The Research Council of Norway

Economic research in Norway

– An evaluation

Evaluation
Division for Science

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To the Research Council of Norway

The Research Council of Norway (RCN) makes systematic subject evaluations to assess the quality, effectiveness and relevance of Norwegian research in an international perspective. These evaluations provide an important source of input for the future strategy and for determining new areas of focus as well as new instruments.

In 2006 an international Panel was commissioned to evaluate research activities within the field of economics in Norwegian universities and relevant research institutes. The Panel was asked to evaluate scientific activities with respect to their quality, relevance and international and national collaboration. The committee was further requested to evaluate the way in which economic research is organised and managed.

The Panel for evaluation of research in economics in Norway submit the following report. The Panel is unanimous in its assessments, conclusions and recommendations. None of the Panel members has declared any conflict of interest.

Hopefully the report will be useful for the research units as well as for the RCN for the future strategy within the fields of economics.

Aarhus, December 2007

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Summary

Research in economics and related fields in Norway is evaluated based on the performance of 20 units selected by the Research Council of Norway. Overall, the Panel finds that economic research in Norway has a high standard; some units are within their field of specialization at the international research frontier, and many others have research output which is both internationally visible and recognized, and some of the more applied units with a specific Norwegian focus also hold a high standard. The overall view of the Panel is that economic research in Norway is ranking in the top among European countries, although not quite reaching the level of the best European countries like the UK and the Netherlands. Clearly, some high profile institutions – in particular in the US – have a global leading role above that reached by the predominant part of European institutions.

The portfolio of research institutions in economics in Norway includes both university departments aiming at reaching the international research frontier within their field(s) of specialization and more applied institutions using recent results and best standards from the international research frontier in addressing more applied issues. To reflect the differences in aims and possibilities of the different units, the Panel has partitioned the units into three groups: larger and smaller university/college departments and applied units. In all three groups, there are very strong units with a high quantity and quality of research output. Dispersion within the groups is most prevalent for the smaller university/college departments and the applied units ranging from some very strong units to units with unsatisfactory performance.

Some units have, however, an insufficient research output both in qualitative and quantitative terms. The international orientation of research is unsatisfactory, and there is scope for improvement. A particular concern is that some units are on the low side of critical mass, and that research efforts accordingly are spread too thinly at the cost of quality.

Evaluated from a relevance criterion, we find that the score in general is high, and much research - including the more theoretically and methodologically oriented – takes its outset in problems and issues that are relevant to the Norwegian society at large. The Panel also finds that the overall level of outreach and visibility of researchers in the media and in relation to participation in expert groups, committees and the like is very high.

Table 1 gives in summary form the overall assessment of the units included in the evaluation. The considerations leading to these scores are laid out in detail in the report to which we refer for a more specific characterization and evaluation of all the units.

Table 1 Summary indicators. Overall scores

Larger departments, Higher education institutions		**Smaller departments/units, Higher education institutions**		**Applied institutions/units**	
NHH - Dep of Economics	Excellent	Bodø Graduate School of Business	Good	Inst for Research in Economics and Business Administration (SNF)	Very good
NHH - Dep of Finance and Management Sci	Very good	Molde Univ College - Dep of Economics	Fair	Inst for Social Research (ISF)	Fair
UMB - Dep of Economics and Resource Manage	Good	BI - Dep of Economics	Very good	Inst of Transport Economics (TØI)	Weak
NTNU - Dep of Economics	Very good	BI - Dep of Financial Economics	Very good	Norges Bank - Research Dep	Good
Univ of Bergen - Dep of Economics	Very good	Univ of Agder - Dep of Economics and Business Administration	Fair	Frisch Centre	Very good
Univ of Oslo - Dep of Economics	Excellent	Univ of Oslo – Inst for Health Management and Health Economics	Very good	Statistics Norway - Research Dep	Good
		Univ of Stavanger – various dep	Good		
		Univ of Tromsø/NCFS – Dep of Economics and Management	Good		

The panel finds that economic research in Norway faces a number of challenges. There is scope and potential for improvements along several dimensions. First, as seen from the evaluation there is some dispersion in quality, especially within the group of smaller university departments/units and the applied units. Secondly, there is an issue concerning specialization where a number of units do not have a clear strategy in defining and strengthening a particular niche in research. Thirdly, the level of international publication and the status of the outlets can be improved.

A key challenge is researcher training where there are both qualitative and quantitative concerns. For research in Norway to be up to the best international standards, it is indispensable that research training has a high standard allowing students to use the best from the international research community in terms of research programmes, methods and insights, but also to be measured on an international scale. The former relates to supervision, coursework and contact with foreign researchers, and the latter to quality of research tested via publication in peer-reviewed international journals. The current state of researcher training in Norway does not on a consistent basis ensure that the human capital of PhD students is used and developed as best as possible. Seen from an overall perspective, researcher training is too ad hoc driven, in particular in relation to coursework and specialized courses. Moreover, there is a concern that too many PhD students are located at smaller environments with less than critical mass. The Panel proposes that a national PhD programme is set up that provides sufficient variety of high quality courses on a continuous basis.

The regional dimension of teaching and research is important in Norway. There is, however, a danger that the need for teaching possibilities and capacities across the country is mapped into attempts to have a broad based research agenda at all units, even very small units. There is no conflict between having a broad teaching portfolio and a narrow and specialized research agenda. Qualified researchers should be able to have a broader teaching than research portfolio. In particular for smaller units, critical mass in research is an important issue, and therefore specialization in a few core research areas is needed in order for the research quality to be up to international standards. The ability of units to offer qualified supervision of doctoral students is closely linked to the research quality; that is, the units should direct their research agenda and research training at areas within which they can develop a comparative advantage. Both research and researcher training would benefit from this. Currently, too many units aim to cover research fields that are too broad, and as a result they are not able to offer sufficiently qualified researcher training. Since the ex-post geographical mobility of researchers is low in Norway, there is a need to ensure that PhD students on a more consistent basis, as part of their training, are exposed to other environments to avoid “from cradle to grave” academic careers at the same place.

A particular challenge for researcher training is to ensure a sufficient supply of researchers. Demographic changes will cause a large replacement need in many units within a foreseeable future, and at the same time there is increased demand both nationally and internationally for economists with research training. It is an important task to ensure an expansion of researcher training and at the same time to improve quality. In this relation, it is also important via researcher training to create the basis for a more equal gender balance among researchers at research institutions.

Research funding in Norway is becoming more performance based, and this may be conducive to improved research quality if the mechanism is based on transparent and operational criteria. The Research Council of Norway (RCN) is in an influential position in terms of how research develops. Although the funds allocated by RCN constitute only a small proportion of total funding, these funds are quite important since they constitute marginal funding with a potentially large impact on the direction in which research is going. RCN has on a number of occasions been rather successful in funding research of high quality. However, there is reason to reconsider current practices of the RCN in respect to both the application procedure and in particular the balance between calls for applications within thematic areas defined by the Council and more strategic initiatives. The Panel finds that the balance is tilting too much towards the former type of activity at the risk that research quality is weighted too low relative to current fads in policy debates.

1. Terms of reference and Panel

The Research Council of Norway (RCN) has decided to evaluate research activities within the field of economics at Norwegian universities and relevant research institutes. The main purpose of this evaluation is to assess the strengths and weaknesses of research, to identify research groups at a high international level, and to investigate the situation regarding recruitment into research. The terms of reference for the Panel are given in Appendix I.

To assess these issues, an evaluation Panel consisting of:

- Professor Torben M. Andersen, School of Economics and Management, University of Aarhus, Denmark (chairman),
- Professor Emmanuelle Auriol, University of Toulouse, France,
- Professor Eva Liljeblom, Swedish School of Economics and Business Administration, Finland,
- Professor emeritus Grayham E. Mizon, University of Southampton, UK., and
- Professor Pierre Pestieau, University of Liége, Belgium

was appointed in October 2006 with a deadline until November 2007 for submission of its evaluation report. Dr. Dag W. Aksnes at the research institute NIFU STEP has served as secretary to the Panel, and has also conducted the bibliometric analysis.

The work by the Panel is based on the following sources of information collected on the initiative of RCN:

- A background report with data on the personnel, economic resources and international publishing related to Norwegian economics research prepared by Liv Langfeldt and entitled *Economic research in Norway: Institutions, resources, personnel and publishing* (NIFU STEP Working paper 14/2006). This report was written prior to the start of the evaluation.

- Written documents submitted by the units including annual plans and reports, overviews of seminars, visiting researchers, participation in international research projects, funding, master and PhD students, consultancy activities, popular scientific publishing, etc.

- CVs as well as lists of publications for the past ten years (30 June 1996 – 30 June 2006) for each person encompassed by the evaluation.

- One publication selected by each researcher included in the evaluation. The publication should represent a key position in their scientific production during the past five years, including justifications for this choice.

In addition, the Panel has acquired information via:

- Self assessment reports prepared by the 20 research units included in the evaluation. The units were asked to critically discuss their situation, challenges and deliberations for the future. Major issues concerning research profile and output, research cooperation, funding, research training and recruitment, and outreach to society (see Appendix II).

- A bibliometric analysis of the publication output (based on the information provided in the submitted publication lists), published as a separate report.

- Interviews in May 2007 with representatives from the leadership and staff (mostly recent recruitments/youngest member of staff) from all units as well as a group of PhD students from some of the units included in the evaluation.

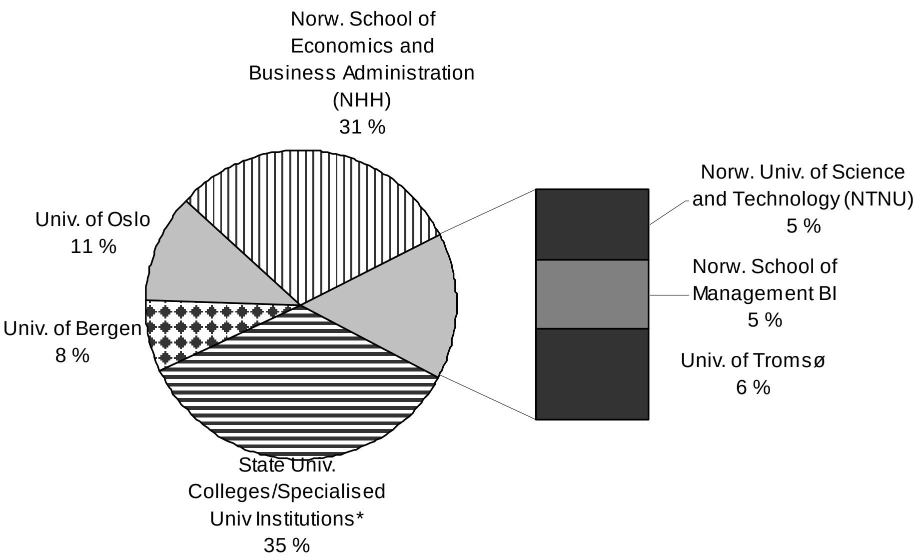
The following is the report submitted by the Panel to RCN.

According to the terms of reference (See Appendix I), the Panel has in particular been asked to focus on i) research output (quantitative and qualitative aspects of research), ii) research cooperation, iii) funding, iv) recruitment and research training, and v) outreach to society. The report is organised so as to address these issues and to identify the strengths and weaknesses in economic research in Norway. Section 2 presents some overall figures on economic research in Norway. Section 3 describes the units included in the evaluation and characterizes their research profile. Section 4 summarizes the results of the publication analysis, Section 5 discusses researcher training, Section 6 comments on outreach, and Section 7 considers funding issues. Section 8 summarizes the overall findings for the included units, while Section 9 gives the detailed evaluations of the units.

2. Economic research in Norway – some overall figures

In terms of economic resources, economics is one of the largest social science disciplines in Norway, and far more resources are spent on economics research than comparable social science disciplines such as Sociology and Political Science.[1] In the higher education sector, NOK 138 million were spent on R&D in economics in 2003. The data for the period 1995-2003 suggests, however, that the development of R&D resources in economics has been less positive in relative terms than in other social sciences and for the sector as a whole.[2]

Figure 1 R&D expenditures in economics 2003, Norwegian higher education sector, percentage.



*) In NIFU STEP working paper 14/2006 University of Agder. University of Stavanger and Norwegian University of Life Sciences are classified according to their institutional status prior to 2005 and these institutions are therefore included in this category. All R&D at units that code more than half of their R&D under the discipline of economics are counted as economics in the official R&D statistics.

Figure 1 shows the distribution of the R&D expenditures within economics in the Norwegian higher education sector (138 million NOK). NHH has the largest proportion of the total R&D expenditure in economic research at Norwegian Universities and Colleges.

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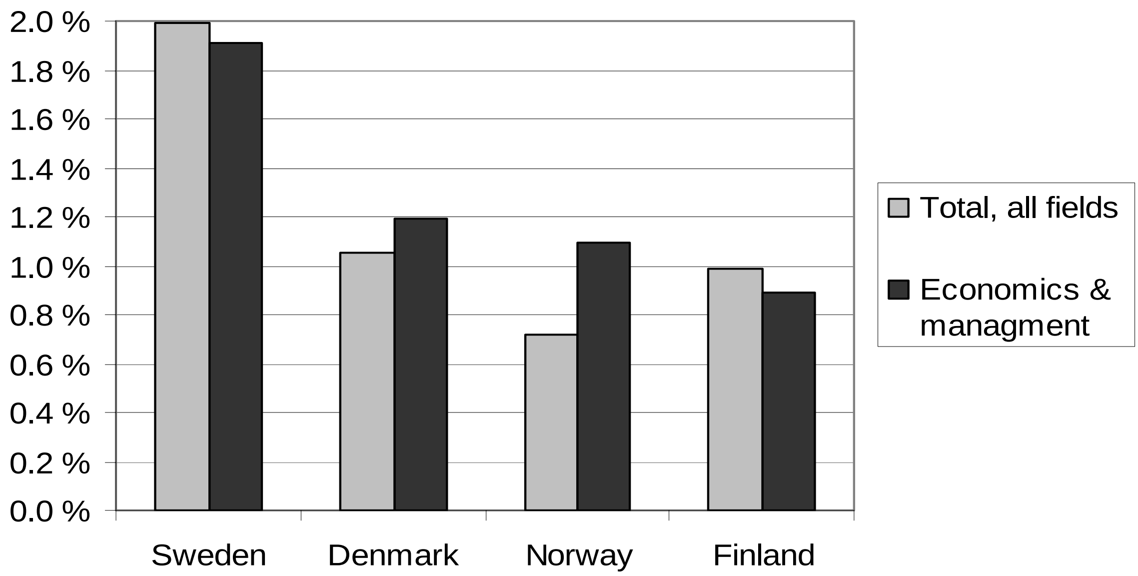
[1] Cf. Liv Langfeldt: *Economic research in Norway: Institutions, resources, personnel and publishing.* NIFU STEP Working paper 14/2006.

[2] In current prices, the R&D expenditures in economics in the Norwegian higher education sector increased by 73% in the period, compared to 110% for the other social sciences, and 81% for the sector as a whole. There is, however, some uncertainty related to these figures because of reorganisations and reclassifications.

Similar statistics are not available for the research institutes. The quantitative importance of these institutions can, however, be assessed by considering the number of researchers. In 2003 there were in total 775 researchers in Norway with a higher degree in economics. Of these researchers 37 per cent were employed at a research institute outside higher education.

Data on the number of publications in international journals shows that Norway contributed 1.1 per cent of the world production in the field economics and management in the period 2002-2006. In comparison, Norway contributed to approximately 0.7 per cent of the total world production of scientific publications (total, all fields). Economics is in other words a discipline where Norway has a relatively strong position. Similar figures are also shown for three other Nordic countries. As can be seen the specialisation in economics is much stronger in Norway than in the other countries, but Norway ranks as number three in terms of total publication output, above Finland but below Sweden and Denmark.

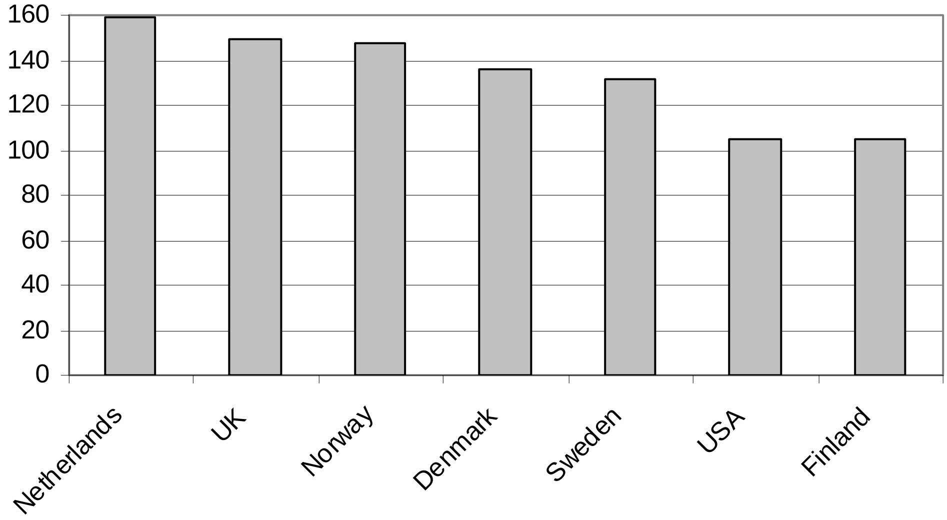
Figure 2 Publications in international journals 2002-2006 for four Nordic countries. Proportion of world-production in Economics & management and proportion of world production in all field combined (i.e. national totals).*



Source: NIFU STEP/Thomson Scientific National Science Indicators
[1]The proportion of the world production is calculated using the sum of all countries' production as denominator.

In Figure 3, the publication output is related to the population size. In economics and management, Norway has the third highest per capita production of the countries selected for comparison and ranks above the other Nordic countries.

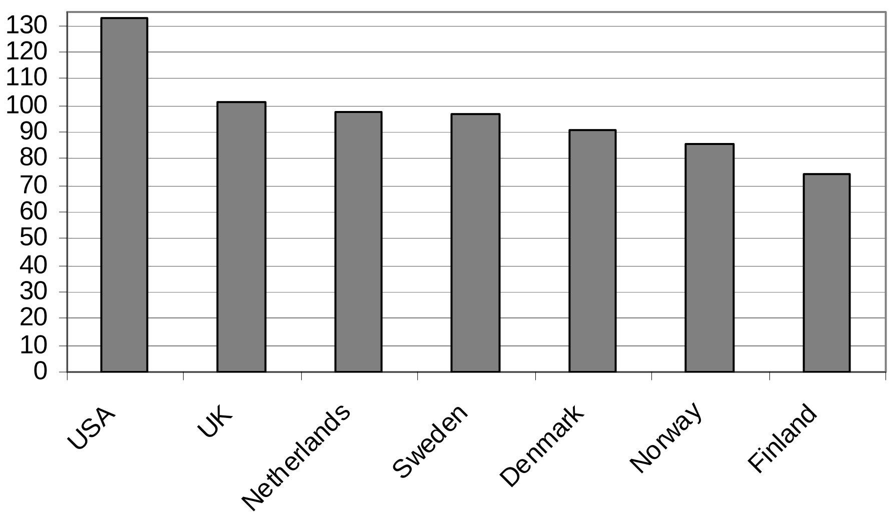
Figure 3 *Publications in international journals 2002-2006 for selected countries. Number of publications per mill capita in Economics & management.*



Source: NIFU STEP/Thomson Scientific National Science Indicators

The citation rate of the Norwegian publications is identical to the average for the EU-countries and below the US-dominated world-average. With the exception of Finland, all countries selected for comparison have a higher citation index than Norway, see Figure 4.

Figure 4 *Relative citation index 2002-2006 for selected countries in Economics & management.*



Source: NIFU STEP/Thomson Scientific National Science Indicators

On the basis of these data, it is fair to conclude that economic research has a quite strong position within the Norwegian research system. Nevertheless, the Panel is concerned by the finding that the resources spent on economic research in the Higher education sector has been declining in relative terms to the sector as a whole.

In an international context, Norway has a strong position, although it is not among the leading nations. Norway contributes more than one per cent of the total world production of scientific publications in the field, which is good considering the size of the nation.

3. Units evaluated: Descriptive statistics and research profiles

The RCN has delimited this evaluation to cover the area of economics and financial economics, not including fields such as business and management, law and economic history. The RCN has selected 20 units within universities, university colleges, and applied institutions with economic research to be included in the evaluation (for details see below). These units represent both entire economics departments and subsections within departments/institutes. Only units with at least 5-6 persons with senior research competence (doctoral degree or equivalent, that is "førstestillingskompetanse") within the subject area of the evaluation are included. The persons included typically hold positions as Professor, Associate Professor, Researcher 0, I, II, Senior Researcher or Post Doc. In total, 345 persons at the units are included in the evaluation, and this constitutes approximately 50 per cent of the total staff at the 20 units.

There is substantial heterogeneity among the units in the evaluation in terms of institutional structure and size reflecting that the selected units include large traditional university departments, smaller departments mostly at university colleges as well as research centres and more applied units some of which are embedded in large organizations.

Taking an overall national perspective on the portfolio of units, it is desirable to have both differences and complementarities among the units. The portfolio of institutions should include both university departments aiming at being at the international research frontier within their field(s) of specialization and more applied institutions using recent results and best standards from the international frontier in addressing more applied issues. University departments typically have teaching obligations, whereas the applied institutes have more or less formal ties with users of applied research. Moreover, the staff at the latter institutions have been trained at university departments at home or abroad. To reflect these differences and the division of labour and specialization across the units, the Panel has considered several aspects of research output and quality in the evaluation, cf. below.

