MEABHRÁN | MEMO

Chuig | To: Research Committee

Ó | From: Research Accounting Manager

Dáta | Date: 28th February 2012

Tagairt | Reference: Research Results/Statistics for 2010/11 and Revised/Updated Five Year Research Projections

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Resulting from a recent review of the research portfolio, I draw the Committee's attention to the attached Appendices, which contain a summary of annual statistical data in relation to the financial year ending 30th September 2011, in addition to the revised/updated five year research financial projections spanning the period 2012 – 2017.

In relation to the summary of annual financial statistics in respect of the year ending 30th September 2011, please note that:

- **Appendix 1** consists of a number of schedules that set out the overall results of TCD's research portfolio for that year, which supplements the 'Green Book' previously circulated to members of the Committee in January 2012, as follows:

  - Appendix 1.1 – Research Income by Funding Source
  - Appendix 1.2 – Research Income by Funding Source by School etc.,
  - Appendix 1.3 – Research Income by Source – Exchequer vs Non Exchequer (incl. Irish vs Foreign Investment)

- **Appendix 2** sets out the updated research projections which were noted by Planning Group on 26th January 2012, a summary of which was subsequently reported in the Panning Group Report # 6 to Board. I draw the Committee's attention in particular to the Tables setting out in graph format (a) the revised five year projections and (b) possible best, current and worst case scenarios in that timeframe.

An analysis conducted recently in terms of current research activity revealed at that time that 435 Principal Investigators (PI's) maintained c 1,300 active research accounts with a total portfolio valued at c €418m. Moreover, a five year review of research income results (encompassing c 650 PI's in that timeframe) indicated the following:

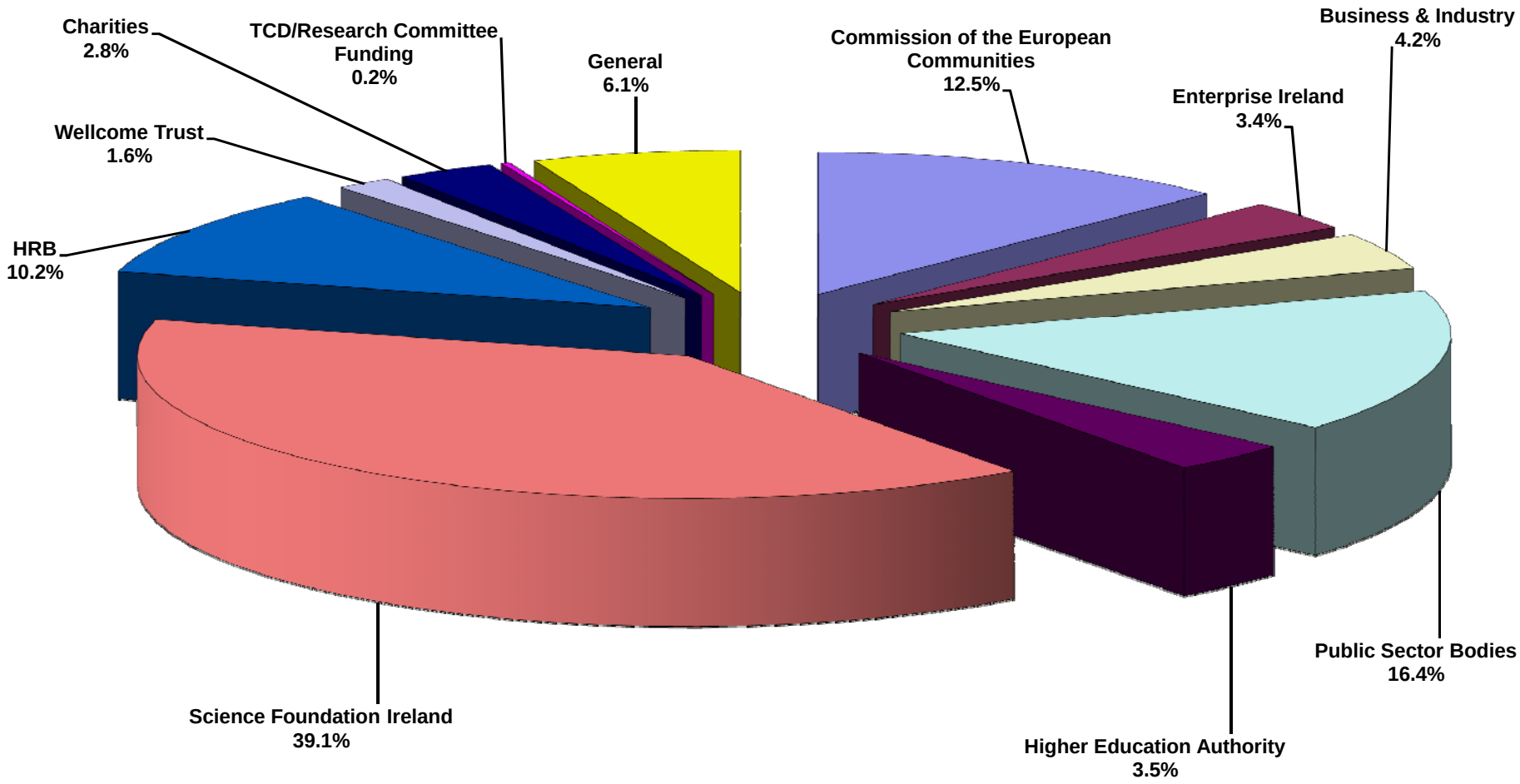
- 20 PI's (3% of total) were responsible for generating 35% of research income generated in that timeframe
- 50 PI's (8% of total) generating the highest levels of research income, accounted for 50% of all income earned in that timeframe
- 20% of PI's (130 in total) actually accounted for 78% (c €344m) of total research income generated in that timeframe.

