. The average university postgraduate population stands at only about 25% (masters and doctoral students) and the current number of doctoral students at 3,000 is not much more than can be found at a single major research intensive university in some other countries in Europe. Overall, postgraduate numbers comprise only 16% of the student body in tertiary education and much of this is concentrated in Dublin (EDU/EC(2004)13). Three reasons that have contributed to this are the favourable job prospects for science graduates, the relatively low numbers of international students, and the failure to invest in enough postgraduate awards at competitive financial levels. There is an urgent need to increase rapidly the number of doctoral students for the following reasons:

- The research investment currently planned and the additional that is necessary to match the Government's strategy will require a dramatic increase in doctoral students to support the up scaling of the research that is envisaged;
- a significant proportion of university staff are not research active and will need supplementation by a new generation of doctoral students;
- with an academic staff which has expanded rapidly to match the rise in students numbers the replacement of retiring staff will require an increasingly large pool of candidates; and
- industry, and perhaps particularly, young innovative science based companies need a steady flow of doctorally qualified staff if industrial R&D investment is to continue to expand to match the Lisbon target.

We believe that the lack of a sufficient supply of doctoral students – and this is not restricted to a comment on science and technology numbers – could be a significant bottleneck to the effective expenditure of the increased resources now available for research and could, in the future, seriously hinder Ireland's aim to create a research intensive university system and stimulate much higher levels of industrial R&D. We recommend that immediate and comprehensive steps be taken to address the problem. In the meantime, we strongly support the moves reported to us to establish inter-university "graduate colleges" around particular research strengths to provide advanced training and intellectual support for research students.

69. Within the problem of numbers lies the issue of quality. Postgraduate numbers represent about 2% of the proportion of student numbers in the institutes of technology all of which, other than the DIT, are relatively and sometimes, very small, institutions. Every institute is proud of having a small number of PhD candidates, however, and there is no doubt that they contribute significantly to the establishment of research cultures. We believe that there are dangers in permitting institutes of technology to become doctoral awarding institutions and that there is academic value in concentrating research awarding powers in universities where there are significant research populations which create critical research environments. While DIT with its special status should be an exception here we believe strongly that in general PhD awarding powers should be restricted to the university sector and that doctoral students working in institutes of technology should always be registered for university degrees and under a university supervisor, but with a joint supervisor in the institute. Where doctoral awarding powers have been granted by HETAC they should be rescinded except in the case of DIT.

### **The organisational structure for research**

70. Table 8 below reveals a very large number of organisations for a small country concerned in the public funding of research many of which are responsible for distributing quite small sums of money. It is also worth noting that about 40% of the public investment in research goes to institutes and organisations outside tertiary education. While there is a consensus about the importance of investment in research to create a knowledge-based society there appears to be a lack of a clear strategic framework within which such public funds are invested. Investment programmes seem to have been embarked upon to meet individual institutional perceived needs rather than as part of coordinated approach.

**Table 8. Public Funding of R&D in Ireland – National Development Plan Estimate €m**

Organisation	2001	2003	2006	2010
HEA/PRTLTI	80.4	106.0	130.8	146.0
Dept. of Ed & Science	41.1	62.4	158.4	175.3
SFI	11.1	70.0	131.0	153.0
DETE				
Higher Education	16.0 }	78.4	99.2	120.6
Own Labs	62.4 }			
Teagasc	40.1	38.5	40.3	41.0
Dept. Ag/Food				
Higher Education	5.4 }	13.9	16.1	16.3
Own Labs	13.2			
Marine Institute	9.7	11.0	13.0	15.0
Bord Iascaigh Mhara	8.4	2.7	4.0	6.0
Public Enterprise	18.0			
HRB	14.1 }	17.9	44.0	60.0
Dept. Health	1.4 }			
EPA				
Higher Education	2.9 }	4.0	6.0	7.0
Other	1.6 }			
Other	16.0	17.0	22.0	25.0
<b>Total</b>	<b>341.8</b>	<b>421.8</b>	<b>664.8</b>	<b>765.2</b>
<b>GNP (billion € )</b>	<b>96.8</b>	<b>110.8</b>	<b>119.4</b>	<b>131.8</b>
<b>Public R&amp;D/GNP (%)</b>	<b>0.35</b>	<b>0.38</b>	<b>0.56</b>	<b>0.58</b>

We are aware that links have been developed between the HEA and SFI and between SFI and the Health Research Board but we do not believe this goes far enough. Our first recommendation is that SFI should be accepted as the major national research funding body and that it be given a broader remit than is currently contained in legislation so that it is turned into something more like an analogue of the US National Science Foundation although in this case we would recommend that its role expands to include the responsibilities of the Irish Research Council for the Humanities and Social Sciences (IRCHSS) as well as those of the Irish Research Council for Science, Engineering and Technology (IRCSET). In recommending this important organisational change we are in no way critical of the work of the two Councils but simply concerned about the overlap of IRCSET and IRCHSS business with SFI and the need to generate a strategic focus into the funding of basic and strategic research. But the new SFI will need to move from the top down approach that Ireland needed to boost research in technologies considered to be the key to the country's innovation potential to also supporting bottom up initiatives and providing machinery for research training and research career promotion, areas where IRCSET and IRCHSS have been active. It will also need a new board structure with stakeholder representation from research, industry, partner agencies and tertiary education, and should include some international membership. For the reasons set out in paragraphs 65 and 66 there needs to be close links between the new SFI and the new Authority to ensure that their programmes are developed concurrently in respect to investment in research infrastructure and capital investment.

71. However, that still leaves a significant number of other Government bodies with research resourcing powers without effective machinery for coordinating a Government strategy. We believe that two steps are necessary, the first the appointment of a Chief Scientific Adviser to the Government who would be responsible for the coordination of civil science across government departments but who in particular would seek to coordinate the work of other Government departments and agencies with that of

the expanded SFI and the new Tertiary Education Authority. The second step should be to establish a Committee for Research Policy reporting to the Cabinet which would seek to develop and oversee a national strategy for research and R&D and their links to innovation.

### **Note**

Both these steps have in part been taken by the Government since our Review was launched and while we were drafting our Report. However the announcement (dated 26 July 2004) does not go as far as our recommendations. The role of the new Chief Science Adviser is to “provide independent expert advice on any aspect of science, technology and innovation” whereas our recommendation is that the post should be responsible for “the coordination of civil science across government departments” and in particular to coordinate the work of Government departments with an expanded SFI and the new TEA. In regard to the second step, the new proposed Cabinet Committee is intended to “address and coordinate science and technology issues” where our recommendation was for a Committee which, reporting to the Cabinet, “would seek to develop and oversee a national strategy for research, R&D and innovation”. We would urge that further consideration is given to these issues in the light of our Report.

### **Innovation**

72. Foreign owned firms account for two thirds of business expenditure on R&D (BERD) in Ireland. This inevitably makes the growth of R&D dependent as much on world economic factors as on the efforts of the Irish Government or Irish higher education. It also emphasises the need, see paragraphs 84 to 86 below, for Irish HEIs to develop a higher international profile. The policy of the Government must be, as it now is, to continue to invest heavily in research in Irish universities and to ensure that this fact is widely publicised internationally in order to persuade internationally mobile firms to utilise its products in terms of manpower and ideas. The need for a radical increase in postgraduate students recommended in paragraph 68 above will represent a further incentive to foreign firms to start R&D operations in Ireland. We believe that if these recommendations are implemented the Department of Enterprise, Trade and Employment has an important role in marketing the investment in research and in postgraduate education to overseas clients.

73. But the ambition to create an Innovation Society must critically depend on the development of an indigenous research based economy. We note that indigenous industry contributes €17bn to the Irish economy and over half the industrial jobs. The linkage of these firms, especially in areas of emerging technology, with the HEIs is therefore critical. Forfars’ BERD surveys suggest that while 27% of foreign owned R&D active companies collaborate with Irish HEIs only 17% of Irish R&D active companies do (Fourth Report of the Expert Group on Future Skills Needs 2003). This points to the need for an improvement in the interfaces between Irish owned companies and HEIs; industry in Ireland should be contributing more in terms of total resources to the tertiary education budget. Enterprise Ireland, pointed up to us the important role of the institutes of technology in working with SMEs and the extent to which their teaching and research offering was very appealing to the Enterprise Ireland client base (Submission to the Review). We have recommended above that Enterprise Ireland should be encouraged to give targeted research infrastructure support to the institutes. But we would not wish to see lines being drawn too narrowly between the universities’ and the institutes’ contribution to innovation; modern (so-called ‘Mode 2’ related) research is as likely to spark off new exploitation ideas from commercial partnerships or direct from up stream basic research as it is from more downstream applied research (Gibbons *et al* 1994). We note that all the institutes have business incubator centres and we would encourage similar developments in the university sector. Nearly all the institutes’ incubator developments, however, were funded by Enterprise Ireland and we would strongly urge that private capital is also sought from banks or other private sector sources, as evidence from other countries indicates that there is great value in involving

private capital at an early stage. Private sector finance through venture capital has been shown to be a powerful driver of small high tech company development.

74. The considerable investment in the PRTLTI in 1998 pointed up the need for greater expenditure within HEIs in professional research offices whose task was to assist in the exploitation of research. We believe that the new TEA should fund an expansion of this activity in all HEIs and should make HEIs accountable for such activity. We support the view of *Creating and Sustaining the Innovation Society* that a broad portfolio of policy instruments is required to stimulate activity and that these should be mission focused and effectively coordinated. We also think they should be accountable so that lessons in respect to good practice and 'what works' can be learnt and applied quickly. We were impressed by the extent to which the organisations and agencies that met us spoke with a common voice on the need to accelerate the exploitation process in every way possible but as an increasing level of investment is made in research it will be important not to lose sight of the underlying argument why the investment is necessary.