Reflecting these differences, the Panel has found it most informative to partition the units in three groups: (I) Large departments, Higher education institutions, (II) Smaller departments/units, Higher education institutions and (III) Applied institutions/units. This division does not reflect the legal structure of the units, but is made to allow the evaluation to take account of both differences in size and the main obligations of the units besides research (teaching and/or applied research). The classification is in no sense absolute, and a more detailed characterization of the single units is given in the evaluations of the units (Section 9).

Higher education institutions, larger departments
Norwegian School of Economics and Business Administration (NHH) – Department of Economics
Norwegian School of Economics and Business Administration (NHH) – Department of Finance and Management Science (including a subsection from Department of Accounting, Auditing and Law)
Norwegian University of Life Sciences (UMB) – The Department of Economics and Resource Management
Norwegian University of Science and Technology (NTNU) – Department of Economics
University of Bergen – The Department of Economics
University of Oslo – Department of Economics

Higher education institutions, smaller departments/units
Bodø Graduate School of Business
Molde University College – Department of Economics
Norwegian School of Management BI – Department of Economics
Norwegian School of Management BI – Department of Financial Economics
University of Agder – Department of Economics and Business Administration
University of Oslo – Institute for Health Management and Health Economics
University of Stavanger –Various departments
University of Tromsø, Norwegian College of Fishery Science (NCFS) – Department of Economics and Management

Applied institutions/units
Institute for Research in Economics and Business Administration (SNF)
Institute for Social Research (ISF)
Institute of Transport Economics (TØI)
Norges Bank (The Central Bank of Norway) - Research Department
Ragnar Frisch Centre for Economic Research
Statistics Norway – Research Department

It should be added that a special feature of Norway is the regional dispersion of institutions, which implies in per capita terms that there is a large number of institutions in Norway with research in economics. A consequence of this is that some units are very small. This structure partly reflects the need to ensure access to educational institutions (at the bachelor and masters level) across the country as well as other regional aspects. The Panel does not question the need to make undergraduate education easily accessible throughout the country, but considers how research quality and quantity is affected by the fact that the location of graduate programmes and research activities cannot easily be disassociated.

A few key indicators characterizing the staff and size of the units are presented in Table 2.

Table 2 Summary statistics on units in evaluation, data for latest available year, 2006 or 2005

	Num of scientific staff department[1]	Num of pers incl	Of which female	Mean age[5]	Num of master stud	PhD students financed	Students enrolled in PhD progr	Num of post docs	Overall annual budget, mill NOK[7]	Of which external funding[7]
Higher education institutions, larger departments										
NHH - Dep of Economics	32	28	14%	49	370	31	36	4	24.2[9]	6%[9]
NHH - Dep of Finance and Management Science	34	40[2]	8%	48	444[8]	19	20	5	28.5[9]	18%[9]
UMB - Dep of Economics and Resource Management	26	19	16%	49	211	–	22	0	28.3	17%
NTNU - Dep of Economics	13	15	13%	47	65	6	15	3	19.3	32%
Univ of Bergen - Dep of Economics	21	23	4%	49	90	7	10	2	19.4	26%
Univ of Oslo - Dep of Economics	30	30	17%	51	456	21	44	7	44.8	18%
Higher education institutions, smaller departments/units										
Bodø Graduate School of Business	9[4]	5	0%	53	134	5	5	0	43[6]	26%[6]
Molde Univ College - Dep of Economics	28[3]	16	13%	50	119	12	19	2	20.9	19 %
BI - Dep of Economics	21	9	11%	52	28	2	..	0	–	–
BI - Dep of Financial Economics	21	12	17%	49	166	6	7	0	–	NOK 1.7 mill
Univ of Agder - Dep of Economics and Business Administration	32	12	25%	48	60	7	..	1	21.3	15%
Univ of Oslo - Inst for Health Management and Health Economics	39	5	0%	50	70	5	..	1	10.8	69%
Univ of Stavanger - various dep	–	15	13%	46	–	–	8	–	–	–
Univ of Tromsø/NCFS -Dep of Economics and Management	13	8	13%	49	13	–	13	1	16.2	
Applied institutions/units										
Inst for Research in Economics and Business Administration (SNF)	70[3]	14	14%	46	..	6	..	..	63.3	93%
Inst for Social Research (ISF)	37	5	40%	45	..	0	..	..	38.9	82%
Inst of Transport Economics (TØI)	70	18	22%	50	..	3	..	..	71	82%
Norges Bank -Research Dep	13	13	15%	42	..	3	..	..	17	0%
Frisch Centre	21[3]	10	10%	47	..	8	..	..	20.0	100%
Statistics Norway - Research Dep	83	48	25%	46	..	14	..	..	69	46%

Sources: Annual reports, self-evaluations, web pages etc. –) Data not available ..) Not applicable

1) Not including PhD students, post docs, teaching positions, and part time positions such as Prof II.
2) Incl. subsection from Dep of Accounting, Auditing and Law
3) Refers to number of man year research
4) Faggruppe for økonomisk analyse
5) Data were missing for 8 persons, these are not included in the calculations
6) For Bodø Graduate Scool of Business as a whole
7) For the institute/departement as a whole
8) Students course years by master specialisation 2006
9) Does not include salary for PhD students and post.docs. In addition, the researchers collect research funding on individual basis, for example through SNF, this funding is not included.

Two general aspects deserve to be highlighted. The first is the age structure of the researchers. A large group of researchers will retire the coming years since approximately 100 persons or 1/3 are in the age group 55-70. When considering the larger population of economists consisting of all R&D personnel in higher education institutions and research institutes (and a higher degree in economics), a similar pattern emerges. Table 2 reports the age structure as it was 4 years ago and about 25 per cent were in the age group 50-59 years. One can thereby infer that about one fourth of researchers today are in the age group 54-63. Out of a population of some 775 persons, this means that there is a replacement need of about 200 researchers over the next 10-15 years.

The annual national production of PhD graduates in economics is about 20 in recent years (average 23 for the period 2001-2005). In the larger population of economists, only 42 per cent currently hold a PhD degree. However, this proportion is increasing since a PhD is a prerequisite for obtaining a job at universities and in most research institutes. With an increasing demand for highly qualified economists also in the private sector, as well as an expanding public research sector, the current production of PhD graduates is insufficient to meet future demands.

The age problem is not unique for Norway, but this in turn reinforces the point that the excess demand in the international market for researchers may persist for many years and thereby add to recruitment problems (see Section 5).

Table 3 R&D personnel with a higher degree in economics, by sector and age in 2003. Percentages within type of institution.

Sector	Below 30	30–39	40–49	50–59	Above 60	N
Universities	11.0	29.0	27.0	25.0	8.0	100
Specialised University Institutions	6.3	35.4	26.3	20.6	11.4	175
State University Colleges	4.3	23.7	25.1	37.0	10.0	211
Research Institutes	5.9	40.8	35.3	13.5	4.5	289
Total	6.2	33.4	29.4	23.0	8.0	775

Source: Langfeldt (2006)

A second issue is the gender balance which is skewed, in particular at university departments. Only 15 per cent of the persons included in the evaluation are women. In the larger population consisting of R&D personnel with a higher degree in economics, 21 per cent are women, cf. Table 4. There is not much prospect of a significant change in this pattern in the coming years since the female proportion of recently graduated PhDs in economics is only 29 per cent (average 2001-2005).

Table 4 R&D personnel with a higher degree in economics 2003, by type of institution and gender. Percentages within type of institution.

Sector	Female	Male	N
Universities	17.0	83.0	100
Specialised University Institutions	17.1	82.9	175
State University Colleges	12.8	87.2	211
Research Institutes	29.8	70.2	289
Total	20.6	79.4	775

Source: Langfeldt (2006)

3.1 Research areas and specialization

Given the portfolio of various types of research institutions in Norway it is important to consider both whether it has an adequate broadness in terms of fields covered and whether there is an adequate specialization among the units. It is neither realistic nor advisable for Norway to attempt to have top competencies and research environments in all fields of economics, and hence even at a national level there is a need for specialization.

Naturally, the larger units have more broadness in their research portfolio than the smaller units, and likewise the units with a strong sector affiliation have a specialization reflecting this. The Panel finds that there is an appropriate broadness across the units in the fields covered, implying that the core areas of economics are well covered, cf. Table 5. Moreover, the research specialization reflects specific characteristics of Norway, including research on energy and the environment, public sector issues etc.

Table 5 Research profile.

Unit	Research profile
	Higher education institutions, larger departments
NHH – Dep of Economics	Industrial organisation, International economics, Labour economics, Public economics, Social choice & experiments, Macroeconomics, Resource economics & agriculture
NHH - Dep of Finance and Management Science	Finance, Accounting, Managerial economics, Business Planning and Control, Operations Research, Mathematical & statistical methods
UMB - Dep of Economics and Resource Management	Resource & environmental economics, Development economics, Market & consumer research
NTNU – Dep of Economics	Local public finance, Education economics, Political economy, Development economics, Resource economics, Macroeconomics, Labour economics.
Univ of Bergen - Dep of Economics	Industrial organisation & economic organisation, Social insurance & labour economics, Health economics, Resource, environment & development
Univ of Oslo - Dep of Economics	Development economics, Econometrics, Environmental and resource economics, Game theory, Health economics, Industrial economics, Labour economics, Macroeconomics, Political economics/economic systems, Public economics
	Higher education institutions, smaller departments/units
Bodø Graduate School of Business	Business administration, Entrepreneurship, Innovation, Business ethics
Molde Univ College - Dep of Economics	Transport economics, Logistics, Supply chain management
BI - Dep of Economics	Macroeconomics/Monetary policy, Labour economics/Industrial organization, Environmental economics & management
BI - Dep of Financial Economics	Asset pricing & corporate finance, Corporate governance / ownership, Market microstructure, Contingent pricing & risk management, Banking
Univ of Agder - Dep of Economics and Business Administration	Economic history, Microeconomics, Financial economics, Public economics, Health economics, Labour economics, Agriculture economics, Energy
Univ of Oslo - Inst for Health Management and Health Economics	Health economics
Univ of Stavanger - various dep	Aquaculture & fisheries economics, Energy economics
Univ of Tromsø/NCFS -Dep of Economics and Management	Resource economics, incl. Fisheries & aquaculture, Industrial economics
	Applied institutions/units
Inst for Research in Economics and Business Administration (SNF)	Public economics, Health, Agriculture, Renewable resources & conservation, Energy, Development planning & policy.
Inst for Social Research (ISF)	Labour economics
Inst of Transport Economics (TØI)	Transport economics
Norges Bank - Research department.	Macroeconomics, Monetary policy, Financial markets, Financial stability
Frisch Centre	Education, Labour market & pensions, Energy & environment, Health
Statistics Norway - Research Dep	Taxation, Inequality & consumer behaviour, Energy & environmental economics, Petroleum & environment economic, Macroeconomics, Labour market & firm Behaviour, Public economics, Economic growth & efficiency

Source: The units' self-evaluation reports

In considering the *research* profile of the units, there is a trade-off between, on the one hand, having several units working within the same area to ensure competition and diversity, and, on the other hand, the risk of overlap and lack of critical mass. The need for competition to safeguard quality is to a large extent ensured by focusing on internationalization of research and publications, and this is therefore not a strong argument for a small country like Norway. For applied work, there is a stronger argument for the need to have competitive environments. Considering the portfolio of research interests, the Panel finds that there are some concerns.

Research in transport economics is spread across two units neither of which has a strong research profile. No less than 12 of the 20 units list research in energy, resources and environment as a research topic. Although these issues are important to Norway, it is a question of whether sufficient value added is generated by such a large effort. Currently, several units aim at specializing in energy, and there is a risk of spreading the effort over too many units.

It is important for all units – also the larger ones - to specialize in order to exploit gains from specialization and to ensure critical mass in research and researcher training. It is a concern that many units have not formulated clear strategies on how to ensure that sufficient comparative advantage is developed in core areas of specialization. In some cases, broadness seems to be an aim in itself, and in other cases it is the impression that the choice of research topics to an excessive extent is influenced by current fads, political attention or the ability to raise funding, implying that the human capital build up in the past is not maintained and developed. The Panel finds that some units – in particular the smaller ones – try to cover a too broad range of themes at the cost of critical mass and thus quality (see also below on funding). This applies for instance to the departments at Bodø Graduate School of Business, Molde University College, University of Stavanger, and University of Tromsø/NCFS. Moreover, we find that Institute for Social Research (ISF) does not benefit sufficiently in terms of interdisciplinary interaction and suffers from lack of critical mass. This suggests that the unit should reconsider both its research profile and institutional affiliation.

For university departments with various teaching obligations, there is naturally a concern as to the ability to offer adequate teaching. This is often given as an argument for broadening the research fields across staff members, e.g. in connection with new hirings. However, it is important to stress that the broadness in teaching does not have to be mapped one-to-one into a similar broadness of research at the unit. Critical mass is important for high quality research, and this is not ensured by having one or two researchers within an area. The research fields covered should therefore naturally be narrower than those of teaching. All units have to specialize – also the larger ones. Basic training at the bachelor and master levels should obviously cover the core topics of economics, but research has to be more specialized to attain sufficient quality. Completeness of research coverage in terms of themes and topics should not be accomplished at each single unit, but is an issue of national priority taking into account the research specialization across all units in the country. The quality of staff should be such that they can teach introductory courses in a broader span of areas than their specific research expertise. There is thus no need to "have one of each" in order to offer a sufficiently broad general education up to the masters level. Critical mass and specialization in research is more important. Moreover, for researcher training it is important that supervisors are specialists within the area, see Section 8.

While the Panel finds that it is important that the work of individual researchers is driven by a bottom-up process in the sense that it should reflect the interests and motivation of the researcher, it is also important that the institution formulates a frame within which it can develop a clear strategy for the research policy of the unit. The latter is particularly important in connection with hiring decisions. The Panel was surprised to find that very few units have formulated a clear strategy in this respect.

The dividing line between research based applied work and pure consultancy on specific issues is in many cases unclear. Consultancy is clearly valuable to society but should be undertaken by specific institutions (possibly privatized) and not mixed up with research institutes because the criteria for the two types of activities are very different. The Panel finds that Institute of Transport Economics (TØI) is in a situation where the predominant part of its activities should be classified as consultancy work, and as a result research based work on transport economics has suffered. The Panel finds it striking that despite the funds spent on transport economics over the years in Norway, the international standing of research on these issues is very poor. Therefore, the institutional structure of TØI including its funding via the Research Council should be reconsidered. Likewise, the Panel sees a risk that some of the smaller university colleges may be trapped in a difficult position because of an unclear division between the need to serve local and sector specific needs for consultancy work and more research based work. If the division of labour between these two tasks is not sufficiently clear and reflected in the institutional structure, there is a risk that both the quality of consultancy work and research will suffer. See also Section 6 below on funding.

4. Research output

A key objective of the evaluation is to assess the research output and its quality and impact from an international perspective. The main output of research is written material mainly in the form of reports and articles. Although not without limitations, quantitative assessments of research output and some aspects of quality can be made, see the bibliometric analysis.[3] An in depth analysis of the quality of research by single researchers is beyond the aim of this evaluation which focuses on the research output of research units.

One important metric of research quality and impact is publication in peer reviewed international journals and the scientific standing of these journals. The Panel is aware of the randomness which can influence both whether a single piece of research is published internationally and especially the particular outlet in which it takes place. However, considering the research output over time for groups of researchers, the overall level of international publication and the outlets are informative indicators. In the evaluation, the Panel has combined information on international publication and the standing of the outlets with other indicators including co-authorship and research cooperation as well as participation in networks, conferences and workshop. The international orientation of the units has also been assessed by considering researcher exchanges (in- and outflows), seminars etc. Based on these indicators, the Panel has formed a view on the international standing, visibility and quality of the research output from the units.

It should be stressed that in evaluating the quality and impact of research of single units, it is also important to take the division of labour between the units, or the nature of their obligations, into account. University departments should thus in general be focusing more on basic theoretical and methodological research, while more applied institutions should focus more on applied research with a more specific focus on issues of relevance for understanding the Norwegian economy and policy issues derived hereof. There is though a need for good links between the two. These aspects reflect not only the nature of research undertaken, but also the potential outlets for the research output of the units. In addition, it may also affect the realistic ambitions various institutions should have concerning the share of their work being published internationally and the potential outlets. It is therefore to be expected that the larger university departments have more international publications, in leading journals, than the more applied institutions, in total and also when measured on a per capita basis. However, for all institutions international publication is important for both internal and external reasons. Internally, it serves to ensure that the quality of research is tested by being exposed to the competitive process implied by peer reviewing and journal publication. Externally, it is a signal not only to the research community, but also society at large that the unit is competent and up to the best international standards. All users of applied work – policy makers, public agencies and the private sector – have an interest in ensuring that their supplier of information and advice can pass the test of being up to international standards.

4.1 Bibliometric analysis

A detailed bibliometric analysis has been made of the research output of the units (published as a separate report). In Table 6 and 7, some summary indicators of the research output in the period 2001-2005 are given for the units in the evaluation.

[3] Dag W. Aksnes (2007). *Evaluation of economic research in Norway. Bibliometric analysis*. Norges forskningsråd, Oslo

Table 6 *Summary measures on total research output, 2001-2005*

Institution/institute	Research output - total	Number of publications per person[1]	Publication profile[2]				
			Reports		International publications	National publications	Other publications
			English	Norwegian			
Higher education institutions, larger departments							
NHH - Dep of Economics	258	9.2 (0.6)	24%	9%	52%	12%	2%
NHH - Dep of Finance and Managenemt Science[3]	236	5.9 (1.3)	21%	6%	56%	4%	12%
UMB - Dep of Economics and Resource Managem	186	9.8 (1.0)	34%	12%	51%	0%	3%
NTNU - Dep of Economics	111	7.4 (0.5)	22%	0%	76%	–	3%
Univ of Bergen - Dep of Economics	202	8.8 (0.7)	28%	9%	43%	18%	2%
Univ of Oslo - Dep of Economics	370	12.3 (0.7)	31%	6%	51%	11%	1%
Higher education institutions, smaller departments/units							
Bodø Graduate School of Business	51	10.2 (0.9)	16%	39%	41%	0%	4%
Molde Univ College - Dep of Economics	97	6.1 (0.8)	13%	10%	57%	1%	19%
BI - Dep of Economics	75	8.3 (0.7)	13%	21%	33%	29%	3%
BI - Dep of Financial Economics	42	3.5 (0.9)	26%	2%	45%	19%	7%
Univ of Agder - Dep of Economics and Business Administr	134	11.2 (0.7)	22%	4%	48%	4%	22%
Univ of Oslo - Inst for Health Management and Health Economics	128	25.6 (0.6)	13%	16%	50%	21%	1%
Univ of Stavanger - various dep	148	9.9 (1.3)	27%	11%	51%	9%	3%
Univ of Tromsø/NCFS -Dep of Economics and Management	65	8.1 (0.5)	28%	6%	52%	2%	12%
Applied institutions/units							
Inst for Research in Econo and Business Administration (SNF)	151	10.8 (0.5)	16%	33%	36%	12%	3%
Inst for Social Research (ISF)	95	19.0 (0.5)	13%	29%	11%	44%	4%
Inst of Transport Economics (TØI)	198	11.0 (0.6)	55%	19%	23%	1%	3%
Norges Bank - Research Dep	108	8.3 (0.7)	53%	4%	31%	6%	7%
Frisch Centre	199	19.9 (0.4)	39%	16%	29%	16%	0%
Statistics Norway - Research Dep	508	10.6 (0.6)	41%	26%	20%	12%	2%

Source: Submitted publication lists. The figures are based on the number of listed publications. Some publications have been multiply reported and are counted more than once. –) Data not available.
1) The coefficient of variation in brackets.
2) International publications include: Articles in international journals, books and chapter in books in English published by publishing houses. National publications include: Articles in national scientific journals, books and chapters in books in Norwegian (or other languages) published by publishing houses. Reports include: Working papers and other reports. Other publications include: Proceeding papers and PhD dissertations. Articles in magazines are not included in the figures.
3) Including a subsection from Department of Accounting, Auditing and Law

During the recent 5 years (2001-2005), the total research output of the units is approximately 3300 publications, or 10 publications per person encompassed by the evaluation.[4] This includes a variety of publications such as international and national journal articles, books and book chapters and reports. In terms of total research output, Statistics Norway is the largest unit, followed by the Department of Economics at the University of Oslo. The total research output of course depends on the size of the different units. There are, nevertheless, large variations in the average number of publications per person included in the evaluation, varying from 3.5 to 25.6 publications. In particular, there are large differences among the smaller university/college departments. There are also large internal variations within the units, as can be seen from the coefficient of variation (numbers in brackets). When interpreting these figures, one has to take into account that the units have quite different opportunities of doing research. Some of them have very little basic funding and mainly do contract research, others have very high teaching loads etc.

Overall, reports have a significant position within the publication profile of the Norwegian economic research institutes. Report publishing is applied for a variety of purposes. For example, an article is often published as a report (e.g. as a working paper) prior to its submission to a journal. Reports are also an important channel for presenting the results of contract and applied research and for disseminating the results of various surveys and statistics carried out on a regular routine basis or as part of research projects. Of the reports, 64 per cent were written in English. Considering the mandate of the evaluation, it is, however, reasonable to give this category of publications a limited weight in the analysis. In Table 6, only the international publishing has been included (left column), and the journal publications have been further analysed (right column).

The Department of Economics at the University of Oslo is the largest unit in terms of international scientific contributions, with 189 publications (14%), followed by the two departments at the Norwegian School of Economics and Business Administration (NHH) (cf. Table 7). The highest number of publications per person is found at the Institute of Health Management and Health Economics at the University of Oslo, with a ratio twice as high as number two (however, partly explained by a very high average number of authors per publication). Number two and three in terms of productivity are Department of Economics at the University of Oslo and the Frisch Centre. At the other end, we find Department of Financial Economics at the Norwegian School of Management – BI and the Institute for Social Research (ISF), with less than 2 publications per person during the five year period.