I ask the Committee to note the attached, in the context of the delivering the College's research strategy.

Deirdre Savage,
Research Accounting Manager

Encl.,

Research Income by Funding Source 2010/11



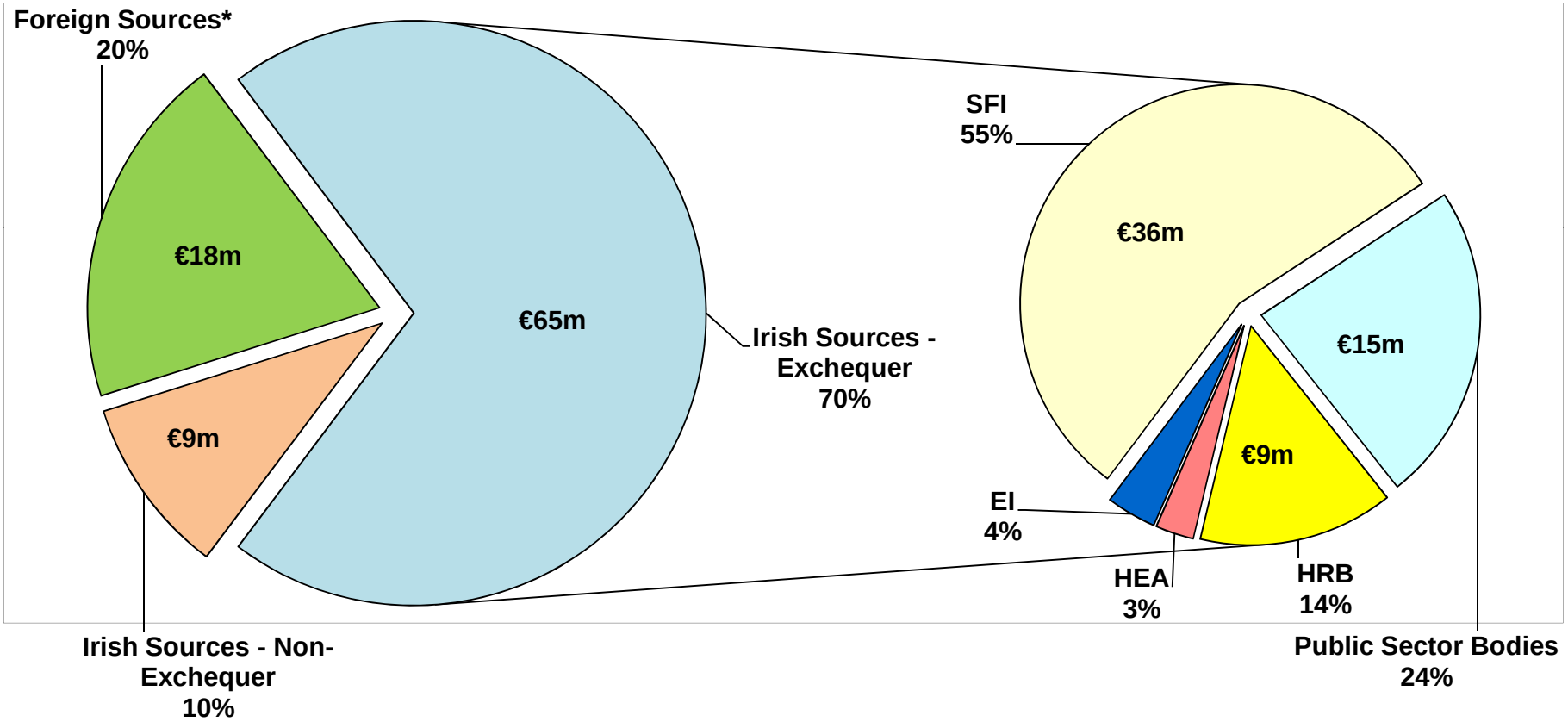
RESEARCH INCOME BY FUNDING SOURCE - SCHOOL BREAKDOWN FOR YEAR ENDED 30 SEPTEMBER 2011