### **Recommendations**

27. *That public investment in research and R&D needs to be further increased if the requirements of the Lisbon declaration for 2010 are to be met;*
28. *That the institutes of technology should continue to concentrate on applied research and that underpinning research resources should be the subject of specific investment by Enterprise Ireland, and not by the new Tertiary Education Authority, in targeted areas against clear national or regional economic priorities;*
29. *That resources for research and for research infrastructure including capital resources be better coordinated through closer links between the new Tertiary Education Authority and an expanded SFI (see below) and with universities being funded on the basis that they are required to accept responsibility for major building refurbishment or building replacement within the recurrent resources available to them;*
30. *That consideration should be undertaken now in respect to the future of PRTLTI;*
31. *That steps be taken radically to expand the numbers of doctoral students in universities with the intention to more than double them by 2010;*
32. *That degree awarding powers for doctoral awards be concentrated in universities and that, except in the case of DIT, where such powers have been granted to institutes of technology by HETAC they should be rescinded;*
33. *That SFI be confirmed as the national agency for the funding of basic research and publicly funded R&D in higher education and that its powers and responsibilities be extended as described in paragraph 70 and that its board structure be amended to reflect its new role;*
34. *That the responsibilities and programmes of the Irish Councils for the Humanities and Social Science and for Science, Engineering and Technology should be subsumed under an expanded SFI;*
35. *That the Government appoint a Chief Scientific Adviser reporting to the Tanaiste and Minister for Enterprise, Trade and Employment who would inter alia be responsible for the coordination of civil science and in particular coordinating the research investment conducted by other departments and agencies with that of the expanded SFI and the new Tertiary Education Authority.*

- 36. That a Committee for Research Policy reporting to the Cabinet be formed which would develop and oversee a national strategy for research, R&D and innovation;*
- 37. That all HEIs should have business incubator units or other facilities to encourage the exploitation of research through spin out companies; every effort should be made to involve private sector finance in such ventures; and*
- 38. That the new TEA should fund an expansion of professional research exploitation services in all HEIs and ensure that HEIs are accountable for such activity.*

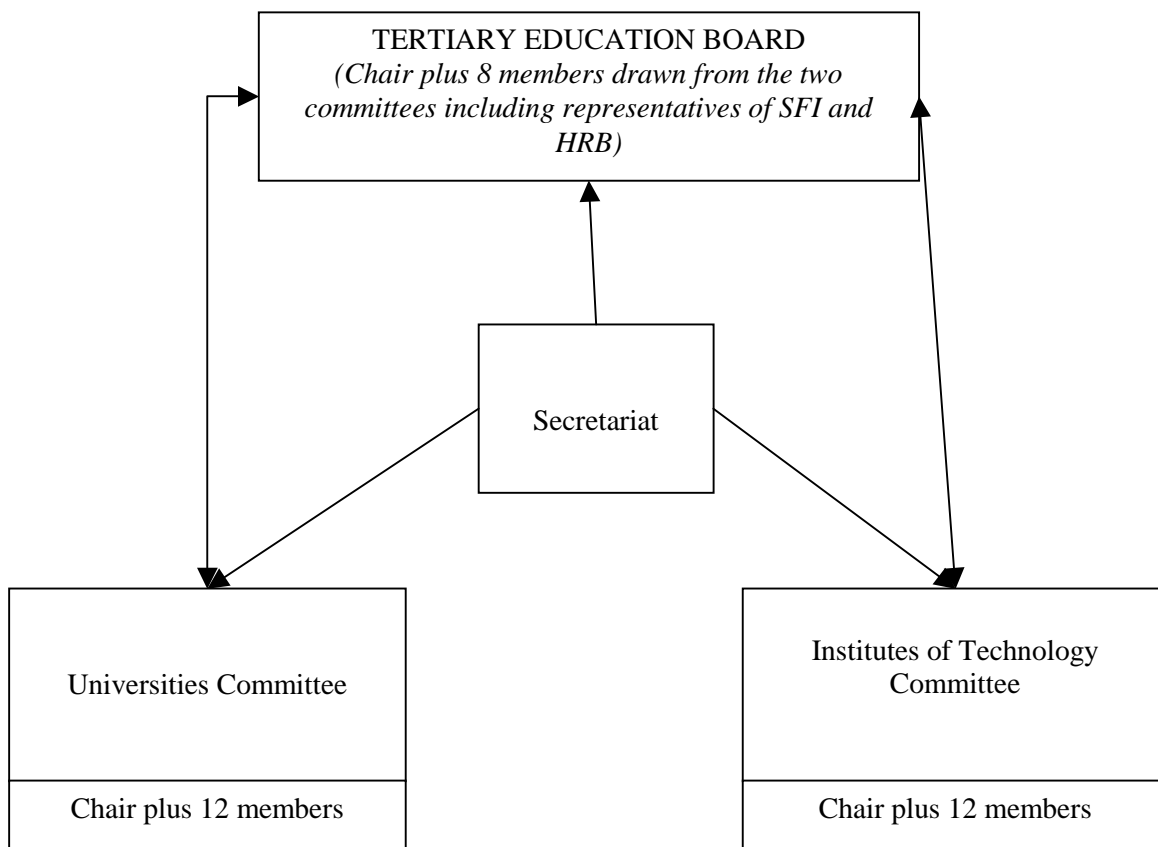
## VIII. THE STRATEGIC MANAGEMENT OF THE IRISH TERTIARY EDUCATION SYSTEM

### The Structure of the Proposed Tertiary Education Authority

75. We have already recommended above (paragraph 34) that a new Tertiary Education Authority be established which would take over the functions of the HEA but which would also be responsible for the management and funding of the institute of technology sector of higher education. We describe below how we see the new TEA relating to Government Departments and other agencies but in this section we are concerned to define what changes we believe are necessary in the HEA structure to accommodate the additional responsibilities which will fall on the TEA with the transfer to it of the institutes of technology. Although the positioning of the institutes of technology under the DES is unsatisfactory for the reasons described in paragraph 34 above it has had the advantage of preventing mission drift and has maintained a 'binary' division between the universities and the institutes. The danger of a simple transfer of the institutes away from the DES and into a TEA that, however, remained in all but name, the HEA, would be the risk in the longer term of a blurring of that division and inevitable pressures for a rationalisation of institutional titles and possibly functions. Any new structure must preserve this division of function but create a more integrated and more permeable system of tertiary education. We believe that the effective way of doing this is to create, within the Authority structure, two Committees to be served by a common secretariat, one responsible for the university sector and the other for the institute of technology sector. The two Committees would have a common Chair. Both Committees should be statutory, in the sense that their structure and terms of reference would be embodied in the legislation required to create the TEA and their members would be subject to Ministerial appointment. The Authority itself would primarily exercise a strategic and coordinating role and would comprise a Chair, who would also chair the two Committees and a small Board drawn from the membership of the two Committees. The Committees would recommend to the Board. The post of Chair of the Authority would be subject to public advertisement (like the Presidents of universities or the Directors of institutes).

76. The membership of the two Committees should be largely drawn from 'stakeholder' interests outside higher education; it will be important that regional concerns are well represented (especially on the institutes of technology Committee) as well as research (especially on the university Committee), together with interests in manpower, skills and enterprise and some academic representation. We have laid great stress on the need for a better coordination of teaching and research interests in the strategic management of tertiary education and believe that it is important that the two responsible Ministries, Education and Science and Enterprise, Trade and Employment, work closely together, since they will each be accountable for a very substantial investment into higher education; the membership of the Committees must reflect this. It is also essential that the TEA should be represented on the expanded SFI and the Health Research Board (HRB) in order to ensure that funding policies are appropriately coordinated.

77. The following is a diagrammatic statement of the structure we propose:

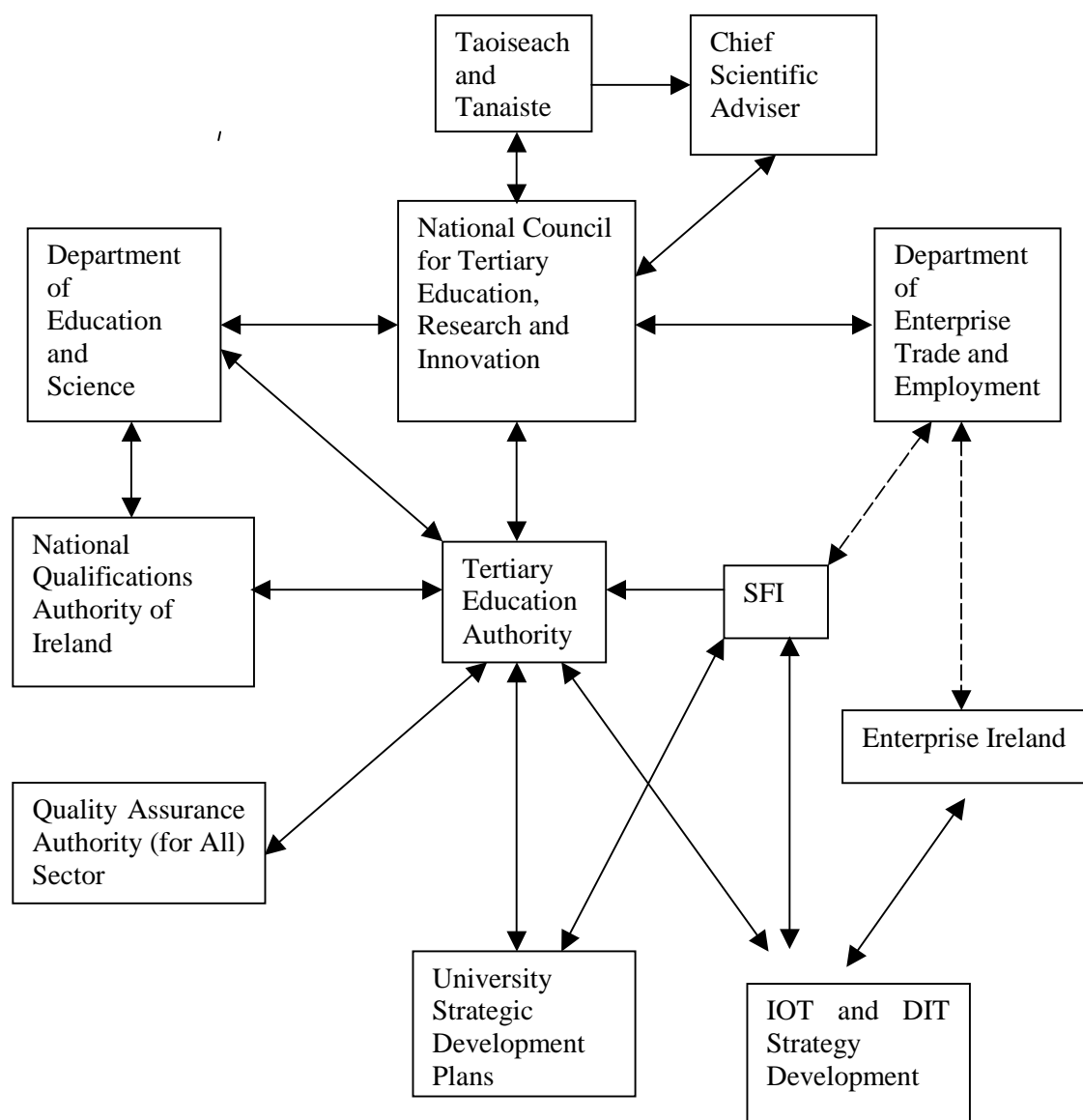
**Figure 1. THE PROPOSED TERTIARY EDUCATION AUTHORITY**