The new funding system for the higher education institutions is now partially based on the measurement of their scientific and scholarly publishing. In this system, journals are divided into two levels. The highest level ("level 2") is given extra weight and includes only the leading and most selective international journals. In the publication analysis, the number of articles in these journals was identified and the share they represented of the total journal output. Again, we find the University of Oslo on the top with both the highest number and the highest proportion (32%) of the output in these journals.

Overall, the Panel finds that the publication record of the units is good and most of them have a strong international orientation. There are units with excellent publication output and several

[4] It should be noted that the numbers are based on "whole" counting of publications, i.e. with no fractional attribution of credit for joint publications (everyone gets full credit).

articles in top 5 economic journals. However, in some cases, too many local publications in Norwegian are being produced. Although it is important to communicate with a local scholarly community and to disseminate the research within a larger national context, international exposure is crucial. Also, the Panel finds that too much work is published in the form of reports, which are not subjected to the traditional peer review system.

Table 7 Summary measures of publications, 2001-2005

Institution/institute	International publications[1]		Journal publishing			
	Total number	Num of internat pub per pers	Internat	National[2]	Num of articles in "level 2" - journals	Share "level 2" of journal publications
Higher education institutions, larger departments						
NHH - Dep of Economics	134	4.8	113	19	28	21%
NHH - Dep of Finance and Management Science [3]	133	3.3	115	4	36	30%
UMB - Dep of Economics and Resource Management	94	4.9	59	0	10	17%
NTNU – Dep of Economics	84	5.6	71	–	19	27%
Univ of Bergen - Dep of Economics	86	3.7	76	15	21	23%
Univ of Oslo - Dep of Economics	189	6.3	150	25	56	32%
Higher education institutions, smaller departments/units						
Bodø Graduate School of Business	21	4.2	20	0	2	10%
Molde Univ College - Dep of Economics	55	3.4	43	1	10	23%
BI - Dep of Economics	25	2.8	24	11	8	23%
BI - Dep of Financial Economics	19	1.6	15	2	4	24%
Univ of Agder - Dep of Economics and Business Administration	64	5.3	55	3	9	16%
Univ of Oslo - Inst for Health Management and Health Economics	64	12.8	53	23	8	11%
Univ of Stavanger – various dep	75	5.0	67	7	15	20%
Univ of Tromsø/NCFS -Dep of Economics and Management	34	4.3	29	0	1	3%
Applied institutions/units						
Inst for Research in Economics and Business Administration (SNF)	54	3.9	46	13	4	7%
Inst for Social Research (ISF)	11	2.2	8	28	2	6%
Inst of Transport Economics (TØI)	46	2.6	41	0	0	0%
Norges Bank -Research Dep	34	2.6	27	5	6	19%
Frisch Centre	58	5.8	47	27	19	26%
Statistics Norway - Research Dep	101	2.1	82	40	17	14%

Source: Submitted publication lists. Publications that have been multiply reported by a unit are counted only once. –) Data not available.
1) International publications include: Articles in international journals, books and chapters in books in English published by publishing houses
2) National scientific journals include journals credited as scientific journals by UHR's National Councils (ref. 1.1.2007)).
3) Including a subsection from Department of Accounting, Auditing and Law

5. Researcher training

A very important channel of knowledge transmission and dissemination from the research community to society in general is via education and teaching at all levels resulting in human capital embedded in people in various parts of society. The process of building up a good research base starts with education and researcher training at universities and goes from here to society via applied units and other demanders of persons with training in economics. Education is not part of this evaluation, but researcher training and PhD programmes are. Moreover, higher education has to be research based, and it is the view of the Panel that there is a reasonably tight correlation between indicators of the extent and quality of research at various institutions and the extent to which teaching is up-to-date and research based.

The Panel finds two aspects in relation to researcher training in Norway particularly problematic, namely the structure and design of PhD programmes and the volume and intake in PhD programmes.

5.1 PhD Programmes

It is a clear impression of the Panel that many PhD candidates from Norwegian institutions are of a high quality as compared to the average European standard. There is, however, concern in several dimensions over the current situation and whether the best is made out of both the financial and human capital going into PhD programmes.

An increasing number of institutions are now offering one or several PhD programmes. This partly reflects that university colleges to an increasing degree are offering PhD programmes. For a country of the size of Norway, it can be questioned whether it makes sense to have such a large number of suppliers of PhD programmes. The Panel finds the policy that university colleges should offer at least four PhD programmes in order to obtain the status of a university to be misplaced and a potential source of depreciation of the quality of researcher training in Norway.

Researcher training is a specialist training and therefore it must necessarily take place in an environment with a strong research orientation and with an adequate supply of qualified supervision. One cannot expect PhD candidates to meet international standards both in their thesis work and subsequent work unless the education takes place in a research environment with an international orientation and standards. Moreover, critical mass is needed both to ensure a sufficient supply of courses – depth and broadness – and interaction between students and faculty.

The Panel finds that a number of risk factors are associated with the way researcher training is evolving in Norway, these include: i) course work is in some cases random and insufficiently adapted to the needs and specialization of the individual students, ii) the scientific requirements (course requirements as well as broadness and specialization) for obtaining the degree differ, iii) some PhD students spend too much time in their home unit allowing insufficient interaction with other researchers and PhD students.

Table 8 Doctoral graduates and students

Institution/Institute	Doctoral graduates who have been affiliated with the institution when working on the doctoral thesis 2001	2002	2003	2004	2005	Total	Present doctoral students affiliated with the instit.
Higher education institutions, larger departments							
NHH - Dep of Economics	3	3	6	3	2	17	36
NHH - Dep of Finance and Management Science	4	3	4	2	1	14	20
UMB - Dep of Economics and Resource Management	2	3	5	1	2	13	22
NTNU – Dep of Economics			2	4		6	14
Univ of Bergen - Dep of Economics	2	4	5		2	13	10
Univ of Oslo - Dep of Economics [1]	8	10	8	8	8	42	44
Higher education institutions, smaller departments/units							
Bodø Graduate School of Business	—	—	—	—	—	7 (0) [2]	28 (5) [2]
Molde Univ College - Dep of Economics		3	4	6	7	20	19
BI - Dep of Economics						0	2
BI - Dep of Financial Economics	2			3		5	7
Univ of Agder - Dep of Economics and Business Administration	1	4	1	2	1	9	26
Univ of Oslo - Inst for Health Management and Health Economics			1			1	5
Univ of Stavanger – various dep			2			2	8
Univ of Tromsø/NCFS -Dep of Economics and Management	1					1	13
Applied institutions/units							
Inst for Research in Economics and Business Administration (SNF)	4	5	5	2	2	18	6
Inst for Social Research (ISF)	2		2		1	5	0
Inst of Transport Economics (TØI)			1	1		2	3
Norges Bank -Research Dep	1	2	1	2		6	3
Frisch Centre				2	1	3	10
Statistics Norway - Research Dep	1	6	1	2	2	12	14

Source: Submitted data. Double counts occur because persons may be affiliated with more than one institution/institute. Most of the units also included persons in related fields (e.g. business and management) in their data.
—) No data reported
1) Figures include graduates with positions elsewhere.
2) Figures in brackets only include the candidates within economics and financial economics.

The regional mobility of researchers in Norway is very low. An indicator of mobility can be constructed by comparing the host institution for the highest degree with the institution at which the researcher is working. This is done in Table 9 based on the data supplied in connection with this evaluation as well as educational data from NIFU STEP. For most of the large university departments, the research staff is to a very large extent internally recruited, and apparently it is common to remain at the same institution from doctoral graduation to retirement. This may inhibit vitality and creativity and exchange of knowledge. Moreover, it is no surprise that most have the highest degree from either Oslo or Bergen, but it is striking that movements between these two clusters is very small. Extrapolating this pattern across all institutions taking into account that an increasing number of institutions are offering PhD programmes one may find an even stronger geographical persistence in the future. This perception of the lack of geographical mobility was strengthened during the interviews.

Table 9 Overview - educational background (highest degree); number of persons

Institution, dep/ Institute \ Institution/place Highest degr.	Univ Oslo	BI, Oslo	Univ of Life Sci, Ås	Univ Tromsø	NTNU, Trondheim	Bodø Grad Sch	NHH, Bergen	Univ Bergen	Molde Univ Coll	Scandinavia	Other contries	Foreign -country unknown	Unknown	Total
Univ of Oslo - Dep Econ	20		1				3				6			30
Univ of Oslo - Inst Health Man & Econ	4			1										5
BI, Oslo - Dep Econ	5						1				2	1		9
BI, Oslo - Dep Fin Econ		1					2				3	5	1	12
Institute for Social Research	5													5
Institute of Transport Econ	11		2		1		1			2	1			18
Statistics Norway	39	1			1		1	1		1	1	1	2	48
Norges Bank	7	2					2	1				1		13
The Frisch Centre	9										1			10
Norw Univ of Life Sci - Dep Eco & R Man	2		12				2					3		19
Univ Tromsø/Coll Fish Sci Dep Eco & Ma	1			4			1					2		8
Bodø Graduate School of Business	2					1				1	1			5
NTNU, Trondheim - Dep Econ	4				6		3	1					1	15
Molde Univ College – Dep Econ	3				3		4	3	2		1			16
Unif of Agder – Dep of Econ & Bus Adm	4						7				1			12
Univ of Stavanger	3						7	2		2	1			15
NHH, Bergen - Dep of Econ							23	1		1	3			28
NHH, Bergen - Dep Fin & Man[1]	3						17	3		6	10	1		40
Inst Research in Econ & Bus Adm (SNF)							4	8				2		14
Univ of Bergen - Dep Econ							6	14				3		23
Total	122	4	15	5	11	1	84	34	2	13	31	19	4	345

Source: NIFU STEP Research Personnel Register/Submitted CVs
1) Including a subsection from Department of Accounting, Auditing and Law

It is beyond the scope of this report to analyse the reasons for the low geographical mobility in Norway. However, if there is such a low mobility ex-post to having obtained researcher training for whatever justifiable reason unrelated to research, it is important to take this into account when structuring researcher training. This makes it even more important that PhD students as part of their training are exposed to different environments both by extended stays at other institutions and by participation in course activities and the like at other institutions.

The low mobility seems also to be reinforced by the fact that many institutions have a strong incentive to attach PhD students to the local research environment with the aim, in the short-run, to expand the local group and, in the medium to long-run, to improve the recruitment base. However, there is a risk that this will take place at the cost of a less than optimal researcher training. The criterion is not whether the training offered is acceptable, but that talented young people are given the best possibilities for developing their skills and pursuing their research interests.

The current situation is characterized by some variation in course requirements and also the possibility for students to meet these requirements by attending high quality courses. There are some good courses, and students are often participating – at the initiative of their home institution or in many cases themselves – in courses at different institutions in Norway and abroad. Some institutions are also involved in more or less formalized networks. However, the whole structure seems to be very ad hoc, making it difficult for students to compose an appropriate course programme. This is not least to the disadvantage of students coming from some of the smaller and more remote institutions away from the clusters in Oslo and Bergen.

The Panel proposes that a national PhD programme is set up that provides sufficient variety of high quality courses on a continuous basis. Such a programme would be consistent with the needs of students from smaller units being enrolled at their home institution, and it would benefit the smaller units supplying courses within their areas of specialization. Various structures of such a national programme are possible and inspiration can be found in e.g. the national programme in Finland, networks in some subfields or formalized cooperation between universities in some European countries.

An important element of PhD training is to become acquainted with other scientific environments and to establish networks with other young researchers with similar interest. The Panel finds that this is best served by a stay abroad at a recognized international research institution with an established PhD programme. It is therefore important that such stays abroad are not only encouraged but also supported by helping students to establish contact, acquire funding etc. It is not realistic that all PhD students pursue such a stay abroad, and therefore such a scheme should not be a substitute for establishing a national PhD programme.

5.2 Recruitment of PhD students

At present, many institutions face recruitment problems due to excess demand in the market for PhD candidates. This reflects in part the favourable business cycle situation, but also that there is a much more extensive market for PhDs both nationally and internationally than in the past. Moreover, these problems are likely to be larger in the near future due to the age composition of the staff at many institutions, cf. Section 3 above. The recruitment into PhD programmes is thus too low relative to medium term needs. In addition, many institutions currently experience increasing problems in recruiting PhD students, which mainly can be attributed to the business cycle situation and smaller cohorts.

The research community in Norway thus faces the challenge of both increasing the quantity and quality of researcher training in the coming years.

There is some scope for international recruitment. Some institutions have been active and successful in international recruitment partly driven by local shortage and partly driven by the need for high quality students. On the basis of the information gathered from the institutions, the Panel finds that insufficient effort has been made to recruit internationally. The reason for this can often be traced back to a prior perception that it will be in vain. Though, it should be noted that international recruitment (of both PhD students and faculty) is not costless due to significant screening problems as well as strong and intensified competition. Moreover, recruitment is difficult in most places in Europe, implying that competition is fierce.

6. Funding

The units included in the evaluation differ significantly in their funding structure. The typical funding mode for the higher education units is institutional core funding, accounting for approximately 80 per cent of the total funding (Langfeldt 2006). In the institute sector, on the other hand, core funding is a marginal funding source. Tenders and other commissioned research are substantial funding sources for the research institutes, but are of limited importance for most of the university units.

Many institutions included in the evaluation point to funding as a binding constraint for achieving the aims of the units to ensure high quality research. In some cases, funding is available but tied to short-term thematic and more applied research topics. Moreover, it seems that funding of PhD studies is often attached to thematic research projects, which can be a source of both bias and uncertainty for the planning of PhD programmes.

A tension arises between the aims of society in general, ministries and the Research Council to allocate resources and the desire of the units to have as much funding in the form of base funding with a long horizon. However, it is desirable to allow room for reallocation of funding as a means of sharpening competition and allowing resources to go to the areas with most potential. The important issue is thus not whether funds should be reallocated, but whether it is based on criteria transparent to the research community and in a way supporting relevant and high quality research

In recent years, the Higher Education Institutions have undergone a comprehensive process of restructuring ("the Quality Reform"), which also includes a reform of the funding system. The funding of the institutions by the Ministry of Education and Research has been changed from being almost entirely calculated as overhead on appropriations for teaching to a system where funding is divided into different components, including a separate component for research appropriations (15 per cent of total appropriations). A bibliometric indicator is one of several components, although initially it has only marginal effects on funding. It is not part of the Panel’s task to evaluate the details of this scheme, but it is noted that it strengthens the focus on international publication by relating funding to performance measures. We find that this is a step in the right direction, and we expect that the scheme will become more refined in the future with more differentiation between the journals. The Panel has, however, noted that the scheme may be an impediment to cooperation between different types of institutions since problems with registration of research output have not been solved. It would be a pity if this incentive scheme turned out to be a disincentive to cooperation of researchers employed at different institutions.

6.1 The Research Council of Norway

Funding from the Research Council of Norway is also of varying importance for the units. RCN provides core funding and other general funds (such as Strategic Institute Programs) for several of the units in the institute sector. The Council also provides project related funding and funding for research training (PhD grants). On average, about 10% of the financial base of the institutions comes from the RCN, but since it is variable funding it is pivotal in redirecting research, new research initiatives etc. Providing funding via the Research Council has the advantage of ensuring both competition over funds and quality control in the allocation of funds.

There are many examples of how funding achieved via the Research Council has made a difference and therefore been pivotal for fostering good research and researcher training. However, there are some issues related to current practices which may be problematic, and there is thus some scope for improvements to ensure that the funding goes to support research and researcher training of the best quality.

Current funding policy implies both a scope for reallocating funding across institutions and for affecting the directions which research is taking, but also in defining specific research topics. This is positive since more rigid funding schemes tend to preserve and maintain a structure even if the research quality is poor. However, these trends also have some risks associated with ensuring that funding supports research and researcher training of high international quality. There is a concern that too much money is allocated via application for specific themes defined by the Research Council in its call for applications. Data on RCN funding that has been made available to the panel shows that 78 percent of the sources to economics in the period 1997-2006 represent programme funding, while only 9 per cent of the money has been spent on independent projects (frittstående prosjekter). This is problematic for several reasons, although it seems to be a general pattern not only within the field of economics. First, it takes time to build up research competencies within a specific field, and once it has been established it also requires an effort to maintain the position since the international research frontier moves rapidly in most fields. Hence, there is a risk that the Council by such initiatives attempts to create a demand in an area where no strong expertise exists. As a consequence, the quality of the research may be too low both specifically in relation to the theme and relative to the quality of research produced via general funding. Second, to the extent that the units try to build up expertise within the thematic area they run a risk that this theme suddenly will be of less interest, and therefore it will be difficult for the unit to maintain and develop the expertise it has been building up. Finally, any top-down procedure has to take into account both the problem that it may not have the proper information to identify the areas with the strongest potential in research and to ensure that the selection procedure is not biased towards projects with low risk (and hence often also low returns).

During the interviews many institutions expressed a concern that grants under the thematic programmes seemed to be allocated based on project descriptions rather than the track record and research potential of the group. The Panel has no possibility of evaluating whether this perception is justified or not. However, there is a risk if themes are driven primarily by fads and short-run political trends at the costs of research quality. It is therefore important in the selection process to weight research quality very high. The Panel understands that the Research Council has not consistently evaluated the quality of research produced under thematic programmes, and the Panel proposes that such an evaluation is undertaken with a view to improve both the application and selection process.

As part of this evaluation, the Panel has come across research in health economics. The Panel would like to highlight this as a successful long-term investment which has resulted in high quality research in health economics in both Bergen and Oslo. It is noteworthy that this has been a long-term programme (5 years with a possibility of a prolongation with additional 5 years) with a competitive element implying the possibility of termination of funding, and it has been based on peer reviews[5]. The Panel finds that the Research Council to a larger extent

[5] See the evaluation report: *Evaluation of the Health Economics Research Initiative of the Norwegian Research Council – Report of the Evaluation Committee*, 2004, Norges forskningsråd.

should consider such initiatives as an alternative to the smaller and more short-term thematic programmes. Likewise, the Centre of Excellence programme has much potential and has recently been evaluated favourably[6].

Increasing competition over funds is good if it is based on transparent criteria and if the allocation process emphasizes high quality research. A disadvantage is if funding has short duration increasing risk and tending to crowd out long-term projects, and if too much time and administration go into the applications and administration of grants. Several of the units included in the evaluation have expressed a concern that the allocation of grants is based on unclear criteria – in the sense that research quality does not always seem to matter – and that the ratio between applications and funding is such that the cost-benefit ratio becomes unfavourable, e.g. when the success ratio is too small. This suggests that there may be an information problem as to what the Council actually supports, and on what terms. The Panel recommends that the Research Council reconsiders it application procedure and in particular whether the time invested by researchers in the process is kept to a minimum.

The Research Council also allocates funds on behalf of ministries and the like. It is well justified that many ministries, institutions and sectors on a continuous basis have a need for various forms of inputs to fulfil current needs for information and advice. However, many of these activities are qualitatively different from the basic activities in a research environment, and both tasks are best served by not mixing the two. It is beyond the mandate of the Panel to evaluate the infrastructure of funding in Norway, but it is suggested that a sharper distinction is made between institutions (or the part of institutions) involved in research activities and those who are not. As an example it is quite clear how to see such a dividing line in eg. Statistics Norway and Norges Bank, where research is taking place in sub-divisions with objectives defined in terms of research. In the case of e.g. Institute of Transport Economics (TØI) such a division of labour is more difficult to identify implying that the objectives are equally diffuse. The Panel finds – as noted above – that it is very important to assess the quality of research in all types of institutions. Equally it is important not to enforce or impose standards from the research community on units which primarily are performing various forms of “consultancy” work.

Finally, given the low mobility and geographical barriers in Norway, the Panel finds it surprising that the Research Council apparently does very little to encourage and facilitate exchange between the institutions. Only very limited funding is provided by the Council for such net-working activities There is some informal networking between institutions, but they are usually driven by personal contacts or teaching needs. There seems to be both a need and scope for offering better options for short-run mobility of both researchers and PhD students.

6.2 PhD funding

RCN funds both Post Doc grants and PhD grants. According to information provided by RCN, about 25 per cent of all PhD students are funded by the Council, and about 50 per cent of all Post Docs.

PhD grants are often part of thematic applications/programmes. The Panel finds this problematic since PhD grants should not be allocated on the basis of issues which in the short-run are topical but rather on the basis of the qualities of the students and the PhD programmes as well as a proven track record of the host institution in researcher training. Moreover, this structure may force institutions with an objective to expand researcher training to direct their

[6] *Midway Evaluation of the Norwegian Centres of Excellence*, 2007, Norges forskningsråd.

research activities towards the topics of the thematic calls. Associating too many PhD grants with thematic applications thus runs the risk of misallocating both financial and human capital. The main motivation for having PhD students should not be to increase the volume of a unit but the quality of researcher training. For the same reason, PhD grants should only be granted to research institutions.

7. Outreach

Dissemination of research output to society is critical for the usefulness of research. In recent years, the outreach of researchers to society has attracted increasing attention, which is positive because it reflects an interest of society in using insights and results from research and it may also contribute to sharpen the focus of researchers. However, there is a tendency to equate outreach of research with visibility in the media. While this is one important part of information dissemination, there is reason to stress that there are other important channels of dissemination. The single most important channel is education at all levels producing the knowledge and insights embedded as human capital in individuals. This human capital is, in turn, employed via the hiring of individuals with a professional training. The increased demand for economic candidates in general and PhD candidates in particular can be interpreted as a signal of the value of this human capital to society. Another key channel for dissemination is applied work at all levels where the insights and methods of research are applied in addressing specific issues and problems of specific decision makers, including policy makers. Most of this type of knowledge dissemination is produced in applied work, some of which is reported in traditional academic journals and in reports and the like submitted to decision makers. This work is directly included in this evaluation, cf. above on research output. Applied work is also produced when researchers supply expertise by participating in commissions, expert groups and the like.