		EC	Enterprise Ireland	Business & Industry	Public Sector Bodies*	HEA	SFI	HRB	Wellcome Trust	Charities	TCD/ Research Committee	General	Total
School of Histories & Humanities		-	-	-	292,757	-	-	-	-	-	19,134	19,054	330,945
School of Linguistic, Speech & Communications Sciences		-	-	-	211,224	-	547,330	(4,588)	-	-	22,335	(8,172)	768,128
School of Languages, Literature & Cultural Studies		-	-	-	7,643	-	-	-	-	-	-	12,787	20,430
School of Drama, Film & Music		-	-	-	12,159	-	-	-	-	-	-	-	12,159
School of English	▲	-	-	-	160,021	-	-	-	-	-	-	-	160,021
School of Religions, Theology & Ecumenics		161,541	-	-	39,832	-	-	-	-	-	-	-	201,373
School of Social Sciences & Philosophy	▲	106,187	-	40,000	223,527	56,404	-	-	-	-	(14,219)	146,984	558,883
School of Social Work & Social Policy		462,122	-	-	258,369	-	-	63,114	-	443,711	(885)	1,366,872	2,593,303
School of Business	▲	-	-	-	15,739	-	-	22,055	-	-	(1,735)	-	36,059
School of Psychology	▲	1,419,997	49,157	-	201,337	-	161,033	221,414	237,094	15,000	17,664	509,798	2,832,494
School of Law		-	-	-	(46,971)	-	-	-	-	-	-	-	(46,971)
School of Education		-	-	-	359,307	-	-	-	-	-	-	-	359,307
Centre for Telecommunications Value Chain Drive Research (CTVR)		210,488	19,151	55,056	40,305	400,279	1,544,796	-	-	-	-	-	2,270,075
School of Engineering	▲	1,106,565	794,025	85,687	2,134,775	355,899	1,034,225	-	1,705	19,384	(4,521)	6,033	5,533,776
School of Computer Science & Statistics		1,676,571	763,866	94,235	1,079,369	480,000	4,113,194	-	-	-	27,801	-	8,235,037
School of Mathematics		-	-	-	111,182	23,927	258,237	-	-	-	-	112,605	505,952
School of Natural Sciences	▲	415,034	900	-	1,957,786	56,328	93,705	-	118,623	2,475	23,085	190,397	2,858,333
School of Physics	▲	966,446	497,230	108,491	495,149	178,511	5,554,251	-	-	-	23,039	117,161	7,940,278
School of Chemistry	▲	495,742	358,393	148,476	707,603	242,228	2,756,315	(14,581)	-	-	-	8,000	4,702,176
School of Biochemistry & Immunology		2,008,803	116,569	323,904	1,060,359	127,174	5,060,768	1,645,633	578,994	214,111	22,834	365,892	11,525,042
School of Genetics & Microbiology	▲	286,020	66,783	-	315,747	-	6,910,722	504,387	358,714	248,195	23,085	56,791	8,770,444
Molecular Medicine Ireland (MMI)		-	-	-	-	239,567	-	-	-	-	-	-	239,567
School of Medicine	▲	1,656,726	100,394	72,896	4,624,050	151,468	3,609,569	6,094,796	167,599	1,583,946	28,938	2,579,759	20,670,139
School of Dental Sciences		-	-	-	-	-	119,607	-	-	-	(5,749)	-	113,858
School of Nursing & Midwifery		-	2,259	-	195,636	-	-	713,775	-	42,104	(540)	67,974	1,021,209
School of Pharmacy & Pharmaceutical Sciences	▲	-	303,599	27,811	89,460	-	951,577	73,900	-	45,000	(645)	18,725	1,509,427
Long Room Hub	▲	-	3,493	-	-	410,830	-	-	-	-	22,335	-	436,657
Centre for Research on Adaptive Nanostructures & Nanodevices (CRANN)	▲	141,948	12,320	103,833	2,500	312,953	3,196,551	-	-	-	-	-	3,770,105
Trinity College Institute of Neuroscience/National Neuroscience (TCIN)	▲	-	-	2,786,998	-	-	-	-	-	-	-	12,000	2,798,998
Institute for International Integration Studies (IIIS)	▲	-	-	-	496,123	-	-	-	-	-	-	-	496,123
Non-Academic Research		340,071	264	-	-	184,184	-	-	-	-	-	1,500	526,020
Total		11,454,262	3,088,402	3,847,386	15,044,990	3,219,751	35,911,881	9,319,904	1,462,729	2,613,926	201,957	5,584,160	91,749,347