### **The Formulation of a national strategy towards tertiary education and innovation**

78. All the evidence we received from government departments and from institutional representatives pointed to the critical importance to the economy which Ireland accorded to the primary products of tertiary education --- qualified workforce and research. It was also apparent that although the investment was substantial an effective coordinating framework was often lacking, and the machinery for determining overall strategy had not been created. Ireland lacks a national strategic agenda for change in the third sector of education and most importantly, the alignment of such a strategic agenda with policies for investment and funding. Funding policies are powerful tools for change and experience shows that where budget and funding policies are inconsistent with a strategic agenda then policies which are embedded in the budget and in funding policies prevail. In Ireland, funding policies seem to have been developed in isolation from one another and there is little capacity for systematically connecting them one with another or linking them to a long term tertiary education strategy or to a broader strategy relating to the economy as a whole. The state's focus on an annual budget process reinforces the weakness in long term development planning. The competition for public resources, referred to in the National Development Plan, is likely to intensify and it is essential that the public moneys allocated to tertiary education, research and innovation are directed strategically and with appropriate levels of national accountability so that policy and policy implementation can be evaluated. We believe that machinery for this, needs to be created at the very highest level of Government. We recommend therefore that a National Council for Tertiary Education and Innovation be established, to be chaired by the Taoiseach, which would bring together the relevant Government Departments (Education and Science; Enterprise, Trade and Employment; Health and Children; Agriculture and Food; Industry and Finance) to determine a rolling three year national strategy agenda for tertiary education in its relation to innovation, skilled workforce and the economy. We would not see this body meeting frequently but it would have the key function of coordinating the requirements of Government with the outputs of the tertiary education system. It might also provide a direct link to revisions to the National Development Plan. The secretariat for this body should be provided by staff of the new TEA so as to ensure close linkages between national policy considerations and the strategic management of the tertiary education system.

79. The following is a diagrammatic statement of the structure we propose:

Figure 2. THE PROPOSED NATIONAL STRUCTURE for the GOVERNANCE AND STRATEGIC MANAGEMENT OF TERTIARY EDUCATION



### Institutional strategy and performance

80. All higher education systems which are heavily dependent on public support face the dilemma of how to marry the benefits of institutional autonomy, commonly regarded as the freedom to back individual initiative, the encouragement of institutional competitiveness, the opportunity to develop a distinctive institutional 'brand', the ability to be entrepreneurial and the development of institutional self reliance and the maintenance of academic freedom, with the requirement to meet publicly determined targets and contribute to national strategies, as well as to meet the needs of public accountability. Most OECD countries that have historically had largely state funded tertiary education systems are increasingly opening them up to market mechanisms in order to provide a counterweight to control by the state. Ireland's tertiary education system does not fit easily into this position as the university sector, although heavily state supported, has traditionally had a great deal of institutional freedom, while the institute of technology

sector has been strongly State controlled. We believe that a new approach is necessary but that the following special policy characteristics of the Irish situation need to be taken into account:

- The balance which has to be struck between the demands posed by the concentration of population and economic activity in the Greater Dublin area and the needs of the National Spatial Strategy;
- the importance of maintaining the difference in mission between the institute of technology and the university sectors;
- the danger that with demographic change one sector might suffer a disproportionate loss of student numbers rendering some institutions non-viable;
- the need to broaden access to higher education for economic as well as social reasons;
- the requirement that institutional governance and management be reformed as a prerequisite to the increased investment of research funding; and
- the enhancement of Irish HEIs competitive position internationally.

Irish tertiary education institutions need a high degree of autonomy in order to flourish in the new European tertiary education area and internationally but mechanisms need to be in place to ensure that both individual institutions and the system as a whole also meet the needs of the Irish state.

81. We believe that current mechanisms are not adequate to the task and we propose that a formal contract between the new TEA and the institutions be established which guarantees funding against performance. The contract should specify the Authority's expectations and also the provisions for institutional accountability and would be signed, on the institution's side, by its president or director, following approval by the governing body and on the TEA's side by the Chair of the Authority. The contract should be renewable annually after a face-to-face dialogue between each institution and the Authority against the background of an institutional strategic plan. Such a plan is explicitly required from universities in the 1997 Universities Act but no such requirement appears to be in place for the institutes of technology. This dialogue would offer the opportunity to institutions to bid for special strategic funding as well as give the Authority the chance to raise questions about performance and strategic development. Such a mechanism would provide a clear policy linkage between the national strategic agenda of the Council for Tertiary Education, Research and Innovation, the system-wide decisions of the TEA Board and the performance and strategic management of the institutions themselves. It would also offer institutions a direct line of communication to the TEA by which they could make representations about particular interests or difficulties. The contract should be drafted so as to protect institutional autonomy but also to ensure that the institution was making an appropriate contribution to the national strategic agenda.

### ***Investment and funding policies***

82. Recurrent funding from the State to the university sector is currently made up of four main components but allocated through a block grant mechanism:

- A core grant determined on the basis of a formula-based unit cost allocation system dating from 1993;
- a grant in lieu of fees, based on student enrolments, which dates from the introduction of fee remission (free fees) for eligible full-time undergraduate students in 1996;

- a targeted initiatives funding scheme which is linked to priority areas identified by the HEA which amounts to about 2% of total grant; and
- a skills initiatives funding scheme which mainly relates to increasing the output of ICT graduates but which also includes the output of teachers and health professionals where shortages have been identified, amounting to about 8% of total grant.

Recurrent funding for the institutes of technology is based on an annual negotiation of programme budgets between individual institutions and the Department on an incremental basis, with allocations based on a division between pay and non-pay budget items. In addition, there are specific funding initiatives in the area of access and retention. Both sectors receive income from students from several sources: students who are not eligible for free fees (including part-time students, non EU and postgraduates), the Student Service Charge, and certain other charges for service (in the university sector). In the case of the institutes of technology, fees for part-time students and postgraduates are consolidated in the allocated budget and can be used to offset Departmental funding. Capital funding is provided for both sectors by the Department based on an analysis undertaken by the HEA.

83. At the time of our Review the HEA was conducting a consultation exercise on a new and more flexible funding model based on multi-year financial envelopes with a balanced mix of core and competitive funding underpinned by an external evaluation system. According to the HEA's evidence to us the new model had the following objectives:

- To support institutional autonomy, while providing meaningful accountability to the various stakeholders;
- to promote a strategic approach by institutions to their long-term development, consistent with their existing strengths and capabilities;
- to reward institutional responsiveness to national and regional needs;
- to support excellence in teaching, learning and research;
- to increase opportunities for students from all types of backgrounds to benefit from tertiary education;
- to provide positive incentives to institutions to diversify and increase their income from non-state sources, consistent with their mission;
- to provide stability in funding from year to year and encourage efficiency in the use of public funding;
- to be transparent and rational; and
- to monitor and review outcomes, but not give rise to disproportionate compliancy costs.

84. Using these design principles the funding framework envisaged by the HEA is as follows:

**“Core” funding** linked to student numbers and types but distributed on a “block” grant basis, i.e., the internal allocation of funds is at the discretion of the institution. Money should “follow the student”. The funding rate and criteria should be relatively simple,

transparent, rationally based and equitable as between institutions and reflect cost differences between subject disciplines and students categories. Some performance related elements should be included in the “core” funding formula (e.g. intake and output rates). Ideally these should be benchmarked against best international practice. Share of performance related funding should be sufficiently large to influence institutional behaviour positively, while at the same time it should not put at risk the financial stability of the institution.

**Strategic funding** to be provided in priority areas and to be allocated on a competitive and performance related basis.

**Major new initiatives** to be funded on a competitive basis, e.g., new faculties, research programmes etc; experimental and innovative programmes to be provided, as appropriate, on a pilot basis, after which they should be evaluated and either abandoned or mainstreamed.

The HEA proposes that about 10% of the overall block grant, possibly rising to 15% over time should be made available to support “the development of strategic long-term planning and processes” in institutions, and that this should be evaluated by an “independent assessment panel comprising both international and Irish members” (*Creating Ireland’s Knowledge Society: Proposals for Higher Education Reform*, HEA Submission to the Review, Appendix 4).

85. We have no great disagreement with the statement of objectives as they stand but our preference would be to emphasise certain points more strongly. We believe a funding model deriving from public funds must provide implicit strategic directions for the tertiary education system consistent with the maintenance of institutional autonomy. Any new funding model must therefore complement a comprehensive, integrated and coherent set of financing policies which aligns the goals in the national strategic agenda with those of tertiary education. Such policies should:

- Link national strategy effectively with institutional strategies, as appropriate;
- provide incentives for institutions, individually and in collaboration with one another to address national priorities;
- create and sustain the capacity of institutions in a manner consistent with their mission including ensuring:
  - That the revenues available from the state and from students are sufficient to allow them to fulfill their missions at high levels of quality;
  - that all institutions are being treated fairly relative to their missions and needs;
  - that the mechanisms provide stability and are fairly predictable from year to year;
  - that there is a relationship between institutional research performance and the financing of research infrastructure;
  - that incentivised institutions are to make provision for sustainability, including responsibility for the long term maintenance of their facilities and estate.