Hence, the main infrastructure for outreach is captured in the division of labour between the different types of institutions included in the evaluation with some supplying education at different levels, and others supplying applied works of various forms. As noted above, considering the portfolio of units doing economic research in Norway, the Panel finds that there is an appropriate balance between the different types of institutions, and therefore by implication a proper structure for outreach from the research community to society.

Participation of researchers in public debates via e.g. commentaries and interviews in the media and popular presentations are also an important part of outreach. It is natural and appropriate that there is some division of labour between researchers in terms of this form of outreach since it differs substantially in nature from teaching and research activities in general. It is accordingly misplaced to project the overall requirements of society for outreach proportionally to individual researchers in particular since there is clearly a trade-off between time allocated to servicing the media and the like and research activities. It has not been possible for the Panel to quantify this form of outreach, but via the reporting from the institutions many examples of active participation in outreach activities have been given. In some cases, there are even formal arrangements between institutions and media to ensure that researchers are available for commentaries and interviews. It is the view of the Panel that the overall level of outreach in Norway is satisfactory and at least at the level one finds in neighbouring countries.

8. Quality of research in Norway

Overall, the Panel finds that economic research in Norway has a high standard; some units are within their field of specialization at the international research frontier, and many others have research output which is both internationally visible and recognized, and some of the more applied units with a specific Norwegian focus also hold a high standard. The overall view of the Panel is that economic research in Norway is ranking in the top among European countries, although not quite reaching the level of the best European countries like the UK and the Netherlands. Clearly, some high profile institutions – in particular in the US – have a global leading role above that reached by the predominant part of European institutions.

Evaluated from a relevance criterion, we find that the score in general is high, and much research - also the more theoretical and methodologically oriented – takes its outset in problems and issues which are relevant to the Norwegian society at large. The Panel also finds that the overall level of outreach and visibility of researchers in the media and in participation in expert groups, committees and other forms of dissemination is very high.

In the following, we report in summary form the findings of the evaluation. We report these findings for the three categories of institutions in recognition of their different roles. Moreover, the summary is given in terms of several criteria to reflect the above mentioned differences and to provide a more detailed impression of the strengths and weaknesses of the units. The criteria included in the summary table are:

- Total publication activity
  - International research output
  - Publication in leading journals
- Originality of research
- International front position in research
- Research training
  - PhD programme
  - Recruitment
- Relevance and influence of research
  - Internationally
  - Nationally
- Research cooperation

The assessments have been based on the material submitted to the Panel (see above) and the interviews. The bibliometric analysis has represented important background information for the evaluation of the publication activity in particular. However, the assessments are not simple reflections of quantitative measures on publication output, but also take into account qualitative aspects, including the quality of the outlets, the research profile and specialization of the unit in combination with its size and resources. In the assessments of the originality of research the Panel has taken into account the originality of approaches and ideas in tackling scientific problems, or problems of high policy relevance. Similarly, the assessments of international front positions are based on contributions made to international scientific developments and other reflections of international recognition and impact. In the examination of research training the Panel has taken into consideration various aspects relating to recruitment and the design of the PhD-programme. Relevance and influence of research is a criterion that covers both the scientific and socio-economic impact of the work and includes the outreach to society at large in Norway and internationally. Finally, research cooperation has been assessed by considering the collaboration profile of the units both nationally and internationally.

In all cases, units are characterized on a scale using the following classifications: excellent, very good, good, fair and weak. It should be noted that the score provided applies to the units as a whole and not to individual researchers, and also that they should be interpreted as indicative rather than absolute. Finally, we also provide an overall score for the institutions. Since the main objective has been to evaluate the quality, quantity, visibility and impact of research from an international perspective, it follows that the overall score summarizes how the Panel evaluates the units' accomplishments in research. Moreover, by an international perspective it has been understood that the units are to be compared to the best international standards and as such the aims are ambitious. The overall score is defined as follows:

Excellent: Research is at the international research frontier with high impact and visibility in terms of publications in leading international journals. The research group has a position as an international leader.

Very good: Research is at a high international level with clear impact and visibility within some core areas of research, and with a high level of publication in recognized international journals. The researchers have a leading international role within their sub-field.

Good: Research is mostly at an international level, and a large share of the research output is published in international journals, including some publications in leading field journals. The research group has a clear international profile.

Fair: Research quality is uneven in quality, and only parts of the research make it to international publication. Other parts of the research may have high national interests and thus be of high quality, although it fails to generate international interest.

Weak: Research quality is low and the research output generates very low international and national interest.

Note that making an international comparison means that the units are compared to a group of units the quality of which has a large dispersion. The international scene includes "world leaders" at one end of the spectrum and at the other very poor units on any criterion related to research. The Panel has, nevertheless, used the full range of scores, in order to avoid that the dispersion of scores gets too compressed. This means that internationally there are both better and weaker institutions than those obtaining given scores in this evaluation.

The characterization given here is obviously summary and does not give full credit to the specificities and details of the units. For more detail, we refer to the specific evaluations of the units given in Section 9.

8.1 Higher education institutions, larger departments

The findings for the larger university departments are summarized in Table 10.

Table 10 Summary indicators. Higher education institutions, larger departments

		NHH - Dep of Economics	NHH - Dep of Finance and Management Science*	UMB - Dep of Economics and Resource Management	NTNU - Dep of Economics	Univ of Bergen - Dep of Economics	Univ of Oslo - Dep of Economics
Total publication activity	International research output	Excel-lent	Good	Very good	Very good	Very good	Excel-lent
	Publication in leading journals	Very good	Good	Good	Good	Good	Very good
Originality of research		Very good	Good	Good	Very good	Good	Very good
International front position		Very good	Very good	Good	Good	Good	Good
Research training	PhD programme	Good	Good	Good	Good	Good	Good
	Recruitment	Good	Very good	Weak	Good	Weak	Fair
Relevance and influence of research	Internationally	Very good	Very good	Good	Good	Very good	Very good
	Nationally	Excel-lent	Very good	Very good	Very good	Excel-lent	Excel-lent
Research co-operation		Excel-lent	Very good	Very good	Good	Excel-lent	Excel-lent
Overall impression		Excel-lent	Very good	Good	Very good	Very good	Excel-lent

*) Including a subsection from Department of Accounting, Auditing and Law

The Department of Economics at the University of Oslo and NHH, respectively, have both been able to maintain and develop a historically strong position in research. They also both have a strong international profile in research, and many researchers are internationally recognized.

Research in Finance in Norway has in recent years been much improved and the Department of Finance and Management at NHH established itself as a rather strong research group with a clear and improving international profile. The Department of Economics at the University of Bergen and NTNU, respectively, are not quite as large as their sister departments at the University in Oslo and NHH, and even correcting for size differences, they do not quite reach the two leading departments of economics. The research at these two departments is, however, of high international quality and visibility.

The Department of Economics and Resource Management at Norwegian University of Life Science has a very strong research position, but does not quite reach the level of the other large university departments. However, it is noteworthy that the Department within the last 10 years has been able to reorient its research output in a much more international direction and thereby increased the quality considerably. While this process is still ongoing, it points to the possibility for a unit to redirect its research activities and obtain a much clearer international profile.

8.2 Higher education institutions, smaller departments/units

The summary indicators for the smaller university departments are given in Table 11.

Table 11 Summary indicators. Higher education institutions, smaller departments/units

		Bodø Graduate School of Business	Molde Univ College - Dep of Economics	BI - Dep of Economics	BI - Dep of Financial Economics	Univ of Agder - Dep of Economics and Business Administration	Univ of Oslo - Inst for Health Management and Health Economics	Univ of Stavanger – various dep	Univ of Tromsø /NCFS - Dep of Economics and Management
Total publication activity	International research output	Good	Weak	Good	Good	Good	Very good	Good	Good
	Publication in leading journals	Fair	Fair	Very good	Very good	Fair	Good	Fair	Fair
Originality of research		Good	Weak	Good	Very good	Good	Good	Good	Good
International front position		Weak	Weak	Very good	Very good	Fair	Good	Fair	Fair
Research training	PhD programme	Weak	Fair	Not rele-vant	Good	Not rele-vant	Good	Good	Good
	Recruitment	Fair	Weak	Good	Very good	Fair	Fair	Good	Weak
Relevance and influence of research	Internationally	Weak	Fair	Very good	Very good	Fair	Good	Good	Good
	Nationally	Good	Good	Very good	Good	Fair	Excel-lent	Good	Good
Research co-operation		Good	Weak	Good	Very good	Fair	Excel-lent	Weak	Good
Overall impression		Good	Fair	Very good	Very good	Fair	Very good	Good	Good

The Institute for Health Management and Health Economics at the University of Oslo stands out in this group as being a small and yet internationally very visible unit. It has a clear international research profile, and is within its area of specialization in an international leading position. The Department of Finance, BI and The Department of Economics, BI are also two very good units showing that smaller units by specialization can reach a high level in research.

Bodø Graduate School of Business, the unit at the University of Stavanger, and the Department of Economics and Management, Norwegian College of Fisheries Science, University of Tromsø have a clearly satisfactory level of research standing as also reflected in the fact that a large (and increasing) part of the research output is appearing in good international journals.

University of Agder has a research output which in qualitative and quantitative terms is fair, but suffers from the fact that a clear research profile has not yet been fully established.

Molde University College has a weak research profile and a rather small research output, and most of its work is of consultancy type, and the international profile and impact are almost absent.

8.3 Applied institutions/units

The summary indicators for the applied institutions/units are given in Table 12.

Table 12 Summary indicators. Applied institutes/units

		Inst for Research in Economics and Business Administration (SNF)	Inst Social Research (ISF)	Inst of Transport Economics (TØI)	Norges Bank - Research Dep	Frisch Centre	Statistics Norway - Research Dep
Total publication activity	International research output	Good	Weak	Fair	Fair	Good	Fair
	Publication in leading journals	Good	Weak	Weak	Good	Good	Weak
Originality of research		Good	Good	Fair	Good	Good	Good
International front position		Good	Fair	Weak	Good	Good	Fair
Research training and recruitment		Good	Weak	Fair	Good	Good	Good
Relevance and influence of research	Internationally	Good	Weak	Fair	Good	Good	Fair
	Nationally	Excel-lent	Good	Good	Very good	Excelle nt	Very good
Research co-operation		Very good	Fair	Good	Very good	Good	Fair
Overall impression		Very good	Fair	Weak	Good	Very good	Good

Institute for Research in Economics and Business Administration (SNF) and the Frisch Centre are both very strong applied units. They have a clearly defined profile, and the research output holds a high relevance and quality, which is also seen from the level of international publications originating from the two units.

High quality applied research is also produced at the Research Departments at Statistics Norway and Norges Bank, respectively. However, although there are some international publications, the international research profile is less strong at these two departments.

Parts of the research at Institute for Social Research (ISF) hold a high international standard, but as a unit there is not a clear profile, and the output and quality is somewhat uneven.

Institute for Transport Economics (TØI) has a high activity level, but most of the output must be characterised as consultancy work and the research impact of the unit is very weak.

8.4 Overall evaluation

Evaluating the institutions from an overall perspective, the Panel finds that economics research in Norway comprises both some very strong university departments with clear specialization within a number of subfields, some strong smaller units with specialization within a few subfields, and some very strong applied institutions. Naturally the single units come out differently in terms of e.g. international publications, but taking into account the division of labour and the complementarities between the units, the overall level of research is very good.

However, the Panel finds that there is scope and potential for improvements along several dimensions. First, as seen from the evaluation there is some dispersion in quality, especially within the group of smaller university departments/units and the applied units. Secondly, as noted above, there is an issue concerning specialization where a number of units do not have a clear strategy in defining and strengthening a particular niche in research. Thirdly, the level of international publication and the status of the outlets can be improved. Although promotions depend on the publication record, this mechanism leaves no incentives for researchers once they have obtained a tenured position and there is a need to strengthen the focus on international publication. Some units have incentive schemes involving financial bonuses, time bonuses and/or other forms of rewards, but for most units there is a need to strengthen and develop these. It is also clear that the internal culture at institutions is very important for how focused researchers are on international publications. In some units, there is a "publication culture", while in others there is none and international publication seems to have low priority or may even be seen as a nuisance imposed by the outside world. To some extent, there is a cohort effect in the international orientation of research since younger generations via the researcher training they have obtained have gained a clearer international orientation than older generations. However, one cannot rely on time to solve the problem without a significant improvement in researcher training and recruitment, especially in units which have a very low international orientation of their research activities.

9. Unit evaluations

9.1 Norwegian School of Economics and Business Administration (NHH) - Department of Economics

The Department of Economics at the Norwegian School of Economics and Business Administration (NHH) was established in 1951. There has been a considerable increase in staff members the recent decades. The present department has 25 staff members and three post docs (excluding economic geography and economic history) and more than 20 PhD students. From the Department 28 persons are included in the evaluation, four of whom are women. Total funding for the year 2006 was NOK 24 million, 94 per cent from internal sources. Among the associated researchers, we find the Nobel Prize winner Professor Finn E. Kydland. In 2005, there were 370 post-graduate students.

Research profile
Areas of research include (number of researchers in parenthesis): Industrial Organisation (7), International Economics (6), Labour Economics (4), Public Economics (4), Social Choice and Experiments (2), Macroeconomics (2), Resource Economics and Agriculture (2). Many members of the Department have taken a strong interest in matters of economic policy, sometimes as members or experts on government committees, and sometimes as contributors to public debate about current economic issues.

Research output
The Department of Economics at the Norwegian School of Economics and Business Administration is one of the largest institutes in terms of international publications (ranks as number 2). The Department publishes in a large number of journals, many of them representing leading international journals. The Department has a good productivity of international journal articles per person, and it has improved over the last few years, also with a few publications in the top five journals. In terms of citation rates, however, the Department does not score particularly well, although the citation level is on line with several of the other institutions in the evaluation with indexes between 70 and 80.

In recent years, there has been a shift of theme from public and international economics towards industrial organization and labour and experimental economics. Over the evaluation period, the best publications (i.e. those in the top 5 journals) have been in these new research areas. All the themes have lead to publications in good international journals. Members of the Department have published an average of 4.8 international publications over the period 2001-2005, which is significantly above the national averge. However, there is some dispersion in publication records across the department members. Finally, the Department provides clear incentives for publication.

Research cooperation
There is a bottom up approach to research cooperation. The Department believes that the atmosphere, which is defined as friendly, encourages research cooperation between members. In terms of collaboration as reflected through co-authorship of ISI-indexed publication, the Department shows patterns close to average. Approximately one third of the articles have authors from other countries. Germany appears as the most important collaborative country.

At the national level, the Department has a particular close collaborative link to the Department of Economics at The University of Bergen.

Recruitment and research training

Recruiting highly qualified human capital is perceived as a challenge. Because of retirement, the Department is going to lose prominent economists. Yet, it is very difficult to attract well established researchers, even from Norway. There is not much mobility between the Departments: most member of the unit took their PhD at the NHH. In the past, the recruitment strategy was clearly from within. However, the Department has begun to open its recruitment procedure with two recruitments from outside. Since external hiring has proved successful, it plans to hire more from the outside. This opening is very good and has to be encouraged. There is a strategy of recruitment which is defined in terms of the Department needs. Available resources for new hirings will be allocated between research groups according to an internal process at the Department. Thus, recently the decisions in this respect include i) to increase the group in macroeconomics (two new hirings in 2005 and 2006), ii) to maintain the size of the group in public economics and iii) to decrease the group in economic geography (this group is not included in the evaluation but is part of the Department). There is a concern that international recruits may only stay shortly, but although this may very well happen this should not be argument against international recruitments. Some turnover is worthwhile in order to recruit highly qualified researchers.

The Department expresses concern about the quality of domestic PhDs. It believes that the recent reforms have weakened the quality of the students. The Department does not have a very structured PhD programme. There is room for improvement in doctoral training.

The Department also points to problems in attracting good Norwegian PhD students. One problem is that the Department does not have a graduate programme specific to economics. This is a real concern in relation to training and selecting good students. There are also concerns about the quality of the PhD programme, but the Department is cooperating with the Economics Department at the University of Bergen to improve both the quantity and the quality of the PhD courses. As a result, the Department fears that PhD students from NHH might rank lower than PhD students from good European economics departments. From now the NHH Economics Department will grant 4 (4 year) scholarships each year.

Outreach to society

Outreach to society is mainly done through the Institute for Research in Economics and Business Administration (SNF). The SNF is doing applied research financed in the market (75% public sector project, 5% EU, 20% private sector). Many economists at the Department are or have been involved in government work either as expert or as member. Finally, some of them are visible in the media.

Overall evaluation

- Total publication activity

International research output	Excellent
Publication in leading journals	Very good

- Originality of research — Very good
- International front position in research — Very good
- Research training

PhD programme	Good
Recruitment	Good

- Relevance and influence of research

Internationally	Very good
Nationally	Excellent

- Research cooperation — Excellent
- Overall impression of the research group/institute: Excellent

Summary statement

The Department of Economics at the Norwegian School of Economics and Business Administration is a very strong economics department. It is among the best departments in the Nordic countries and it has a high level of research and a clear international profile. The main challenges are to solve the recruitment problem and to improve its PhD programme. The Department has successfully used the international job market, and this may be further exploited to both solve the recruitment problems and strengthen research.

9.2 Norwegian School of Economics and Business Administration (NHH) - Department of Finance and Management Science

The evaluation of the Department of Finance and Management Science (FMS) also includes a subsection of the staff at the Department of Accounting, Auditing and Law (AAL). In total, 40 persons are included in the evaluation, only three of whom are women. There are structured PhD programmes, although they are not fully developed in all areas. With the exception of Finance, the selection of courses is still limited, but there is co-operation with other Nordic schools to improve this. The number of PhD students is 20 (and five post-docs). Total funding for the year 2006 was NOK 28 million, 82 per cent representing internal sources.

Research profile

The main areas covered by the unit are finance, accounting, managerial economics, business planning and control, operations research, and mathematical and statistical methods. Research at the Department has been particularly strong in theoretical and analytical work. More recently, applied and empirical research has gained importance, and additional research areas have been included. The largest broad research areas are financial markets, corporate finance and governance, business planning and control, quantitative methods, energy, resource and environmental economics, financial accounting and auditing, entrepreneurship, and economic thought and methodology.

Research output

The unit is one of the largest institutes (no. 3) in terms of the number of international scientific publications. It publishes in many different journals and has a large number of articles in leading ("level 2") journals. There are also two articles in the "top 5" general economic journals. However, measured per person, the productivity is below average. In terms of relative citation rate, the unit ranks as eight, which is above the EU average.

The unit identifies 12 international top journals which cover the areas of the unit. During the last five years, staff members have published 4 papers in these journals, in addition to 2 articles in top general economic journals.

The unit identifies as a weakness a low research output in the very top journals, and people are now concentrating on getting their publications into these journals. It is also clear that there is great asymmetry in the unit's productivity. There are about 8 researchers who have published 10 or more international refereed journal articles within the last 10 years, whereas about 10 have published 2 or less. One researcher has published as many as 7 papers in top three journals in Finance and Economics (and more in other very good journals) within the last 10 years. There are bonus systems for publication activity both at the school and unit level. Also, the teaching loads can be adjusted based on research activity, and there is a financially supported sabbatical system.

Research cooperation

Research co-operation is based on a bottom-up basis. There are now plans to co-ordinate research into stronger groups and centres. The collaboration analysis based on the ISI-indexed publications shows that almost half of the publications involve international co-authorship, which is an indicator that the unit is quite strongly integrated in the international research community. Most of the collaborators are from Sweden and the USA.

Recruitment and research training

The unit seems to be understaffed in relation to the number of students and study programmes, and also faces severe competition from the industry for PhD candidates and faculty. There is currently a great need for more staff, particularly for AAL. The understaffing problem has been especially severe in empirical finance, financial accounting and auditing. Recently, the situation has improved by hiring of a number of young researchers, especially in Finance. Corporate finance and governance, as well as empirical research in general, are prioritized in hiring. NHH plans to hire 37 additional full-time faculty members over the next years. This is a great opportunity for the unit, who expects to get a number of new positions, thereby improving its research activity. FMS and AAL will work closely together to get the maximum benefit out of this. A high priority is also given to building up appropriate databases for empirical research, something which has been somewhat neglected earlier. The unit seems to have a clearly developed strategy plan, including new research centres, and focused masters and PhD programmes.

The unit has hired internationally at all levels (a ratio of 2:1 between international and national hiring), with success. Since 2004, finance has been recruiting on the AFA (American Finance Association's) job market. It has been able to differentiate salaries. Other departments at NHH are following suit, and NHH is currently developing a policy for international recruitment.

The unit has a decent production of PhDs. Only a few have been employed internationally (most get hired by companies or teaching colleges). PhD students are encouraged to go abroad for some time, and foreign PhD students are recruited. Earlier, funding was not a problem, but it is now because the Department needs more staff and it has difficulties competing on salaries. This is a problem especially in finance, where the unit is facing strong competition both from the industry as well as from foreign universities. Also, the costs of empirical databases are high (but these databases form a competitive advantage). The unit feels that it is at a disadvantage as compared to economics when it comes to getting external public research funding because there is a common misbelief that researchers in finance have good access to private funding.

Outreach to society

There is no specific policy. However, several faculty members have a high media profile. They are consulting, and being used as experts. Also, faculty members actively participate in arranging practitioner conferences, media training, and assisting in popularizing research.

