## **Recent Research and Innovation Evaluations in Norway**

The Research Council of Norway is trying to better our ways of assessing impact in different ways. Firstly, we have introduced intervention logic in our own planning of programmes, so that each intervention is clear on how its goals, strategies and activities are to build up under the expected and assumed outputs, outcomes and impacts. We are also now changing our application and reporting forms and our assessment criteria with a stronger emphasis on outcomes and impacts, in line with the practice of the ERC. The points below give an overview of major recent evaluations in Norway and highlight (in bold) some of the new methods and approaches that have been introduced in our evaluation portfolio.

## Joint evaluations of higher education and research in the social sciences

The Norwegian Agency for Quality Assurance in Education (NOKUT) and the Research Council of Norway (RCN) have conducted a pilot for **joint evaluations of research and education** within the social science disciplines of political science, sociology and economics in a number of Norwegian higher education institutions. The evaluation was organised with two expert panels assessing the quality of research and education respectively as well as an interplay panel assessing the relationship between research quality and educational quality at the institutional level within each discipline. The evaluation supports the theory that high quality in research and education go hand in hand. According to the interplay report, strong scientific environments and teachers who themselves are active researchers are a critical part of what determines the quality of higher education. The interplay report can be downloaded in English here.

#### Experiences with impact cases in subject specific and institute evaluations

The Research Council of Norway has during the past few years integrated **impact assessment based on impact cases** in its subject-specific evaluations and in some institute evaluations. The evaluations have used different methods. The last two subject-specific evaluations, of <u>Humanities</u> and <u>Social sciences</u> respectively, have borrowed its methodology from the 2014 Research Excellence Framework in the UK. The case-based method was chosen for two main reasons: 1) It was well documented, tested and evaluated, and 2) the definition of impact used was judged to be sufficiently broad. The social science evaluation showed that Norwegian social sciences research is of good quality, but researchers could do more to develop the field of research and to reach out internationally. The Research Council is now summing up our experiences with the impact case method in an article, which will be made available for the network. Recent evaluations of environmental institutes, social science institutes and primary research institutes have also included impact cases as a supplementary element.

The impact case method has given valuable new knowledge in the variety of ways in which social science and humanities research creates societal benefits. The RCN is currently finishing a report on the process and experiences from these two impact evaluations which can be made available to the RTD Evaluation Network. More traditional econometric assessments of economic impacts are also in use. The evaluation of <a href="technical-industrial institutes">technical-industrial institutes</a> for example commissioned an impact assessment where econometrics in combination with data from surveys and interviews were used.

#### **Evaluation of Norwegian education research**

The thematic evaluation on Norwegian education research also used the impact case method, in addition to data from a web survey and interviews in its user and impact assessment. The evaluation

showed that there are a number of institutions and departments with a strong impact internationally, and high citation scores. Education research from these institutions is clearly visible in the international research arena. However, there are also examples of institutions that are less advanced. The evaluation also found evidence that education research has a high degree of impact on the policy and practices of county authorities, municipalities and kindergartens/schools. The report is in English, and can be found <a href="here">here</a>.

#### Pathways to impact - Developing methods for impact evaluations

The Research Council has also introduced a series of **multi-method explorative analyses** and evaluations with the aim of tracing the broader impacts of long-term research efforts within specific areas. The first report explored the traces and impacts of R&D related to mental health, while the second analysed the traces and impacts of development research (the findings from the latter will be presented at the conference prior to the RTD network meeting, Solberg et. al (2017)). An ongoing evaluation is addressing the same aspects of welfare related research.

## Evaluation of the SkatteFUNN R&D tax incentive scheme

SkatteFUNN is a government program designed to increase research and development in the Norwegian private sector and has grown to become one of the most important policy instruments for this task. The evaluation uses econometric analysis complemented with survey and interview data. It concludes that SkatteFUNN has a solid theoretic rationale, is widely utilised and has become the largest public support scheme for private R&D investment in Norway. The most frequently reported outcome is the development of entirely new technical solutions, followed by testing and implementation of technical solutions new to the firm. The evaluation also gives suggestions for improving appropriateness and proportionality and to reduce misuse of the scheme. Read the full report <a href="https://example.com/here">here</a>.

