HEA

Higher Education Authority
An tÚdarás um Ard-Oideachas

Forfás

Report of the Group on Research Overheads

July, 2003

The Higher Education Authority
An tÚdarás um Ard-Oideachas

Marine House, Clanwilliam Court, Dublin 2

The National Policy and Advisory Board for Enterprise, Trade, Science, Technology and Innovation.

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Foreword

The Government has given a high priority to scientific research and has provided significantly increased funding for the development of world-class research, researchers and research facilities in Ireland. The National Development Plan, 2000-2006 has committed €2.48 billion to research, technological development and innovation. The objective of this funding is to establish world-class research programmes to underpin future economic and social progress.

The Plan has introduced entirely new research funds. These include €700 million for the Programme for Research in Third-level Institutions (PRTLI) administered by the HEA, €635 million for Science Foundation Ireland (SFI) and increased funding for research funding bodies including Enterprise Ireland, the Health Research Board and the Marine Institute. Two new research councils have also been established - the Irish Research Council for the Humanities and Social Sciences and the Irish Research Council for Science, Engineering and Technology.

However, the resulting research activities are making increasingly heavy demands on the overall resources and facilities of third-level and research institutions. The indirect costs or overheads that are generated by this hugely expanded programme of research do require to be better understood and appropriate contributions provided for these costs in research funding programmes. In seeking to develop the highest quality research in the world, it is important that proper and sufficient funding of the direct and indirect costs of research are provided.

In this context, it is appropriate given their strategic position in research funding and that of their agencies, that Forfás and the HEA should jointly sponsor this important study on developing a suitable framework for research overheads that fits the Irish situation. While recognising that the report does not necessarily represent the policy positions of the bodies and agencies on the steering group, we believe it provides the basis for discussion and agreement on a national coherent approach.

On behalf of Forfás and the HEA, we would like to commend the Steering Group Chairman, Dr. John Donnelly and its members for their diligence and professionalism in preparing this comprehensive report. The support of the many bodies represented on the Steering Group is greatly appreciated.

We would also like to extend our appreciation to the Executive Staff of the HEA and Forfás for their valuable inputs to this report.

MR. MARTIN CRONIN
Chief Executive
Forfás
July 2003

DR. DON THORNHILL
Chairman
Higher Education Authority

chairmans introduction

Chairman's Introduction

- In August 2001, Forfás and the Higher Education Authority (HEA) appointed a Steering Group to recommend a policy framework that could be applied readily and without ambiguity by public sector research funding organisations and by third-level institutions in deciding the appropriate provision to be made for indirect costs in publicly-funded research contracts and awards.
- At the present time, the national research funding bodies, with a few exceptions, do pay some contribution to the research costs.
- In recent years significantly increased funding has been provided for the development of world-class research, researchers and research facilities in Ireland.
- A key objective is to attract world class researchers and develop world class research programmes in Ireland.
- The indirect costs generated by this greatly expanded programme of research need to be taken into account by national research funding bodies.
- Indirect costs are those involving resources used on a common basis by different individuals and groups, which makes it difficult to assess precisely which users should pay what share. Establishing a formula for identifying and quantifying indirect costs on a basis that is agreed by both research funders and recipients is an essential prerequisite to the funding of indirect costs. The development of such a formula has been a key priority of the Steering Group.

Practice Elsewhere

- In developing a national perspective, the Steering Group has examined best practice in a number of other countries, specifically those that have a successful track record in research. The Group's conclusions are listed under three key headings:
  1. Calculation of institutional indirect costs
  2. Method of payment of the indirect costs by the agencies
  3. Allocation of indirect costs

- Following extensive analysis and on receipt of a number of presentations, the Steering Group concluded that the U.S. model has advantages for Ireland, which are above all of the others studied. It addresses the three issues stated above by providing that:
  - there is a systematic procedure for the identification of indirect costs and consequently the calculation of a rate for each institution;
  - institutions are responsible for distributing the indirect costs; areas where overheads cannot be spent are clearly identified;
  - the overhead rate is audited regularly, which ensures that the indirect costs are minimised and properly updated.

- The Steering Group decided to use the U.S. system as a basis for developing a framework policy for research overhead costs for Ireland.

Developing a Policy Framework

- For a funded research programme the US approach calculates the indirect costs as a fraction of the modified total direct costs (total research programme costs minus equipment). This is called the overhead or indirect cost rate and is calculated for each institution doing research.
- The full adoption of the U.S. model would require negotiation between each institution and its agency for the purposes of establishing an overhead rate.
- The Steering Group decided to take an alternative approach, which involved applying the U.S. methodology, without attempting a breakdown of overhead between the teaching and research activities.
- While each institution would be free to negotiate its own rate, the Steering Group propose that there should be a standard rate that can be used without negotiation in the first instance.
- The Steering Group examined the indirect costs in a sample of five institutions, representing universities and the institutes of technology sector (with both small and large institutes included). On the basis of this examination the Group recommends that the standard rate should be 30% for laboratory-based research. The rate recommended for desk based research is 25%. This proposal is intended to provide a keen incentive for institutions to maximise efficiency in supporting research.
- Following national and international practice, the recipient institution is given the responsibility of allocating the indirect costs to the appropriate research related areas subject to periodic audit.
- Efficient research programmes will benefit from this competitive element. It is expected that institutions will accordingly sharpen their focus in promoting research.

Conclusions

Conclusions of the Steering Group are:

- That the US approach be adapted to provide a framework policy for Ireland;
- That institutions be entrusted with the responsibility for ensuring the indirect costs are correctly spent to underpin funded research projects. There will be a set of non-eligible cost areas to be agreed with the funding agencies and all overhead spend would be subject to periodic audit to ensure transparency;
- The proposed framework model is intended to support and strengthen the national objective, which is to establish world-class research programmes in Ireland and also to attract world-class researchers to support such programmes;
- The Steering Group recommends that HEA/Forfás establish a Steering Committee, with representatives from funding agencies and research institutions, to oversee the implementation of the policy and coordinated development of required accounting systems.

Acknowledgments

As Chairman of this Steering Group, I wish to thank Dr. Conor O'Carroll (Conference of Heads of Irish Universities) for his commitment and industry in preparing this report. I wish, in particular, to thank the members of the working group, Mr. M. Kelleher, Ms M. Kerr, Dr. M. Lyes, Prof. T. McCarthy, Dr. P. Mulcahy, Dr. P. O'Brien, Dr. M. O'Driscoll, Mr. C. Regan, Mr. R. Wills and Dr. C. O'Carroll for their input to the deliberations of the Steering Group. I wish to thank Ms. M. Armstrong who acted as secretary of the Steering Group. I also thank those who provided valuable imputs to the work of the group including Dr. Anthony Boccanfuso (University of South Carolina), Mr. Denis Boglio (Scientific Attache, Embassy of France), Mr. Ian Lewis (Higher Education Funding Council for England), Dr. Martin Mullins (Royal College of Surgeons in Ireland for Science Foundation Ireland) and Professor Brendan Whelan (Economic and Social Research Institute) for their assistance and advice.

Every member of the Steering Group contributed positively and I value this.

Finally I must record my appreciation of the initiative of the sponsors of this Steering Group - the Higher Education Authority and Forfás.

John Donnelly
Chairman
July, 2003

members of steering group

Chairman (Chairman of Hypovereinsbank Ireland)	**John Donnelly**
Organisation	**Membership**
1. Conference of Heads of Irish Universities (C.H.I.U.)	Mr. Michael Kelleher, UCC Prof. Tom McCarthy, DCU Dr. Conor O'Carroll, C.H.I.U.
2. Council of Directors of Institutes of Technology	Dr. Patricia Mulcahy, IT Carlow
3. Department of Agriculture, Food and Rural Development	Dr. Tony Smith Dr. Clare Thorp (Alternate)
4. Department of Education and Science	Ms Mary McGarry Mr. Paddy McGannon (Alternate) Mr. Kevin McCarthy (Alternate)
5. Department of Enterprise, Trade and Employment / OST	Mr. Martin Shanagher Ms Josephine Kelly (Alternate)
6. Department of the Environment and Local Government	Dr. Paraic Larkin Ms Lorraine Fegan (Alternate)
7. Dublin Institute of Technology	Mr. Ray Wills Ms C. McGarvey (Alternate)
8. Enterprise Ireland	Dr. Martin Lyes
9. Forfás	Mr. Colm Regan Mr. Declan Hughes (Alternate) Dr. Gerardine Costello (Alternate) Mr. Ignatius Rossi (Alternate)
10. Health Research Board (HRB)	Dr. Mairead O'Driscoll Dr. Norma O'Donovan (Alternate) Dr. Anna Cody (Alternate)
11. Higher Education Authority (HEA)	Ms Mary Kerr
12. Irish Research Council for Science, Engineering and Technology	Dr. Martin Hynes Professor Frank Hegarty (Alternate)
13. Irish Council for the Humanities and Social Sciences	Dr. Marc Caball Dr. Maurice Bric (Alternate)
14. Marine Institute	Dr. Geoffrey O'Sullivan
15. Royal College of Surgeons in Ireland (RCSI)	Dr. Phil O'Brien
16. Science Foundation Ireland (SFI)	Dr. William Harris Mr. Mattie McCabe (Alternate)
17. Teagasc	Dr. Lance O'Brien
Secretary to Steering Group	Ms Mary Armstrong (HEA)

chapter one | Introduction

Introduction

In August 2001, Forfás and the Higher Education Authority (HEA) appointed a Steering Group composed of representatives from the third-level institutions, public research funding agencies and government departments to address the funding of indirect costs (overheads) associated with public research funding at third-level institutions.

Terms of Reference: The Steering Group was asked to recommend a policy framework, with supporting analysis, criteria and guidelines, that could be used by public sector research funding organisations and by third-level institutions in deciding the appropriate provision to be made for indirect costs in publicly-funded research contracts and awards.

This framework would have the following objectives:

(i) To ensure that funding provided for research was not diverted to other activities that are not properly chargeable to these activities;

(ii) To ensure proper and sufficient funding of research activities undertaken in third-level institutions with Exchequer funding either under contract or through research awards;

(iii) To avoid the diversion of exchequer funds for purposes for which they were not intended;

(iv) To identify any overlaps in expenditure between core and research budgets, and avoid any potential for duplication of funding.

A framework was required that could be applied readily and without ambiguity by both funders and research institutions to different sets of circumstances and to obviate the need for complex and time-consuming negotiations and cost apportionment exercises in individual cases.

The members of the Steering Group are listed on Page 11 and the Group's detailed terms of reference are given in Appendix 6A, page 72.

Research costs: The costs of research fall into two broad categories:

- Direct costs are those that can be identified accurately with a specific research project. Examples are the salaries of staff employed specifically to carry out the research work, and the materials and equipment purchased for the project. If the project requires the building or renting of new infrastructure, or if existing infrastructure needs to be modified, this is a direct cost.

- Indirect costs, or overheads, are those incurred in the course of a research project but which cannot be attributed specifically or exclusively to the project. Examples of such indirect costs are space, light, heat, maintenance, library services and computer services. Other examples are the administrative support required to run the project, including recruiting staff, purchasing equipment and materials and financial reporting.

At the present time, the national funding bodies pay the full direct costs of research projects. With a few exceptions, they pay some contribution to the indirect costs, which must be met by the universities and institutes of technology. The 'block grant' funding model operated by the HEA to the universities provides for both teaching and research. This combined budget provides bedrock research funding with an estimated 100m approximately of combined grant attributable in 2002 to research. In line with other OECD countries that operate a dual system of higher education funding, funding is attributed to R & D activities based on estimated time spent by academic staff on R & D.

The institutions carrying out research have to meet indirect costs by diverting some of their funds, originally provided for other purposes, to research. This has the potential to deprive other core activities, particularly teaching, of essential resources. The Steering Group believes that this is not an acceptable solution and, in order to ensure that research activities are sustained, indirect costs require to be paid by research funders.

Increased research funding: In the past, the question of who funded indirect costs was not necessarily a major issue because public research funding was comparatively modest and third-level institutions were able to cover indirect costs from their core budgets. The low level of publicly funded research did not generate big overheads.

In recent years, the situation has changed dramatically. The Government has given a priority to scientific research and has announced substantially increased funding for the development of world-class research, researchers and research facilities in Ireland. Between 1997 and 2001, the total value of the Government's funding for public research including that performed in the third level sector increased from €244 million to over €422 million.

The National Development Plan 2000-2006 (www.ndp.ie) has committed €2.5 billion to research, technology and development and innovation. The Plan has introduced entirely new research funds. Examples are;

- The Programme for Research in Third-level Institutions (PRTLI), with a fund of €700 million administered by HEA, supports the development of institutional strategies for research and, in addition to supporting significant

recurrent research programmes, also provides capital research infrastructure;

- €635 million is allocated to Science Foundation Ireland (SFI) (www.sfi.ie) to develop Ireland as a location for high-level research in biotechnology and information & communications technology;

- From 1998 to 2002 the Health Research Board (www.hrb.ie) has more than doubled its research budget to €13.3 million;
- In the same period, the Government established two new research councils: the Irish Research Council for the Humanities and Social Sciences (www.irchss.ie), and the Irish Research Council for Science Engineering and Technology (www.ircset.ie).

Since the National Development Plan (NDP) was published, the downturn in the global economy has impacted on Ireland's economy and consequently the Government has announced cutbacks in its total spending. But even if the level of scientific research investment does not fully meet the commitments in the NDP, there will still be very significant funding. The resulting research activities are already making increasingly heavy demands on the overall resources and facilities of third-level and research institutions. The indirect costs that are generated by this expanded programme of research must be taken into account by the public funders because it can no longer be covered by the research institutions.