Overall evaluation

• Total publication activity	
International research output	Good
Publication in leading journals	Good
• Originality of research	Good
• International front position in research	Very good
• Research training	
PhD programme	Good
Recruitment	Very good
• Relevance and influence of research	
Internationally	Very good
Nationally	Very good
• Research cooperation	Very good
• Overall impression of the research group/institute:	Very good

Summary statement

The Department of Finance and Business Administration at NHH is a very good research unit – in its field, among the best in Scandinavia. The unit has a great overall visibility. However, the productivity per person is average or below. Top publications do exist but are scarce, and the staff members are very heterogeneous in terms of their publication activities. The positive side is that there seems to be a very clear plan on how to go ahead. There is a shift towards international recruitment and more incentives for top publishing. Recruitment is the most critical factor for future development of the Department.

9.3 Norwegian University of Life Sciences (UMB) - Department of Economics and Resource Management

The Department of Economics and Resource Management is one of eight departments at the Norwegian University of Life Sciences. The university is based on 150 years of traditions in the fields of agriculture and food production.

The Department of Economics and Resource Management employs 26 full-time persons, most of whom are economists. The evaluation includes the 19 faculty members who are working within economics (16 men and 3 women).

The Department offers two bachelor degrees (economics and business administration) and four masters degree programmes (economics, business administration, development and resource economics, entrepreneurship and innovation). At the end of 2005, there were 450 registered students at the Department.

The internal funding in 2005 was NOK 23.6 million. Outside the Department's core funding, major research funding sources include the Research Council of Norway, various Norwegian government ministries, the Nordic Council of Ministers, the European Union, and various private firms. NOK 4.7 million were received from external sources in 2005.

Research profile

Given the agricultural background of the University, the Department has traditionally focused on agricultural economics. More recently, environmental and resource economics as well as developmental economics have to some extent replaced agricultural economics as the main research field.

Research is mostly driven by a bottom-up process, but there are some strategic considerations at the Department on the direction of research. The Department of Economics and Resource Management is specializing in areas mixing economics and agriculture, and has research focusing on the following three main research areas: Resource and environmental economics, Development economics, Market and consumer research. The research is mainly empirically focused. It is a future priority of the Department to strengthen its research in energy economics.

Research output

The productivity of international publications per person the recent five years is 4.9. This level of productivity is above the average for the units included in this evaluation. The journals most frequently used for publications are specialized field journals within agricultural, environmental and development economics. Compared to the average unit it has relatively many publications in the category of book chapters.

The level of international publication should be seen from the perspective that the Department earlier had almost no international publications, and after a planned effort over the last 10 years it has succeeded in ensuring that a large fraction of the work meets international standards. One concern – recognized by the unit - is that the distribution of research output across researchers is rather skew.

The Department has obtained the highest citation index of all the units and their publications have received 80 per cent more citations than the corresponding world average. Among their publications we find several which have been particularly highly cited. However, the proportion of journal articles appearing in the leading (“level 2”) journals is quite low (17 %).

Research cooperation

Researchers at the Department engage actively in research cooperation as seen from the high level of co-authorship and frequent cooperation with foreign researchers. Moreover, researchers participate in international research programmes, and some are very active in international contexts (scientific associations, conferences, workshops etc.). The extent of cooperation is seen from the fact that each publication (ISI-indexed) on average has almost 4 authors which is much higher than the average (1.9 authors on average per paper).
The proportion of international co-authorship is 29 per cent which is close to average. The Department has collaborative links with a large number of countries, including several developing countries.

Recruitment and research training

Due to funding constraints, few recruitments have been possible recently, and the unit finds financial support the most binding constraint for expanding research in the desired direction. The unit also finds itself somewhat constrained both due to the Science bias at the Norwegian University of Life Science, and the fact that the teaching burden is very large. The age structure of the staff points to an approaching recruitment problem.

The Department is running a PhD programme where the stock of students is about 20 of which most specialize in agricultural, development and resource economics. The larger part of the PhD students are from developing countries, and the Department has from 2007 entered into a more formalized cooperation with four universities in three African countries (Ethiopia, Malawi and Uganda).

There is a one-year course requirement in the PhD programme and the Department offers some of these courses, but all students also follow courses at other universities in Norway and abroad. Many students spend part of their study time abroad.

Outreach to society

Staff members are also visible in the public debate in the form of interviews, written comments etc. There is no specific policy, and these activities therefore derive from the initiatives of individuals and external demands.

Overall evaluation

• Total publication activity	
International research output	Very good
Publication in leading journals	Good
• Originality of research	Good
• International front position in research	Good
• Research training	
PhD programme	Good
Recruitment	Weak
• Relevance and influence of research	
Internationally	Good
Nationally	Very good
• Research cooperation	Very good
• Overall impression of the research group/institute:	Good

Summary statement

The Department of Economics and Resource Management at the Norwegian University of Life Science is a relatively large unit, with a high level of activity. The Department has over the last 10 years succeeded in attaining a much clearer international profile within its field of specialization. It has a large number of publications, also in international journals, although not that many in leading journals. However, there is some variance in output/journal publication across members of staff. A major challenge will be to maintain and strengthen the international profile of research as well as to strengthen its position with the Norwegian Position of Life Science. Overall this is a good department within its field of specialization.

9.4 Norwegian University of Science and Technology (NTNU) - Department of Economics

The Department of Economics at the Norwegian University of Science and Technology (NTNU) is a relatively young department that has been expanding rapidly. Over the last 10 years, the Department has doubled in size. In 2005, the Department had 13 tenured researchers, three post-doctoral fellows, and five PhD students. 15 people are included in the evaluation (13 men and 2 women). There have been 22 students, who graduated as masters in 2005. There are 14 doctoral students affiliated with the Department. In 2006, the total funding of the Department amounted to NOK 20.3 million, the internal funding amounted to NOK 13.2 million, while NOK 0.5 million were received from external sources. The Department has also attracted funding (NOK 6.6 million) through applied research in public economics targeted towards policy makers. It has created the Center for Economic Research to deal with this. The Department finds that it is competitive in fund raising because its production relies on applied econometrics and is directed towards policy. Hence, the funding of research is not problematic and does not constrain the research strategy of the group.

Research profile
The main research areas of the NTNU economics department are: Local public finance, education economics, political economy, development economics, resource economics, macroeconomics, and labour economics. Applied econometrics has been a common tool within these fields for most of the researchers.

The research topics have broadened under the impulsion of new recruitments. Education economics is one of the main topics of the Department. The second most important topic is resource economics. The last expanding field is macroeconomics. Recruitments explain the shift of the Department from empirical public finance to these new research areas.

Research output
The Department has a publication profile with a very strong incidence of international journal articles and has a high level of such publications. The Department members have published an average of 5.6 international scientific papers over the period 2001-2005. This is the third highest among all the units evaluated. Among the journals most frequently used for publication, there are several general economic journals. There is no publication in the top five journals over the period. However, 27 per cent of the articles appear in journals assigned as leading (“Level 2”) which is above the national average. In terms of citation rates, the Department does not score particularly well. It has a citation index of 65, which is slightly below the 70-80 range where quite a few other institutes are ranked.

Research cooperation
There is a bottom up approach to research cooperation. The Department encourages research cooperation between members by funding such research. It has little international collaboration, at least as reflected in international co-authorship, only 15 percent of the international journal production (ISI-indexed) is co-authored with persons from other countries. When engaging in such collaboration, it most frequently involves US researchers.

Recruitment and research training
There is no strategy for recruitment except that among applicants the Department hires the most qualified applicant, irrespective of his/her research interest. Recruitment has been made from within the Department rather than through the international job market (geographical position is considered a significant barrier). The Department perceives that recruiting human capital is not a challenge since their own PhD students make up an adequate recruitment basis. There is a need to reconsider this strategy to ensure that the most is made to support high quality research.

The strategy of the Department in terms of PhD students is to send them abroad to study in good foreign universities. There are currently 14 PhD students and 65 post-graduate students. This openness should be encouraged and institutionalized as much as possible. Opening their own full PhD programme, and stopping sending the students away, would be very bad for the innovation capacity of the Department. Since they hire from within, and since Norway is a small country, it is indispensable that the students study abroad for some time. It is noted that many PhD students publish papers in international journals, which is an indicator of the good quality of the PhD training.

Outreach to society
There is no policy in the area of outreach to society. Yet, some economists at the Department are active in this field. They have close ties with ministries and with the Central Bank of Norway. The outreach to society is perceived to be a by-product of the research department activity. Indeed the research areas of the Department interest the media.

Overall evaluation

• Total publication activity	
International research output	Very good
Publication in leading journals	Good
• Originality of research	Very good
• International front position in research	Good
• Research training	
PhD programme	Good
Recruitment	Good
• Relevance and influence of research	
Internationally	Good
Nationally	Very good
• Research cooperation	Good
• Overall impression of the research group/institute:	Very good

Summary statement
The Economics Department at NTNU is a well-functioning unit with an international orientation of its research, as reflected in a steadily increasing share of articles being published in international journals. There is a need to develop the research strategy further, including considerations to strengthen the international profile, further improve the quality of the PhD programme and the recruitment policy.

9.5 University of Bergen - Department of Economics

The Department of Economics at the University of Bergen was founded in 1977, and it now has 21 researchers (17 in permanent positions, including four persons in the externally funded Social Insurance Group) and two post docs. All are included in this evaluation (22 men and one woman). The education programme has been built up gradually, starting with courses at the bachelor level and master level. A doctoral programme was started in the late 1980s. The Department now has eight PhD students, and some 35 students in the master programme. In 2006, the overall budget of the Department amounted to NOK 19 million, and 26 per cent of the funding came from external sources.

Research profile

The core competencies at the Department are found within game theory, incentive theory and applied microeconometrics on the empirical side. There are four areas of specialization: Industrial organisation and economic organisation, Social insurance and labour economics, Health economics, Resource, environment, and development. The Department is relatively young and its specialization has remained fairly stable in recent years. The most recent strategic decision is the establishment of a research group in health economics.

Research output

The staff at the Department has a productivity of international publications close to the average (3.7 articles per capita in the period 2001-2005). Although there is some variation, all researchers are publishing widely. The Department is quite international in its publication profile and has a few publications also in top journals. In addition, there are inter-disciplinary publications in e.g. medicine and sociology.

The Department has as an aim that the publication output should be about one international publication per staff member per year. In addition, about 20 per cent of these should be in so-called leading journals (level 2). The Department has reached this target and has a share of 23 per cent of its journal articles in leading journals. This is slightly above the national average.

Research cooperation

The Department has particularly close collaborative links with the Department of Economics at the NHH, and also strong links with both SNF and the Rokkan Centre for more applied research. During the period, the researchers have collaborated with researchers from many different countries, including Germany, UK and USA.

The extent of cooperation can be seen from the fact that almost 80 per cent of the publications (ISI-indexed) are co-authored, and about 30 per cent have foreign co-authors.

The Department has a seminar series, and members of staff participate actively in international workshops and conference. Some members of staff are affiliated to European researcher net-works and have editorial duties.

Recruitment and research training
The Department has a PhD programme which, among other things, includes a course requirement corresponding to one year. There are some problems in ensuring sufficient access to relevant PhD courses.

Hiring is a problem which is seen from the fact that there was no new hiring over the period 1997-2004. Since the age composition at the Department is somewhat biased, there will be a large need for new hiring in the future. The main barrier has been the financial constraint (although there has been some hirings recently, also foreign). At the same time, the in-take into the PhD programme has been low partly due to a fall in the internal recruitment base of master students and partly due to institutional and financial constraints. The main challenge facing the Department is thus recruitment for both the PhD programme and faculty.

Outreach to society
Many members of staff are active participants in public debates, and there is now even a formal cooperation with a TV-station. Moreover, staff members have participated as experts quite often in committees and the like.

Overall evaluation

• Total publication activity	
International research output	Very good
Publication in leading journals	Good
• Originality of research	Good
• International front position in research	Good
• Research training	
PhD programme	Good
Recruitment	Weak
• Relevance and influence of research	
Internationally	Very good
Nationally	Excellent
• Research cooperation	Excellent
• Overall impression of the research group/institute:	Very good

Summary statement
The Department of Economics at the University of Bergen has established itself as a well-functioning unit which has a high level of research both in quantitative and qualitative terms within its fields of specialization. It is among the better university departments in Scandinavia and has a clear international profile and standing. The main challenges are to strengthen research within its specializations and to solve the recruitment problem.

9.6 University of Oslo - Department of Economics

The Department of Economics of the University of Oslo was founded by Professor Ragnar Frisch in 1932. It offers teaching at all academic levels as well as research in economics. The Department has an academic staff of 36 whose interests cover most major fields in economics. 30 persons are employed in tenured positions (31.01.2006). 30 persons have been included in the evaluation (25 men and five women).

At present, there are about 800 undergraduate and graduate students. There are 44 post-graduates enrolled in the doctoral programme leading to the degree of PhD. Among these 44 students, 21 are in the Department and 23 outside, in most cases in research centres in Oslo. In 2006 the internal funding amounted to NOK 36.5 million, while NOK 8.3 million were received from external sources.

The Department has close links to The Frisch Centre of Economic Research which both serves to extend the research environment and adds to the applied research in economics at the University of Oslo.

Research profile
Main research areas include development economics, econometrics, environmental and resource economics, game theory, health economics, industrial economics, labour economics, macroeconomics, political economics/economic systems, and public economics. There are also staff members working in the fields of mathematics, statistics and demography
The Department covers a wide range of research areas and considers this as a strength, which is surely true for teaching and supervision at all levels, but not necessarily for research.
It is likely that in the future the research profile of the Department is going to be influenced by the Centre of Excellence named "Equality, social organization and performance". The Centre will combine topical issues like political economy, institutional economy, behavioural economy, labour economy and macroeconomics.

Research output
The Department of Economics is the second largest unit in terms of total publication output, and more importantly, the largest producer of international publications. The production of such papers per person is also among the highest in the study (6.3 per person the last five years).

The Department is also the largest producer of articles in the leading international journals. Of its journal production 32 per cent appears in such journals. There are six reported articles in the top 5 general economic journals the last ten years. The Department has high ambitions when selecting journals for publications, as well as a presumably high quality of research production.

No other Norwegian institute has received more citations during the period under study. Using relative measures the average citation index per paper corresponds to a sixth position among the units (citation index 89).

To truly assess the quality of a large department such as the Department of Economics at UiO, one might prefer to use ranking based on fields. The reason is that European departments often specialize in specific fields relative to their North American counterparts.

The best paper studying the area of specialization is *Econphd* (2004) [www.econphd.net]. According to this study, the Department of Economics holds the first European position in Resource and Agricultural Economics and the 37th worldwide.

Research cooperation

There are many signs of cooperation: co-authorship, visiting researchers and lecturers, research visits or sabbatical leaves of staff to other institutions; participation in international conferences. Co-authorship, national and international, is above average.

It is the impression that these forms of cooperation arise mainly from individual and not collective initiatives. Interaction with other institutions is fairly high. In 2006 there were 27 seminar presentations in Norway and 26 abroad. Also there were 15 conference presentations in Norway and 43 abroad.

The extent of international cooperation and visibility is also seen from the fact that members of staff serve (or have served) as journal editors, members of editorial boards, programme committees, conference organizers etc.

The Department is offering a fully fledged series of research seminars that attract some of the best economists. There is also a series of internal seminars.

Recruitment and research training

A large fraction of the faculty will retire in the coming years, and therefore recruitment is a major challenge. The Department has in recent years been active in the international job market. It is expected that the new Centre of Excellence will be an asset in attracting new researchers: postdoctoral fellows, PhD students, visiting faculty. Looking at where most members of faculty got their PhD, it is surprising to see that few of them took their PhD elsewhere. This is seen as an indicator of low researcher mobility

The Department has about 8 PhD graduates a year and 21 in house PhD students. This implies a relatively small critical mass for a well functioning graduate programme. This is, however, not uncommon in Europe. It is a priority of the Department to strengthen its own PhD programme rather than being an active part in a national PhD programme. Some initiatives in that direction have been taken, and to broaden the supply and quality of PhD courses a number of outside lecturers, among the best specialists in their own field, are invited. It is a barrier for developing a well functioning PhD programme that more than half of the PhD students are funded by other institutions; that is, they are enrolled in the PhD programme at the Department but work at their host institution.

It appears that the PhD programme could be improved. In particular, recruitment of PhD students could be improved both from the local base but also more widely from other places in Norway and abroad. At the moment, there is a test such as the US qualifiers after taking core courses (Micro, Macro and Econometrics); it could be organized at the national level.

Outreach to society
Department members participate in public commissions and advice national and foreign governments. Outreach to society is, however, viewed as time consuming.

Overall evaluation

- Total publication activity
  - International research output — Excellent
  - Publication in leading journals — Very good
- Originality of research — Very good
- International front position in research — Good
- Research training
  - PhD programme — Good
  - Recruitment — Fair
- Relevance and influence of research
  - Internationally — Very good
  - Nationally — Excellent
- Research cooperation — Excellent
- Overall impression of the research group/institute: Excellent

Summary statement
The Department of Economics at the University of Oslo has established itself as a well-functioning unit that has a high level of research both in quantitative and qualitative terms within its fields of specialization. It is among the best departments in the Nordic countries and has a clear international profile and standing. The main challenges are to strengthen research within its fields of specialization, to solve the recruitment problem and to improve its PhD programme. Another risk is to move away from topics on which the Department has developed a solid reputation. The big plus is the new Centre of Excellence that is bringing new resources and attracts visitors, conferences and doctoral students.

9.7 Bodø Graduate School of Business

Bodø Graduate School of Business (HHB) was founded in 1985 with the mission of providing higher education in business in the northern part of Norway. Although teaching still is the main activity, the unit has been increasingly involved in research, and the School was given the right to graduate PhD students in 2000. The School admits about 400 students each year to programmes in business and information technology (programmes from the undergraduate level to the doctorate degree in business). There is currently a total of 1000 students enrolled in the business school. The internal funding in 2005 was NOK 43 million, and the external funding NOK 11 million.

The School has its main research activities outside the fields covered by this evaluation (e.g. in entrepreneurship and innovation, management control, and business ethics). This means that only research made by a few members of the scientific staff has been evaluated. From the School five members of staff are included in the evaluation, each of whom is male.

Research profile
The School has identified four areas where it aims at having relatively strong research competence: i) innovation and entrepreneurship, (ii) management control in the public sector, (iii) business ethics, and (iv) transport economics. Research topics are developed mainly through a bottom-up process reflecting the research interest of the researchers. However, it does also adapt to teaching needs, and recently efforts have been made to strengthen finance.

There is a need to formulate a clearer research strategy, ensuring that sufficient focus is on how to maintain the unit’s specialization. There is scope for improving research within the areas of comparative advantage, and this will suffer if the unit aims at covering a too broad field of areas.

Research output
The level of international scientific publications is about average among the units evaluated. The average number of such publications per person over the period 2001-05 is 4.2. Researchers are publishing in good international journals and some leading field journals. However, the number of articles in journals assigned as leading (“level 2”) is very low, representing a proportion of only 10 per cent. The publication profile is somewhat uneven, but some researchers have a strong profile. In terms of citation rate, the school does not perform well. In fact, the publications are hardly cited at all. It should be noted, however, that the citation analysis is based on a rather limited number of publications.

Research cooperation
Members of the unit have good international contacts and participate in international workshops and conferences; also there is some cooperation with foreign researchers.

At a formal level, there is cooperation with Norwegian School of Economics and Business Administration in Bergen as regards teaching and research in quantitative business economics and finance.

Recruitment and research training
There has been some international recruitment of staff, but generally recruitment is the dominant barrier to the development of the unit. The recruitment strategy is mainly based on the unit's own PhD programme as reflected in a recent intake of two students in Finance in the hope of strengthening this area. This recruitment policy mainly reflects the strong geographical barriers to recruitment.

The PhD programme was launched in 2000 and has produced eight PhD candidates so far (four in innovation and entrepreneurship, three in management control/accounting and one in marketing).The unit co-operates with Arkhangelsk State University, Murmansk Technical University, and Baltic State Technical University in St. Petersburg on PhD training for Russian students. So far 11 Russian students have participated in the PhD training programme.

A range of PhD courses is offered, but students often follow courses supplied by other institutions as well. There is no explicit policy as to whether PhD students should spend a period at other institutions, although it is encouraged. Moreover the overall composition of the individual PhD programmes appears somewhat ad hoc driven in the sense that the programme is not structured. A challenge for the unit would be to strengthen the PhD programme, focusing on its own comparative advantages and co-operating with other institutions in supplying relevant courses in other areas.

Outreach to society
Members of the unit are active in various forms of activities both regionally and nationally including some consultancy work. The unit is engaged in a small consultancy company the revenue from which partly goes to finance positions and partly to offer supplements to staff working on the associated projects.

Overall evaluation

• Total publication activity	
International research output	Good
Publication in leading journals	Fair
• Originality of research	Good
• International front position in research	Weak
• Research training	
PhD programme	Weak
Recruitment	Fair
• Relevance and influence of research	
Internationally	Weak
Nationally	Good
• Research cooperation	Good
• Overall impression of the research group/institute:	Good

Summary statement

This is a small unit which given the constraints it is facing has performed reasonably well. It has specialized in a few areas within which it has established a visible position, but there is a need to strengthen this focus further. The overall research output is acceptable, and members of the group publish regularly in international journals. The unit has severe recruitment problems, and a main challenge would be to overcome this and, at the same time, maintain its specialization. Overall, a good small research unit.

9.8 Molde University College - Department of Economics

Molde University College is one of 24 state owned university colleges in Norway and was founded in 1994. The college has approximately 1500 students, divided among 32 programmes of study. The Department of Economics is a unit composed of 16 persons (14 men and two women), all included in the evaluation. In addition there are persons in teaching positions. The Department, which covers a large variety of disciplines such as economics, business, organizational theory, and operations research, is responsible for educational programmes in business administration, logistics, and transport economics. In addition, there are master and PhD level programmes in transportation and logistics. In 2005/6, there were 19 PhD students at the Department. No data on funding has been made available to the Panel

Research profile
The research interests of the unit evolve around transport economics, logistics and supply chain management. A wide range of methods is used to analyze these problems, including operations research, economics, organizational theory, game theory, informatics, mathematics, statistics, and organizational science.

