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Department of Enterprise, Trade and Employment

Science Foundation Ireland Value for Money Review Departmental Response and Summary of Conclusions and Recommendations

Indecon International Economic Consultants have completed a Value for Money review of Science Foundation Ireland programmes on behalf of the Department of Enterprise Trade & Employment as part of the Government's Value for Money and Policy Review Initiative. The Review examines SFI's major funding programmes [Centres for Science, Engineering and Technology (CSETs) and Principal Investigator (PI)] over the period 2001 – 2006 and builds upon the policy findings of the Brook evaluation¹ of the first years of operation of SFI for 2001-2005, which was published in December 2005.

The Department of Enterprise, Trade and Employment welcomes this report, which makes targeted comments and recommendations on the overall effectiveness of the agency supports in building a world-class research system in Ireland with a focus on whether the programmes as operated constitute value for money and efficient use of public funds.

The Department is particularly pleased that the report finds SFI's programmes and activities to be valid and supportive of wider economic and innovation policy objectives, and that they should continue to pursue their core mission of funding research excellence in areas where Ireland can compete successfully on a global scale.

However, the report also emphasises that the findings from the review must be interpreted within the context that the assessment was constrained by the very short time period since the establishment of SFI and the commencement of its main programmes. Overall, the report states that the emerging picture is a

¹ Science Foundation Ireland: The First Years 2001-2005, Report of an International Evaluation Panel (Oct 2005)

positive one and indicates that if the current level of progress is maintained and the emerging issues highlighted are addressed, SFI programmes hold out the prospect of delivering value for money.

We are further encouraged by the findings of the report that SFI and its programmes are successfully attracting top-quality researchers, and that these researchers are producing world-class research in Ireland. This is vital to achieve a sustainable world-class research infrastructure in Ireland, the impacts of which are already being felt through the engagement of several large multinational companies, such as GlaxoSmithKline, Hewlett Packard and Alcatel-Lucent in collaborative linkages with SFI-funded researchers and research teams.

The Department fully supports the recommendations of the report, particularly the need for effective monitoring of progress and programme effectiveness, and for increased synergy and further co-operation between all of the government agencies operating in the research sphere, including SFI, Enterprise Ireland and IDA Ireland. The Department strongly believes that the review will assist in securing value for money and maximising the economic impact from the SFI investments.

A summary of the conclusions reached under various headings is set out below. The report also sets out a number of recommendations, which highlight areas where further action is needed to maximise the future impact and value for money from the substantial investment being made in research through SFI.

Conclusions

Programme Validity & Policy Consistency

The report indicates that after analysis of developments in innovation policy at both national and EU level, in overall terms, SFI's programmes and activities remain valid and supportive of wider economic and innovation policy objectives, including objectives of SSTI and the Lisbon agenda for growth and employment generation.

The report indicates that overall, very significant progress on development of research in Ireland is evident in data on R&D expenditures. However, Ireland remains below the EU average in terms of gross expenditure on R&D (1.6% of GDP versus EU average of 1.8%), which emphasises the importance of sustaining progress in this area.

Effectiveness & Impact

On the basis of emerging observable outcomes to-date in relation to funding (inputs), employment of researchers and human capital development (activity), and research outputs, the review has found that the effectiveness of programmes has been positive.

A significant volume of investment has been committed to the funding of research excellence in the key areas of ICT and Biotechnology. This has coincided with a significant ramp-up in research activity and outputs, with the assembly of strong and growing research teams and the development of human capital in research.

The report finds that SFI funding has succeeded in attracting highly regarded researchers to Ireland, and the evidence from this section of the report suggests that good quality science is being undertaken by SFI researchers, as indicated by a comprehensive bibliometric assessment of research performance. This assessment, which involved an extensive review of leading publications and journals, has shown that the researchers being funded by SFI are producing research outputs in the highest-ranking international publications in their fields.

Furthermore, early indications of potential future impacts are evident in relation to collaborative linkages and commercialisation, although the report also indicates that more progress can be achieved in these areas.

There is evidence that the CSETs, in particular, are playing an important role in building a world-class research system in Ireland, as they are linking successfully with major multi-nationals as well as being used as a 'strong reference sell' by IDA Ireland in their efforts to attract further international investment in high-tech sectors.

Discontinuation, reduction or expansion of supports

The report states that any significant discontinuation or reduction in supports could adversely affect the build-up of research capacity in Ireland, which is needed to maintain our international competitiveness.

This is particularly true with regard to the human capital base in research, as research carried out in the preparation of the report shows that the achievement

of SSTI goals in this regard would be impossible without the increased output of PhD graduates and increased number of Principal Investigators/senior researchers to support the development of these graduates that are being produced as a result of SFI programmes and funding. However, it is also emphasised that there is a need to ensure that leverage of other, non-SFI funding sources (including international and industry sources) is fully maximised.

Programme Management and Monitoring

Overall, the report concludes that SFI have managed the process of ramping-up a significant increase in public funding of research in a satisfactory manner. However, a number of issues are raised that warrant close attention in order to ensure maximum performance in achieving the goals laid out for SFI.

The main issues highlighted in the report relate to:

- The interaction between SFI and researchers and continuity of SFI staff contacts (issue of staff turnover).
- The important issue of co-ordination between agencies in delivery of SSTI targets and need for SFI and HEA in particular to continue to drive effective co-ordination via information sharing and planning.
- The need for effective programme monitoring and reporting, including information/data collection systems.
- The need for enhanced mechanisms of ex-post review, which facilitate assessment of economic as well as research impacts.

Recommendations

The report makes a number of recommendations on foot of the assessment undertaken and conclusions reached in the review. The recommendations maintain the focus of existing SFI operations and are designed to improve the ongoing implementation and management of their programmes, and also to maximise the future impact and value for money from the substantial public resources invested in SFI supported research in Ireland.

1. SFI should continue to implement its core mission of funding research excellence in areas where Ireland can compete effectively on a global scale.
2. An increased focus on effective industry collaboration and measures to enhance the commercialisation of research should form part of future management of the next phases of SFI funding.
3. Increased focus is required to align collaborations by SFI-funded researchers with the requirements of industry based in Ireland.
4. Mechanisms to ensure that SFI funding maximises the leverage of EU and other international sources of funding for Irish research should be introduced.
5. The development agencies, including IDA Ireland and Enterprise Ireland, should intensify efforts to engage new and existing client companies with SFI-funded research teams/centres.
6. SFI should consider the merits of a centrally managed database of inputs and outputs relating to SFI funded projects, which would track a range of input, output and impact indicators.
7. A system of ex-post review, which would combine elements of the existing ex-ante peer review and interim review process but place greater emphasis on the assessment of economic impact and value for money, should be put in place for completed SFI-funded research.

8. Continued efforts are needed to ensure effective inter-agency interaction and co-ordination including, in particular, between SFI and HEA.
9. SFI should carry out regular, systematic bibliometric analysis of SFI-funded research outputs and publish the highlights of this analysis.
10. Measures to enhance the likelihood of top-ranking researchers remaining in Ireland should be given a high priority.