Policy framework: The policy framework proposed in this report provides a mechanism to fund the direct and indirect costs of research that can be used by public funding agencies, the third-level institutions and public research bodies to give appropriate return for Exchequer research investment.

The framework does this by providing a method for;

- Calculating both the direct and the indirect costs of research;
- Enabling funding agencies to allocate these costs to funded research projects;
- Distributing overhead funds within the research organisations.

The framework creates a system that is cost effective and efficient, has a strong competitive element and is based on objective criteria. It takes into account the different funding streams within and between agencies. The aim is to create a flexible formula for funding overheads that can be adapted to changing circumstances.

In the current economic climate, the Government and the public sector agencies will be concerned to ensure that research

funding achieves maximum impact and return on investment. When a funding agency receives its budgetary allocation from the Government, no distinction is made between direct and indirect costs. The agency receives an overall budget to carry out its programmes.

Money paid out for indirect costs will not be available for direct costs. This means that, in the absence of additional funding, the payment of indirect costs will reduce the number of research projects funded. It follows from this that indirect costs should be kept to a minimum in order to maximise the extent of funded research programmes and projects.

This Report is structured as follows:

- In **Chapter 2**, the Irish public research funders and their policies in relation to funding overheads are considered;
- The funding structures of the various research institutions (universities, institutes of technology and state research organisations) are outlined in **Chapter 3**;
- **Chapter 4** provides an analysis of the indirect costs of research;
- In **Chapter 5**, practice in other countries is analysed;
- Based on practice in other countries and the principles outlined above, the policy framework proposal outlined in **Chapter 6**;
- **Chapter 7** applies the model to funded research;
- The framework policy, or model, is assessed in relation to the Steering Group's brief in **Section 8**;
- The conclusions of the Group are presented in **Chapter 9**;
- Finally, **Chapter 10 and 11** give the recommendations of the Group and timetable for implementation.

chapter two

The Overheads Policies of Research Funding Organisations

In Ireland, public research is funded, in the main, by the following government departments and state bodies:

Government departments

- The Department of Agriculture & Food (DAF)
- The Department of Education & Science (DES)
- The Department of Environment & Local Government (DELG)
- The Department of Finance (DOF)
- The Department of Health & Children (DHC)
- The Department of Social & Family Affairs (DSFA)

State bodies

- Enterprise Ireland (EI)
- Environmental Protection Agency (EPA)
- Health Research Board (HRB)
- Higher Education Authority (HEA)
- The Irish Research Council for Humanities & Social Sciences (IRCHSS)
- The Irish Research Council for Science Engineering & Technology (IRCSET)
- The Marine Institute (MI)
- The National Council for Forest Research and Development (COFORD)
- Science Foundation Ireland (SFI),

Research funding is also provided by international agencies, most of it from the European Commission's framework programmes and the UK-based Wellcome Trust.

Research funding categories: Public funding for research can be divided into three categories:

- Research infrastructure
- Fellowships
- Research projects

For all three categories, the funding process begins with open competitions resulting from calls for proposals. The proposals are judged on criteria prescribed by the funding agency, and are evaluated by relevant national and international experts. Successful applicants are awarded a fixed amount to cover the costs of the proposal.

In the case of the HEA's PRTLI programme, applications for funding are made by institutions (and not individuals) and are for comprehensive research programmes, including dedicated research infrastructure. For fellowships, an individual researcher applies for funding to cover their salary at an institution of choice. Applications for project funding are made by established staff members of third-level institutions, public research organisations and health boards/hospitals.

Research infrastructure: To date, HEA has invested €605 million (Capital €404.3 million, Recurrent €200.7 million) in the third-level sector through the Programme for Research in Third-Level Institutions (PRTLI). Science Foundation Ireland's centres for science, engineering and technology scheme (CSET), to foster industry/academic research partnerships, were launched in April 2002. Both schemes provide funding for constructing new buildings dedicated to research.

The Marine Institute's RTDI measure supports the design and construction of the new €65 million research vessel Celtic Explorer (Sub-Measure 1) and upgrading the national marine RTDI infrastructure (Sub-measure 2). The Department of Agriculture and Food does not formally fund infrastructure, but it provides such funding under the Food programme (NCFRP & FIRM), where this is seen as necessary to carry out research projects funded under the programme. This funding includes some buildings, laboratory refurbishment and the provision of large-scale process development facilities.

The funding of purpose-built infrastructure for research covers direct building costs. There are also associated running costs. For PRTLI (Cycle 3), a provisional rate has been agreed between the Conference of Heads of Irish Universities (CHIU) and the HEA, which contributes to the running costs of research buildings.

Fellowships: The term 'fellowships' is used here to cover all schemes that fund individual researchers through scholarships and fellowships. A scholarship provides a bursary to fund a research degree, usually a PhD. The term fellowship is much broader and covers schemes that support postdoctoral to senior professorship research.

All the public funding agencies listed at the beginning of this chapter fund postgraduate and/or postdoctoral fellowships directly or indirectly:

- The two research councils, IRCHSS and IRCSET, offer a range of fellowships to support postgraduate, post-doctoral and senior researchers;
- SFI's fellowship schemes are intended to attract outstanding international researchers to Ireland;
- HRB's focus is on health-related fellowships, e.g., clinical, health services research, nursing and midwifery fellowships;
- DAF does not have a fellowship programme, but Masters/Ph.D./postdoctoral researchers are funded within the food and stimulus programmes;
- HEA does not have specific fellowship schemes but funds postgraduate, postdoctoral and senior researchers through its PRTLI programme;
- EPA funds scholarships and fellowships in a number of environmental and related disciplines as part of a capability development initiative to increase the numbers of highly qualified researchers in this area.

Both in Ireland and internationally, funding agencies contribute to the indirect costs of fellowships through what is commonly termed a "bench fee", where a fixed amount is allocated to a fellowship. The bench fee covers costs such as materials/consumables, general administration, travel and, in the case of postgraduate scholarships, the fees for M.Sc., M.A. and Ph.D. degrees.

Agencies such as the European Commission have two bench fees: One covers desk research and a higher fee covers laboratory/clinical research, reflecting the higher costs associated with experimental research. For example, the Marie Curie Fellowship scheme funded by the European Commission supports postdoctoral researchers, where the amount of the bench fee is fixed on the basis of laboratory/non-laboratory based research.

Research Projects: All the public funding agencies sponsor specific research projects with defined outcomes on topics in scientific, engineering, medical, technological, human and social sciences. Project research is the largest component of most of their research funding. Table 1a illustrates the type of funding provided by the agencies. Details for each organisation are given in Appendix B.

Table 1a: Contribution to research costs paid by funding agencies

Definition	HEA	SFI	EI	HRB	EPA	MARINE	DAF	STRAND III (DES)	EC
Direct Costs									
1. Payroll*	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. Direct Project Costs**	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. Other Direct Costs***	Y	Y	Y	Y	Y	Y	Y	Y	Y
4. Infrastructure Costs	Y	Y	N	N	N	Y	N	Y	N
Indirect Costs									
5. General Technical Support	Y	Y	N	N	Y	Y	Y	Y	Y
6. Accounting Services	Y	Y	N	N	Y	Y	Y	N	Y
7. Administration Services	Y	Y	N	N	Y	Y	Y	N	Y
8. Building Maintenance & Running Costs	Y	Y	N	N	Y	Y	Y	N	Y
9. Telecommunications	Y	Y	N	N	Y	Y	Y	N	Y
10. Library & Information	Y	Y	N	N	Y	Y	Y	Y	Y
11. Central Computing Services	Y	Y	N	N	Y	Y	Y	N	Y
12. Technical Workshops	Y	Y	N	N	Y	Y	Y	Y	Y
13. Use of Existing Equipment	Y	Y	N	N	Y	Y	Y	N	Y
14. Office Support & Secretarial Services	Y	Y	N	N	Y	Y	Y	N	Y
15. Office & Lab Space	N	N	N	N	N	N	N	N	N
16. Amortisation of Buildings	N	N	N	N	N	N	N	N	N
17. Student Services	N	N	N	N	N	N	N	N	N

*includes PRSI, pension, insurance **Equipment, consumables, materials ***Travel, conferences

The table includes funding from the European Commission (EC) through the Framework Programmes, as it is a significant source of research funding in Ireland. The list of costs, 1-17, is taken from a cost breakdown that is used by the research community in Australia and which is similar to research funding cost analogies used in other countries.

Direct costs (items 1-3) are funded by all the agencies; some pay indirect costs (items 5-17). The agencies that pay indirect costs calculate their contribution as a fixed percentage of either the staff or total costs of the project. This percentage rate varies between the agencies and is fixed for all institutions. HEA, under Cycle 3 of PRTLI, introduced an indirect costs rate of 15% of staff costs. DAF pays 40% of staff costs as a contribution to indirect costs. SFI paid an overhead of 15% on salary costs in the first round of its funding. It is now paying a rate of 30% of modified total direct costs (total direct costs less fixed equipment) as a contribution to indirect costs.

The salaries of academic staff are not accounted for in project funding. The only staff costs funded by research agencies are additional researchers hired for the duration of the project. Some agencies make a limited contribution to permanent staff time, if this input is regarded as essential for the implementation of the project, for example, the Environment Protection Agencies (EPA) RTDI programme pays a maximum of 15 days per project year, per contract person hired for academic supervisors. The Department of Education & Science (DES) technological sector research programme (Strands I and III), and Science Foundation Ireland pay replacement teaching costs.

The Higher Education Authority, through its core recurrent funding pay academic salaries in full. In effect this funding subsidises the other research funding agencies by covering the costs of the time spent by existing academic staff on funded research projects.

Where agencies contribute to indirect costs, they do not specify where, or how, these funds should be spent. The institutions have the responsibility of ensuring that the indirect costs are correctly allocated to the necessary resources to support the funded research project.

Summary: in two of the three main categories of public research funding -infrastructure and fellowships - public funding agencies, in many instances, pay for overheads. In the third category - research projects - only some of the agencies pay some of the overheads. Table 1(b) gives a summary of the categories funded and shows where the overhead contribution is paid.

Table I(b)	Summary of funding schemes and overhead payments		
Agency	**INFRASTRUCTURE**	**PROJECTS**	**FELLOWSHIPS**
DEPT. AGRICULTURE AND FOOD	Y	Y	N
DES (STRAND III)		Y	
ENTERPRISE IRELAND		N	
EPA		Y	
EUROPEAN COMMISSION		Y	Y
HEA	Y	Y	
HRB		N	N
IRCHSS		N	N
IRCSET		N	Y
MARINE INSTITUTE	N	Y	
SFI	Y	Y	Y

chapter three | The Research Institutions

Publicly funded research is carried out in third-level institutions and public research bodies. The main research institutions are:

Third-level

- The Universities
- The Institutes of Technology
- Dublin Institute of Technology
- The Royal College of Surgeons in Ireland

Public bodies

- Teagasc
- Dublin Institute for Advanced Studies

The principal activity of the universities and the institutes of technology is teaching, and their core State funding is based to a large extent on student numbers. Research is important, but it is not the main driver of State funding for the day to day running of these institutions.

The Universities: Historically the recurrent funding provided by HEA to the universities has covered day-to-day running costs associated with teaching and research related activities. Grants are largely related to student numbers and are independent of the level of research funds secured by the university.

A typical breakdown of a university's expenditure is as follows[1]:

	% share
Academic Departments	55%
Academic Services	11%
- Library (6%)	
- Computer (4%)	
- Other (1%)	
Premises	13%
Central Administration	8%
Student Services	4%
General Education	3%
Miscellaneous (including transfer to Capital)	6%
	100%

1 The data presented in this section has been sourced by the relevant Steering Group members from their institution's accredited financial statements.

HEA does not allocate separate grants for teaching and research nor do universities separate the costs associated with teaching and research. The universities have discretion within the statutory framework to apportion the block grant between teaching and research.

In addition to general scholarship and keeping abreast of subject developments, the HEA grant allows academics to develop, supervise and participate in research programmes and projects that are funded by the European Commission, Enterprise Ireland, SFI and others. HEA funding thereby makes an indirect contribution to the research programmes of other public agencies which do not fund indirect research costs.

The Institutes of Technology: The institutes of technology obtain their core funding from the Department of Education and Science. The recurrent element of the core funding is in two categories, pay and non-pay. Audited information supplied to the Group by one Institute gives the following breakdown of expenditure:

	% share
Academic Departments	80%
Central Services (computing, library, licences, insurance, waste disposal, etc.)	7%
Premises	5%
Materials, consumables, equipment and training, travel and subsistence (directly related to teaching)	8%
	100%

The 1992 Regional Technical Colleges (RTC) Act (Section 5:1 c and d) empowered Institutes of Technology to engage in research for the first time. The Institutes of Technology core funding is for the teaching programme only and, unlike the universities, the institutes have no core funding to support research.

Dublin Institute of Technology (DIT): The Dublin Institute of Technology Act of 1992 states that research is one of the functions of DIT. Since its incorporation, the Institute has pursued the development of its research capability. It receives no direct capital or recurrent funding from the Department of Education and Science for research.

DIT's total expenditure breaks down as follows: -

	% share
Academic Departments	54%
Academic Services	4%
Library	2%
Computer	2%
Other	8%
Premises	14%
Central Administration	7%
Student Services	3%
General Education	1%
Miscellaneous (including transfer to Capital)	5%
Total	**100%**

As with the other institutes of technology, core funding is not provided for researchers.

The Royal College of Surgeons in Ireland (RCSI): RCSI's main income is from undergraduate tuition fees, principally from non-EU students, which are significantly higher than fees from EU students. As the college is now entering the free fees scheme, a major portion of the fees for EU students will come from the Department of Education and Science.