▲Principal Investigator (PI) led awards housed in Trinity Research Institutes are reported in the host School of the lead PI

* Includes EPA, Dept. of Agriculture, IRCSET, IRCHSS and various other public sector agencies

Research Income by Source 2010/11 - Exchequer vs Non Exchequer



* Included within Foreign Sources is the element of the HEA PRTLI IV & V Programmes and the Enterprise Ireland Commercialisation Fund which is cofunded by the European Regional Development Fund (ERDF)

COLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH | TRINITY COLLEGE DUBLIN
Ollscoil Átha Cliath | The University of Dublin

Appendix 2

MEABHRÁN | MEMO

Chuig | To: Research Committee

Ó | From: Dean of Research

Dáta | Date: 18th January 2012

Tagairt | Reference: Updated Research Funding Projections 2012-2017

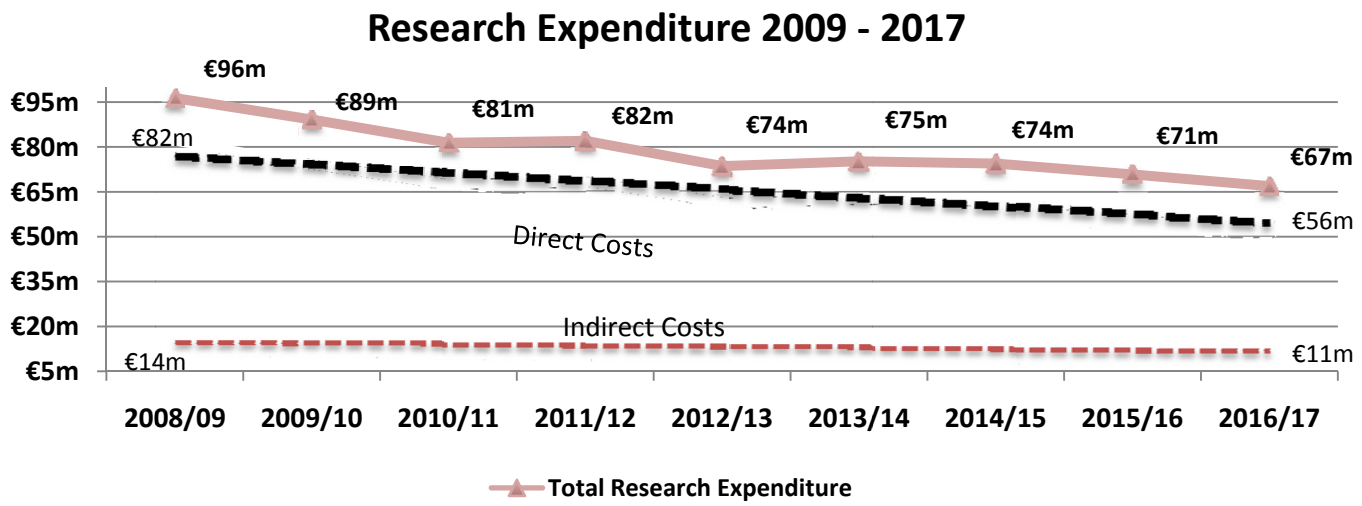
In order to plan for the current financial challenges facing College, we have in recent years, been monitoring and analysing the research financial environment on a continual basis, resulting in the introduction and updating of research financial projections. Cognisance should be taken of the fact that these five year projections have been prepared in an uncertain economic climate where the debate in terms of the strategic direction of investment in research continues to take place. As in the past, the research projections were based upon a number of assumptions, including the following:

- The level of future funding available by source - we engaged with the key national funding agencies and the majority responded in relation to 2012 levels of funding only, they were without exception, reluctant to predict beyond 2012
- The College's continued success rate estimated by funding Programme - based upon historical success rates in the past two to three years
- Spend patterns over the lifetime of each research grant awarded (existing and new), which are subject to change – in recent years, spend patterns on existing research grants have altered considerably.

Taking into account the information available to us including the aforementioned assumptions, we have set out below in Table 1 an estimate of research expenditure (activity), which clearly indicates an overall decline in research funding, resulting in an approximate 30% reduction in TCD research activity in the next 5/6 year period (when compared with 2008/09 results), levelling out at pre 2006/7 levels of c €68m, leading to the following possible outcomes:

- A reduction of the contribution to indirect costs to College of c €3m*
- A reduction of 27% in respect of research funded PhD (and Master) students
- A reduction in postgraduate related fee income from €11.7m to c €10.1m (12%), assuming very little change in the mix of postgraduate students across Schools*
- A reduction in funded Post Doctoral staff numbers falling by c 28%