In transport economics they focus on the way the transport sector is organized, and how various stakeholders act to promote their interests. A main focus area in freight transport is inter-modal transport solutions and how different choices of transport mode influence the competitiveness of the export industry. Evaluating the social impacts of these choices is yet another key issue.

The Department of Economics is a small heterogeneous team in terms of methodology and research interest with apparently very little interaction between the team members as summarized in the self-evaluation report "*A weakness stemming from the same is that few people are scientifically close to the core areas*". The unit has failed to develop a clear research strategy.

Research output
The productivity of international publications measured per person is below average (3.4 articles in the period 2001-2005). The journal most frequently used for publication is the *Annals of Operations Research*, consistent with the fact that the impact factor of the journals being generally below the national average. Of the journal papers 23 per cent appear in journals assigned as leading, which is close to the national average. However, there are very few such papers from the most recent years. The unit has obtained a citation level above the world average, with a citation index of 113, due to a few papers that have been frequently cited.

Research cooperation
The Department members come from different universities. Those who provided information on their PhD took their degrees at various places, including NTNU, NHH, Molde and Minsk. The self-evaluation provides no information on research cooperation but the analysis of co-authorship shows that approximately one third of the papers (ISI-indexed) have been co-authored with foreign researchers.

Recruitment and research training
The PhD programme was launched in 2002, but the unit points to lack of PhD supervision capacity as a constraint. The unit finds that an expansion in both faculty and the number of PhD students (and their scholarships) is needed to make a successful PhD programme. The problems of setting up a high-quality PhD programme – even if it is confined to logistics broadly defined – are large for such a small unit. The Department's specialization is very narrow, and the unit is not very dynamic in terms of publication and research. They are highly specialized, which puts a limit on the growth of their PhD programme.

The unit points to geographical location as a barrier to recruitment. However, it may be questioned whether the academic environment is sufficiently attractive.

Outreach to society
There is no policy at the unit level. Some members of the staff do consulting work.

Overall evaluation

• Total publication activity	
International research output	Weak
Publication in leading journals	Fair
• Originality of research	Weak
• International front position in research	Weak
• Research training	
PhD programme	Fair
Recruitment	Weak
• Relevance and influence of research	
Internationally	Fair
Nationally	Good
• Research cooperation	Weak
• Overall impression of the research group/institute:	Fair

Summary statement
The Department of Economics at Molde is specialized in transport economics, logistics and supply chain management. Its research output is very applied and focused on consultancy. There has been a declining trend in publication rate over the last years. Indeed the productivity measured per person publication is below average. Some members of the team have very low research publication record.

Finally, the self-evaluation form has been poorly completed which reflects badly on the unit. This impression was confirmed by the interview.

9.9 Norwegian School of Management BI - Department of Economics

The Department of Economics at the Norwegian School of Management BI was established as a separate department in 1997 and is organized as a typical university department. The faculty consists of 21 persons (when PhD students and post-docs are not included). Nine persons are included in the evaluation, of which one is female. Only one is below 40 years of age. Hence, the age profile is pointing to recruitment as a critical factor.

The Department is involved in teaching (with between 20 and about 60 M.Sc. students annually) as well as in research. The Department does not run a PhD programme in economics, instead its few PhD students (currently two) participate in the programme at BI's Department of Financial Economics.

The funding comes mainly from the School (which can collect tuition fees). No data on funding has been made available to the Panel, but the unit has, thanks to its good publication activity, had good success in external funding applications. The need to recruit PhD students creates a need for external funding.

Research profile

The unit's research mainly falls in the areas of macroeconomic/monetary policy, labour economics/industrial organization, and environmental economics and management. In terms of number of people and research output, macroeconomic policy and labour/IO are the two most successful areas at the Department. The Department identifies its small size as a weakness. As a small department, the unit finds it important to specialize, and it focuses on areas which are different from those of their neighbouring Department of Economics at the University of Oslo.

Research output

The unit does not have a quantitatively large publication output, which is due to the rather small size of the Department. In the recent five year period, the staff has published an average of 2.8 international articles per person, which is clearly below the national average. The Department has a goal to publish in high-quality journals and 23 per cent of the articles appear in the better "level 2" journals. The Department has published in several top journals and three articles appear in the top 5 general economic journals. Apparently, the Department has high ambitions when selecting journals for publication. The Department performs quite well in terms of citations and ranks, using a relative citation index, as number five (clearly above the EU-average). Measured by productivity in publishing all faculty members are active.

Research cooperation

The analysis of collaboration based on co-authorship shows that the average number of authors is 1.9, which is among the lowest among the units. Approximately one third of the journal articles have co-authors from other countries. Faculty members regularly present papers in international and domestic seminars and conferences. Two members of faculty have also served as journal editors. The Department runs good research seminars, mainly jointly with other departments (the Economics Department at University of Oslo, and the Department of Finance at BI). Researchers from the unit participate in the Center of Excellence at the University of Oslo.

Recruitment and research training

The current faculty is mainly national, but some international recruitments have been made recently (of 5 new faculty hirings during last 5 years, two have been international). Due to the age profile of the Department, the number of vacant positions is expected to increase in the future. The Department feels a need to develop a more active recruitment policy, utilizing the international job market. Future expansion is planned to be channelled into the two most active areas if possible. The Department believes that it has the ability to attract new faculty; e.g. because of its flexible hiring policy. There are incentives to publish e.g. through the School's reward system, which promotes journal publications and takes their quality into account. There is also a BI financed sabbatical system for the faculty.

The Department does not run a full scale PhD programme (the University of Oslo gets most of the PhD students in economics), instead their own few students participate in the programme at BI's Department of Financial Economics (2 enrolments in 2003, one in 2004). The students are encouraged to spend one or two terms abroad at a foreign university. Externally funded projects are needed to open up PhD positions, so funding is a constraint. Given more resources, a PhD programme in Economics could be built with another university, or a specialized programme with Financial Economics at BI.

Outreach to society

Outreach to society is very good; the unit e.g. operates through two centres, and offers products such as Norges Bank's watch, an independent evaluation of the monetary policy.

Overall evaluation

- Total publication activity
  - International research output — Good
  - Publication in leading journals — Very good
- Originality of research — Good
- International front position in research — Very good
- Research training
  - PhD programme — Not relevant
  - Recruitment — Good
- Relevance and influence of research
  - Internationally — Very good
  - Nationally — Very good
- Research cooperation — Good
- Overall impression of the research group/institute: Very good

Summary statement:

This is a well-functioning small department. The unit's publication activity is very good, and it seems to be reasonably well distributed across the staff. The Department's age structure is challenging, but also opens up an opportunity since the Department seems to find it easy to recruit new staff. The unit performs altogether very well with respect to its scale. It has good and realistic ambitions: a strong focus on quality, specialization, and it tries to overcome problems associated with a small scale by the means of strong co-operation with other units within and outside BI.

9.10 Norwegian School of Management BI - Department of Financial Economics

The Department of Financial Economics at BI is organized as a typical university department. It has a strong international orientation, with an academic staff of about ten nationalities. The faculty consists of 21 persons, and 12 persons are included in the evaluation (two of which are female). About half of these 12 are relatively young, having completed their PhD taken within last ten years. The balance between senior and junior researchers is thus quite good.

The Department is involved in teaching (with around 200 master students in Finance annually, and with a heavier teaching load than typically in government funded universities) as well as in research. A three-year PhD programme is offered with core courses in Finance and Economics, and the Department is part of an international Nordic network, through which a larger supply of PhD courses is offered.

The Department's projects are mostly funded through smaller grants but no data on funding has been made available to the Panel. A large effort has been made in creating the Corporate Governance Program (a NCR grant 2003-2005) which currently sponsors 12 projects.

Research profile
The research areas are the broad ones of asset pricing and corporate finance. Recently, more research in market microstructure, contingent pricing and risk management, banking, and in particular corporate governance/ownership structure has been added to the Department's research agenda. The unit has a strong empirical orientation. Theoretical research within the Department is limited to just a few faculty members.

Research output
The unit is the smallest one in terms of total publication output. The number of publications per person is also quite low. The Department also ranks in the bottom end among the units evaluated in terms of the number of international publications in general (only 1.6 international publications per capita the recent five years). However they have an extremely strong goal to publish above all in the top three journals in Finance (*Journal of Finance, Journal of Financial Economics*, and *Review of Financial Studies*). The department members have been successful in this endeavour since one third of their articles (ISI-indexed) are in journals with very high impact factors (this fraction of production in the very high impact factor journals, 32% according to Table 3.9 in the Bibliometric analysis, is by far the highest among the units in this evaluation). In addition, some of the articles are very highly cited. The citation index for this unit is the third best in this evaluation and clearly above EU average. 25 per cent (3 of 12) of the most cited articles of the units in this evaluation come from this Department. Despite a modest production in quantitative terms, the quality of research is thus generally very good, and the Department is following up its high ambitions concerning top publications. Of the 12 persons in the evaluation, five have included a top-three finance or economics journal paper as their best recent paper. Most of the faculty have at least one top-three finance (or economics) journal publication in their CV, although for several, this is from the 1990s.

Research cooperation
The collaboration analysis based on co-authorship shows that almost 60 per cent of the international journal production involves international co-authorship. This is the highest level of all the units included. Most co-authors come from UK and US.

Department members have very actively presented papers at other domestic and foreign institutions, as well as participated in international conferences. The Department offers a research seminar of very high international standard (a paper is presented weekly mainly by international visiting scholars). Incoming visitors also frequently stay for shorter periods at the unit.

Recruitment and research training
Since 1995, the Department has had a policy to only hire from the international job market, and not to hire its own graduates unless they have spent at least two years abroad. The international post-doctoral recruitment has been very active and highly successful during the last years. The unit focuses on the progression of their recruits towards top-3 publications. The general teaching load at BI is high, but the Department has a possibility to offer reduced teaching loads for researchers with a good publication record. The goal to publish above all in the top three journals in Finance (*Journal of Finance, Journal of Financial Economics,* and *Review of Financial Studies*) is seen as one of the few ways to keep the Department as an attractive employee for new staff members from the international job market.

The staff is annually assessed and there are incentives for publishing. The School e.g. has a three-level reward system for journal publication, with higher rewards for better quality journals. Funding is a constraint for the hiring of senior level post-docs, and the strategy to overcome this is to look for private sector funding for chairs (but the wage constraints are very harmful). Fortunately, the School acknowledges the unit's success, and supports acquisitions of research databases.

The PhD programme seems to be of a very good quality although rather small in terms of number of students, currently seven. Availability of funding restricts the size of the programme. Not all courses are offered by the unit itself (but should be taken at other places such as the NHH or abroad). The students typically do not go abroad on longer visits. Placement information on the graduates indicates that they are usually placed well on the job market.

Outreach to society
There is no policy, but the faculty is encouraged to reach out to the society. Some faculty members have been more active in this respect, but the overall outreach to society is not very impressive. The unit is above all a research oriented unit with almost no consulting.

Overall evaluation

• Total publication activity	
International research output	Good
Publication in leading journals	Very good
• Originality of research	Very good
• International front position in research	Very good
• Research training	
PhD programme	Good
Recruitment	Very good
• Relevance and influence of research	
Internationally	Very good
Nationally	Good
• Research cooperation	Very good
• Overall impression of the research group/institute:	Very good

Summary statement:
This is a very good research unit, among the best in Scandinavia within its field. It has a clear research profile. It is a unit focusing on quality rather than quantity, and succeeding very well in this respect with publications in top journals within its field. The recruitment policy is well functioning, and the unit has a well-structured PhD programme. A challenge may be to expand the PhD programme and ensure external funding e.g. for their PhD programme.

9.11 University of Agder - Department of Economics and Business Administration

The University of Agder has recently obtained its university status (September 2007). Until then it was a teaching college which gradually managed to develop a research agenda to obtain the university status. With more than 8,200 students and 900 teaching and administrative staff it is a large institution for higher education in Norway.

The Department of Economics and Business Administration has been a part of Agder College since its foundation in 1969. The Department includes several academic fields, spanning from economics and finance to management and law. The current academic staff is 32 persons, including 6 part-time employees, but excluding PhD students. The 12 academic staff members (9 men and 3 women), who are part of this evaluation, are specialized in economics and finance. For some time, there has been an overall effort to become a fully fledged university. This partially explains the desire of the Department to develop a PhD programme in economics and finance (four PhD programmes are needed to obtain a university status).

Research profile
The research covers many different fields such as economic history, microeconomics, financial economics, public economics, health economics, labour economics, agriculture economics, and energy. For such a small department, this wide range is impressive and questionable: economic history, microeconomics, financial economics, public economics, maritime. Basically, it follows the teaching needs of the Department. Unavoidable such a diversification implies less specialization and may imply a lower quality of research.

The Department does seem to have a clear vision regarding research. It has a rather "regional" view of its mission regarding teaching, which is understandable, and regarding both research and doctoral training, which is questionable. There is a need to consider the research profile of the Department. The current portfolio is too broad, implying that most areas are below critical mass which is an impediment for high quality research. There is no need to have a clear correspondence between teaching and research, and for the latter specialization is needed. The Department wants to develop a research niche in energy finance and shipping economics, but this is the case for other department and research centres in Norway too, and hence this strategy needs further thought. There is a lack of scientific interaction within the departments and an unclear understanding of what could be its comparative advantage in the field of research.

Research output
The University of Agder is a medium sized institution in terms of total publication output. The productivity of international publications per person is quite good and above the national average (5.3 publications per person the last five years), but with large individual variations. It has a citation index of 68, which is slightly below the 70-80 area where quite a few of the other institutes included in the ranking are. Of the articles, 16 per cent appear in journals assigned as leading (level 2), which is below the national average. Research output has increased over time and mainly comes from junior faculty. By implication the flow of research should increase in the near future. In the near future, the panel was told in the interview that older faculty with limited research performance will be replaced by younger

and hopefully more productive faculty. There are some incentives for research including a fee per international publication. Sabbatical leaves are easily available.

Research cooperation

Cooperation is based on a sort of bottom-up policy, but it is encouraged. It seems that the incentives for outside cooperation are relatively small. However, the analysis of collaboration based on co-authorship shows that 56 percent of the journal production (ISI-index) involves international collaboration, which represents a very high proportion. Germany, UK and Denmark are the countries most frequently appearing as collaborative partners. To strengthen cooperation the unit has also hired researchers from other institutions on a part time basis.

Recruitment and research training

The unit has no PhD programme in itself.[7] The Department has a clear desire to develop a PhD programme in economics and finance with a double motivation: to reach the university status and to secure future recruitments. They acknowledge that such a programme would have to rely on outside expertise.

Outreach to society

Regional outreach was more intense in the past. It is felt by junior faculty as crowding out research.

Overall evaluation

• Total publication activity	
International research output	Good
Publication in leading journals	Fair
• Originality of research	Good
• International front position in research	Fair
• Research training	
PhD programme	Not relevant
Recruitment	Fair
• Relevance and influence of research	
Internationally	Fair
Nationally	Fair
• Research cooperation	Fair
• Overall impression of the research group/institute:	Fair

Summary statement

The Department of Economics and Business Administration of the University of Agder has undergraduate teaching as its main priority. Its highly diversified research pattern follows the teaching needs. Its main asset is a young faculty that is boosting up research. If the current dispersion in research persists, there is little hope to see sizeable improvement in the quality of research. A further challenge is that the Department seems to have serious problems within

[7] There exists a PHD programme in international management, which is new (11 students in 2006). There seems to be an issue concerning the quality of applicants, but this is not related to economics or financial economics.

the University of Agder in terms of hard competition with other departments for positions and money. This internal competition seems to be heavily time consuming.

9.12 University of Oslo - Institute of Health Management and Health Economics

The Institute of Health Management and Health Economics is organised under the Faculty of Medicine at the University of Oslo. The Institute performs research and provides higher education in health care management. Most professors have their scientific background in economics, political science or medicine. The Institute has close collaboration and contact with researchers in other institutions, mostly in social sciences and medicine.

The Institute has 39 researchers/other staff in full-time or part-time positions. In addition to these personnel, the Institute also has external lecturers engaged to take part in teaching. Only five persons (all men) are included in the evaluation, as most of the staff work within areas not included in this evaluation. The Institute had a base funding of NOK 3.3 million in 2006, while NOK 7.5 million were received from external sources. The total number of master students in 2006 was 70.

Research profile
Within health economics the unit specializes in cost-benefit analysis, resource allocation, social efficiency, priority-setting, economic evaluation of health care technologies, and health organization and management, which focuses on analysis of various aspects of decision-making in the health care sector such as reimbursement systems and internal organization. Patients' mobility and patient rights, quality of care and comparative health policy studies are other topics. The Institute is involved in several evaluation studies of the recent health care reforms in Norway. Naturally, the main research topic of the five persons concerned is health economics, but they also work within areas of environmental economics, econometrics, public economics and research on addiction. The Institute also focuses on policy reforms. The unit is concerned that funding reasons may bias research in the direction of short-term projects at the cost of long-term projects.

Research output
Despite its small size in terms of number of persons, the Institute of Health Management and Health Economics has a very large publication output. It is also the unit with the highest productivity per person both in terms of total publication output and journal production. However, it should be added that the average number of authors per paper is approximately twice as high as for most of the other units. Although the publications (ISI-index) have received almost 340 citations, the Institute does not have a high citation index (68). This is due partially to the fact that the Institute is active in medical related fields where the expected citation rate is much higher than in economics. There exist incentives for producing high quality scientific publications. Approximately 10 per cent of the journal articles the recent five years have been published in journals assigned as leading ("level 2"), which represents a proportion below the average. Given the purpose of the centre, the main heterogeneity is to be found in the approaches used, theoretical or empirical, micro or macro. In the papers selected, some are excellent, original and published in the best journals in health economics.

Research cooperation
Relatively speaking, the centre has a lot of joint activities with foreign colleagues. The seminar series attract excellent speakers. Members of the centre have regular contacts with

scholars in other countries (through co-authorship or through visits). Furthermore, the centre is involved in a number of international research projects. Several international researchers are attached on a long-term basis, some of them also teach. There are also collaboration with the Frisch Institute, the Department of Economics at the University of Oslo and the Economics Department at the University of Bergen. It is clear that health economics is an area in which Norwegian institutions and particularly the Institute of Health Management has an international visibility of excellence.

Sabbatical leave for faculty is available, and one year abroad arrangements for PhD students are well developed. More than half of the articles in international journals (ISI-index) have co-authors from other countries, in particular researchers from Denmark. Participation in conferences, national or international, is quite satisfactory.

Recruitment and research training
Both recruitment and researcher training are based on the local supply. Recruitment of health economists is made difficult by the small size of the unit. One way of improving the recruitment possibilities could be to make joint recruitments/positions with the Department of Economics. The five PhD students get most of their training at the Department of Economics.

Outreach to society
The most effective way to outreach society is the post-graduate education programme. The unit has been visible in the media, although with some variation over time which probably can be attributed to the small size of the unit.

Overall evaluation

• Total publication activity	
International research output	Very good
Publication in leading journals	Good
• Originality of research	Good
• International front position in research	Good
• Research training	
PhD programme	Good
Recruitment	Fair
• Relevance and influence of research	
Internationally	Good
Nationally	Excellent
• Research cooperation	Excellent
• Overall impression of the research group/institute:	Very good

Summary statement
The Institute of Health Management at the University of Oslo has established itself as a well performing unit that has a high level of research both in quantitative and qualitative terms within its fields of specialization. It is among the best research centres in health economics in Scandinavia and has a clear international profile and standing. The main challenge is the recruitment problem. In addition, there could be a problem with the size of the research unit (5 researchers and 5 PhD students) which does not seem to be viable. Yet this seems to work

in this particular instance. The panel however believes that strengthening the formal links with the Department of Economics at the University of Oslo could be beneficial, particularly for the PhD programme.

9.13 University of Stavanger - various departments

The University of Stavanger obtained its university status in January 2005. Until then the school was a teaching college that gradually developed a research agenda to obtain university status.

The evaluation is of the economists at the University of Stavanger (13 men, 2 women). These researchers are part of the staff at three different departments at two different faculties - as a legacy of the university college the organization is determined by where one teaches, not by research agenda or subject. At the Faculty of Social Sciences, persons from the Department of Economics and Business Administration and the Department of Media, Culture and Social Science are included, and from the Faculty of Technology and Natural Sciences persons from the Department of Industrial Economics, Risk Analyses and Planning. Since 2006 it has two PhD programmes covering most areas of economics.

The major source of funding is internal based on student numbers, but the aquaculture industry has provided funding for a professorship for five years.

Research profile
There are two main research areas: aquaculture and fisheries economics, and energy economics. The research strength comes largely from recent recruitments. The recent recruits are active researchers with an international research agenda. There is no planning of overall research agenda, the choice of research being left to individuals. As a result, research is spread thinly across many topics rather than being concentrated in a few areas.

Research output
Over the last five years, the average per capita publication record of the economists is 5.0 international scientific publications. This is above average. However, there are large internal variations. The older members of the academic staff who were recruited for the teaching college do no research and are unlikely ever to do any. At present, there is no strategy to deal with this weakness although the institution has become a university. However, it is expected that the quantity and quality of research will increase when the older staff retire. The journal analysis shows that the output is frequently published in field journals (e.g. *Marine Resource Economics*). The proportion of articles in "leading journals ("Level 2") is close to average, while the impact factor of the journals generally is slightly below the national average.

Research cooperation
The fact that economists are spread across three different departments is unfortunate and a barrier to research, although some efforts have been made to circumvent this constraint, e.g. a common web page, joint seminars etc. There is though a case for merging the different groups of economists. The unit finds that funding is a barrier to national and international cooperation. However, there is collaboration with the aquaculture and fisheries group at the University of Tromsø. This collaboration is complementary in that Stavanger concentrates on business aquaculture while Tromsø specialises in the bio-economics of aquaculture and fisheries.