Indirect costs related to research activity have increased considerably for the College in recent years. In the past twelve months, the College has had direct research funding of €12 million, for 200 research staff. The research funding was allocated to direct salaries, consumables and equipment costs. Indirect costs were funded from the College's internal resources, mainly tuition fees. These costs included IT support, library, human resources, financial services, general administration support, space related costs etc.

The expenditure in RCSI is as follows:-

	% share
Academic Departments	48%
Academic Services	
Library	3%
Computer	5%
Other	2%
Premises	14%
Central Administration	15%
Student Services	5%
Miscellaneous	8%
Total	**100%**

Teagasc: Teagasc, the agriculture and food development authority, was established under the Agriculture (Research, Training and Advice) Act, 1988. Teagasc provides integrated research, advisory and training services to the agriculture and food industry and rural communities.

State funding makes up 80% of its income. This includes funding from the food institutional research measure and the Agriculture RTDI measure of the National Development Plan. Other income sources are EU funding (1.5%), grants, levies and donations (2 %), fees for services (12.5%) and farming operations (4%).

Teagasc calculates its research overhead costs and these are used in contracts secured at both national and international level (See Appendix C). Teagasc has always used an agreed actual overhead rate in European Commission Framework contracts and the Commission on various occasions has audited the basis of the calculation.

Dublin Institute for Advanced Studies (DIAS): The Dublin Institute for Advanced Studies is a publicly funded independent centre for research in basic disciplines. It is funded mainly by a grant-in-aid from the Department of Education and Science. In addition, significant, but fluctuating amounts of project specific funding are obtained from the EU and other sources. This funding has contributed to, on average, about 10% of its income over the last few years and is rising.

chapter four

Analysis of Indirect Costs of Research

By definition, the direct costs of research are easily assigned to a specific research project and are paid by direct grant funding. Indirect costs are those involving resources used on a common basis by different individuals and groups, making it difficult to assess precisely which users should pay what share.

The establishment of a formula for identifying and quantifying indirect costs on a basis that is agreed by both research funders and recipients is an essential prerequisite to the funding of indirect costs. The development of such a formula has been a key priority of the Steering Group.

It is usually easy to make the distinction between direct and indirect costs. For example, if a researcher has to buy a chemical for a specific experiment, then that clearly is a direct cost to the grant. For reasons of practicality, a researcher's use of electrical power, water and other utilities are not usually charged directly. Equally, the services of the central office for purchasing and accounting are not charged. Such costs are termed as indirect costs.

Attributing an indirect cost for the use of research space used in a specific project can be extremely complex. A building may house many investigators who are involved individually and collectively in teaching, research, public service and other functions. Each researcher may have several research projects, which may use common space in different ways. Determining the premises costs (e.g. light, heat, etc) that should be attributed to any particular faculty member's research project is difficult.

Cost breakdown: The costs incurred by third-level institutions reflect their primary activities, teaching and research. The main costs are in the following categories:

- **Academic Department:** academic and research staff, technical support staff, administrative support staff, consumables, office expenses, telephone, etc.
- **Central Administration:** human resources, finance office
- **Research Support Office**
- **Library:** use by research staff and students, subscription to research journals
- **Computer Centre:** general support for research, computational time
- **Dedicated Research Service:** e.g., electron microscopy, bioresource centre, if not identifiable as a direct cost
- **Premises:** space, heat, light, security, insurance, cleaning
- **Student Services:** medical services, careers information, etc

These categories apply to a typical university and are also relevant, with modification, to institutes of technology and other research bodies.

Cost definitions: Taken together, the pay and non-pay costs of academic departments comprise the direct costs of a university budget. All other expenditure, e.g. library, central computer support, premises upkeep, central administration, student services, etc, are indirect costs.

In a typical university budget, direct costs comprise approximately 55% to 60% of total expenditure. The balance of 45% to 40% represents the indirect costs. Indirect costs, as a percentage of direct costs, are therefore 67% to 81%.

There is no data available that separates teaching and the research costs in Irish universities and institutes. The cost-drivers are substantially similar. The research staff directly employed on a project require support staff who will generate similar levels of indirect costs. There is a significant difference between universities and the institutes of technology: In the universities, the cost of academic staff time on research is covered by the HEA block grant and is not built into the direct costs of research. In the institutes of technology sector there is less discretion or flexibility in using academic staff time to supplement funded research activity.

chapter five | Practice in other Countries

In developing a national perspective, the Steering Group has examined best practice in a number of other countries, specifically those that have a successful track record in research. The Group focused on three aspects:

- How research overheads are calculated in the countries surveyed
- How research overheads are paid by the funding agencies
- How research overheads are spent within the institutions.

The European Commission: Over the last 20 years, the European Commission Framework Programme has contributed significantly to Irish research. This funding has grown from €44 million in the Second Framework Programme (1986-1990), to €88 million in the Third Framework Programme (1990-1994), €183 million in the Fourth Framework Programme (1994-1998), and to approximately €125 million in the Fifth Framework Programme (1998-2002).

The Commission has consistently provided funding for research overheads under a variety of funding models. Overhead rates on research contracts vary depending on the specific programme. There are two main formulae now used in the Sixth Framework Programme (2002-2006):

- **Full-Cost Model**: All costs are reckoned, including the time of academic staff. An overhead rate, computed by audited accounting systems, applies generally to the staff costs and can exceed 100% of the basic salary cost. Note that EC funding covers only 50% of the total project costs.

  This method suits research organisations such as Teagasc and the National Microelectronics Centre (NMRC) in UCC who can clearly identify the overhead. It is unsuitable for universities which, throughout the EU, do not have the accounting systems that can identify research overhead costs.

- **Additional-Cost Model:** This is applied by the EC to 95% of third level institutions. The salary cost of principal investigators is not reckoned; only the salaries of additional research staff specifically employed on the contract are included in the project budget, together with consumables, travel, publication costs, equipment (20% depreciation per annum), etc. The overhead rate is set at 20% of these additional costs.

The overhead rate for the additional cost model was agreed between the Commission and the Member States. It gives a formula that is acceptable to all participants in the Framework programmes - third-level institutions, public and private research organisations, industry and government bodies - and it has worked well across different countries and organisations. The model uses a single flat overheads rate for all institutions that is calculated as a percentage of the total

direct project costs, and can be done on the basis of total or staff costs. The Commission delegates the responsibility for distributing the overheads to the institutions and carries out periodic audits.

Both models will be used for calculating overheads in the Sixth Framework Programme 2002-2006.

France: There is no single national policy on indirect costs. But France is moving towards a single system that will be based on the European Commission's approach. One striking feature of current policy is that there is a large variation in calculating research overhead rates between agencies and funding schemes. (See Appendix D for details.) These variations take into account the different overheads associated with different types of research. For example, the French Atomic Energy Agency pays a high overhead rate on nuclear projects due to the high costs of security and safety. There are no explicit requirements for the third-level sector to account for expenditure, although some agencies set caps on the allocation to certain areas. The Ministry of Research, for example, limits management costs to 4%.

Sweden: The Swedish research councils and the universities have a single national policy. This pays 30% of research grants as indirect costs, with 12% allocated for accommodation, light and heat, and 18% for administrative costs.

Finland: There is no single national policy on indirect cost funding in Finland. The Academy of Finland, which is the major funder of research, pays a maximum of 12.5% to funded projects as a contribution to indirect costs. The Technological Development Centre (TEKES) pays indirect costs at a rate of 46% of direct salary costs. Third-level institutions decide internally how to use the funding.

United Kingdom: In the past, the UK has employed a system where indirect costs were divided into human resources and facilities. The research councils paid an overheads cost equivalent to 46% of the salaries of staff hired to carry out the research project. In addition, institutions received annual allocations for infrastructure and facilities from the higher education funding councils based on institutional performance in a research assessment exercise. The system is now under review. There is a widespread perception that calculations were not transparent, the figure of 46% was arbitrary and the universities were not charging the full cost of conducting research - which had a negative impact on the teaching budget by diverting resources to support research.

The UK is now in the process of moving to a new system known as TRAC (Transparent Approach to Costing). The key elements of TRAC are:

- There will be "top level" cost reporting in three categories: Teaching [T], Research [R], Other [O].
- T and R will be broken down into publicly and non-publicly funded categories.
- One for each of T, R, O by the following categories: medical, laboratory and classroom based.
- There are three proposed cost types; academic staff, academic services (library, central computing services), infrastructure.
- The cost drivers are academic time, square meterage, working capital (profit on activity contemplated), and capital costs (charge depreciation).
- The Higher Education Funding Council of England (HEFCE) proposes moving away from staff costs as the base for a rate.

In summary the TRAC approach is based on the principal that full costs should be identified and recovered by the universities. The indirect cost rate will be set for each university based on actual expenditure. It is expected that TRAC will be phased in over the next 3 years.

Australia: In Australia, contributions are made to research overheads by the Department of Education, Science & Training (Higher Education Division), and by Research Funding Councils. Funds are allocated from a central fund based on past research performance. There are two research overheads funding schemes:

- The Research Infrastructure Block Grant Scheme (RIBG) is a competitive funding scheme which allocates funds based on three weighted criteria. These relate to each institution's performance in attracting research income (60%), research student numbers (30%), and quality of research output (10%).
- The Research Training Scheme (RTS) provides funding for research training, and the sum allocated is calculated by reference to the number of research students completing degrees (50%), proportion of research income (40%), and research output as measured by publications (10%).

The total amount available from each scheme is fixed. The actual amount for RIBG+RTS works out at about 16% of direct costs. The use of funds is monitored on a periodic basis by the Department of Education. It is not clear whether or not the Australian system meets the full overhead costs.

The model does not place any requirements on the institution as to how the indirect costs should be allocated. Each university has its own policy on the allocation of overheads. In the University of Western Australia, for example, 68% goes to the university department. The remaining 32% goes to central services and is split as follows - 35% facilities (animal, microscopy etc), 35% administration, and 30% library.

In **Germany** the federal funding agencies do not pay for research overheads. The universities are expected to pay these overhead costs from their core funding, which they receive from the state governments.

United States: In the United States, there is an established single system for paying research overhead costs that is accepted by all Federal funding agencies and the third-level sector. The system, which has been developed and refined over a fifty-year period, is detailed in the Federal Government Office of Management and Budget (OMB) document Circular A-21[2]. The process is very well explained in the University of Washington document "A Primer on Facilities and Administrative Costs[3]

In summary, the system provides that overhead costs are allocated to every Federal project by the funding agency and each institution negotiates a rate for indirect costs, which is audited and updated on a regular basis.

The indirect costs paid by federal agencies are calculated on research that is funded by the federal government. Indirect research costs associated with industry or internally funded are not included in the calculation.

Overhead costs within the institution are assigned to one of nine cost pools under one of two categories: facilities and administration. (See the University of Washington example in Table II below.) A percentage from each cost pool is attributed to research activity, using a standard procedure. Totalling these percentage amounts gives the university's total indirect costs attributable to funded research.

2 Office of Management and Budget (OMB), Circular A-21 - www.whitehouse.gov/omb/circulars/a021/a021.html

3 A Primer on Facilities and Administrative Costs - www.washington.edu/research/gcs/gim/gim22a.html

The *total indirect costs* (TIDC) are divided by the *modified total direct costs* (MTDC, or total direct costs minus equipment) to give an indirect cost rate (ICR). The formula is:

$$\text{Indirect Cost Rate ICR} = \frac{\text{TIDC}}{MTDC}$$

Table II University of Washington - indirect cost components and their percentage of modified total direct costs (year 2000)

Rate Component	Percentage
Facilities	
1. Buildings & Improvements	5.0
2. Interest	3.0
3. Equipment	4.0
4. Operations & Maintenance	12.5
5. Library	1.5
Subtotal Facilities	**26.0%**
Administration	
6. General Administration	8.5
7. Departmental Administration	15.5
8. Sponsored Projects Administration	2.0
9. Student Services Administration	0.0
Subtotal Administration	**26.0%**
Overhead	**52.0%**

Table II gives the percentage breakdown of the University of Washington's on-campus research and the percentage of modified total direct costs. Similar data is compiled for every U.S. university, using historical data and the above formula to arrive at an indirect cost rate. This is a complex procedure and requires a significant investment by the university.

Universities are mandated by the funding agencies to distribute the overheads to ensure the research project is fully supported, and the overhead is not necessarily allocated using the percentage breakdown indicated in Table II. There are some rules: the indirect costs for 'Administration' are capped at 26%. There are unallowable costs where overheads cannot be spent (See Appendix E).

The negotiation of rates for all universities is done with the U.S. Department of Health and Human Services (DHSS) and the Department of Defence (Office of Naval Research) on a two or four year cycle. Examples of rates for a sample of US universities are given in Table III.

Table III Percentage Indirect Cost Rates for a sample of US universities (Year 2000)

Institution	Overhead Rate (TIDC/MTDC%)
Johns Hopkins University	64.0
Massachusetts Institute of Technology	63.5
University of Southern California	63.5
Stanford University	56.4
University of California, Los Angeles	53.0
University of Michigan	52.0
University of Washington	52.0
University of Arizona	51.5
University of Chicago	51.0
University of Texas at Austin	50.0
University of Utah	49.5
University of Minnesota	48.0
University of California, San Francisco	47.5
University of North Carolina at Chapel Hill	44.5
University of Wisconsin	44.0

The table shows significant differences, with rates varying between 40% and 64%. There are two reasons for this:

- The wide variation in electricity, water and other utility costs across the U.S.
- One of the eligible cost pools is interest on debt incurred on loans taken for research building expansion. Universities like Johns Hopkins, which invest significantly in research infrastructure, will recover a high overhead.

Once the indirect cost rate has been agreed, it is applied to Federal research grants.

Appenix F summarises the University of South Carolina experience in relation to indirect costing for research.