- make tertiary education affordable for all Irish students in terms of fee levels and the availability of student financial assistance;
- be consistent with the goal of lifelong learning and the priority of widening access and improving retention rates;
- reflect a realistic assessment of the capacity of the State to fund tertiary education in relation to tax capacity and other state commitments; and
- be fair and equitable so that all parties in the equation, students, HEIs and the state, feel that they are being treated fairly and are receiving and providing their fair share.

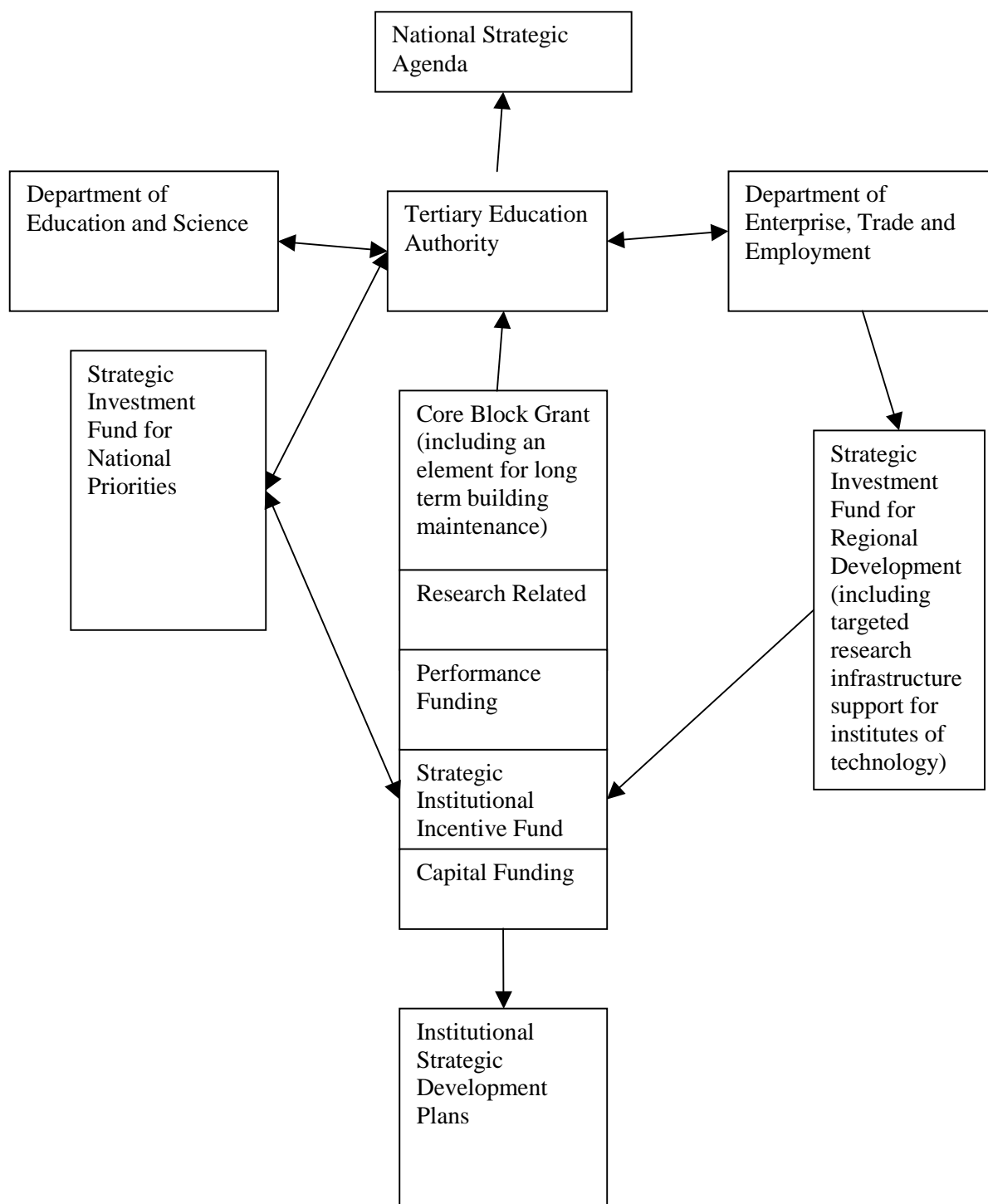
86. Arising from these priorities we have the following comments on the HEA's proposed funding model:

- Although there should certainly be many common elements, we do not think that a single funding model should automatically be applicable to both sectors, which we understand was HEA's intention. This would tend to encourage a drift away from a diversified system and would limit the use of incentive/performance funding that took account of sectoral differences;
- the model retains a strong emphasis on "cost reimbursement" which may work well in periods of expansion but may be difficult to sustain in a period of demographic change;
- there are strong arguments for keeping the core funding methodology as simple and transparent as possible and uncoupling performance budgeting from a proportionate relationship to the core budget. There are areas such as widening access and lifelong learning that are so important that they deserve targeted funding rather than funding which may be difficult to identify in a core budget;
- the model does not explicitly reflect the demands of research or the effects of differential success in research. We would expect to see the core grant include some element for research infrastructure in the university sector but it should also include some incentive funding to reward research success. At the same time discussions should be undertaken between the new TEA and the expanded SFI as to the coordination of infrastructure support and grant support and the payment of cost effective overheads (that is, more than 30%). Similar discussions should be held with Enterprise Ireland in respect to research support to the institute sector;
- there needs to be explicit recognition of the importance of widening participation, and the costs associated with it, and incentives should be offered to encourage the development of part-time education and lifelong learning;
- institutional collaboration should be made a priority. Irish HEIs are generally small by international standards – and some are very small; the system would be strengthened if a greater level of institutional collaboration could be incentivised both in teaching and research. Collaboration, however, can often add to operational overheads and needs, therefore, to be recognised in grant allocations;
- the model does not make explicit provision for long term maintenance and capital refurbishment. We believe that while there may be a case for one off catch up capital maintenance support, funding policies should assume that institutions bear the responsibility for maintaining their facilities and estate;

- the strategic funding element should be specifically linked to the extent to which an institution's strategic plan reflected national priorities (see paragraph 81);
- capital funding for new building needs to be incorporated into the funding allocation process, and not be left as a separate exercise conducted by the Department. With the slow down in the rate of expansion, if not demographic led decline, the pressure for wholly new capital projects is more likely to come from the need to adapt buildings to obtain best fit or from new research initiatives, which would be the subject of joint discussion and coordination between the TEA and the expanded SFI. In practice most capital development of this sort might be expected to emerge from the annual discussion of institutional strategic plans referred to in paragraph 76 above; and
- this model assumes a continuation of the fee remission scheme but in paragraphs 94 to 101 below we propose a new approach to the fee question.

87. A simplified diagram of the resource allocation model we propose is set out below:

Figure 3. THE ALLOCATION OF RECURRENT RESOURCES TO TERTIARY EDUCATION INSTITUTIONS



88. Within this model there are three kinds of strategic investment funds:

- Strategic Investment Fund for National Priorities: these funds would be allocated competitively to universities or institutes of technology and might follow the PRTLTI model;
- Strategic Investment Funds for Regional Development: these funds would be allocated by Enterprise Ireland and would be available to both institutes of technology and universities and would include infrastructure support, against specific projects, for institutes of technology; and
- Strategic Institutional Incentive Funding: the purpose of this funding would be to support each institution's own strategic development plan. The intention of the funding would be to leverage internal institutional change in line with the institutional development plan as agreed as part of the Contract process. For example 5% of an institution's block grant could be reserved to be allocated to match an internal reallocation toward institutional priorities or to leverage non-state funding.

89. The introduction of new funding formulae invariably produces unintended consequences and the transition from one model to another must therefore be undertaken with care. This is particularly the case in respect to the institute of technology sector which to date has been funded on a very different basis. Moreover there has not been enough detailed coordination in the past over data definitions, and data collection between the two sectors for the new Authority to be confident that a common basis for a formula funding approach can be employed immediately. We therefore recommend that devising the detail of a new funding model (or models – see para 86, first bullet point, above) within the model proposed and consulting on its strategic implications should be a first task for the new Authority and that transitional funding arrangements be introduced until a new model (s) has been agreed.

#### ***The provision of national tertiary education statistics***

90. There is a dearth of publicly available statistics on Irish tertiary education; we note from its evidence that the HEA is seeking to address this. We recommend that the new Authority is mandated to publish annual digests of statistics covering all tertiary education institutions, public and private dealing with student numbers (including data on widening participation and retention), staff numbers, and institutional costs (including research expenditure). This information needs to be in the public domain for reasons of public accountability and to enable institutions to bench mark themselves and analyse aspects of their performance. The provision of such data would provoke a better informed debate about the national strategic agenda for higher education and, at a local level, the effectiveness of institutions in responding to national and regional needs.