Recruitment and research training
There has been good recruitment of academic staff recently. Vacant academic posts are advertised internationally. The location of Stavanger is said to be helpful in recruiting.

In 2003 a PhD programme in Risk Management and Societal Safety that has some economics components was launched. The Management Science PhD programme, that started in 2006, has a more substantial economics component. Across the two programmes there are eight students registered at present. PhD students are encouraged to spend some time overseas during their studies. There were two PhD students registered at the Norwegian School of Economics and Business Administration, but who had offices at the University of Stavanger and co-supervisors at University of Stavanger. Both completed in 2003, and one is now Professor and the other Associate Professor at University of Stavanger. The idea of having a national PhD network with core economics courses provided at central locations would gain support from Stavanger.

Outreach to society
At present, this appears to have low priority because of the pressure of other commitments, though links with aquaculture industry are good.

Overall evaluation

• Total publication activity	
International research output	Good
Publication in leading journals	Fair
• Originality of research	Good
• International front position in research	Fair
• Research training	
PhD programme	Good
Recruitment	Good
• Relevance and influence of research	
Internationally	Good
Nationally	Good
• Research cooperation	Weak
• Overall impression of the research group/institute:	Good

Summary statement
For an institution that, until 2005, had teaching as its primary responsibility, the unit has a very respectable research record. It is though unevenly distributed across its staff. The newly appointed members of staff have good research records and/or potential. The new PhD programmes are developing well. International research collaboration and outreach to society is poor. There is a need to strengthen research efforts further and in particular to develop a more clearly defined research agenda on a few core topics.

9.14 University of Tromsø, Norwegian College of Fishery Science (NCFS) - Department of Economics and Management

The Norwegian College of Fishery Science (NCFS) has a particular national responsibility for the development of fundamental and scientific expertise within all areas of fisheries and aquaculture research in Norway. NCFS is also responsible for educating candidates for employment in the fishing industry and fisheries management. The NCFS was established in 1972 and was restructured in 1988 and is now part of the University of Tromsø.

The Department of Economics and Management Science is one of four departments at NCFS and is in charge of all research and teaching within the area of economics at the University of Tromsø. The Department houses three research groups: i) resource economics including fisheries and aquaculture, ii) industrial economics and iii) business economics (the latter group is not included in this evaluation). Thus, although the Department has a staff of 14 persons, only eight are included in the evaluation, one of whom is female. There are 13 PhD students registered at present, with two completions in the period 2001-06.

Research profile

The range of economics research and the research aspirations of the members of staff are being expanded, and the Department is developing a good publication record. The original profile of research in fisheries economics has been continued in recent years, but has been complemented by research in areas such as health economics, regional economics, empirical microeconomics, industrial economics, and public choice. However, the tension between teaching and research is felt acutely at present since the student numbers have increased recently and a new masters programme has been introduced. Despite this, the student-staff ratio is only 9:1, and on average each member of staff has three courses to teach per year. By international standards these are not high numbers. The masters programme was introduced so that students can complete their education including doctoral studies in one place, and because without it there may be fewer undergraduate students recruited.

Research output

The publications of the staff in aggregate are divided equally between international journals and internal reports/working papers. The international papers are mainly in field journals, largely being applications and occasionally extensions of existing methods and techniques. The Head of Department has recently placed emphasis on getting publications in the better quality journals by providing financial support for research expenses, especially for travel to other research locations. In addition, sabbatical leave is granted every 5 years. Over the last five years, the average number of international publications is 4.3 per person, which is close to the national average. However, only 3 per cent of the journal articles are in the better "level 2" journals and the citation record is rather poor.

Research cooperation

Given that this is a small group, it is imperative that they interact with other researchers - both nationally and internationally - who are working within this area and in economics in general. Although there are good links with fisheries research in other disciplines locally and with the University of Stavanger, research cooperation with external researchers has been a weakness, but is improving. Of the international journal papers (ISI-indexed) almost one third have been co-authored by foreign researchers which is an indicator of the international orientation of research. The fact that improving external research links is an important route for breaking out of the present teaching-dominated environment is recognised by the provision of travel funds to active researchers. There is a working paper series and a seminar every other week

Recruitment and research training
Recruitment of staff and PhD students is a problem, with location being primarily responsible. There are a number of retirements imminent and so appointments will have to be made. It is reassuring that there have been a number of recent new appointments. All vacant posts are advertised widely in Europe, for example in the CORDIS database of the EU. Recently, five research posts have been filled by four overseas and one Norwegian economist. The present Head of Department was recruited from the UK.

The PhD programme has 13 students registered at present, which is close to two per member of staff. There were only two completions in period 2001-06. A PhD workshop has been started recently, and it is obligatory for PhD students to spend one semester abroad. The Department would welcome a national PhD network with core courses taught elsewhere and specialist courses in Tromsø.

Outreach to society
At present, this appears to be a low priority because of the pressure of other commitments. However, the Department has good links with universities in Vietnam, teaching some courses there, and recruiting some students.

Overall evaluation

- Total publication activity
  - International research output — Good
  - Publication in leading journals — Fair
- Originality of research — Good
- International front position in research — Fair
- Research training
  - PhD programme — Good
  - Recruitment — Weak
- Relevance and influence of research
  - Internationally — Good
  - Nationally — Good
- Research cooperation — Good
- Overall impression of the research group/institute: Good

Summary statement
The Department of Economics in Tromsø has a strong research record on topics related to fishing and fisheries management. Recently, it has been expanding its research interests into other areas of economics as well as aiming to increase its international research publications. Its PhD training is good and developing. The Department is thus in a positive development, and a major challenge will be to further strengthen its research profile and recruitment.

9.15 Institute for Research in Economics and Business Administration (SNF)

The Institute for Research in Economics and Business Administration (SNF) in Bergen was established in 1991 and is the largest institute in Norway when it comes to applied research in economics and business administration. Although the unit is specialized in applied research, and most of its activities are demand driven, it is not a consulting unit. Rather, the unit is supplying research based analysis. The research is conducted in close collaboration with the Norwegian School of Economics and Business Administration (NHH) and the Department of Economics at the University of Bergen (UoB).

SNF has a project based network organization. The research staff of SNF consists of 30-40 full-time researchers and 20-30 research assistants in full-time and part-time positions. In addition, they engage on a part-time basis more than 100 researchers from the scientific staff of the NHH and the UoB, and also from other research institutions in Norway and abroad. Altogether, SNF conducts 70 man-years of research on an annual basis. 14 full-time researchers are included in the evaluation, two of whom are women.

SNF’s research activities are almost entirely based on contract research, including research projects and programmes financed by the Research Council of Norway. Of a budget of NOK 70 million (2006), more than 90 per cent is funded in this way. Roughly speaking, 50 per cent of SNF’s research is funded by the Research Council of Norway, 30 per cent by industry, 15 per cent by government and 5 per cent from abroad.

Research profile

SNF is organized in five research centres. Centre for Advanced Studies in Economics. Centre for Industrial Organisation and Economic Policy, Centre for Fisheries Economics, Centre for Financial Economics, and Centre for Strategy and Management.

The goal of the units is “that SNF with its mother institution (NHH) and collaborating university (UoB) shall be recognized as (one of) the leading institutions in Norway in applied economics”.

The research mostly includes applied work within Health, Agriculture, Renewable Resources and Conservation, Energy and also some on Development Planning and Policy. The more research based work is mainly within Public Economics.

It is the aim of the unit to become more research based; that is, to ensure that the human capital base is strengthened within a few core areas of specialization. The unit is therefore aiming at placing itself in a clearer position as a producer of research based applied work in a few areas. This strategy of specialization is endorsed, and it seems that the unit is aware of the requirements this entails in respect to staff, leadership etc.

Research output

The main type of output is policy reports and in-house reports reflecting that the Institute is performing contract research. However, the Institute has quite a few publications also in international journals, mainly in field journals. Approximately 7 per cent of these articles appear in leading international journals (level 2), which is below the national average. The citation level of the journal publications is rather poor (citation index 50), and among the lowest in our study.

The unit is aiming to increase its level of publication in international journals. There is a rather strong individual incentive scheme in terms of salary/promotions related to publications or project acquisition. We find that the strategy on this point is rather clear, although one may have to reconsider whether permanent salary increases should be awarded based on publications in a single or few years. As a signal of the importance of journal publication, the staff gets a “time bonus” if they have a “revise and resubmit” for a journal publication.

Research cooperation

The unit has extensive collaboration with outside researchers. They are often hired on an ad hoc basis to take part in specific projects, cf. above. Assessing collaborations on the basis of co-authorship shows that the Institute has particularly strong links with the Department of Economics at NHH, Department of Economics at the University of Bergen, and the Department of Finance and Management Science at NHH. The Institute also has collaboration with researchers in many different countries.

Recruitment and research training

Recruitment is a main barrier for the unit which finds it difficult to attract good young PhD candidates. This seems partly to reflect the excess demand in the market and regional barriers. Foreign recruitment has been considered, but not yet attempted.

Outreach to society

Given the nature of the unit’s work, it is quite visible in many contexts including media and public presentations of various sorts. Until recently, it has published its own newsletter, but this has now been merged into a joint effort with the NHH.

Overall evaluation

• Total publication activity	
International research output	Good
Publication in leading journals	Good
• Originality of research	Good
• International front position in research	Good
• Research training and recruitment	Good
• Relevance and influence of research	
Internationally	Good
Nationally	Excellent
• Research cooperation	Very good
• Overall impression of the research group/institute:	Very good

Summary statement

SNF is an applied institute situated between more traditional research based university departments and purely applied units. In this niche, it is performing very well and has established itself as a leading provider of research based applied work in Norway. The unit has formulated a strategy for its future development which implies a stronger emphasis on specialization within a few core areas and more focus on international publications. One critical element for succeeding in this endeavour is to become more successful in recruitment. Overall, this is a very good unit in applied research.

9.16 Institute for Social Research (ISF)

The Institute for Social Research (ISF) was established as an independent foundation in 1950. The Institute is multidisciplinary in its orientation, comprising research within all of the social sciences, including some economics. It is a contract research institute, but with high academic ambitions. The Institute has a staff of 37 researchers and a total budget of NOK 39 million (2005). Approximately 20 percent is base funding, while 80 percent is received from external sources. The Research Council of Norway is the most important source of funding.

At the Institute, there is a small group of persons doing labour economics and this group is included in the evaluation. Five persons are included, two of whom are female. The number of economists in the group has now increased to eight, of which many have obtained a PhD in recent years.

Although ISF does not have its own PhD programme, it is one of four partners in the Advanced Programme in Labour Studies for students in both sociology and economics. This programme is organised at the University of Oslo.

Research profile
At present, the research focus of the group is on the following themes within labour economics: wage formation and institutions, the link between the welfare state and the labour market, low-income groups, firms' behaviour and the effects of reorganisations and reallocations, immigration issues and policies, and the effects of labour market and family policies on labour market outcomes. The group has built up expertise in using large data bases, and during the past 10 years, they have started using applied econometric techniques, but there is not a leading econometrician in the group.

Although the members have been involved in some interdisciplinary work it is surprising given the institutional affiliation of the unit to find that there is relatively little interdisciplinary cooperation and co-work. The group has more close links with e.g. the University of Oslo, Department of Economics, where some members also have informal agreements to teach there. Generally the international profile of the group could be enhanced by e.g. more interaction with leading international labour economics groups.

Research output
The work of the unit on labour market related issues is very policy-relevant, but evaluated in terms of publication output the work does not attract much international attention or recognition. Over the five-year period 2001-2005 only two articles have been published in "level 2" journals. The economists have 2.2 publications in international journals or book chapters per capita. This productivity level is among the lowest of all the units in the evaluation. Moreover there is some heterogeneity within the group as concerns international publications. It should be added, however, that four out of five of the persons have obtained their PhDs in the recent years. The group has, on the other hand, a large number of articles in national scientific journals, mainly the in-house publication *Søkelys på Arbeidslivet* (formely *Søkelys på Arbeidsmarkedet).*

A hallmark of the unit is that it undertakes policy related research rather than basic research. The unit targets its research at the labour market and related topics and has been focussing on increasing the qualifications of the staff. The unit is small, and attempts to fill in its shortcomings with closer cooperation with other national and international groups. The group does not seem to have a clear strategy in terms of its inter-disciplinary profile – should it be strengthened or is the unit aiming at a more mainstream economics approach?

There is no clear incentive structure supporting international publications, except from the fact that the record of publications in leading economics journals is taken into account when salary increases are being considered. Moreover, travel money is made available for individuals who have papers to present at conferences and at external seminars, and individuals who would like to prepare an application for funding from the EU are given the time to do this.

Research cooperation

The group has been engaged in internationally funded research projects, and has collaborated with researchers from several countries. The economists at ISF have a weekly internal workshop, but no seminars with external speakers. Although ISF as a whole has many seminars/workshops, very few of them are concerned with economics. The small size of the group means that research collaboration and interaction with other researchers is critical. The ISF economists have very limited joint research with other staff at ISF, choosing instead to cooperate in research with economists at the University of Oslo. In addition, some of the ISF economists have recently become involved in an EU funded project based at University College, London. This raises the question as to whether the best location for these economists is at ISF.

Recruitment and research training

The group points to its small size a limitation for its potential not only for funding but also for recruitment. Recruitment of highly qualified staff for ISF is difficult as for many other units in the evaluation. Given these difficulties and given the fact that recruitment in the Norwegian market in general is difficult, it is surprising that no effort has been made at the international job market especially since recruitment of an econometrician could strengthen the group.

ISF is one of four partners in the Advanced Programme in Labour Studies for students in both sociology and economics. From previous PhD studies, there have been five successful students: Four now employed by ISF, plus one other who was employed by ISF for a while. The recruitment of two excellent PhD students in 2006 is encouraging.

Outreach to society

There is a very positive attitude towards disseminating the results of research within Norway.

Overall evaluation

• Total publication activity	
International research output	Weak
Publication in leading journals	Weak
• Originality of research	Good
• International front position in research	Fair
• Research training and recruitment	Weak
• Relevance and influence of research	
Internationally	Weak
Nationally	Good
• Research cooperation	Fair
• Overall impression of the research group/institute:	Fair

Summary statement

This unit is relatively small, and many members are recent PhD candidates. ISF conducts research on labour market related issues with high policy relevance. However, the research profile of the unit is unclear since it is neither fully exploiting the scope for interdisciplinary work at ISF nor integrating more closely with other economic research groups. The record of publication in international economics journals is poor and displays some heterogeneity, but the outreach to Norwegian society is very good. There is reason to reconsider both the research profile and institutional affiliation of the group.

9.17 Institute of Transport Economics (TØI)

The Institute of Transport Economics (TØI) is a national institution for transport research and development. The Institute was set up in 1958 as a Government secretariat, became a state research institute owned by the research council (NTNF) in 1964, and was organised as a private non-profit foundation in 1986.

The Institute of Transport Economics has a multidisciplinary research environment with approximately 90 employees, of which about 70 are researchers of whom approx 25-30 are involved in economic research. Our evaluation only concerns 18 of the researchers in the field of economics that are holding competence for an associate professor or professor affiliated with the Institute (14 men and 4 women). In 2005, the Institute's turnover was just under NOK 80 million. Almost 30 percent comes from the Research Council of Norway (15 per cent as basic funding). The Ministry of Transport and Communications and the Norwegian Public Roads Administration are the Institute's two major clients at 30 per cent in total. International clients represent between 15 and 20 per cent of funding.

Research profile

The main objectives of the Institute are to carry out applied research on issues connected with transport and to promote the application of research results by advising the authorities, the transport industry and the public at large. Its sphere of activity includes most of the current major issues in road, rail, sea and air transport. The focus is on quantitative analyses and policy relevant findings.

Special emphasis is placed on the practical application of research results, and most of the studies and projects carried out here are commissioned. In Norway, most of the clients are central government bodies and local authorities, with some commissions from the private sector. The Institute also carries out research for public authorities in other countries and for international organisations and holds a strong record in EU framework programmes with more than 50% of project proposals approved over the 4th, 5th and 6th framework programme. The research profile of the TØI is determined by its close and continuous cooperation with the actors of the transport sector.

Most of the output from TØI has high policy relevance, but must be classified as more of a consultancy type of work than standard research. This implies that the success criteria of the unit are not international visibility and impact, but rather policy impact. While this may be justified, it raises the question of whether the unit should be evaluated on the basis of normal research criteria, and therefore also whether the institutional setting for TØI is appropriate. The Panel finds that the unit has not developed a clearly formulated strategy with a clear stand on the balance between consultancy work and research.

In relation to this, the Panel finds that many units in Norway are specialising in transport economics, which of course implies fierce competition for scarce funds. However, research in transport economics does not have a strong international position. This suggests that a unit like TØI needs to set up a more narrow research agenda with well identified areas within which to develop a comparative advantage.

Research output
The Institute of Transport Economics has a publication profile strongly dominated by reports; more than 70 per cent of the publication output is published as reports, which, by far, is the highest share among the units. Not surprisingly, the Institute mainly publishes in journals devoted to transport economics and related fields. For the last five years, the per capita production of international scientific publications has been 2.6, which is significantly below the national average. None of the published journal articles have appeared in journals assigned as leading ("level 2"). The research output, particularly the research items that were selected, reveals an applied type of research which is rarely published in first, or even second, rate journals. The ISI-indexed articles have a citation index of 85, which is above average.

Research cooperation
The Institute cooperates with the main Norwegian actors in the transport sector. The Institute is also involved in international cooperation within the transport sector and has a number of projects within the different EU Framework Programmes. Cooperation is both individual and organized at the level of the Institute. The publication analysis shows, however, that a majority of the international journal articles (65%) are single authored, i.e., authored by one person, which is an unusually high proportion. Only 5 per cent of the articles involve international collaboration.

Recruitment and training
Recruitment of quality researchers seems to be an issue. The best students do not apply for a job at the TØI. Further, it is practically impossible to recruit transport economists, and the lack of a high level academic education programme in transport economics in Norway is said to be a main problem. As a consequence, the Institute is forced to educate its own staff in several areas such as transport economics, transport modelling, cost benefit analysis, regional economics etc.

The Institute has recruited a number of researchers, mainly from Scandinavia, but also from European countries, Asia and Australia.

There are three PhD students who took their training outside of the TØI at the Department of Economics, University of Oslo.

Outreach to society
Given the applied nature of its activity, the TØI seems to be quite effective in disseminating its results.

Overall evaluation

• Total publication activity	
International research output	Fair
Publication in leading journals	Weak
• Originality of research	Fair
• International front position in research	Weak
• Research training and recruitment	Fair
• Relevance and influence of research	
Internationally	Fair
Nationally	Good
• Research cooperation	Good
• Overall impression of the research group/institute:	Weak

Summary statement

The Institute of Transport Economics is a very applied unit producing highly policy relevant material, but its specificity relative to a private consulting firm is not entirely clear. Given that a number of research projects deal with industrial organisation and public economics, cooperation with some university departments could be desirable. There is a need to develop a clearer strategy which takes a stand on the balance between consultancy work and research, and which for the latter part develops a coherent research programme focusing on research that meets international standards.

9.18 Norges Bank (Central Bank of Norway) – Research Department

Norges Bank i.e. the Central Bank of Norway is a separate legal entity owned by the State. The objectives of the Bank's core activities are: price stability and financial stability. In other words, Norges Bank shall promote price stability by means of a monetary policy; that is, oriented towards low and stable inflation.

Norges Bank had in total 542 employees (2006). Norges Bank's research department has 13 researchers (12 at the end of 2006) all of whom are included in the evaluation. Two are women (in 2003, 25% of all researchers were female). The unit became a research department only some years ago. Norges Bank is state funded. The personnel is not involved in teaching, nor is there a PhD programme, but there are three PhD students working part time at the research department. Researchers have 50 per cent of their time available for undirected research projects, but immediate needs of the Bank may have to be prioritized.

Research profile

Research at Norges Bank provides part of the basis for the Bank's decisions. Their mission is to carry out research at an academic level within fields relevant for Norges Bank. The research covers the fields of macroeconomics and monetary policy, and financial markets and financial stability. The research areas at Norges Bank seem well defined and anchored to areas of importance for Norway. The introduction of an explicit inflation target in 2001 has shifted research interest towards more research on theoretical macroeconomics and monetary policy issues.

The unit considers as its strengths the closeness to the policy departments, and the diversity in terms of applied research fields. Also, the strong support by the leaders of the Monetary Policy and Financial Stability Wings is mentioned. As weaknesses, the unit mentions too little research on macroeconomic theory. The unit has tried to strengthen this side but encountered problems in finding candidates.

Research output

Norges Bank has a publication profile dominated by reports; however, an increasing number of publications have appeared in international journals. The last five years, the per capita production of international publications is 2.6, which is among the lowest of the units included in the evaluation. There is a large variation between the international publication records of the researchers included in the evaluation. The journal profile measured by impact factors is close to the national average. Approximately one fifth of the journal articles appear in leading (level 2) journals, which is also close to the average. The institute has a policy saying that the research should be of such a quality that it is publishable in international or domestic journals with a referee procedure, and there is thus scope for improvement.

Despite a low number of publications per person, the publications have been highly cited. When using a relative citation index, the institution ranks as second among the units in this evaluation. The high citation index is, however, mainly due to one article that has been particularly often cited, i.e. there is high variation.

Research cooperation
Research co-operation is based on a bottom-up process. International co-operation is strongly encouraged by the unit. Almost 40 per cent of the articles involve international co-authorship.

The unit offers both external research seminars of a good international quality, with foreign visitors, as well as staff seminars on a very regular basis. Staff members participate regularly in international conferences and seminars, and they often visit other institutions. Longer visits are also possible (financed) and encouraged.