Having reviewed the methods of funding for indirect costs used by the European Commission and in the countries covered in this chapter, the Steering Group analysed the models under three headings:

1. **Calculating the institutional indirect costs associated with funded research:**
   The U.S. and the U.K. systems allow for payment of the actual indirect costs to the institutions of conducting research. The U.S. model provides an institutional overhead rate that is based on audited accounts, and the U.S. definitions of direct and indirect expenditure are recognisable and transferable to the Irish research system.

   The U.K. model is in transition and moving towards the U.S. system. The European Commission model sets the overhead at a fixed rate of 20%, and takes no account of the actual overhead costs of research within institutions. The Australian system is based on a central overhead fund, but there is no systematic method of estimating the size of the central pool, and it is not based on the actual institutional costs of supporting research.

2. **The method of payment of the indirect costs by the agencies:**
   Most countries have a fixed overhead rate that is calculated as a percentage of the total or staff project costs. This results in a direct relationship between the amount of the research award and the corresponding indirect cost. The Australian model distributes the overhead funds from the central pool: using a competitive process that includes the total amount of research funds secured.

3. **How institutions allocate funded indirect costs:**
   In all cases studied, the funders have delegated responsibility to the institutions for ensuring that indirect costs paid for a research project are used to provide adequate support for that project. In some cases, there is a nationally agreed allocation between different cost components. In the United States, each university provides a detailed breakdown of where the total aggregate indirect cost payments received are spent. They are not required to apply this formula for any single funded project; and there are clearly identified areas where overheads cannot be spent.

Advantages of U.S. model: It addresses the three aspects stated above by providing that:

- There is a systematic procedure for the identification of indirect costs and consequently the calculation of a rate for each institution;
- Indirect costs are associated directly with individual projects; this allows for variable rates depending on the funding programme;
- Institutions are responsible for distributing the indirect costs; areas where overheads cannot be spent are clearly identified;
- The overhead rate is audited regularly which ensures that the indirect costs are reviewed and properly updated.

chapter six

Developing a Policy Framework

The Steering Group set itself the task of developing a policy framework or model for research overheads that will provide:

- a method for calculating the indirect costs associated with funded research for third level and research institutions;
- a method for the funding agencies to contribute to these costs;
- a method for the distribution of the indirect costs by the funded institutions.

And it has been guided by the following principles:

- the need to ensure sufficient funding of research;
- no cross-subsidisation between research activities;
- full transparency;
- no double funding;
- minimal bureaucracy;
- recognition of the diversity of the funding agencies and the need to differentiate between different types of funding (desk and laboratory).

In the previous chapter, the Steering Group found that the United States model provides the best international basis for developing an Irish policy framework. The U.S. model has evolved over a considerable time period and it has been subject to numerous adjustments of both a major and a minor nature. It operates today as a consequence of this historical evolution. Similarly, the U.S. model will need further adjustments and fine-tuning to suit Irish circumstances.

With the U.S. model as a guide, the first step in preparing the Irish policy framework has been to identify the current level of funded research project activity in Irish third level institutions and the associated overhead cost recovery. This data from audited accounts is presented in Table IV opposite.

Table IV	Research project expenditure and actual overhead recovery in a sample of third level institutions (1999-2001)[4]				
Institution	**A**	**B**	**C**	**D**	**E**
Research expenditure as % of total income* **(net of overheads)**	23.5	18.0	11.3	12.3	13.8
Overhead recovery as a % of research expenditure	7.3	5.5	5.3	4.2	2.0

*** Total Income = Fees + Core Grant + Funded Research + Other**

In this table, *total income* is made up of four items: fees, core grant, funded research and other, which includes interest on endowments and non-EU fees, and is less than 5% for most universities.

There are variations between Irish institutions in the share of total costs accounted for by research projects. Research requires a level of overhead to enable it to be undertaken. This level is currently not related to the scale of the project. Research support is generally provided by a basic overhead level, which does not increase proportionally to the level of research income.

The U.S. model would involve: -

- building an historical measure of research overhead costs on the basis of detailed audits;
- expressing this overhead as a share of modified total direct costs (MTDC), which broadly equate to the sum of salaries and wages plus non-pay direct costs, minus equipment;
- applying this rate to the MTDC of each future research project in order to arrive at the gross cost of the project to the funding agency.

In order to build an historic measure, total overhead costs need to be allocated into cost pools. The U.S. model (as shown in chapter 6), divides the total costs into two general classifications, facilities and administration, both of which are further allocated to give a total of nine cost pools.

These U.S. cost pools need to be modified for Ireland into what is termed Eligible Cost Areas (ECAs). The costs attributable to research do not differ greatly between countries, although the terms used may be different. Table V provides a comparison between the U.S. cost pools and the proposed Irish eligible cost areas.

4 Note that all of the data in this section has been taken from the audited accounts of a range of universities and institutes of technology, both large and small. The institutions are not identified by name but labelled A-E

Table V Eligible Cost Areas - US and Ireland

	US Cost Pools	Ireland (ECAs)
Facilities		
Operations & Maintenance	Yes	Yes
Equipment	Yes	Yes
Computer Centre	No[5]	Yes
Dedicated Research Services	No[5]	Yes
Library	Yes	Yes
Buildings & Improvements	Yes	NA[5]
Interest	Yes	NA[6]
Administration		
General Administration	Yes	Yes
Departmental Administration	Yes	Yes
Funded Projects Administration	Yes	Yes
General Education Expenditure	No	No
Student Services	No	No

5 usually included in Operations and Maintenance

6 This will be open to discussion with individual funding agencies

ECAs facilitate the determination of overall agreed indirect costs for each institution by the type of research funded. For example, some of the ECAs used above may not be relevant to agencies involved primarily in desk research (Dedicated Research Services and Computer Centre, for example). Following the U.S. model, this allows for the calculation of the total indirect cost (TIDC) for research within an institution or for an identified cost centre within an institution (e.g., National Microelectronics Research Centre in UCC).

The full adoption of the U.S. model would require negotiation between each university and its agency for the purposes of establishing an overhead rate. These negotiations would usually occur every three years (Appendix F).

The core of the U.S. approach involves the separation of university research and teaching costs. In Ireland, there is no similar separation of teaching and research costs and it would take some time to do so. This became clear when the Steering Group attempted to apply the U.S. model, using a detailed audit that had been undertaken for an Irish institution.

The Group modelled a number of funding examples within an institution. The Group determined from these models the actual level of overheads associated with research. When these models were introduced to other institutions it was established that separate models had to be built for each institution.

The Steering Group then decided to take an alternative approach, which involved applying the U.S. methodology, without attempting a breakdown of overhead between the teaching and research activities. This exercise is outlined for a sample of five institutions in Tables VI, VII and VIII. These institutions include a representative sample from universities and the institutes of technology sector (with both small and large institutes included). The data used in Tables VI-VIII are based on the statutory financial accounts and on information received directly from the institutions concerned.

Table VI: Indirect Costs in a sample of Higher Education Institutions (A-E)

	€'000				
	A	**B**	**C**	**D**	**E**
(1) Total core expenditure	102,777	110,285	113,774	162,283	30,266
(2) Total funded research expenditure	31,387	8,882	24,883	20,676	976
(3) Total gross expenditure (1) + (2)	134,164	119,167	138,657	182,959	31,242
(4) Less equipment costs:					
Core	(2,466)	-	(5,533)	(3,720)	(407)
Research	(4,112)	(2,773)	(2,791)	(5,530)	-
(5) Modified Total Costs (3) - (4)	**127,586**	**116,394**	**130,333**	**173,709**	**30,835**
(6) Direct Costs:					
Academic, research, technician staff costs:					
- core	46,055	59,139	51,218	75,455	19,088
- research	18,813	4,204	12,666	11,340	440
non-pay:					
- core	8,748	7,124	6,454	19,553	1,465
- research	8,462	1,905	9,426	3,806	536
Modified Total Direct Costs (MTDC)	**82,078**	**72,372**	**79,764**	**110,154**	**21,529**
(7) Indirect Costs (5) - (6)	45,508	44,022	50,569	63,555	9,306
(8) Less excluded costs *	(10,827)	(5,332)	(11,602)	(15,356)	(1,740)
(9) Total Modified Indirect Costs (MIC) (7)-(8)	**34,681**	**38,690**	**38,967**	**48,199**	**7,566**
(10) Overhead rate relative to MTDC					
IRC=MIC/MTDC (9)/(6)	**42.3%**	**53.5%**	**48.9%**	**43.8%**	**35.1%**
(11) Overhead rate relative to MTC					
ICR=MIC/MTC (9)/(5)	**27.2%**	**33.2%**	**30%**	**27.7%**	**24.5%**

Lines (10) and (11) of Table VI give the overhead rate based on modified total direct and modified total costs respectively. The average rate relative to MTDC over the five institutions is 45% while that for MTC is 29%. While each institution would be free to negotiate a rate, the Steering Group proposes that there should be a standard rate that can be used without negotiation. This would be between 28% and 45%.

Setting a standard rate would achieve a number of objectives. It would:

- Provide a simple approach without the need for complex procedures to apportion the various cost drivers to research;
- Provide a target rate for institutions to work to maximum efficiency;
- Provide a formula for the immediate implementation of the policy framework.

The Steering Group proposes that the standard rate should be 30% in the first instance. This provides a strong incentive for institutions to maximise efficiency in supporting research.

In comparison with the U.S. model, it is useful to see how the data in Table VI can be analysed into the Eligible Cost Area components (cost pools). Table VII gives the various components of the Total Modified Indirect Costs. In Table VIII the overhead rate based on Modified Total Direct Costs (line 10 in Table VI) is given in terms of the Eligible Cost Areas.

Table VII: Eligible Cost Areas (Modified Indirect Costs)

	Institution				
	€'000				
	A	**B**	**C**	**D**	**E**
Premises	12,244	18,997	16,014	17,720	2,698
Library	5,097	3,280	7,228	7,195	688
Computer Centre	2,859	2,168	4,606	5,946	302
Other Academic Services	917	-	863	1,650	-
Administration - central	8,802	9,896	6,724	8,347	3,522
Departments	4,762	4,349	3,532	7,341	356
Total Modified Indirect Costs	**34,681**	**38,690**	**38,967**	**48,199**	**7,566**

Table VIII: Eligible Cost Areas (Modified Indirect Costs) as a Percentage of Modified Total Direct Costs

	Institution				
Facilities	**A**	**B**	**C**	**D**	**E**
Operations and Maintenance	**15.2%**	**26.3%**	**20.1%**	**16.2%**	**12.5%**
Library	6.2%	4.6%	9.1%	6.5%	3.2%
Computer Centre	3.5%	3.0%	5.8%	5.4%	1.4%
Dedicated Research Costs	0.6%	- *	0.7%	1.5%	-
	10.3%	**7.6%**	**15.6%**	**13.4%**	**4.6%**
Administration					
Central Administration	10.6%	13.6%	8.4%	7.5%	16.3%
Departmental Administration	5.7%	6.0%	4.4%	6.7%	1.7%
	16.3%	19.6%	12.8%	14.2%	17%
Funded Project Administration	0.5%	- *	0.4%	- *	- *
TOTAL	**42.3%**	**53.5%**	**48.9%**	**43.8%**	**35.1%**

* not separately identified, included in central administration

The separation into the various components of institutional support that contribute to the total overhead facilitate the identification of a laboratory and desk research overhead. In order to calculate a desk based rate those components that are unique to laboratory based research should be subtracted; the computer centre and dedicated research services. For example, in Institution A the overhead rates based on MTDC and MTC are 42.3% and 27.2%, respectively (see table VI). This gives the rate for desk-based research, having subtracted these contributions at 38.3% (MTDC) and 24.2% (MTC). The average rate relative to MTDC over the five institutions is 40% while that for MTC is 25%. The Steering Group proposes that the standard rate for desk based research should be 25%.

Channelling indirect costs in the research institutions: Following national and international practice, the recipient institution is given the responsibility of allocating the indirect costs to the appropriate areas subject to periodic audit. Consequently, each institution must ensure that central and departmental support is provided to the research programme. There should also be a list of non-eligible (NECA's) costs areas modelled on those used in the U.S. (Appendix E).

chapter seven

Applying the Model to Funded Research

The first consideration is which schemes are appropriate for indirect cost support. As outlined in chapter 3, the research funding is in three categories: infrastructure, fellowships and projects.

Infrastructure: In the U.S., indirect costs are used to fund buildings and improvements, but only if the buildings are not funded by, say, a federal agency.

In Ireland, buildings and improvements are ineligible for overhead funding for the present, as infrastructure is directly supported by a number of agencies, notably HEA and SFI. Interest cost for research building expansion is similarly excluded. Of course, this option could be introduced in the future. Other direct costs of building, such as renting additional space and direct refurbishment, may be included either as part of the direct costs or, by agreement with the funding agency, as one of the indirect costs.

In the University of Washington example, 3% of the indirect costs were attributable to the capital costs of buildings and the payments of interest. In the longer term, this might be an important source of the provision of new research space and so might be included as part of the funding model. HEA, through PRTLI and similar schemes, provides most of the capital costs of buildings at present, such costs do not attract capital funding under the U.S. model. Capital costs that are met by the health services are treated identically.

Fellowships: Funding of individual researchers incurs indirect costs for the institution where the scholar/fellow is hosted. The recovery of the indirect costs would certainly be achieved by applying the U.S. model.

The alternative method is the "bench fee", where a fixed amount is allocated to a fellowship as a contribution to the indirect costs. As noted in chapter 3, agencies such as the European Commission, have two bench fees: One fee covers desk research and a higher fee covers laboratory/clinical research, this latter reflecting the higher costs associated with experimental research.