#### ***Recommendations***

39. *The structure of the new Tertiary Education Authority should comprise a small Board concerned with strategy and resource allocation and two Committees, one for the university and one for the institute of technology sector (see Figure 1);*
40. *The chair of the Board should also chair the two Committees; the post should be publicly advertised;*
41. *There should be a National Council for Tertiary Education, Research and Innovation to be chaired by the Taoiseach, which would bring together the relevant Government Departments with an interest or involvement in tertiary education to determine a rolling national strategic agenda for tertiary education and its relation to innovation, skilled labour force and the economy (see Figure 2);*

42. *Relations between the new Tertiary Education Authority and publicly funded individual institutions of tertiary education should be governed by a contract renewable annually on the basis of an institutional strategic plan approved by the TEA, after a formal face to face dialogue with the institution;*
43. *There should be a new model for resource allocation to HEIs as described in Figure 3; the first task of a new Tertiary Education Authority should be to devise the detail of the model after consulting on its strategic implications; such a funding model, although containing many common elements should be differentiated between the university and the institute of technology sectors so as to preserve the distinctive roles of the two sectors;*
44. *The principles which should be incorporated into the funding model should include keeping the core funding block grant as simple and transparent as possible;*
45. *The core grant should make provision for long term maintenance of facilities and buildings;*
46. *Capital funding for new building should be included within the new Tertiary Education Authority's resource allocation process but should be linked to the strategic funding component which itself should be geared to the achievement of the national strategic agenda;*
47. *There should be a Strategic Investment Fund for National Priorities along the lines of PRTL I and managed by the TEA and a Strategic Fund for Regional Development managed by Enterprise Ireland; both sectors of tertiary education should be eligible to bid for these funds; and*
48. *The new Tertiary Education Authority should be mandated to publish annually appropriate statistical data about tertiary education to enable an informed public discussion to take place about the extent to which the national strategy agenda is being achieved and to enable institutions to benchmark their performance one with another and internationally.*

## IX. THE INTERNATIONAL DIMENSION

91. It is surprising, when Ireland itself has such a strong commitment to, and reputation for, international activity within Europe, OECD and the United Nations that Irish tertiary education does not have a higher international profile. Within Europe the Irish record for attracting EU research monies has been excellent and Ireland has played a significant role in European student exchange schemes but it has not taken the steps necessary to generate significant non-European overseas student numbers in the way that many other European countries have done. With 5% of its total student enrolments from overseas, Ireland is on the OECD average but some countries have encouraged very large expansions in the last 15 years with Australia increasing its enrolments by six fold and the UK and Japan by four fold. In 2001 China sent 124,000 students to OECD countries for tertiary education and students from Asia studying abroad made up over 40% of all overseas students in higher education. Between 1988 and 2000 the proportion of the postgraduate student body from overseas studying in Australia rose from 5.6% to 21.2% and in the UK between 1996 and 2001 from 38% to 56%. A recently published report by the British Council with Universities UK and IDP Australia suggests that the numbers of students globally studying abroad in 2003 is 2.1 million and is likely to grow to 5.8 million by 2020 (Bohm *et al* 2004).

92. It is clear that Ireland has not benefited from the very great expansion of international students and that certain countries: the US (31%), UK(15%), Germany (13%), France (10%), Australia (8%) and Japan (4%) are attracting very significant proportions of the totals going to OECD countries. Many European countries value the international element in their student body so highly that countries like Germany, Belgium, the Netherlands and Spain are now undertaking a high proportion of their postgraduate teaching in English. There are two main reasons why they are doing this, the first is because they want to increase their postgraduate numbers, and thus their research base, and the second is because international students pay fees which provide a critical supplement to state income. When one looks at the enterprise shown in some countries to attract international students – overseas recruitment offices, partnership agreements with overseas universities, attendance at recruitment fairs, expenditure on publicity, and in a few cases, the establishment of overseas campuses, it is hard not to escape the conclusion that Irish tertiary education has chosen to look to the State rather than to the international market for its income, and in doing so has missed out on valuable support for research through overseas postgraduate students as well as on an important income stream.

93. The investment now being made in research in Irish universities provides a platform on which a significant campaign ought to be launched by individual research intensive universities actively to recruit international students. The publicity that such campaigns would generate would be beneficial to Irish HEIs' international profile and would build partnerships with foreign institutions that might have long lasting results. At the research level Irish universities should build on the SFI research partnership initiatives and on their success in the award of EU grants to establish solid research relationships across international boundaries. No country, however strong can be self contained in its research, and smaller economies like Ireland, will benefit hugely from international partnerships with research teams in larger research environments. Ireland is a country with an almost unique international profile and its higher education institutions need to play their own part in this endeavour. However, the evidence from other European nations and from Australia is that success comes from individual institutional effort not as a result of national campaigns. Irish HEIs need to project their individual 'brand' images at international events and in recruiting international students rather than relying on a common Irish identity. They have a great deal to offer the international student market but they do not always differentiate themselves

sufficiently to compete with institutions in other countries. They should aim to double the numbers of international students in the next five years and increase the international fee element in their budgets to 10% or risk the danger that other countries establish such a holding in the international market that Irish institutions will not be able to establish a presence.

***Recommendation***

- 49. Irish institutions of tertiary education should market themselves more energetically internationally with a view to doubling the international student population in five years.*

## X. THE NEED FOR FURTHER INVESTMENT IN IRISH TERTIARY EDUCATION

94. As made clear in the National Development Plan, the education budget is under severe pressure from competing demands elsewhere in the public sector and, as the OECD comparative statistics show, Ireland's expenditure on Education, outside tertiary education is below the average. We received compelling evidence from the St. Vincent de Paul Society and the Cork City Partnership Ltd. that the problems of low participation in tertiary education by students from disadvantaged backgrounds begin in early childhood and are manifest in performance in primary education. The Report *Supporting Equity in Higher Education* (DES May 2003) concluded that there was a "worrying tendency for educational disadvantage to cluster in specific schools/areas and to be reproduced across generations" (Page 7). The St. Vincent de Paul Society urged that if social cohesion deficits and structural deficits were to be addressed "long term investment in our early education and primary education systems must be prioritised". No evidence was produced throughout our Review that the decision in 1995 to remit fees for first degree study had more than a limited, if any, impact on the disparity of participation rates amongst the different social/occupational classes. Thus at a time when economic arguments, which we accept, point to the need for further investment in tertiary education in, for example, improved staff:student ratios (to support research or to recognise the demands of widening participation) and in educational or research infrastructure (libraries, IT, laboratory refurbishment and building maintenance) there is growing competition for resources within the education budget itself as well as from other parts of the public sector.

95. We do not believe that with the economic and fiscal realities facing Ireland it will be possible to develop the globally competitive tertiary education system and research capability that it seeks by relying on state funding alone. We have therefore reached the conclusion that a policy to charge fees to students pursuing first degrees should be re-introduced. In coming to this conclusion we adduced the following arguments which may be broadly categorised in terms of national funding requirements and social equity:

- Ireland does need to invest more in tertiary education both for economic and social reasons but will find it increasingly difficult to do so because of the competing claims from other parts of the education system as well as from other parts of the public sector of the economy;
- Irish tertiary education institutions are over dependent on public funding; less reliance on the state would make them more competitive;
- Further investment in tertiary education particularly at the postgraduate level and in terms of research infrastructure would over time make Irish HEIs more attractive to fee paying international students;
- The free fees policy has not had the effects that were hoped for in improving participation from students from disadvantaged backgrounds and we received evidence from a number of experts in access issues, individuals and organisations, that they thought that the solution to improving participation lay elsewhere;
- The free fees policy is inequitable because it provides substantial subsidies to students whose families could well afford to pay tuition fees. (An estimated 20% of students enrolled in

universities and receiving the benefit of free fees are from families with incomes in excess of €70,000 per annum).

- The rate of return to a third level education, both now and predicted for the future, fully justifies students bearing a share of the cost of their education.

We also noted with interest the way the National College of Ireland, a private sector HEI, combined an effective policy of widening access with a buoyant student population which was fee paying. Of course there are special features both of location in Dublin and in the College's concentration on vocational courses where employment opportunities are readily available which would not apply elsewhere.

96. But any re-introduction of fees must be undertaken in the context of a sound student finance system which will be in place on a long term basis. The major components of such a system might be:

- fees that represent a reasonable student contribution to the cost of tertiary education based on residence and maintenance costs, potential rates of return and equity considerations;
- a significantly reformed means-tested student support scheme along the lines recommended by the de Buitléir Review of the Student Grant Scheme: equitable and administered in a transparent, efficient and nationally consistent manner;
- a targeted student grant scheme to assist low income and other special needs students to pay for student fees. This scheme could be tied to the eligibility for means-tested maintenance grants and could be operated in coordination with the National Office for Equity Access;
- explicit incentives for parents/families to contribute to their childrens' education such as for expanded tax incentives to serve for students' needs as well as pay a share of the fees or to pay upfront fees (that is to pre-pay at a discount) which would increase cash flow from private sources for a Higher Education Contribution Scheme (HECS).

97. We examined various approaches to the re-introduction of a private contribution to the funding of higher education as adopted in other countries including the proposal put forward in a personal capacity by Dr. Don Thornhill, Chairman of the HEA for a scheme that charged fees only for a fourth and subsequent years of third level education. All such schemes are politically sensitive and require detailed access to a highly sophisticated data base before final decisions can be made. We have not embarked on such an exercise believing that our first responsibility was formally to recommend that, for the reasons given above, the principle should be accepted that student fees should be re-introduced. In considering the principles lying behind the various national schemes available we thought that no single scheme necessarily fitted the Irish situation and we concluded that perhaps the simplest way forward would be as follows:

- subject the present "free fees" to a means test which would incorporate the changes proposed by the 1993 de Buitléir Review of the Student Grant Scheme which were not implemented especially those relating to the need for a regular review of income level and the inclusion of assets in the means test;
- allow institutions to set fees (which would incorporate the Students' Services Charge) above the Government regulated level subject to a control on the actual level and continued control on student target numbers;
- extend the means tested free fees programme to cover

- the fee actually set by the institution
- fees for part-time course
- second/higher degrees
- establish a loan scheme with the banks or other financial partners, which would include an interest rate subsidy paid by the Government, for those students who were required by the means test to pay fees; and
- retain in the tertiary education budget and make available for distribution by the TEA the finance generated by the new policy.

98. Such a scheme, even if fees were held at the present free fee level, could bring significant further funds into the tertiary education sector and would provide a baseline for future funding increases. It would not absolve the Government from making further investment in the higher education sector, particularly in relation to research and increasing postgraduate study but it would significantly add to institutional resources and would reinforce their autonomy and self reliance.