Table 1



*** Factored into the College's core forecasts**

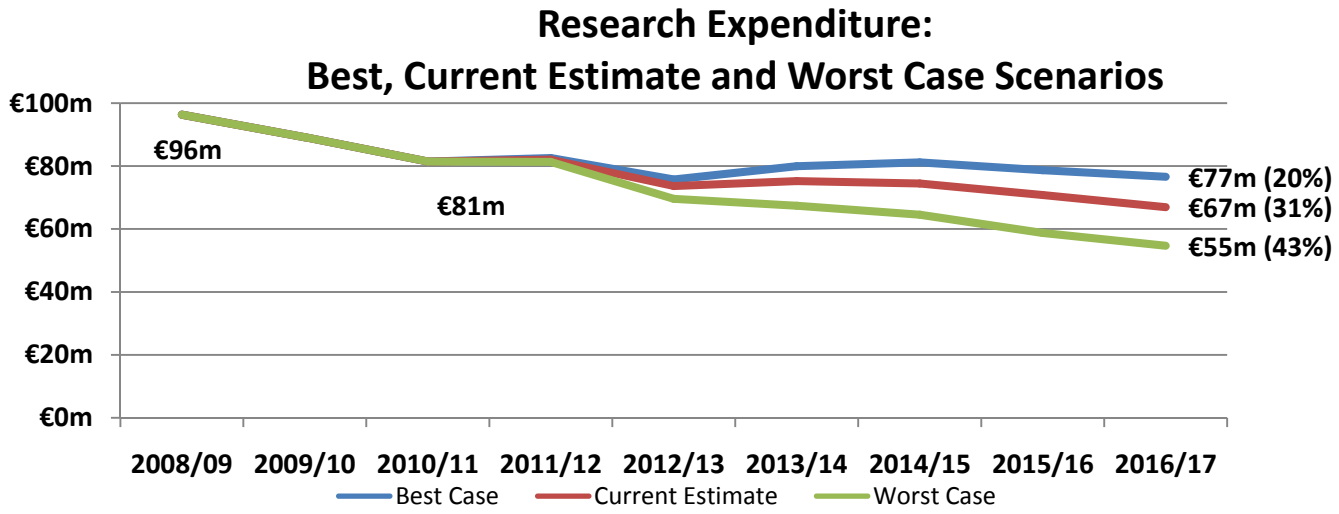
In summary, these projections are consistent with the views expressed by the Director of the IUA Dr. Conor O'Carroll recently in an article published in the Irish Times (December 2011), which warned that research investment from Exchequer sources would very likely fall to pre 2005 levels. This is further supported by the recently published "Capital Spending Plan" which contains details of the Department of Jobs, Employment & Innovation research allocations to 2016, and sets out a clear reduction in Exchequer funding from this source in that timeframe.

There are a number of other elements/factors, which should also be taken into consideration. For example, the outcome of the National Research Prioritisation Exercise to underpin research and related investment could alter the (past) funding strategy of the Government whereby they favour applied research over basic research in the future. Additionally, SFI's changing funding environment, reducing from approximately €168m to €156m over a period of three years, with a further reduction to an estimated baseline budget of c €145m over the next five years. In supporting the new 'SFI Research Centres Programme', SFI make it clear that their focus on funding strategy is also changing significantly (30-40% of their new money is to be ring-fenced for investment in SFI Centres in the future), therefore less awards but greater competition for the funding available. Last, but by no means least, the detrimental impact of the Employment Control Framework on the recruitment and retention of world class Principal Investigators/researchers, disadvantages our researchers compared with their European counterparts.

In Table 2 below, we have attempted to quantify the effect of the elements referred to above, and we set out possible "worst case/best case" scenarios where the best case scenario assumes a levelling out of funding available over the next five year period (broadly similar to 2010/2011 figures), and the College maintaining its current success rate. The worst case scenario is based upon the possibility of a further decline in funding available coupled with the College's inability to maintain its current success rates.

It is important to note however, that all three scenarios result in a decline from the 2008/09 levels reported, even with assumed levels of success though the Horizon 2020 Programme as a result of the significant reduction in Exchequer funding available and College's current reliance on it (Exchequer vs Non Exchequer for 2010/11 was: 70:30).

Table 2



In conclusion, the reduction in available funding is already manifesting in a noticeable decline in research activity in College of €96m to €81m (15%) since 2009 levels. In light of the anticipated continued restriction in public investment, the need for the College to continue to focus on diversifying non-Exchequer funding (e.g. Industry Collaboration, EU, Philanthropic etc.,) remains paramount if College is to further strengthen its reputation as a University of global consequence and maintain its international ranking.

The Research Committee are asked to note the updated Research Funding Projections 2012-2017 as set out and the possible impact to the College's research portfolio.

Professor V. Cahill,
Dean of Research