Currently, IRCSET pays a rate of €19,100 per annum for postgraduate scholarships under the Embark Initiative. Of this, €12,700 is the stipend and €6,400 is allocated to fees, international travel, consumables and a bench fee. The bench fee provides a simple approach to the overhead on fellowships.

Projects

Funded research projects require additional staff, equipment and consequent research activity that incur an additional overhead for the institution.

To explain how the overhead is calculated using the adapted US model, an example of a four-year grant awarded to an institution is given. This will be managed by a member of staff, commonly known as the principal investigator. A breakdown of the expected costs over the four years is given in Table IX:

Table IX: Sample Project Costs (€)

Item	Year 1	Year 2	Year 3	Year 4	Total
Staff					
2. Postgraduate	24,000	24,000	24,000	24,000	96,000
1. Postdoc	40,000	40,000	40,000	40,000	160,000
Equipment	100,000	20,000	15,000	10,000	145,000
Consumables	30,000	30,000	30,000	30,000	120,000
Travel	5,000	5,000	5,000	5,000	20,000
Total	199,000	119,000	114,000	109,000	541,000

This is a typical project in the Life Sciences, led by a principal investigator (a staff member of the institution) who secured the grant following a competitive tender. The funds will be used to hire additional staff (e.g., 2 postgraduate students and 1 postdoctoral researcher). Some large items of equipment will be purchased in the first year, and smaller items in subsequent years. The various chemicals, samples and diagnostics required for the project (known as consumables) are estimated at €10,000 per researcher per annum. A travel fund of €5,000 per annum is allocated to cover conferences and collaborative work with research groups in other institutions.

The overhead costs in this example are calculated as 30% of the Modified Total Direct Costs (MTDC):
(Total Costs - Equipment = €541,000 - €145,000 = €396,000).

The overhead costs are 30% of €396,000, or €118,800

The total cost, therefore, is €541,000 + €118,800, or €659,800
Some points emerge from this example:

- The overhead costs are 18% of the total project;
- The total cost of the project is fixed from the date of the award so inflation is not contained in the overhead;
- If a particular part of the project is outsourced or subcontracted and entered as a direct cost, then this should not incur an overhead , as this is already built into the direct cost of the work;
- There are occasions when it is difficult to distinguish between what is a piece of equipment and what is a consumable. Traditionally, consumables are items such as the chemicals used in experiments. In cases where the cost of consumables is exceptionally high (e.g. diagnostics), they may be considered items of equipment. This should be negotiated directly with the funding agency;
- Where two institutions host a research project, e.g., one university and an associated hospital, the institutions should negotiate the cost sharing directly with the research funding agency;
- No direct costs or overheads are paid in respect of the principal investigator as these are covered by the institution.

This example shows how the overhead can be easily calculated for research projects using the adapted US model. The Agency does not specify how the overhead should be allocated. There are designated areas where the overheads cannot be spread - Non-Eligible Cost Areas (NECAs). The institution should ensure it is used to support the funded project.

chapter eight | Assessment of Policy Framework

The policy framework proposed by the Steering Group for identifying and paying the indirect costs of research is an adaptation of the U.S. system. The Group has assessed this framework in relation to its terms of reference and to other principles which are set at the beginning of this report. The key points of the Group's assessment are:

- The U.S. model has contributed over the past 50 years to underpinning the development, of what is generally agreed, is the highest quality research. It ensures proper and sufficient funding of research. The application of the model, with modifications to Ireland, will ensure that research here is adequately funded;
- A major strength of the modifications proposed by the Steering Group is flexibility: variable rates of indirect costs may be agreed and institutions may select the standard rate of 30% (25%), thereby avoiding a long intricate audit procedure in the first instance;
- The proposed Irish model ensures that indirect costs are allocated to a limited number of eligible cost (ECAs) areas associated with the funded research project. It should be enhanced by a list of non-eligible costs (NECAs), which can be agreed with the funding agencies and monitored regularly;
- As the indirect costs are allocated to specific projects, the policy covering that funding is applied to those projects for which they were intended. The recipient institution is responsible for ensuring that the overheads are used to ensure that funded projects receive full institutional support; this can be audited periodically;
- The mechanism for providing core funding to the third-level and research institutions is detailed in chapter 4. The core grant for universities is for teaching and research, but the research component is not specifically linked to funded projects. Funding of individual projects must be treated separately from core HEA funding to avoid overlap between core and research budgets;
- Academic salaries are currently fully covered (direct and indirect) by the HEA. Academic staff contribute time to funded research projects but these academics would not recover any of their direct or indirect costs from funded projects;
- Funding for research is competitive both nationally and internationally and only the best are successful in securing funding for projects. As the proposed framework is designed to provide the indirect costs for individually funded projects, the overheads will be awarded to those institutions with the best researchers in the system. This is an efficient and targeted way of directing these funds and will give institutions an incentive to attract and retain the best researchers. In turn, this will support and provide major incentives to researchers and institutions to conduct high quality research

chapter nine | Conclusions

1. The Steering Group, in response to its terms of reference, proposes a policy framework for research overhead costs to be implemented by the national research funding agencies and research institutions (universities, institutes of technology and public research bodies).

2. The proposed framework model is intended to support and strengthen the national objective, which is to establish world-class research programmes in Ireland and also to attract world-class researchers to support such programmes.

3. Funding for fellowships is provided by individual research grants. Allocating a bench fee is commonly used to cover indirect costs. The Steering Group concludes that the bench fee is the appropriate method of funding indirect costs for scholarships and fellowships.

4. The Steering Group has studied the methods of funding for indirect costs in selected countries. The United States system allows for the actual indirect costs for conducting research within institutions, and allows for an institutional overhead rate that is based on audited accounts. The U.S. definitions of direct and indirect expenditure are recognisable and transferable to the Irish research system.

5. In all countries studied, including the United States, the funded institutions have delegated responsibility for allocating the indirect cost ensuring that these are used to support the funded project. In some cases there is a nationally agreed allocation between different cost components. Each U.S. university provides a detailed breakdown of where the total aggregate indirect costs received are spent.

6. The U.S. model provides that:
   - there is a systematic procedure for the identification of indirect costs and consequently the calculation of a rate for each institution;
   - institutions are responsible for distributing the indirect costs; areas where overheads cannot be spent are clearly identified;
   - the overhead rate is audited regularly, which ensures that the indirect costs are minimised and properly updated.

7. The Steering Group has concluded that the U.S. provides the most comprehensive model that can meet the criteria of the terms of reference of this study. The Steering Group has adapted this model to the Irish research environment.

chapter ten | Recommendations

1. The Steering Group developed an approach to the funding of research overheads in Ireland, using the U.S. system as a template. The result is an Irish model, which is the proposed policy framework to allow each research institution to negotiate an overhead rate as a medium term objective. To avoid unnecessary cost and bureaucracy, the policy framework identifies and proposes a minimum efficient scale of operation, i.e., a standard overhead rate without the need for a full audit that can be immediately implemented.

2. This rate would be applied to modified total direct costs, i.e., direct costs less equipment.

3. Based on information sourced from five Irish third level institutions, the average overhead cost was 37%. Given that the existing financial data do not separate teaching and research costs funded from the block grant, the Steering Group recommends, based on its review of international practice and the Steering Group's own best judgement, a standard overhead contribution rate of 30%. This rate is for laboratory based research.

4. The Steering Group recommends a different rate for desk based research as this incurs a lower overhead than laboratory based research. Typically this type of research does not utilise dedicated research services nor the computer centre. The average cost for desk based research over the five institutions surveyed was 32%. The Group recommends that the standard rate for desk based research is 25%.

5. The Group recommends two standard overhead rates for an institution for each funded project, associated with a minimum efficient scale (MES) of operation. These rates should be 30% for laboratory-based research and 25% for desk-based research. The rates should be periodically audited and updated. Detailed issues, such as the distinction between consumables and equipment, can be negotiated directly with the funding agencies. Institutions would be allowed to accept the standard overhead rate without prior audit. Institutions would have the right to determine an individual rate based on a full prior audit.

6. In the countries surveyed, there was no predetermined method set by funding agencies for allocating overheads within each individual institution. The Steering Group concludes that a similar practice should be followed in Ireland. The Group recommends that the institutions be responsible for ensuring the indirect costs are correctly spent in underpinning funded research projects. The Group recommends that a set of non-eligible cost areas (NECAs) be agreed with the funding agencies. All overhead spend would be subject to periodic audit.

7. The Group recommends that the funding agencies and research institutions work together to develop a common policy for the provision of research scholarship and fellowship bench fees with differing rates for laboratory and desk research. The aim should be to agree appropriate bench fees by the end of 2003.

8. The various national funding agencies have differing specific objectives for their funding programmes. The objectives include building research infrastructure, supporting the broad base of scientific research and targeting specific areas. In all cases, agencies and research institutions are working together to develop world-class research in Ireland. The agencies provide the additional research costs to carry out the research; funding additional staff, equipment, consumables and travel. The research institutions provide the core staff and facilities (funded by the central government departments). The Steering Group recognises that these contributions are complementary and, together with the proposed policy framework will provide a structure for the proper and sufficient funding of research.

9. The Group proposes a timetable for the implementation of the new policy framework, with a phasing-in and monitoring period between 2003 and 2006. This will enable agencies which do not currently fund overheads to do so with the least disruption to their existing research programmes. For agencies who do not currently contribute to overhead costs, we recommend that they have the option to progress to the new system on a phased basis up to 2006 (the conclusion of the current National Development Plan) in order to avoid any abrupt reduction in the volume of research funded by them. This is of course unless additional funds are made available specifically to support indirect costs.

10. The Steering Group recommends that Forfás and the HEA should progress implementation of the recommendations of this report. From a practical point of view, it would be valuable to have a forum where the detailed implementation can be discussed by the funding agencies and research institutions. The Group therefore recommends that the HEA and Forfás establish a Steering Committee, with representatives from funding agencies and research institutions, to oversee the implementation of this policy.

chapter eleven | Timetable for Implementation

The Steering Group recommends the following implementation timetable:

2003

- Consideration by funding bodies and research providers of the recommendations of this report
- Establish a Steering Committee for Implementation of the Policy Framework
- Agree Eligible Costs Areas (ECAs) and non eligible cost areas (NECAs) with each of the funding agencies and funding streams within agencies
- Agree the 30% and 25% national standard overheads for all research institutions
- Agree appropriate bench fees for fellowships associated with desk and laboratory based research
- Agencies begin allocating indirect costs and bench fees at an initial agreed standard rate

2004-2005

- Assessment of the policy framework co-ordinated by HEA/Forfás
- Coordinated development of required accounting systems to facilitate determination of institutional overhead rates.
- Possible negotiation of individual indirect cost rates for each research institution.

2006

- Preparations for the new national development plan post-2006 should take the full costs of research (direct and indirect costs) into account

glossary of terms

C.H.I.U.	Conference of Heads of Irish Universities
CEA	Commisariat à l'Energie Atomique (France)
COFORD	National Council for Forest Research and Development
CSET	Centres for Science Engineering and Technology
DAF	Department of Agriculture and Food
DELG	Department of the Environment and Local Government
DES	Department of Education and Science
DETE	Department of Enterprise Trade and Employment
DHC	Department of Health and Children
DIAS	Dublin Institute for Advanced Studies
DIT	Dublin Institute of Technology
DOF	Department of Finance
EC	European Commission
ECA	Eligible Cost Area
EI	Enterprise Ireland
EPA	Environmental Protection Agency
HEA	Higher Education Authority
HEFCE	Higher Education Funding Council for England
HRB	Health Research Board
ICR	Indirect Cost Rates
IRCHSS	Irish Research Council for Humanities and Social Sciences
IRCSET	Irish Research Council for Science Engineering and Technology
MES	Minimum Efficient Scale
MI	Marine Institute
MIC	Modified Indirect Costs
MTC	Modified Total Costs
MTDC	Modified Total Direct Costs
NDP	National Development Plan (2000-2006)
NECA	Non Eligible Cost Area
PRTLI	Programme for Research in Third Level Institutions
RCSI	Royal College of Surgeons in Ireland
RIBG	Research Infrastructure Block Grant (Australia)
RTC	Regional Technical Colleges
RTDI	Research Technology and Development and Innovation
RTS	Research Training Scheme (Australia)
SFI	Science Foundation Ireland
TEKES	National Technology Agency (Finland)
TIDC	Total Indirect Costs
TRAC	Transparent Approach to Costing (UK)

appendices a-f

appendix a Terms of Reference

STEERING GROUP ON OVERHEADS FOR RESEARCH FUNDING IN THIRD-LEVEL INSTITUTIONS

1. BACKGROUND

1.1. Following a long period of under-funding, substantial Exchequer resources are now being provided for research development and innovation. An allocation in excess of €2.48bn (£1.95bn) has been provided for in the National Development Plan for expenditure on research, technology, development and innovation (RTDI).

1.2. Exchequer funding for research is now at an unprecedented level. It is appropriate therefore that funding bodies, research agencies and third-level institutions should seek to agree on an approach to identifying and settling indirect and overheads costs associated with Exchequer funded research projects and programmes in third-level institutions.

1.3. It is proposed that a review be carried out under the guidance of a Steering Group with representatives from the HEA, Forfás (SFI), the other significant funding agencies such as Enterprise Ireland, the Health Research Board (HRB), the Research Councils and the relevant Government Departments and representatives of third-level institutions. The objective of the review would be to seek agreement on an approach for the funding of overheads and indirect costs in Exchequer funded research programmes and projects in third-level institutions.

2. PRINCIPLES

2.1. The Steering Group will be asked to propose a framework (in terms of an approach to analysis, criteria and guidelines) which can be applied without ambiguity by public sector research funding organisations and third-level institutions in deciding the appropriate provision to be made for overheads in Exchequer-funded research contracts and awards.