99. An alternative approach, and one that has been market tested successfully in Australia (the Higher Education Contribution Scheme or HECS) and has now been legislated for in the United Kingdom would be the introduction of a Graduate Contribution Scheme. Under this type of scheme actual payment of fees may be deferred for the period of study and for some period afterwards, and then links monthly repayments to the tax system. We can see strong arguments for the introduction of this alternative, which, however, involves initially a more complicated implementation process than the first option proposed, although the long term benefits may be greater. If the details of the repayment are adjusted appropriately this may offer an option which is more equitable to students from disadvantaged backgrounds and more supportive for mature students. It would even be possible to combine the two alternative approaches. Under the means testing of “free fees” and depending on the nature of the means test a proportion of students would be liable for the payment of fees. This liability could be deferred through the provision of a Graduate Contribution Scheme until the graduates, income reached a level at which payments would commence. In this hybrid model some students would pay no tuition fees – through their eligibility for “free fees”; some might elect to pay fees up front – perhaps at a discount; while others would defer the payment until their post graduation income triggered repayments. Provision should be made to impose a minimum repayment obligation on those graduates who leave the country before their debt has been fully repaid. For those remaining, the level and rate of repayment could be tied to their actual taxable income. By deferring the payment obligation of the student it would also defer the additional resources available to the tertiary education system. It is imperative that whatever scheme is adopted the additional income generated is not offset against reductions in state income and represents a real and tangible increase in the resources available to HEIs.

100. It is recognised that the reversal of a policy which came into effect in 1995 is a significant step for any Government to take. But since then, the extent to which the higher education system has become a crucial economic driver has become clearer and the need for increased investment to ensure that both Ireland and its tertiary education system is internationally competitive has become more pressing. The 1995 reform did not have the effect expected in improving access to higher education. In fact, in the 1990s, Ireland’s income per head rose from 60% of the EU average to more than 100% and from 2005 Ireland will no longer be eligible for “objective one” funding earmarked for Europe’s least developed regions. Making the wealthier section of the community, in a state which retains considerable disparities of income, contribute to the costs of their third level education, is not the potential burden that it was when the requirement to pay fees was remitted. The “Celtic Tiger” effect is now attracting a great deal of attention

from EU accession states many of which have larger private sectors of higher education already. The introduction of a change of policy of this kind is never easy but the extent to which current predictions from FAS/ESRI that Ireland will need a greatly increased number of graduates in the workforce by 2010 and beyond, together with the economic situation, makes this an appropriate time to make such a change which could be introduced on a phased basis.

101. We believe that Ireland also has a real opportunity if it invests further in its present higher education base to attract significant numbers of international students which will provide a counter weight to the potential demographic decline, boost postgraduate numbers and hence research activity, attract international companies, and generate significant additional funding for the system. Irish tertiary education institutions are inevitably constrained by their over dependence on state funding; the introduction of various streams of non-state funding will not only provide a better financial base but will also encourage new initiatives and innovation, which will themselves serve as a stimulus to the economy. In summary, we see the re-introduction of fees to be a necessary strategic step which will invigorate the tertiary education system and make it more competitive world wide, but which will not constrain policies directed towards social inclusion or damage the widening participation policies already in place.

### ***Recommendations***

50. *That, subject to means testing, fees for undergraduate study be re-introduced and the “Free Fees” policy withdrawn;*
51. *That the Government consider schemes, as described above in paragraphs 97 to 99, where the means-testing would incorporate the changes proposed by the de Buitléir Report and where the institutions, subject to appropriate controls, could set fees, which incorporated the Student Services Charge, above the present “Free Fee” limit, and where loan schemes financed through the private sector but supported by an interest rate subsidy from the Government or a graduate contribution scheme along HECs lines, would be available to students not eligible for a fee waiver; and*
52. *That if tuition fees for undergraduate study are reintroduced it should be automatic that the additional income is not offset against reductions in state income and should therefore represent a real and tangible increase in HEIs’ resources.*

## XI. CONCLUSION

102. Tertiary education in Ireland is at a crossroads. It is recognised, perhaps more strongly than in almost any other country in Europe, that tertiary education is a key driver for the economy. The Irish tertiary education system has performed well: it has expanded its student numbers by about 2% per annum since the mid 1960s and has reached an age participation rate of 57% with a higher than European average of graduates in science and technology; since the late 1990s it has begun to fund research selectively, has developed a highly focused investment in key disciplinary areas and has committed itself to further investment. Both skilled manpower issues and the need to strengthen the research base to create an Innovation society are thus being addressed, but more investment is needed if Ireland's national goals are to be realised, and system-wide structural and other issues need to be addressed in order for the investment to be effective.

103. We begin with the institutional base. For a country with a population of a little over 4 million, Ireland has a significant number of HEIs and it is essential that their missions are differentiated so that institutions can concentrate on particular defined functions. The present differentiation between universities and institutes should be preserved and we recommend that there should be no further institutional transfers into the university sector. The institute of technology sector has an enormously important role in relation to the regional economies and in respect to a broad range of qualifications and applied research. They need renewed support in respect to student access and retention and for the infrastructure necessary to underpin their role in relation to SMEs and the regional economy. The university sector should be expected to carry the major research role especially in fundamental/basic research. At the moment, policy towards tertiary education is fragmented with universities funded through the HEA and the institutes of technology through the DES and the system needs to be unified under a new Tertiary Education Authority (TEA) whose organisation should be constructed to prevent mission drift in either direction through a funding approach which is based on individual institutional contracts. We make a number of recommendations intended to rationalise and modernize HEI management and governance which are designed to enable institutions to work more effectively and allocate resources against performance rather than on an historical basis. A transfer of the institutes of technology to the TEA would be expected to give them more managerial flexibility and lighten the load of external regulation. We are concerned that higher priority is given to staff development issues such as that, in the university sector, the granting of tenure should be made on the basis of a longer period of service than at present, that there should be more freedom to promote to professorships on the basis of personal performance and that more flexibility should be available in relation to academic salary issues.

104. Reform at the institutional level needs to be paralleled at the national level. The new TEA will have the task of unifying the tertiary education system and creating a funding model which embodies strategic considerations much more comprehensively than has been possible under the present structure. This, when combined with the renewable contract with HEIs, will incentivise and reward performance and emphasise distinctiveness of mission. It also needs to make provision within the core grant for the long term maintenance of facilities and buildings which is essential if teaching is to take place in modern conditions and research is to be carried out effectively.

105. The great strength of the Irish tertiary education system is the way it has expanded student numbers while preserving quality; the strategic importance of this to the national economy is well recognised. However, this expansion has taken place almost entirely at the 18 to 21 year old level and the

beneficiaries have primarily been drawn from the managerial and professional classes. The current forecasts of a further rise in the age participation rate will, unless action is taken, further entrench middle class participation and do much less to expand participation from lower socio-economic groups. Both social equity and economic arguments point to renewed efforts to broaden participation in tertiary education. Partly this is a matter of long term investment in nursery and primary education, partly in strengthening careers guidance and counselling in schools, partly in greatly increasing the proportion of part-time students and facilitating this by treating them on the same basis as full-time students in respect to fees and maintenance support, and partly in re-energising the demand for lifelong learning. We suggest ways in which the new TEA can incentivise action by HEIs but the fundamental requirement is that Government and the tertiary education system recognises the nature of the problem and commit themselves to reversing current trends.

106. At the postgraduate level numbers do not match national aspirations and in particular PhD numbers are far too low to service the growing commitment to publicly funded research, to provide an adequate pool to replace existing HEI staff or to work in R&D in the private sector. The numbers need to be doubled as a matter of urgency. This will require a considerable investment programme. Unlike many other European countries Ireland has not so far sought actively to expand the number of international students and at 5% the proportion of international to home/EU students is low. With its current investment programme in research Ireland might have been expected to be more active in the recruitment of overseas doctoral students and we urge that institutions are incentivised to compete internationally for the growing number of international students who wish to study abroad. With many continental European universities now choosing to teach at the postgraduate level in English, Irish institutions are in danger of not participating in a valuable influx of highly motivated postgraduates and of missing out on a valuable source of income. Ireland should be looking to double its international student population in the next five years.

107. The second element of tertiary education's contribution to the economy lies in research. Ireland's level of investment in research and R&D is currently well below the Lisbon target of 3%, but this is very much because of the low level of industrial investment in R&D, of which indigenous industry accounts for only one third. The Government's aim is to leverage up industrial R&D spending through a major investment in research in the public sector and particularly through tertiary education. The reform and modernisation of the university and institute of technology sectors are key to achieving the concentration of support and the differentiation of effort that is required. There needs to be much greater coordination of funding for research and for research infrastructure through the new TEA, the SFI and Enterprise Ireland (in respect to the institutes of technology) than exists at present to ensure that HEIs have the infrastructure to deliver research within competitive timescales, and some rationalisation of the many agencies responsible for research funding needs to be undertaken with the aim of making the SFI the major national research funding body analogous to the US National Science Foundation. Tertiary education is, however, only one, albeit a very important, component of the national research environment, and there are a significant number of other public bodies with research resourcing powers. We argue it is necessary to appoint a Chief Scientific Advisor to the Government to coordinate civil science across government departments, along with the expanded SFI and the new TEA, reporting to a new Cabinet Committee for Research Policy which would seek to develop and oversee a national strategy for research and R&D and their links to innovation.

108. Throughout our review we have been struck by the consensus about the importance of the contribution of tertiary education to Ireland's economic future but also by the absence of a national strategy to ensure that the various components are well coordinated to achieve the performance levels that will be required if the nation's ambitions are to be realised. Tertiary education necessarily falls within the remit of several Government Departments: while it is formally the responsibility of the Department of Education and Science which is the sponsoring body for the HEA, the Department of Enterprise, Trade and

Employment has a strong interest in it as a prime investor in its research outcomes and their linkage to the economy as a whole, as, to a lesser extent have the Departments of Health and Agriculture. We have recommended, above, specific machinery for the better coordination and strategic direction of research and R&D. We are convinced, however, that the effectiveness of the tertiary education system, and the relevance of its products, is so critical to the long term nature of Ireland's economy that some permanent overarching machinery is necessary to provide a national strategy for the tertiary education system and its various functions which can guide the work of the different operational levels and monitor the system's overall performance. We are recommending, therefore, the establishment of a National Council for Tertiary Education, Research and Innovation which, meeting perhaps twice a year, would set targets and review the performance of the system and lay down strategic guidelines to steer the system's operational machinery.