#### **Evaluation of the Scheme for Research-based Innovation (SFI)**

In the decade the scheme has existed, 38 centres have been established. The evaluation finds that the Centres for Research-based Innovation have succeeded at competence building and researcher recruitment in areas of major importance to Norwegian trade and industry. The evaluation also states that the SFI scheme should be expanded to promote greater innovation and internationalisation, and that there is still potential for increasing restructuring and digitalisation. The evaluation was conducted by DAMVAD Analytics in collaboration with RAND Europe and the University of Cambridge. The work is based on analysis of quantitative data, interviews, questionnaires, document studies and bibliometrics as well as workshops with participants from companies, research and industry organisations, ministries and the Research Council. The report is available in English.

## **Evaluation of the primary industry institutes**

The last institute evaluation to be conducted was that of the primary industry institutes. This evaluation shows that the institutes operate in areas of high and increasing importance, nationally and internationally, but that they can contribute even more to national economic restructuring and the development of more sustainable primary industries. The report with an English summary is found <a href="https://example.com/here">here</a>.

## Evaluation of the funding instrument "User-driven Research based Innovation" (BIA)

BIA funds industry-oriented research and has no thematic restrictions. This broad-based programme supports high-quality R&D projects with good business and socio-economic potential. A recent evaluation shows that the competitiveness of businesses are strengthened through the funding from

BIA. The evaluation was based on several analyses among others econometric and case-based analyses and surveys, and an international panel of experts assessed the background data and reports. You can find the analyses and the synthesis report here (in Norwegian only).

# Evaluation of the RCN's main measures to support Norwegian participation in the EU Framework Programme

The evaluation was conducted by Technopolis group and entailed document studies, registry analyses, web surveys, interviews and an international outlook. The evaluation shows a positive development in terms of the scale of Norwegian Framework Programme (FP) activity, mainly driven by higher education institutions (HEIs) and industry, and in terms of new FP participants, mainly companies. In contrast, the quality of Norwegian FP proposals has declined slightly relative both to overall FP averages and to four comparator countries. The evaluation concludes that the PES2020 scheme is associated with increased FP activity, and with slight quality improvements to proposals. However, these relationships do not apply equally to all stakeholder categories. Overall, the positive associations are the strongest for companies and for the least FP-active HEIs. The evaluation concludes that the STIM-EU scheme has led to more H2020 proposals from institutes, and that the scheme is very efficiently organised and administered. Read the full report in English <a href="here">here</a>.

#### Impact evaluation of FRIPRO

FRIPRO is an open, national competitive arena that covers all fields of research. It aims to promote scientific quality at the forefront of international research, boldness in scientific thinking and innovation, careers for young research talents and mobility for researchers early in their career. Norsk regnesentral has evaluated the impact that funding from FRIPRO has on the scientific production of the project leaders that receive funding. The evaluation shows that researchers who receive funding publish and are cited more than comparable researchers who do not receive FRIPROfunding. The evaluation uses a formula for modelling the publication and citation rates, and is based on publication data from CRIStin and Web of science. The report is only in Norwegian, and can be found here.

# **Review of Interdisciplinary Research in Norway**

A report on interdisciplinary research in Norway, written by Technopolis, shows that Norwegian universities attach strategic importance to interdisciplinary research and are creating structures and facilities to support such research. However, the report also points out many barriers to interdisciplinary research. Educational programmes focus on particular fields of study, which can lead to a lack of interdisciplinary skills. Universities and their associated administrative and financial systems are organised by discipline, and there are differences from field to field with regard to conceptual understanding, norms and methodological requirements. In addition, it is difficult to publish interdisciplinary articles in top-rated journals and the present structure of the Norwegian Scientific Index entails strong financial disincentives against interdisciplinary publication. The report is available here.

#### Other evaluations

In addition to the ones mentioned above, evaluations of the following have been conducted the previous year; The research programme Sustainable Innovation in Food and Bio-based Industries (BIONÆR), the research programme on Latin America (available in English), the scheme for National Graduate-level Researcher Schools, 13 Norwegian Centres of Excellence and the Norwegian Centre for Molecular Medicine (NCMM).