2.2. This framework will have regard to the key concerns of research funders that Exchequer monies made available for research are spent for that purpose and are not inappropriately diverted to activities and purposes which are not directly supportive of the funded research activities.

2.3. Similarly, the framework will have regard to the fact that research activities, particularly those on a significant scale, cannot be funded on a direct marginal cost basis alone because of the claims that they make on the overall resources and facilities of third-level institutions. If the additional costs on these resources and facilities brought about by research activities are not provided for in research funding allocations, the undertaking of the research will would involve the diversion of funding, which may have originally been provided to the institutions for other purposes, particularly teaching, to research. There is also a risk that failure to fund overheads could result in the institutions incurring deficits in their current budgets. Clearly neither of these outcomes is sustainable or desirable.

2.4 In summary, the establishment of a policy framework would have a four-fold objective:

(iv) To ensure that funding provided for research purposes is not diverted to activities that are not properly chargeable to these activities.

(v) To ensure proper and sufficient funding of research activities undertaken in third-level institutions with Exchequer funding either under contract or through research awards.

(iii) To avoid the diversion of Exchequer funds to purposes for which they were not intended.

(iv) To identify any overlaps in expenditure between core and research budgets and avoid any potential for duplication of funding.

2.5 The outcome of the study need not necessarily result in the recommendation of a single percentage figure to cover all cases or in a single formula. It may be that the study will find that different approaches may be required in different circumstances. However, the principal objective of the study should be to establish a framework which can be applied readily and without ambiguity by both funders and institutions to different sets of circumstances and which will obviate the need for complex and time consuming negotiations and cost apportionment exercises in individual cases.

3. WORK PROGRAMME

3.1. The following work-programme is proposed.

(i) Identify and examine the levels of overhead associated with funded research activities in Irish third-level institutions and assess how these are likely to vary in response to increased research activity.

(ii) Examine and draw lessons from the practice of Irish research funding organisations.

(iii) Examine and draw lessons from the practice in a sample of international research organisations, particularly in the EU and USA.

(iv) Consider the individual situation and views of the organisations represented on the Steering Group.

(v) Consider the appropriateness of varying overhead contributions in different situations, such as where a new research building or an existing building is involved.

(vi) Draw conclusions and develop options from the above analyses.

(vii) Seek to agree methods and levels of payment between the parties and, if this does not prove possible, between the funding organisations.

4. ADMINISTRATIVE ARRANGEMENTS

4.1. It is proposed that the following organisations be represented on the Steering Group:

- CHIU
- Royal College of Surgeons in Ireland
- Council of Directors of the Institutes of Technology
- Department of Agriculture, Food and Rural Development
- Department of Education and Science
- Department of Enterprise, Trade & Employment/OST
- Department of the Environment and Local Government
- Dublin Institute of Technology
- Enterprise Ireland
- HEA
- Health Research Board (HRB)
- Irish Research Council for Science, Engineering and Technology
- Irish Research Council for the Humanities and the Social Sciences
- Marine Institute
- SFI/Forfás
- Teagasc

4.2. John Donnelly, Chairman of HypoVereinsBank Ireland, has agreed to act as Chairman of the group independently chaired and the secretariat will be provided jointly by the HEA and SFI/Forfás.

4.3. It is envisaged that the Steering Group may invite proposals from accountancy or consulting firms to carry out research and draw conclusions. Agreement on payments for any such consultancy will be agreed by the participating organisations.

appendix b

Research Costs Mapping

The following set of tables give a detailed breakdown of the research costs covered by funding agencies. In addition to the Irish funding agencies, those for the European Commission Fifth Framework Programme and the UK Wellcome Trust are included. We have chosen a cost breakdown list that is used in Australia as it is quite detailed. Using this list one can easily see the large number of items that come under the heading of indirect costs:-

Australian Breakdown of Costs

1. Payroll*
2. Direct Project Costs**
3. Other Direct Costs***
4. Infrastructure Costs
5. General Technical Support
6. Accounting Services
7. Administration Services
8. Building Maintenance & Running Costs
9. Telecommunications
10. Library & Information
11. Central Computing Services
12. Technical Workshops
13. Use of Existing Equipment
14. Office Support & Secretarial Services
15. Office & Lab Space
16. Amortisation of Buildings
17. Student Services

* inc. PRSI, Pension, Insurance

** Equipment, Consumables, Materials

*** Travel, Conferences

	HIGHER EDUCATION AUTHORITY		
Definition	**PRTLI Cycle 3**	**PRTLI Cycle 2**	**PRTLI Cycle 3**
1. Payroll*	y1	y1	y1
2. Direct Project Costs**	y2	y2	y2
3. Other Direct Costs***	y3	y3	y3
4. Infrastructure Costs	y4	y4	y4
5. General Technical Support	n	n	y5
6. Accounting Services	n	n	y5
7. Administration Services	n	n	y5
8. Building Maintenance & Running Costs	n	n	y5
9. Telecommunications	n	n	y5
10. Library & Information	n	n	y5
11. Central Computing Services	n	n	y5
12. Technical Workshops	n	n	y5
13. Use of Existing Equipment	n	n	y5
14. Office Support & Secretarial Services	n	n	y5
15. Office & Lab Space	n	n	y5
16. Amortisation of Buildings	n	n	y5
17. Student Services	n	n	y5
*inc. PRSI, Pension, Insurance			
**Equipment, Consumables, Materials			
***Travel, Conferences			

y1 Salaries for academic/non-academic posts, postdoctoral & postgraduates

y2 Equipment valued up to €12,700 per item plus Materials/Consumables

y3 Travel plus Other Costs (need to be fully justified)

y4 In addition to new building costs there is provision for running costs on m2 basis (current proposal from CHIU is €89/m2/yr)

y5 Overhead rate of 15% on all salary costs

SCIENCE FOUNDATION IRELAND			
Definition	**INVESTIGATORS GRANTS**	**FELLOWS**	**CSET'S**
1. Payroll*	y	y	y
2. Direct Project Costs**	y	y	y
3. Other Direct Costs***	y	y	y
4. Infrastructure Costs	y	y	y
5. General Technical Support	y	y	y
6. Accounting Services	y	y	y
7. Administration Services	y	y	y
8. Building Maintenance & Running Costs	y	y	y
9. Telecommunications	y	y	y
10. Library & Information	y	y	y
11. Central Computing Services	y	y	y
12. Technical Workshops	y	y	y
13. Use of Existing Equipment	y	y	y
14. Office Support & Secretarial Services	y	y	y
15. Office & Lab Space	y	y	y
16. Amortisation of Buildings	y	y	y
17. Student Services	y	y	y
*inc. PRSI, Pension, Insurance			
**Equipment, Consumables, Materials			
***Travel, Conferences			
Note that SFI now provides overheads at 30% of total costs minus equipment			

ENTERPRISE IRELAND			
Definition	**BRGS**	**IP#**	**Commercialisation Fund**
1. Payroll*	y1	y2	y
2. Direct Project Costs**	y	y	y
3. Other Direct Costs***	y	y	y
4. Infrastructure Costs	n	n	n
5. General Technical Support	n	n	n
6. Accounting Services	n	n	n
7. Administration Services	n	n	n
8. Building Maintenance & Running Costs	n	n	n
9. Telecommunications	n	n	n
10. Library & Information	n	n	n
11. Central Computing Services	n	n	n
12. Technical Workshops	n	n	n
13. Use of Existing Equipment	n	n	n
14. Office Support & Secretarial Services	n	n	n
15. Office & Lab Space	n	n	n
16. Amortisation of Buildings	n	n	n
17. Student Services	n	n	n
*inc. PRSI, Pension, Insurance			
**Equipment, Consumables, Materials			
***Travel, Conferences			

y1 Covers postgraduate/postdoctoral researchers only

y2 Covers postgraduate/postdoctoral researchers and research assistants

Covers eligible costs at a computed grant rate not less than 35%

HEALTH RESEARCH BOARD		
Definition	**PROJECTS/PROGRAMMES**	**FELLOWSHIPS**
1. Payroll*	y[1]	y
2. Direct Project Costs**	y	y
3. Other Direct Costs***	y	y
4. Infrastructure Costs	n	n
5. General Technical Support	n	n
6. Accounting Services	n	n
7. Administration Services	n	n
8. Building Maintenance & Running Costs	n	n
9. Telecommunications	n	n
10. Library & Information	y2	y2
11. Central Computing Services	n	n
12. Technical Workshops	n	n
13. Use of Existing Equipment	y3	y3
14. Office Support & Secretarial Services	n	n
15. Office & Lab Space	n	n
16. Amortisation of Buildings	n	n
17. Student Services	n	y4
*inc. PRSI, Pension, Insurance		
**Equipment, Consumables, Materials		
***Travel, Conferences		

y1 Covers postgraduate/postdoctoral researchers only. Note that student fees are also covered.

y2 Funded where specific items or services are requested (reprints etc) and costed.

y3 Funded where costings are provided, e.g. if time on a particular piece of equipment is charged

y4 Full fees are paid for students or fellows who are registered for a higher degree; PhD submission fees are also paid

ENVIRONMENTAL PROTECTION AGENCY			
Definition	**PROJECTS**	**POSTDOCTORAL FELLOWS**	**PhD SCHOLARSHIPS**
1. Payroll*	y1	y	y
2. Direct Project Costs**	y	y	y6
3. Other Direct Costs***	y	y	y6
4. Infrastructure Costs	n	n	n
5. General Technical Support	y2	y5	n
6. Accounting Services	y3	y5	n
7. Administration Services	y2	y5	n
8. Building Maintenance & Running Costs	y2	y5	n
9. Telecommunications	y2	y5	n
10. Library & Information	y2	y5	n
11. Central Computing Services	y2	y5	n
12. Technical Workshops	y2	y5	n
13. Use of Existing Equipment	y2	y5	n
14. Office Support & Secretarial Services	y2	y5	n
15. Office & Lab Space	y2	y5	n
16. Amortisation of Buildings	y2	y5	n
17. Student Services	y4	y5	y4
*inc. PRSI, Pension, Insurance			
**Equipment, Consumables, Materials			
***Travel, Conferences			

y1 Covers additional contract staff (postgraduate/postdoctoral researchers), there is also a supervisors contribution of 15 days/person hired (max 60 days/year)

y2 Covered by contribution of 20% Marginal Cost (or 80% Staff Cost) Overhead

y3 Direct cost for the preparation of 2 financial reports per annum

y4 Partially covered through fees if postgraduate students engaged

y5 Overhead charged by universities on fellowships varies from 10-20% of full cost

y6 Award of €25,400 to include stipend, fees and contribution to materials/consumables/field work/travel

MARINE INSTITUTE RTDI MEASURE (2000-2006)					
Definition	**STRATEGIC RTDI**	**APPLIED RTDI**	**DESK STUDIES**	**Fellowships (PhD)**	**Fellowship (Post-Doc)**
1. Payroll*	y1	y1	y3	y	y
2. Direct Project Costs**	y	y	n/a	y5	y5
3. Other Direct Costs***	y	y	n/a	y	y
4. Infrastructure Costs	n	n	n	n	n
5. General Technical Support	y2	y2	y4	n	y7
6. Accounting Services	y2	y2	y4	n	y7
7. Administration Services	y2	y2	y4	n	y7
8. Building Maintenance & Running Costs	y2	y2	y4		
9. Telecommunications	y2	y2	y4	n	y7
10. Library & Information	y2	y2	y4	n	y7
11. Central Computing Services	y2	y2	y4	n	y7
12. Technical Workshops	y2	y2	y4	n	y7
13. Use of Existing Equipment	y2	y2	y4	n	y7
14. Office Support & Secretarial Services	y2	y2	y4	n	y7
15. Office & Lab Space	y2	y2	y4	n	y7
16. Amortisation of Buildings	y2	y2	y4	n	y7
17. Student Services	y2	y2	y4	y6	y7
*inc. PRSI, Pension, Insurance					
**Equipment, Consumables, Materials					
***Travel, Conferences					

Eligible Costs:

Third Level (covers 100% of Additional Cost)

y1 Covers additional contract staff (postgraduate/postdoctoral researchers), there is also a supervisors contribution of 15 days/person hired (max 60 days/year)

y2 Covered by overhead of 20% of Labour Costs

Public/SME (Cover 50% of Actual Costs)

y1 Covers additional contract staff + permanent staff

y2 Covered by overhead of 80% of Labour Costs

y3 Covers 100% of Labour Costs

y4 Covered by verifiable overhead (excluding profits) or 20% Labour Costs

y5 Consumables/Materials only

y6 Covered by postgraduate fees

y7 Covered by overhead of 20% on salary

	EUROPEAN COMMISSION - FRAMEWORK SIX		
Definition	**INTEGRATED PROJECTS**	**NETWORKS OF EXCELLENCE**	**MARIE CURIE FELLOWSHIPS**
1. Payroll*	y1	n	y
2. Direct Project Costs**	y	n	n
3. Other Direct Costs***	y	y	y5
4. Infrastructure Costs	n	n	n
5. General Technical Support	y2	y2	y5
6. Accounting Services	y3	y3	y5
7. Administration Services	y3	y3	y5
8. Building Maintenance & Running Costs	y2	y2	y5
9. Telecommunications	y2	y2	y5
10. Library & Information	y2	y2	y5
11. Central Computing Services	y2	y2	y5
12. Technical Workshops	y2	y2	y5
13. Use of Existing Equipment	y2	y2	y5
14. Office Support & Secretarial Services	y3	y3	y5
15. Office & Lab Space	y2	y2	y5
16. Amortisation of Buildings	y2	y2	y5
17. Student Services	y4	y4	y4
*inc. PRSI, Pension, Insurance			
**Equipment, Consumables, Materials			
***Travel, Conferences			

y1 Only those extra staff employed for the specific project

y2 Covered by overhead that is 20% of marginal cost (or 80% of staff costs)

y3 Dedicated administrative staff can be employed

y4 Partially covered through fees if postgraduate students engaged

y5 Covered through contribution between €14-18k/yr per fellowship

Note that the European Commission offer contractors a number of cost models including full direct costs However the model employed by over 95% of European univerisities and public Research Institutions is the Additional Cost Model (Overhead=20% Marginal Cost or 80% Staff Costs)