109. The tertiary education system that Ireland needs to sustain the highly innovative economy which is its fundamental objective will require considerable further investment. The system faces substantial capital demands, for new buildings and for maintenance backlogs, and for research infrastructure; rationalisation and modernisation will be costly; the agenda for widening participation, improved retention rates and greater support for lifelong learning will require additional financial support; and current predictions suggest that, in spite of the downward demographic trend, student numbers may continue to rise though at a slower rate than in the past, and that this will accord with the needs of the economy. At the same time there are competing claims for state support from other parts of the public sector, not least from within the education sector itself. We are convinced that these factors point towards the introduction of an enlarged student contribution to the cost of their education. We do not think that this conflicts with the need to widen participation: the abolition of fees in 1995 has had no noticeable impact on the trends in the socio-economic make up of the student body and if a fee policy is constructed appropriately it can increase, rather than lessen social equity. For such a policy to be effective, however, means-testing mechanisms need to be tightened up along the lines of the de Buitleir Report on student maintenance. We have not sought to prescribe the details of such a policy but have chosen simply to outline some alternatives recognising that such details will represent an integral part of the political decision that will have to be taken if fees are to be re-introduced. Without such a policy we believe there must be serious doubts as to whether it is practicable for state funding to meet the demands for additional investment that the tertiary education system requires while seeking to meet other legitimate demands for state finance in the public sector. Failure to invest further in the tertiary education system will put at risk its contribution to strengthening the knowledge economy and realising to the full the innovatory climate which Ireland is keen to create.

## XII. RECOMMENDATIONS

1. *That the differentiation of mission between the university and the institute of technology sectors is preserved and that for the foreseeable future there be no further institutional transfers into the university sector;*
2. *That steps be taken to coordinate better the development of the tertiary education system by bringing the universities and the institutes under a new common Authority, the Tertiary Education Authority, but that machinery be established within the Authority to prevent mission drift;*
3. *That in transferring the institutes of technology to the new Authority the managerial controls on their freedom to manage themselves to meet institutional objectives be reviewed with a view drastically to lightening the load of external regulation;*
4. *That greater collaboration between institutions be encouraged and incentivised through funding mechanisms in research, first degree and postgraduate degree work and in widening access and lifelong learning;*
5. *That in a situation of potential demographic-led decline in student numbers institutes of technology be given the same freedom to initiate new academic programmes as the universities and that the new funding Authority establish a mechanism, which should be binding on both institutions, to deal with complaints that an institution was deliberately creating a new programme which would cut into the established market of a neighbouring institution;*
6. *That in principle there should be a common quality assurance machinery covering both sectors of both sectors of tertiary education but that implementation should be deferred to give the university quality assurance machinery created under the 1997 Act more time to develop and pending longer term clarification of the cross-border systems of quality assurance that are emerging under the Bologna process;*
7. *That the issue of 'multi year' funding should be addressed both in relation to the alignment of financial years and in relation to mid year allocations in order to give HEIs a secure base for financial planning on a year to year basis;*
8. *That in order to incentivise HEIs actively to seek external sources of funding the Government make a clear statement that income they generate from sources outside those provided by the State will not be subject to off setting against state fundings;*
9. *That HEIs be required to plan to generate financial surpluses and encouraged to build up reserves against future necessary expenditure;*
10. *That greater flexibility be introduced into academic salary structures in order to permit institutions to take special steps to attract or retain particular individuals with key skills or experience that an institution needs;*

11. *That the present arrangements for auditing HEI accounts be amended in accordance with the recommendations in paragraph 44;*
12. *That university governing bodies be reduced in size to a maximum of 20, including student members, to improve their effectiveness and that lay members be required to constitute a substantial majority;*
13. *That each university or institute governing body should create a nominations committee made up primarily of lay members, to propose replacements for vacancies amongst lay members against a template of skills and experience required on the board to be determined by the governing body;*
14. *That university or institute governing bodies should elect their own chairs;*
15. *That the post of university president or institute director should be publicly advertised and external candidates encouraged to apply. Appointments should be made by governing bodies through appointing machinery they should devise;*
16. *That the headships of university departments be given limited terms so that there can, when appropriate, be rotation, and that appointments or re-appointments should be made by the governing body on the recommendation of the president;*
17. *That universities review their resource allocation processes with a view to ensuring that resources are allocated in line with established institutional strategic priorities;*
18. *That universities review their human resource strategies with a view towards making the probation period longer and the granting of tenure more rigorous and to providing promotion routes to personal chairs as a reward for exceptional research performance or leadership;*
19. *The HEIs give higher priority to staff development issues and allocate resources accordingly and that the Tertiary Education Authority be asked to monitor the process;*
20. *That the National Office for Equity Access to Higher Education be tasked with following up the recommendations of the Points Commission to establish where more needs to be done;*
21. *That the Tertiary Education Authority recognise in its funding formula the additional costs of recruiting and retaining students from disadvantaged backgrounds;*
22. *That every effort be made to increase part-time student numbers as a proportion of total numbers in tertiary education and to this end distinctions between part-time and full-time students be removed for the purpose of the obligation to pay fees and receive maintenance support and that part-time students should count (on a pro rata basis to full-time) for the calculation of recurrent grant;*
23. *That continuing education evening courses (other than those strictly for leisure) should be supported by recurrent grant and should be fully integrated into an HEI's academic programme;*
24. *That the DES and the new Tertiary Education Authority put their weight strongly behind NQAI's efforts to secure agreement between providers of non-standard qualifications and developing mechanisms to enable the introduction of APEL;*
25. *That CHIU and the Council of Institute Directors jointly address the question of issues surrounding retention, in consultation with the Tertiary Education Authority and make a report;*

26. *That the Tertiary Education Authority find ways of taking account of wastage figures in the calculation of recurrent grant in order to provide an incentive to institutions to remove some of the structural barriers to retention;*
27. *That public investment in research and R&D needs to be further increased if the requirements of the Lisbon declaration for 2010 are to be met;*
28. *That the institutes of technology should continue to concentrate on applied research and that underpinning research resources should be the subject of specific investment by Enterprise Ireland, and not by the new Tertiary Education Authority, in targeted areas against clear national or regional economic priorities;*
29. *That resources for research and for research infrastructure including capital resources be better coordinated through closer links between the new Tertiary Education Authority and an expanded SFI (see below) and with universities being funded on the basis that they are required to accept responsibility for major building refurbishment or building replacement within the recurrent resources available to them;*
30. *That consideration should be undertaken now in respect to the future of PRTLII;*
31. *That steps be taken radically to expand the numbers of doctoral students in universities with the intention to more than double them by 2010;*
32. *That degree awarding powers for doctoral awards be concentrated in universities and that, except in the case of DIT, where such powers have been granted to institutes of technology by HETAC they should be rescinded;*
33. *That SFI be confirmed as the national agency for the funding of basic research and publicly funded R&D in higher education and that its powers and responsibilities be extended as described in paragraph 70 and that its board structure be amended to reflect its new role;*
34. *That the responsibilities and programmes of the Irish Councils for the Humanities and Social Science and for Science, Engineering and Technology should be subsumed under an expanded SFI;*
35. *That the Government appoint a Chief Scientific Adviser reporting to the Tanaiste and Minister for Enterprise Trade and Employment who would inter alia be responsible for the coordination of civil science and in particular coordinating the research investment conducted by other departments with that of the expanded SFI and the new Tertiary Education Authority.*
36. *That a Committee for Research Policy reporting to the Cabinet be formed which would develop and oversee a national strategy for research, R&D and innovation;*
37. *That all HEIs should have business incubator units or other facilities to encourage the exploitation of research through spin out companies; every effort should be made to involve private sector finance in such ventures;*
38. *That the new TEA should fund an expansion of professional research exploitation services in all HEIs and ensure that HEIs are accountable for such activity;*

39. *The structure of the new Tertiary Education Authority should comprise a small Board concerned with strategy and resource allocation and two Committees, one for the university and one for the institute of technology sector (see Figure 1);*
40. *The chair of the TEA Board should also chair the two Committees; the post should be publicly advertised;*
41. *There should be a National Council for Tertiary Education, Research and Innovation to be chaired by the Taoiseach, which would bring together the relevant Government Departments with an interest or involvement in tertiary education to determine a rolling national strategic agenda for tertiary education and its relation to innovation, skilled labour force and the economy (see Figure 2);*
42. *Relations between the new Tertiary Education Authority and publicly funded individual institutions of tertiary education should be governed by a contract renewable annually on the basis of an institutional strategic plan approved by the TEA, after a formal face to face dialogue with the institution;*
43. *There should be a new model for resource allocation to HEIs as described in figure 3; the first task of a new Tertiary Education Authority should be to devise the detail of the model after consulting on its strategic implications; such a funding model, although containing many common elements should be differentiated between the university and the institute of technology sectors so as to preserve the distinctive roles of the two sectors;*
44. *The principles which should be incorporated into the funding model should include keeping the core funding block grant as simple and transparent as possible;*
45. *The core grant should make provision for long term maintenance of facilities and buildings;*
46. *Capital funding for new building should be included within the new Tertiary Education Authority's resource allocation process but should be linked to the strategic funding component which itself should be geared to the achievement of the national strategic agenda;*
47. *There should be a Strategic Investment Fund for National Priorities along the lines of PRTLII and managed by the TEA and a Strategic Fund for Regional Development managed by Enterprise Ireland; both sectors of higher education should be eligible to bid for these funds;*
48. *The new Tertiary Education Authority should be mandated to publish annually appropriate statistical data about tertiary education to enable an informed public discussion to take place about the extent to which the national strategy agenda is being achieved and to enable institutions to benchmark their performance one with another and internationally;*
49. *Irish institutions of tertiary education should market themselves more energetically internationally with a view to doubling the international student population in five years;*
50. *That, subject to means testing, fees for undergraduate study be re-introduced and the "Free Fees" policy be withdrawn;*
51. *That the Government consider schemes, as described above in paragraphs 97 to 99, where the means testing would incorporate the changes proposed by the de Buitelir Report and where institutions, subject to appropriate controls, could set fees, which incorporated the Student Services Charge, above the present "Free Fee" limit and where a loan scheme, financed through*

*the private sector but supported by an interest rate subsidy from the Government, or graduate contribution scheme along HECs lines, would be available to students not eligible for a fee waiver.*

- 52. That if tuition fees are reintroduced it should be axiomatic that the additional income is not offset against reductions in state income and should therefore represent a real and tangible increase in HEIs' resources.*

## APPENDIX A. TERMS OF REFERENCE

The context for the review is provided by Ireland's strategic objective of placing its higher education system in the top rank of the OECD in terms of both quality and levels of participation and by the priority to create a world class research, development and innovation capacity and infrastructure in Ireland as part of the wider EU objective for becoming the world's most competitive and dynamic knowledge-based economy and society, as agreed in Lisbon (2000). The challenges of maintaining quality, responsiveness and competitiveness in higher education are a major priority against the background of unprecedented levels of expansion, change and diversification in the sector in Ireland.

The OECD review will evaluate how well the Irish higher education sector is meeting these strategic objectives and will offer recommendations for making further progress. The review will examine the role of higher education institutions as centres of education, knowledge and research in respect of their public, social and economic responsibilities and will consider the interface between the higher and further education sectors in meeting these overall needs. The capacity of the higher education sector for promoting lifelong learning, the transition to the knowledge society, knowledge and technology transfer to the economy and society, supporting spatial strategy, and in meeting the international challenges to learning and research institutions will be key aspects of the review. The comparative Irish performance will be examined by reference to other OECD countries.

More specifically, the review will examine policy issues and option in the following areas:

- **Role of Higher Education:** The need to ensure that the higher education sector can fulfill the transcending roles of developing students to their full potential and pursuing knowledge for its own sake while being open and flexible in meeting an increasing diversity of needs and
- demands associated with the knowledge society, lifelong learning, globalisation, meeting the needs of national and regional economies and of local communities, together with contributing to social cohesion and equity.
- **Strategic Management and Structure:** Structures and arrangements for dynamic 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 between those institutions and further education providers,
  - to provide for systematic and sustained input to the formulation and review of the main areas of higher education and research policy and planning by the key agencies and interests in interconnected areas of economic, social and cultural developments, and
  - for effective approaches to delivering on key strategies, including promotion of equity of access, enhancing the quality of teaching and learning, meeting future skills and research needs for economic and social development, and the development of greater procedural, systematic and institutional transparency in higher education.

- **Teaching and Learning:** How institutions in the higher education sector might best respond to the needs of their students through the use of appropriate systems of quality assurance to support the highest quality of teaching and learning, facilitating greater levels of participation and completion and developing new and innovating approaches for a more learner-centred approach to the design and delivery of academic and other services.
- **Research and Development:** Given the increasing importance of research, development and innovation for the knowledge society, examine how research and development in the higher education sector can best be supported and further developed to highest international standards and the outcomes of this knowledge be best applied in support of social, cultural and economic progress having regard to the integral connection between research and teaching and the development of an appropriate balance between these in institutions.
- **Investment and Financing:** Potential approaches to the future resourcing of the higher education sector and institutions that can best enable achievement of the strategic objectives established for the sector, having regard to the governance, accountability, efficiency and effectiveness requirements associated with the high level of public investment in the sector, broad public policy interests and principles of academic freedom and institutional autonomy.
- **International Competitiveness:** In the context of growing internationalisation and mobility of students and the need to provide a diversified and world-class higher education system at both undergraduate and postgraduate levels, 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.

**APPENDIX B. SUBMISSIONS TO THE OECD REVIEW OF IRISH HIGHER EDUCATION**

1. AHEAD Association Higher Education Access and Disability
2. AISHE All Ireland Society for Higher Education
3. Athlone Institute of Technology
4. Barrett, Dr. Sean D., FTCD Dept. of Economics Trinity College Dublin
5. Border Midland and Western Regional Assembly
6. Centre for Co-operative Studies, University College Cork
7. Conference of Heads of Irish Universities
8. An Chomhairle um Oideachas Gaeltachta agus Gaelscolaíochta
9. Combat Poverty Agency
10. Comhdail Naisiunta na Gaeilge
11. Cork City Partnership
12. Cork Institute of Technology
13. Council of Directors of Institutes of Technology
14. Deeny James, BA (Econ), M,Econ Sc., MIA, Former CEO, HSBC Ireland
15. Department of Adult and Community Education, National University of Ireland, Maynooth
16. Department of Biology, NUI Maynooth
17. Department of Education and Science Ireland
18. Department of Enterprise Trade and Employment Ireland
19. Department of Health & Children Ireland
20. Development Education Unit, Department of Foreign Affairs, Ireland
21. Disability Federation Ireland
22. Doyle, Dr. Sean, Senior Lecturer National University Ireland, Maynooth
23. Dublin Institute of Technology

24. Enterprise Ireland
25. Expert Group on Future Skills Needs
26. Failte Ireland (formerly CERT)
27. FAS
28. Further Education Training Awards Council FETAC
29. Fiontar, Dublin City University
30. Forfas, The National Policy and Advisory Board for Enterprise, Trade, Science, Technology and Innovation
31. Galway Mayo Institute of Technology
32. Griffith College, Dublin
33. Higher Education Authority HEA
34. Health Research Board
35. HEAnet
36. Higher Education Training Awards Council HETAC
37. Hurley, Kevin, Retired Director Adult Education, University College Dublin
38. Hussey, Matthew, PhD, Director of Faculty of Science, Dublin Institute of Technology, Kevin St
39. Hyland, Professor Aine, Vice President, University College Cork
40. Irish Business and Employers Confederation IBEC
41. Irish Council Science Technology and Innovation ICSTI
42. Irish Congress of Trade Unions ICTU
43. IDA Ireland
44. Irish Federation of Universities Teachers, IFUT
45. Inter-Universities Retention Network
46. Institute of Art Design & Technology, Dun Laoghaire
47. Institution of Engineers of Ireland
48. Institute of Technology, Tallaght
49. Irish Research Council for Humanities and Social Sciences IRCHSS

50. Irish Research Council for Science Engineering and Technology IRCSET
51. Irish Universities Quality Board IUQB
52. Kelly, John, Professor Emeritis, University College Dublin
53. Kilkenny Industrial Development Company
54. Labour Party, Ireland
55. Letterkenny Institute of Technology
56. Limerick Institute of Technology
57. Lionra Higher Education Network
58. McGinley, John
59. MIS, An Cheim
60. Music Education in Ireland (Standing Committee of Heads of Performance-based institutions)
61. National College of Ireland
62. National College of Art and Design
63. National Disability Authority
64. National Qualifications Authority of Ireland
65. O'Callaghan, Dr. Edward
66. O'Hare, Professor Daniel, President Emeritus, Dublin City University
67. O'Shea, Sean
68. Quinn, Brid UL
69. Royal Irish Academy of Music
70. Ruane, Professor Frances, Dept. of Economics, Trinity College Dublin
71. Scannell, Professor Yvonne, Law School, Trinity College Dublin
72. Science Foundation Ireland
73. Services Industrial Professional and Technical Union, SIPTU
74. St. Patricks College, Drumcondra
75. St. Vincent de Paul

76. Teagasc
77. Trinity College School of Nursing and Midwifery Studies, Trinity Centre for Health Sciences
78. Tuffy, Senator Joanna, Spokesperson on Education and Science (Labour Party)
79. Teachers Union of Ireland, TUI
80. Union of Students of Ireland, USI
81. Walsh, Dr. Edward, President Emeritus, University of Limerick
82. Walsh, John
83. Waterford Chamber of Commerce
84. Waterford Institute of Technology
85. Wexford County Enterprise Board
86. White, Dr. Tony
87. Wrigley, Professor Leonard
88. Young Fine Gael, Ireland

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*Union of Students in Ireland, Costs of College Survey Results 2003*, USI 2004

**APPENDIX C. PROGRAMME OF EVIDENCE TAKING AND VISITS UNDERTAKEN BY THE REVIEW GROUP**

Oral evidence was given by the following:

Joint Oireachtas Committee on Education and Science  
Department of Education and Science  
Department of Finance  
Department of Enterprise, Trade and Employment  
Enterprise Ireland  
Industrial Development Authority Ireland  
Forfas  
Higher Education Authority  
Conference of Heads of Irish Universities  
Council of Directors of Institutes of Technology  
Science Foundation Ireland  
Health Research Board  
Irish Council for Science, Technology and Innovation  
Irish Research Council for Humanities and Social Sciences  
Irish Research Council for Science, Engineering and Technology  
FAS  
Expert Group on Future Skills Needs  
Fáilte Ireland  
National Qualifications Authority of Ireland  
Higher Education and Training Awards Council  
Further Education and Training Awards Council  
Irish Business and Employers Federation  
Irish Federation of University Teachers

Teachers Union of Ireland

Irish Congress of Trade Unions

Amicus-MSF

HEA net

National Office for Equity of Access to Higher Education

National Union of Students in Ireland

St. Vincent de Paul Society

Disability Federation of Ireland

Cork City Partnership Ltd.

**Visits were made to the following institutions:**

University College, Dublin

University College, Cork

University of Limerick

Cork Institute of Technology

Tallaght Institute of Technology

Tralee Institute of Technology

Waterford Institute of Technology

National College of Ireland

Higher Education Colleges Association

**In addition the Group had informal meetings in Dublin with:**

Dr. Garret Fitzgerald, Chancellor of the National University of Ireland

Professor G. Boyle, Trinity College, Dublin

Professor P. Clancy, University College, Dublin

Professor J. Coolahan, NUIM

Professor P. Drudy, Trinity College, Dublin

Professor S. Drudy, University College, Dublin

Professor A. Hyland, University College, Cork

Dr. Tom McCarthy, Dublin City University

Professor M. O'Brian, Trinity College, Dublin

Professor M. O'Moore, Trinity College, Dublin

Professor Bouchier-Hayes, Royal College of Surgeons

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- The National Committee of Inquiry into Higher Education (1997) *Higher Education in the learning society: Main Report* (The Dearing Report) The Stationery Office: London