WELLCOME TRUST			
Definition	**Project**	**Programme**	**Fellowships**
1. Payroll*	y1	y1	y1
2. Direct Project Costs**	y	y	y
3. Other Direct Costs***	y	y	y
4. Infrastructure Costs	n	n	n
5. General Technical Support	n	n	n
6. Accounting Services	n	n	n
7. Administration Services	n	n	n
8. Building Maintenance & Running Costs	n	n	n
9. Telecommunications	n	n	n
10. Library & Information	n	n	n
11. Central Computing Services	n	n	n
12. Technical Workshops	n	n	n
13. Use of Existing Equipment	n	n	n
14. Office Support & Secretarial Services	n	n	n
15. Office & Lab Space	n	n	n
16. Amortisation of Buildings	n	n	n
17. Student Services	y2	y2	y2
*inc. PRSI, Pension, Insurance			
**Equipment, Consumables, Materials			
***Travel, Conferences			
y1 Covers postgraduate/postdoctoral researchers only y2 Partially covered through postgraduate fees			

DEPT. AGRICULTURE AND FOOD		
Definition	**FIRM**	**Stimulus**
1. Payroll*	y1	y1
2. Direct Project Costs**	y2	y2
3. Other Direct Costs***	y	y
4. Infrastructure Costs	y3	y3
5. General Technical Support	y3	y3
6. Accounting Services	y3	y3
7. Administration Services	y3	y3
8. Building Maintenance & Running Costs	y3	y3
9. Telecommunications	y3	y3
10. Library & Information	y3	y3
11. Central Computing Services	y3	y3
12. Technical Workshops	y	y
13. Use of Existing Equipment	y3	y3
14. Office Support & Secretarial Services	y3	y3
15. Office & Lab Space	y3	y3
16. Amortisation of Buildings	y3	y3
17. Student Services	y3	y3
Other****		
*inc. PRSI, Pension, Insurance		
**Equipment, Consumables, Materials		
***Travel, Conferences		

FIRM= Food Institutional Research Measure

STIMULUS= Stimulus Fund Research

y1 Grant aid for "additional" staff only - who are taken on specifically for the project

y2 For equipment an annual depreciation cost is allowed - over 3 years for computer related and over 5 years for other equipment. Equipment has to have "substantial" usage in the project

y3 An unvouched allowance for overheads to a max of 40% of the basic salary of staff paid for by the project. Basic salary is the gross salary appearing on the "payslip"

**** Some additional costs may be grant -aided if they are clearly additional costs arising from the project funded, are vouched and specifically approved and would not be considered a cost that would normally be covered by the central funding of the Institution concerned

TECHNOLOGICAL SECTOR RESEARCH		
Definition	**STRAND I**	**STRAND III**
1. Payroll*	y6	y1
2. Direct Project Costs**	y7	y
3. Other Direct Costs***	y	y2
4. Infrastructure Costs	n	y3
5. General Technical Support	n	y4
6. Accounting Services	n	
7. Administration Services	n	
8. Building Maintenance & Running Costs	n	n
9. Telecommunications	n	
10. Library & Information	n	y2
11. Central Computing Services	n	n
12. Technical Workshops	n	y4
13. Use of Existing Equipment	n	
14. Office Support & Secretarial Services	n	
15. Office & Lab Space	n	n
16. Amortisation of Buildings	n	n
17. Student Services	y5	y5
*inc. PRSI, Pension, Insurance		
**Equipment, Consumables, Materials		
***Travel, Conferences		

y1 Covers additional contract staff (postgraduate/postdoctoral researchers), contribution for supervision by academic staff, release of academic staff from teaching hours for research activity also possible

y2 All costs must be fully justified

y3 Refurbishment of existing facilities possible, must be fully justified

y4 Can be costed into project, must be fully justified

y5 Can be partly covered by costing in postgraduate fees

y6 Covers postgraduate rsearchers (M.Sc. only) and contribution for supervision by academic staff

y7 Consumables and materials only

IRCHSS			
Definition		**Scholarships/Fellowships**	**Projects**
1.	Payroll*	y	y
2.	Direct Project Costs**	n	y
3.	Other Direct Costs***	n	y
4.	Infrastructure Costs	n	n
5.	General Technical Support	n	n
6.	Accounting Services	n	n
7.	Administration Services	n	n
8.	Building Maintenance & Running Costs	n	n
9.	Telecommunications	n	n
10.	Library & Information	n	n
11.	Central Computing Services	n	n
12.	Technical Workshops	n	n
13.	Use of Existing Equipment	n	n
14.	Office Support & Secretarial Services	n	n
15.	Office & Lab Space	n	n
16.	Amortisation of Buildings	n	n
17.	Student Services	n	n
	Other****		
*	inc. PRSI, Pension, Insurance		
**	Equipment, Consumables, Materials		
***	Travel, Conferences		

IRCSET		
Definition	**Scholarships**	**BRGS**
1. Payroll*	y1	y2
2. Direct Project Costs**	n	y
3. Other Direct Costs***	n	y
4. Infrastructure Costs	n	n
5. General Technical Support	n	n
6. Accounting Services	n	n
7. Administration Services	n	n
8. Building Maintenance & Running Costs	n	n
9. Telecommunications	n	n
10. Library & Information	n	n
11. Central Computing Services	n	n
12. Technical Workshops	n	n
13. Use of Existing Equipment	n	n
14. Office Support & Secretarial Services	n	n
15. Office & Lab Space	n	n
16. Amortisation of Buildings	n	n
17. Student Services	n	n
Other****		
* inc. PRSI, Pension, Insurance		
** Equipment, Consumables, Materials		
*** Travel, Conferences		

y1 PhD scholarships include a bench fee that can be considered as an overhead

y2 Covers postgraduate/postdoctoral researchers only

appendix c

Accounting for Overhead Expenditure in Teagasc

Teagasc provides integrated research, advisory and training services for the agriculture and food industry in Ireland.

The Teagasc accounting system is structured to reflect its physical organisation and the coding system enables the identification of functions, locations (Research Centres/stations, Colleges, Counties, Regional Offices & HQ) projects and expenditure type.

Research is carried out at 19 centres/stations as listed in Table 1. Advisory and Training services are carried on in 90 other locations.

Within each research centre/station costs are accumulated under the following main categories of expenditure:

1. Permanent Salaries - Direct
2. Permanent Salaries - Indirect (Administration, clerical & other staff not directly traceable to research programmes and projects)
3. Controllable Pay - Direct
4. Controllable Pay - indirect
5. Travel & Subsistence
6. Supplies & Services
7. Overheads
8. Rentals, hireage & leasing
9. Grants, seminars, courses & staff training
10. Equipment & furniture

Categories 2, 4 and 7 make up Teagasc's Research Overheads incurred at each individual research centre. The remaining expenditure categories are treated as direct costs of programmes carried on at each centre.

The expenditure subheads included in Centre Overheads are as follows:

1. Petrol & auto diesel
2. Repairs & spare parts equipment
3. Building repairs & maintenance
4. Fencing & road repairs & maintenance
5. Loose tools & workshop expenses

6. Agricultural diesel, oil & greases
7. Maintenance contracts
8. Security, health & safety costs
9. Postage including couriers
10. Telephone, fax & telex charges
11. Electricity
12. Photocopying costs
13. Community & water charges
14. Motor insurance & road tax
15. Heating fuel
16. Cleaning materials & services
17. Carriage out
18. Insurance
19. Licenses
20. Legal & professional fees
21. Stationery
22. Data processing supplies & services
23. Library supplies & services
24. Miscellaneous Expenses
25. Personnel advertising
26. Publicity & public relations
27. Printing for external use
28. Canteen supplies

In addition to the location (centre/station) overheads (Indirect Perm. Salaries, Indirect Controllable Pay & non-pay Overheads) detailed above, each Research Centre/Station is charged with its appropriate share of the cost of the Research Planning Department (located in HQ) and the allocated general costs of HQ (see Table 1).

HQ costs are initially apportioned to locations based on the total pay costs (direct and indirect) of each location. The allocated cost is then expressed as a percentage of total direct pay costs at each location and this percentage is then applied to direct pay costs to apply HQ overhead to projects.

To summarise, the Overheads charged to each Research Centre are made up as follows:

1. Centre Overheads
   - Indirect permanent salaries at centre
   - Indirect controllable pay at centre
   - Indirect Non-Pay (Overheads) at centre
2. Allocated Overheads
   - Allocated share of cost of Research Planning Department
   - Allocated share of cost of HQ

Cost Driver

A cost driver is any factor that affects total costs. That is, a change in the level of the cost driver will cause a change in the level of the total cost of a related cost object (a cost object is anything for which a separate measurement of cost is desired). Teagasc is a labour intensive organisation and its principle cost driver is its professional staff employed on research, advisory and training activities. In the case of Teagasc the total direct staff cost of any programme is the factor that best measures the likely overhead cost incurred on the programme.

The attached Table 2 is given to demonstrate how Teagasc develops overhead rates and although accurate the rates shown could be subject to small adjustments.

Table 1: Research Overheads Rates Calculation 2001

Research Centres	Direct Pay Costs	Indirect Pay Costs	Overhead Rate for Ind.Pay	Overheads (location Reports)	Overhead Rate for Overheads	Total Location Overhead Rate	Regional Office Overhead Rate	Research Planning Dept Overhead Rate	Allocated HQ Overheads	Total Overhead Rate on Direct Pay
Athenry Research	1,226,310	274,478	22.38%	213,130	17.38%	39.76%	2.48%	2.18%	9.30%	**53.72%**
Ballydague Farm	137,622	19,777	14.37%	42,575	30.94%	45.31%	2.48%	2.18%	9.30%	**59.26%**
Ballyderown Farm	216,945	-	0.00%	11,843	5.46%	5.46%	2.48%	2.18%	9.30%	**19.42%**
Clonroche	139,452	41,100	29.47%	31,356	22.49%	51.96%	2.48%	2.18%	9.30%	**65.91%**
Curtins Farm	180,755	-	0.00%	25,241	13.96%	13.96%	2.48%	2.18%	9.30%	**27.92%**
Grange Research	1,849,925	528,127	28.55%	398,520	21.54%	50.09%	2.48%	2.18%	9.30%	**64.05%**
Johnstown Castle	2,205,868	713,063	32.33%	356,018	16.14%	48.47%	2.48%	2.18%	9.30%	**62.42%**
Knockbeg	64,099	-	0.00%	8,444	13.17%	13.17%	2.48%	2.18%	9.30%	**27.13%**
Kilmaley	106,859	-	0.00%	12,101	11.32%	11.32%	2.48%	2.18%	9.30%	**25.28%**
Kinsealy	1,406,011	230,980	16.43%	154,003	10.95%	27.38%	2.48%	2.18%	9.30%	**41.34%**
Leenane	62,103	2,054	3.31%	4,514	7.27%	10.58%	2.48%	2.18%	9.30%	**24.53%**
Moorepark Prod.	1,956,932	485,406	24.80%	560,408	28.64%	53.44%	2.48%	2.18%	9.30%	**67.40%**
Oak Park	1,985,904	428,730	21.59%	335,449	16.89%	38.48%	2.48%	2.18%	9.30%	**52.44%**
Rural Economy	748,035	120,087	16.05%	20,321	2.72%	18.77%	2.48%	2.18%	9.30%	**32.73%**
Solohead Farm	141,438	-	0.00%	13,017	9.20%	9.20%	2.48%	2.18%	9.30%	**23.16%**
NFS,Statistics & TBU	785,581	22,415	2.85%	36,451	4.64%	7.49%	2.48%	2.18%	9.30%	**21.45%**
Production Research	13,213,839	2,866,217	21.69%	2,186,940	16.55%	38.24%	2.48%	2.18%	9.30%	**52.20%**
Regional Office							327,209			
Research Planning Dept								288,130		
HQ allocated Overheads									1,228,890	
Production Research Total	**13,213,839**	**2,866,217**	**21.69%**	**2,186,940**	**16.55%**	**38.24%**	**2.48%**	**2.18%**	**9.30%**	**52.20%**
Moorepark DPC	1,680,453	390,283	23.22%	624,332	37.15%	60.38%	N/A	2.18%	9.30%	**71.86%**
National Food Centre	2,316,365	435,286	18.79%	684,823	29.56%	48.36%	N/A	2.18%	9.30%	**59.84%**
Raheen	143,920	4,480	3.11%	20,007	13.90%	17.01%	N/A	2.18%	9.30%	**28.49%**
Total	4,140,738	830,049	20.05%	1,329,162	32.10%	52.15%	N/A	2.18%	9.30%	**63.63%**
Research Planning Dept								90,289		
HQ allocated Overheads									385,090	
Food Research Total	**4,140,738**	**830,049**	**20.05%**	**1,329,162**	**32.10%**	**52.15%**	**N/A**	**2.18%**	**9.30%**	**63.63%**

Table 2:	Overheads Distrbution Note			
Budget 2002 Analysis State Funding	**2002 €,000 Income**	**%**	**2002 €,000 Expenditure**	**State Grant Funding Rate %**
Oireachtas Grant for General Purposes-Pay/ NDP	57,104	41.34% Pay estimate	77,039	74.12%
Oireachtas Grant for General Purposes-Non Pay/NDP	37,424	27.09% Non-pay estimate	41,998	89.11%
Oireachtas Grant for General Purposes-Pensions/NDP	16,334	11.82% Pensions estimate	19,102	85.51%
	110,861	80.25%	138,139	
Generated Income	27,278	19.75%		
	138,139		138,139	

Teagasc is required to fund by way of generated income a proportion of all expenditure subheads.

Expenditure and income is classified by locations and within locations by Direct pay,Indirect pay,

Direct non-pay,Indirct non-pay, Direct Income and Indirect Income.

Locations are identified as Production Research, Food Research, Advisory Services, Training and HQ.

Within each location Indirect pay and Indirect non-pay is expressed as a percentage of Direct pay to produce an overhead recovery rate for each location.

Time records for direct pay staff are kept for projects and form the basis of the direct pay charge.

Indirect pay and indirect non-pay is charged to projects by way of the locations individual or group overhead recovery raios (Total Indirect pay and non pay as a percentage of total direct pay).

HQ overheads are initially apportioned to production research, food research, advisory services and training on the basis of total pay costs (direct and indirect) of these functions and then apportioned out to centres again on the basis of total pay costs.

appendix d

Overheads Policy in France

France

No single national policy exists, the definition of overheads is very disparate, and is mostly defined by negatives: "overheads are not ...". No official public guidelines have been formulated which research financing solutions or accounting practices might adhere to but institutions are increasingly adopting a European perspective. There are no explicit conditions for the third-level sector to account for the expenditure of indirect costs.

Under the European Framework Programmes, the Full Costs (FC) approach is now being favoured compared to the Full Costs Overheads Fixed (FF) and the Additional Costs (AC). A minority of French institutions has already implemented the FC method in their internal procedures. However, the majority is still using the FF method, and some laboratories with simple accounting practices, the AC method.

A recent regulatory statement from the Ministry of Finance will impose a Full Cost accounting approach for all public bodies contracting projects with private bodies. The new system is being tested in 12 universities and research centres.

Grants allocated by the Ministry of Research

No standard accounting methods for overheads are imposed. Most of them can be included in the project provided they follow these rules :

a. Management costs (frais de gestion[7]) limited to a max 4% of total cost
b. External services costs cannot amount to more than 25% of the total cost
c. In certain cases, salaries cannot amount to more than 50% of the grant
d. The following are excluded from the grant :
    i. Overheads linked to regular expenses for renewing equipment
    ii. Overheads linked to the promotion, sale, and distribution of research
    iii. Overheads linked to land and buildings

7 Costs linked to the organisational and financial management of the grant itself

The CEA approach (Commissariat à l'Energie Atomique) is that overheads are calculated on the salary costs and depend on the type of project:

- Between 80% and 90% for nuclear contracts (high costs of facilities + tight security issues);
- Between 40% and 65% for fundamental research;
- 8% of supplementary management costs (frais de gestion) on European projects

IFREMER - (Institut Français de Recherche pour l'Exploitation de la Mer).

The financing of the overhead costs depends once again on the type of project, and are calculated on direct salary costs :

- Between 40% and 60% for research projects
- Between 60% and 80% for commercial contracts

INRA - (Institut National de la Recherche Agronomique)

The INRA has tried to standardise its overheads on a national level but has given up because of its major involvement in the private sector. But the full cost method is an emerging standard and is being implemented slowly (driven by the industry which is already using this approach) - the main brake being the researchers themselves, used to other accounting practices.

- Former Model - Overheads worth an average 20% of salary costs on all contracts and projects
- NEW Model - full cost method : "extended overheads" of 110% - 120% of salary costs
- Concerning the management costs, they are calculated against the total costs of projects and the breakdown is as follows :
  - European projects: 5%
  - State projects: 4%
  - Industry projects: 10%
  - Charities and in-house projects: 0%

The Institut Pasteur approach (Medical research institute)

The Pasteur Institute has 2 different rates :

- 40%-43% of total cost for private research contracts
- a fixed 8% rate for publicly funded research

The INSERM approach - (Biological and Medical research institute)

The INSERM is currently implementing an Enterprise Resource Planning (ERP) which will affect their accounting practices. They will adopt the European FC approach with a fixed 80% rate based on salary costs. Until then they will have used 2 rates:

- 2% management costs on publicly funded research, based on total cost of project
- variable percentage on private research contracts, negotiated with their partners

The CNRS (Centre National de la Recherche Scientifique) approach - the CNRS is a multi-disciplinary research institution and thus is not able to present a unified policy - nor an average rate concerning overheads financing. They have not developed any analytical accounting system and rely on the researchers themselves to evaluate the overheads, though all overheads are theoretically eligible for financing. Like INSERM, it has planned the implementation of an ERP which will allow it to adopt the FC approach in 2005.

- CNRS currently does not take into account any management costs.

appendix e

Unallowable Costs for Overheads

The US Federal Government has defined a list of unallowable costs for overheads[8]. This followed various issues that arose from congressional investigations.

Representative Unallowables

- Alcoholic beverages
- Alumni activities
- Institution-furnished automobiles for personal use
- Legal costs of criminal and civil proceedings, appeals and patent information
- Donations and contributions made by an institution
- Fund raising activities
- Entertainment
- Executive and legislative lobbying
- Insurance against defects
- Fines and penalties
- Goods and services for personal use of employees
- Housing and personal living expenses of an institution's officers
- Memberships in any civic, community or social organisation or country club
- Selling or marketing of goods or services
- Trustees' travel

None of these "unallowables" can be allocated through indirect cost pools to research, and the university must certify that they have indeed been excluded.

8 A Primer on Facilities and Administrative Costs - www.washington.edu/research/gcs/gim/gim22a.html

appendix f

Indirect Costs: the University of South Carolina Experience

Report on the System of Indirect Costing for Research (prepared by Dr. Clare Thorp, DAF) Presentation by Dr Tony Boccanfuso, Managing Director of the University of South Carolina Research Foundation in Columbia. 26th July 2002 CHIU, Dublin

The following is based on the above presentation given by Dr Boccanfuso, and gives a brief overview of the US system as it applies to the US in general and the University of South Carolina in particular:

The US system has developed over the last 50 years and thus is slightly more complex than it may initially appear.

The system acknowledges the fact that research underpins economic growth and quality of life, and that while the indirect costs of small scale research may be absorbed by an institution, to grow and develop research within a university the full cost of that research must be properly captured.

The US do not use the term indirect costs, rather they describe them as facility and administrative costs (or F&A) as this is what they effectively are.

Indirect cost mechanism:
There are several different systems of costing F&A within the US - 1. Fixed, i.e. fixed for a future period based on an estimate of the future period's level of operations. 2. Provisional - where the rate has not yet been negotiated and 3. Predetermined - negotiated on a 2-4 year cycle based on actual F&A costs calculated as a proportion of total research costs.

Indirect costs paid by the Federal Government are only calculated on research that is funded by the Federal Government. Indirect research costs associated with industry or internally sponsored by the institution itself are therefore not included in the cost calculations.

Indirect cost rates are negotiated on a 2-4 year cycle with the Federal Government on an institute basis and this rate is then applied by the institute to most (but not all) Federal research grants. Some agencies also cap indirect cost rates at levels significantly below the negotiated rate thereby leading to mandatory cost sharing on the part of the institution.

There is a two tier approach for the determination of indirect costs - a short form and long form approach. The former applies to institutions with <$10m per annum in research, the latter for institutions receiving >$10m per annum. In both

situations negotiation is a part of the procedure, but it becomes significantly more important for larger institutions where a single % point increase in the rate agreed upon can have a significant effect on the indirect costs paid to the institution.

The relationship between the Federal Government was described by Dr Boccanfuso as one of partnership, where the institute is expected to cover some of the cost of research: by, for example, 'cost sharing'- such as when permanent research staff effectively volunteer their time to a project. This is unlike the relationship that the Federal Govt. with commercial companies where full costs of all involved are covered. Trust is seen as an essential part of this relationship as the Federal Government trusts the institution to use the indirect costs to support and advance research funded by the Federal Government, as opposed to requiring detailed audited accounts of itemised indirect cost expenditure.

Calculation of indirect cost rates:
Indirect cost rates are calculated based on modified total direct costs based on audited accounts and an agreed list of cost categories. Cost principles are applied which are obtained from Federal Regulations.

The cost categories on which the F&A costs are based differ from institution to institution and their inclusion forms part of the negotiating process. In addition, each institution can have a number of different rates. For example regional campuses may have a different rate to the main campus.

Specifics of the US indirect cost calculation are:

- On average, Federal funding usually covers costs on a 75:25 direct: indirect cost ratio, while in reality the true indirect costs are usually over 30% of the total. Institutions are therefore expected to cost share with government as mentioned previously.
- There is a cap on administrative overheads of 26% - there no basis to this figure, and it was introduced to curb a potential abundance of administrative costs that was beginning to develop. Dr. Boccanfuso commented that a less arbitrary system of calculating the administrative cost rate would be welcome.
- In the University of South Carolina (USC), F&A indirect costs are roughly split in the proportion 44:56. Facilities costs include building depreciation, equipment depreciation, operation and maintenance of equipment, debt interest, library facilities and so forth.
- Although most of the large research funding agencies pay the negotiated rate, some agencies within the Federal Government cap reimbursements at a lower rate, which was seen to be a disadvantage of the US system.
- In the USC, the average cost of negotiating with Govt is $375,000. This reflects expenditure on external consultants

but does take account of the time of employees. USC estimates that the value of 1% increase in indirect cost rate of $350,000. To manage its restricted fund accounts, USC employs 5 dedicated cost accountants and these individuals, as well as others at the institution, contribute to the preparation of a proposal that in last round included a 600 page negotiation document for consideration by the Federal Government. The negotiation process is therefore not viewed as an advantage to the system, but a burden. Dr. Boccanfuso felt that most institutions would accept a lower indirect cost rate if it meant the frequency and / or intensity of negotiations could be reduced.

Use of indirect costs:

Indirect costs are viewed as an income stream by US Institutions, which allows them to not just to cover costs, but to invest in research growth and development within the institution. It is an incentivised system, as those institutions which use their overheads to best effect in the support of research also garner more research contracts and grow their research capacity as a result. It is not surprising therefore that the most successful institutions are also those which negotiate the highest indirect cost rates.

Upon receipt of research funding, the Institutions have the discretion to use the associated indirect costs as they see fit, once they have been negotiated. This is because the negotiated rate reflects actual, audited costs which have been incurred in the past rather than predicted future use and thus detailed auditing of their expenditure post award is not seen as necessary by the Federal Government.

This discretion allows institutions to invest some indirect costs in future research requirements within the university that are not necessarily associated with a specific research project - for example, to fund new research facilities or to upgrade existing facilities.

Indirect costs are only paid on funded researchers. Therefore those researchers who are not associated with research funding have no indirect costs attributed to them. This has implications for space allocation and the funding of research facilities for that researcher.

The institution may also choose to split the indirect costs from direct costs in different proportions to that of the Federal Government. This is for two reasons: Firstly because the indirect costs paid by the Fed. Govt. are usually not as high as the actual indirect costs. In the UCS the ratio is typically 68:32 direct: indirect costs vs. the average Federal rate of 75:25. Secondly, within an institution, indirect costs differ between Departments depending on the discipline involved and thus the institution can use its discretion when allocating indirect costs between Departments on this basis.

Other sources of funding:

It is recognised that universities cannot be expected to subsidise all their indirect costs through competitive research grants. The State Government assumes responsibility for covering the ongoing costs associated with teaching and a certain proportion of research and development within the institution.

[The level of underlying support provided for similar activities within Ireland has implications for institutions who are not in receipt of block grants or have overheads associated with permanent staff, as they become even more heavily reliant upon grant aided overheads to support ongoing running costs at the expense of research investment.]

Industry projects are also charged overheads. The rate chosen is at the discretion of the institution - they do not have to use the Federal rate, as this rate has been calculated based on the cost of indirect cost of federal research only. In reality, the Federal rate is often applied by central administration within the university. *[In Ireland, this may have implications for how competitive an institution is relative to other institutions with lower overhead rates. This may be overcome by cost sharing approaches and also by what cost categories are chosen to include when calculating the industry indirect cost rate.]* The advantage of the cost sharing approach with industry is that industry cannot subsequently claim sole ownership of intellectual property arising from this research as it has been partly funded by the institution through cost sharing.

1. The data presented in this chapter has been sourced by the relevant Steering Group members from their institution's accredited financial statements.
2. Office of Management and Budget (OMB), Circular A-21 - www.whitehouse.gov/omb/circulars/a021/a021.html
3. A Primer on Facilities and Administrative Costs - www.washington.edu/research/gcs/gim/gim22a.html
4. Note that all of the data in this chapter has been taken from the audited accounts of a range of universities and institutes of technology, both large and small. The institutions are not identified by name but labelled A - E.
5. Usually included in Operations and Maintenance
6. Infrastructure is directly supported by a number of state agencies, see chapter 3. Borrowing to fund the building of research infrastructure is not currently practiced. This is of course an option for the future.
7. Costs linked to the organisational and financial management of the grant itself
8. A Primer on Facilities and Administrative Costs - www.washington.edu/research/gcs/gim/gim22a.html

The Higher Education Authority
An tÚdarás um Ard-Oideachas
Marine House, Clanwilliam Court, Dublin 2.

Tel: +353 1 661 2748 Fax: +353 1 661 0492
Lo-Call: 1890 200 637
e-mail: info@hea.ie
website: www.hea.ie

Forfás
Wilton Park House, Wilton Place, Dublin 2.

Tel: +353 1 607 3000 Fax: +353 1 607 3030
e-mail: info@forfas.ie
website: www.forfas.ie

Dara Creative Communications 1850 693 693