Recruitment and research training
The unit identifies as a key vulnerability that its research activities are critically dependent on a few researchers. Several fields are covered by small teams, and research on each theme is therefore reliant on only a few researchers and will thus be hurt if these researchers leave the unit. The unit has started to recruit from the international job market. A constraint for hiring is given by the rule to hire only on a two-year basis (otherwise, a permanent position must immediately be granted). During 2002-06, 12 members of the staff of the research department were hired (four of these are included in the evaluation) and nine left, so the turnover is large. There is an internal remuneration policy (researchers are assessed annually) which takes publication activity into account, but not the quality to the extent that might be optimal. If a researcher does not publish anything, he/she will be encouraged to move to another department.

Among the staff, there are doctoral graduates and students. The unit hosts several PhD students, who are enrolled at different universities mainly at the University of Oslo. Three international PhD candidates have been hired recently, and the unit seems to continue along this line.

Outreach to society
There is a media policy allowing researchers to speak about their papers, but not of other policies or issues related to the Central Bank. There is also a substantial amount of seminars, workshops and conferences given. Many of the research projects have been covered in Norwegian media

Overall evaluation

• Total publication activity	
International research output	Fair
Publication in leading journals	Good
• Originality of research	Good
• International front position in research	Good
• Research training and recruitment	Good
• Relevance and influence of research	
Internationally	Good
Nationally	Very good
• Research cooperation	Very good
• Overall impression of the research group/institute:	Good

Summary statement
This is a good applied research unit which is producing policy relevant research mainly on macroeconomics and monetary issues. The output level is high, but the share of research published in international journals is low, and there is a need for a more clear strategy to improve the international visibility and impact of research. The new recruitment policy is promising, although not perhaps yet fully implemented in a thorough, systematic fashion.

9.19 Ragnar Frisch Centre for Economic Research

The Ragnar Frisch Centre for Economic Research is an independent research institution founded by the University of Oslo. The Frisch Centre conducts applied economic research in co-operation with the Department of Economics of the University of Oslo and other units at the university. Moreover, it supports education in economics. The close ties with the Department of Economics reflect the policy of the Frisch Centre of linking applied and academic research. Research projects are conducted by the staff at the Frisch Centre, at the University of Oslo and at other Norwegian and foreign research institutions.

In terms of total volume of work, at the end of 2005, 9 researchers were employed at the Frisch Centre, in addition to 8 PhD students, and 17 advisors on a full or part time basis. In total, 20.7 man-years of R&D were carried out by these persons. This evaluation includes 10 researchers, of which one is female: 8 senior research fellows, one research director and one researcher. Doctoral students at the Frisch Centre are enrolled in the doctoral programme at the Department of Economics, and are appointed part-time on specific projects to write their master thesis or to assist research. There are currently 10 doctoral students who are affiliated with the Frisch Centre.

Total funding in 2005 amounted to NOK 20.0 million. The research contracts are mostly with the Research Council of Norway (about ¾ of the funding), but they also contract with government ministries and international organisations. The Centre fears a significant cut in the applied sum of money. They are thus welcoming the new performance base funding scheme of the RCN because they believe it will strengthen the centre’s financial position. The EU programmes are also seen as an opportunity.

Research profile

There are 5 persons who are working on education, labour market and pensions, 2.5 on energy and environment, 1.5 on health and 1 on financial markets. The Frisch Centre focuses on applied work. It collects and organizes data banks made available for research projects with the Department of Economics of University of Oslo.

Recently, there has been a shift of themes from industrial organization and productivity analysis to education, labour and pensions. The unit will also like to strengthen research on health economics. The Centre provides fine tuned incentive schemes for publication (wage bonus, pay rise, etc).

Research output

The productivity per person is high, even when the reports, which are numerous because of the contracts, are excluded from the calculations. In the recent five year period (2001-2005), each person has published an average of 5.8 international publications. The citation rate of the centre is positioned close to the middle of the other institutes with a citation index of approximately 80. There is no publication in the top five journals over the period. The researchers explain their inability to publish in the top five journals as a consequence of the time spent in searching for funding. Nevertheless, they publish in top field journals, which is good.

Research cooperation
There is a policy at the Centre that favours cooperation: Two joint papers with a colleague yield a higher reward than a single paper written alone. Otherwise, cooperation is on a voluntary basis, following a bottom up policy. There is no barrier to cooperation.

The Centre has strong ties with the Department of Economics at University of Oslo as also reflected in the fact that almost all researchers (for those for which information has been supplied) hold a PhD from Oslo University

Recruitment and research training
The unit does not perceive that human capital is a constraint in hiring because the centre targets good economists, not international stars. Shifting gears to a higher level of academic achievement would imply a bigger financial effort from the RCN. Attracting internationally known economists is indeed costly. Until now the centre has failed in hiring good economists on the international market.

The Centre finances some PhD students who are all enrolled at the Department of Economics at University of Oslo. As regards PhD students, the problem that might arise in the near future concerns the quantity and the quality of the applicants. Apparently, the pool of potential PhD students is decreasing in Norway. The type of funding their PhD students get is a 4 year contract which includes one year of work. Some PhD students would like to teach at the university as part of this duty. This would, however, require that the university financed a part of their employment. The Frisch Centre is positive towards this option.

Outreach to society
Outreach to society is considered to be part of the staff requirements, but is left to each researcher. Since it is time consuming, it is somehow considered as crowding out research. Nevertheless, the number of popular scientific talks has increased from 13 in 2002 to 44 in 2006.

Overall evaluation

- Total publication activity
  - International research output: Good
  - Publication in leading journals: Good
- Originality of research: Good
- International front position in research: Good
- Research training and recruitment: Good
- Relevance and influence of research
  - Internationally: Good
  - Nationally: Excellent
- Research cooperation: Good
- Overall impression of the research group/institute: Very good

Summary statement
The Frisch Centre is a very good research institute focused on applied work. It publishes very well. Its research output is not being published in the very best journals, but this might be partly explained by its applied nature. One problem for the centre is that it may be too dependent on the Department of Economics at University of Oslo both for recruitment of researchers and PhD students. The Centre should aim at recruiting younger researchers with international experience.

9.20 Statistics Norway - Research Department

Statistics Norway was established in 1876 and has the main responsibility for the collection, processing and dissemination of official statistics in Norway. It is a professionally autonomous institution placed under the Ministry of Finance. At the start of 2006, Statistics Norway had a staff of 948. There are eight departments at Statistics Norway, one of them being the Research Department which represents a large centre for social science research in Norway.

The total number of staff in the Research Department in 2006 was 83 among whom 48 persons have been included in the evaluation, of which 12 are female. Statistics Norway does not have its own PhD programme, though the Research Department encourages staff to enrol for a PhD in universities. In 2006, the base funding amounted to NOK 36.9 million (infrastructure included) and the external funding to NOK 31.9 million (total NOK 68.8 million). About 45 per cent of total expenditures in 2006 were project financed. The financial resources of the research activities stem partly from the government budget as allocated within Statistics Norway. The bulk of the project revenues came from research grants from the Research Council of Norway and contracts with ministries.

Research profile

The research profile of the department is reflected in the fact that work is organised around the following 7 thematic groups:

- Taxation, Inequality and Consumer Behaviour
- Energy and Environmental Economics
- Petroleum and Environment Economic
- Macroeconomics
- Labour Market and Firm Behaviour
- Public Economics
- Economic Growth and Efficiency

Given that Statistics Norway is an autonomous institution placed under the Ministry of Finance it is not surprising that the major part of the Research Department's research output addresses policy issues and is in the form of internal discussion papers. However, this does mean that it is difficult for the Department to have a high international research profile, and that the research does not come under the scrutiny of academic referees and editors. Although it is important that this research is done, there may be a missed opportunity in that there is little or no external evaluation of the research by leading economists. It also means that an avenue for increasing the Department's international profile is not fully explored.

Researchers in Statistics Norway have a unique position close to the sources of data. This provides special opportunities for exploitation of the data expertise in Statistics Norway, for special organization of data material and links to other sources, and for influencing methods of collection of primary data. Analysis of statistical data by means of relevant theory and analytical methods and the use of models give empirical insight and deeper understanding of the phenomena under consideration. An important use of the empirical insight gained is embodied in the design of tools for government planning, usually in the form of simulation models. Recently, there has been an increased use of sophisticated econometric techniques and the development of microeconomics.

The recent development of microeconomics and microeconometrics in the Department has been very successful. This has great potential value for providing advice to government. There has been a decline in activity in regional economics and macroeconomics.

Research output

The vast majority of research output is in internal discussion papers, with relatively few publications in international economics journals. In fact, the number of internal discussion papers is approximately 3 times the number of publications in international journals. There has been an increased emphasis on the quality of research and on the importance of publishing in international journals, and the Ministry of Finance would regard this positively as a sign that the Department's research is of high quality. To encourage staff to publish more in international journals, there is a points system for journal publications that is used in the evaluation of staff and the determination of their salaries. However, an average of 1.7 such publications per capita in the period 2001-2005 is very low still. This low publication rate arises in part from some staff not attempting to publish in international journals because their responsibilities do not allow it. The citation index of the ISI-indexed publications corresponds to a position in the middle of the units included in the evaluation.

Research cooperation

The internal cooperation within Statistics Norway which is described in the self evaluation document as excellent is impressive and reassuring. There appears to be a good seminar programme across most areas of economics research covered by the Research Department. There is only limited cooperation with colleagues at other institutions, and international collaboration resulting in publications is very limited, being among the lowest in our study. The view was expressed that though the working conditions in the Research Department are good, they could be improved by having more networks and more visits by high profile statisticians and economists.

Recruitment and research training

The average age of the group is 46, the youngest member being 33 and the oldest 64, with the distribution of ages being positively skewed. The requirement that the Department should provide information and policy advice to ministries means that some of the more academically minded staffs, who have a higher potential to publish in leading international journals, often leave to take posts in universities. It helps that there is some flexibility in the salary scheme to enable recruitment in areas of shortage. The fact that some of the young staffs leave after they have been trained should be seen as a positive sign of their quality, but it does mean that replacements have to be found. Each of the few new recruits has a PhD, and is usually recruited from one of the universities of Oslo, Bergen, or Trondheim. International recruitment is limited primarily because it is important that employees speak Norwegian.

Statistics Norway does not have a PhD programme, but they do employ staff taking their PhD at universities. This leads to the recruitment of highly qualified staff via the employment of PhD students and works well. The students are registered primarily at the Department of

Economics, University of Oslo, but also at the Universities of Bergen and Trondheim. At present, 14 PhD students are associated with Statistics Norway.

Outreach to society

The existence of *Økonomiske Analyser* to publicise the results of research provides an excellent channel for outreach, and members of staff often communicate the results of their research via the media. However, the Research Department is not able to meet all of the external demand for presentations by its staff.

Overall evaluation

• Total publication activity	
International research output	Fair
Publication in leading journals	Weak
• Originality of research	Good
• International front position in research	Fair
• Research training and recruitment	Good
• Relevance and influence of research	
Internationally	Fair
Nationally	Very good
• Research cooperation	Fair
• Overall impression of the research group/institute:	Good

Summary statement

The Research Department at Statistics Norway has an important role nationally of influencing the choice of economic statistics to be collected, providing the ministries with economics simulation models for policy analysis, and providing information relevant for public debate. In this role it performs well. However, it has a poor international publication record and weak record of collaboration with international researchers.

Appendix I: Terms of reference

Evaluation of Economic Research in Norway

I Introduction

The Division for Science at the Research Council of Norway has decided to evaluate research activities within the field of *economics* in Norwegian universities and relevant research institutes.[8] An evaluation committee is set up to do this. The result of the evaluation will be published. The report of the evaluation committee, including an overall summary, will form the basis for the future strategy of the Research Council in this area.

II The objective of the evaluation

The objective of this evaluation is to review the overall state of economic research in Norwegian universities and relevant research institutes.

Specifically, the evaluation process will:

- Offer a critical review of strengths and weaknesses of the research, both nationally and at the level of research groups and academic departments. The scientific quality of the research will be reviewed in an international context.
- Identify research groups that have achieved a high international level in their research, or that have a potential to reach such a level.
- Identify areas of research that need to be strengthened in order to ensure that Norway in the future will possess necessary competence in areas of national importance. A key aspect is to enable the Research Council of Norway to assess the situation regarding training and employment of economics.

Further, the evaluation aims to:

- provide the institutions concerned with the information required to meet higher research standards,
- provide the institutions concerned with feedback regarding the scientific performance of their research groups, as well as suggestions for improvements and priorities,
- improve the knowledge base for strategic decision-making by the Research Council,
- serve as a platform for future work on developing economic research, and to
- represent a basis for determining future priorities, including funding priorities, within and between areas of research.

The evaluation is designed to improve the ability of the Research Council to serve as an advisor to the Norwegian Government and relevant ministries.

III Organisation

An international evaluation committee of experts will be appointed to work according to a mandate. The committee will have complete freedom to carry out its work without any external interference.

[8] This evaluation does *not* include research within the field of business and management. See Appendix.

The evaluation starts in November 2006 and will be concluded after about a year. The committee will set up a time schedule for its work.

The committee is requested to write a report with a set of specific recommendations according to the objective of the evaluation. A preliminary report will be sent to the institutions for comments. The committee's final report will be submitted to the Research Board of the Division for Science.

The evaluation of economic research will concentrate on units with a considerable research activity within economics, estimated to include 12-16 institutions. The final list of institutions and research groups to be evaluated will be decided by the Research Council of Norway before the committee starts to work.

A secretariat will assist the evaluation committee. The committee will also have administrative support from the Research Council.

IV Mandate for the Evaluation Committee

The committee is requested to evaluate scientific activities with respect to their quality, relevance and international and national collaboration, bearing in mind the resources available. The committee is further requested to evaluate the way in which economic research is organised and managed.

1. Scientific quality and relevance

Specific aspects to be considered:

- International position of Norwegian economic research.
- Quality of research groups and departments.
- Strong and weak fields of research.
- Relevance of the research. Is the research concerned with issues that are regarded as
  - relevant by the international research community?
  - relevant to the needs of the Norwegian society?
  - relevant to the needs of Norwegian industry?

2. The institutional situation

Specific aspects to be considered:

- Organisation and size of research groups and departments
  - scientific leadership, strategies for research and recruitment
  - balance between senior and junior researchers
  - balance between men and women in academic positions
- Training of graduates, doctors and post doctors
  - employment of graduates after completion of higher degrees
  - recruitment to doctoral training programmes
  - national and international mobility
- National and international collaboration
  - co-operation and division of research activities at the national level
  - contact and research co-operation at the international level
  - contact with the professional outreach
  - national and international co-operation in the collection and use of data
  - participation in international programmes, use of facilities abroad

3. Capacities and financial support
Specific aspects to be considered:

- The total volume of and the distribution of research capacities within the field of economics in Norway.
- The financial situation of research groups and departments, and the appropriateness of their funding.

4. Future developments and needs

- Recommendations for improvement directed towards the institutions concerned.
- Recommendations at the national level directed towards the Research Council of Norway

V Methods

The evaluation committee should make their assessments and recommendations on the basis of

a) scientific production,
b) self-evaluations by the research groups,
c) documents and administrative information, and
d) meetings with the research institutions.

Scientific production
The assessment period is 2001-2005. Details are still to be decided when it comes to the selection of institutions and research groups to be evaluated, as well as the criteria for selection of individual researchers for each research group. A definition of *scientific production* will be given as a basis for what kind of publications to be listed. In addition to these lists each research group will be asked to select a small number of publications to be considered by the committee. Publication lists (1995-) and citation analyses are also to be made using the ISI-Thompson base.

Self-evaluations by the research groups
The Research Council of Norway will ask the institutions and research groups to make a short self-evaluation related to specific aspects of relevance for the evaluation. The purpose of the self-evaluation is to reveal both strong and weak sides of the research groups.

Documents and administrative information
Annual reports, accounts, plans and strategies for the individual institutions will be made available for the evaluation committee. This will include information on the financial situation, the staff, students and doctoral dissertations etc. The factual information will also include statistics for the assessment period from public sources.

Meetings with the research institutions
The purpose of the meetings is to give the evaluation committee an opportunity – through interviews - to get more detailed information on the strategies, the challenges, and the operating conditions of the research groups and institutions.

Appendix:
Guidelines for delimiting the evaluation of economic research in Norway

It is decided to restrict the evaluation of economic research in Norway to *economics, including financial economics*, and not to include *business and management, law and economic history*. This restriction is mainly useful with regard to selecting institutions, research groups and individual researchers to be included in the evaluation. It is not relevant when it comes to what publications to be listed and evaluated – by the included researchers.

We suggest using the *JEL Classification System* as a *guideline* for defining the distinction between economics (including financial economics) and business and management etc. (JEL = Journal of Economic Literature, se link below).

Subject categories according to *JEL* that is suggested not to be included in this evaluation:

K - Law and Economics
M - Business Administration and Business Economics; Marketing; Accounting
N - Economic History

http://www.aeaweb.org/journal/jel_class_system.html

Appendix II: Curriculum vitae for the members of the Panel

Torben M. Andersen (chairman)
is Professor at the Department of Economics, School of Economics and Management, Aarhus University (since 1989). He has been studying economics at LSE ((M.Sc.), Aarhus (lic.oecon) and Université Catholique, Lovain-la-Neuve (Ph.D.). Andersen is affiliated with several European research centres. Since 2001 he is a member of Royal Danish Academy of Science and Letter. Andersen's main research areas are the economics of the welfare state, labour economics and macroeconomics.

Emmanuelle Auriol
is Professor of Economics at the University of Toulouse I (since 1998) and is a researcher at Toulouse School of Economics, where she received her PhD in 1992. She first became a full professor at University of Aix-Mareille II after succeeding the aggregation contest in 1996 (Agrégation des Universités en Sciences Économiques). Auriol's main research areas are Industrial Organization, Regulation and Competition Policy, Economics of Developing Countries.

Eva Liljeblom
is Professor in Finance, Department of Finance, Swedish School of Economics and Business Administration, Helsinki. Her education is from the Swedish School of Economics and Business Administration, where she received a PhD in 1989. Liljeblom has also been working at Stockholm School of Economics and is docent at Turku School of Economics and University of Oulu. Liljeblom's main research areas are Corporate Governance, Dividends and share repurchases, Tax arbitrage, International Diversification

Grayham E. Mizon
is Leverhulme Professor in Econometrics, Economics Department, University of Southampton (since 1977, emeritus from October 2006). His education is from the London School of Economics and he received a PhD in econometrics at LSE in 1972. Mizon has also been affiliated with the European University Institute (1991-99). He is a Foreign Member of the Polish Academy of Science. Mizon's main research areas are Econometrics; model selection, hypothesis testing, model evaluation; and encompassing. Analysis of time series. Applied econometric modelling, especially of macro-economic time series.

Pierre Pestieau
is Professor in Economics at the University of Liège (since 1975). He received his undergraduate education at the University of Louvain and he obtained a PhD in economics from Yale University in 1972. He is a member of CORE (Center of Operation Research, Econometrics and Mathematical Economics) at Louvain-la-Neuve and associate member of PSE, Paris. Pestieau's main research areas are population economics, social insurance and public economics.

Appendix III: Initial letter sent from Research Council to each unit under evaluation

Norges **forskningsråd**
The Research Council of Norway

Til forskningsinstitusjoner
som inngår i
Evalueringen av
økonomifaglig forskning

Vår saksbehandler/-tlf.	**Vår ref.**	**Oslo,**
Janike Harsheim	200507595	01.06.2006
jh@forskningsradet.no	**Deres ref.**	

Evaluering av økonomifaglig forskning – bestilling av underlagsmateriale for evalueringen

Vi viser til tidligere kontakt om denne saken.

Underlagsmateriale
Første trinn i arbeidet er å få samlet inn underlagsmaterialet for vurderingen av forskernes faglige produksjon. Vi viser til tidligere brev fra Forskningsrådet datert 10.3.2006, der det er definert hvilke forskere som skal inngå, og til lister vi har mottat fra hvert fagmiljø. Det er utarbeidet anvisninger for hva slags materiale vi ønsker innsendt fra institusjonene. Anvisningene fremgår av eget ark (se appendiks 1). Det er avgjørende for evalueringsresultatet at miljøene og forskerne følger de anvisninger som er gitt for sammenstilling av informasjon om faglig produksjon.

Vi ber også om en oversikt over pågående og avsluttede doktorgradsarbeider for doktorgradsstudenter knyttet til institusjonen (se appendiks 2).

Hvis det er spørsmål knyttet til bestillingen, vennligst ta kontakt med spesialrådgiver Janike Harsheim, tlf 22037437, e-post: jh@forskningsradet.no.

Vi ber om at materialet sendes Forskningsrådet innen 15. september 2006.
(att: Janike Harsheim).

All post/e-post som inngår i saksbehandlingen, bes adressert til Norges forskningsråd og ikke til enkeltpersoner.

Stensberggt. 26
Boks 2700 St. Hanshaugen
N-0131 Oslo

Telefon 22 03 70 00
Telefaks 22 03 70 01
Org.No. 970141669

post@forskningsradet.no
www.forskningsradet.no

Neste faser
Vi minner om de to neste fasene i evalueringsprosessen:

- miljøenes egenvurdering – og
- møter mellom forskningsmiljøene og evalueringsutvalget

Brev med anvisninger for egenvurderingen vil bli sendt ut til miljøene i løpet av november. Det er ennå ikke tatt endelig beslutning om momenter og forhold man ønsker skal inngå i egenvurderingen. Dette vil evalueringsutvalget ta stilling til på sitt første møte. Når det gjelder møter mellom forskningsmiljøene og evalueringsutvalget, vil disse finne sted våren 2007.

Det gjenstår ennå noen detaljer når det gjelder evalueringsutvalgets sammensetning. Den formelle oppnevningen gjøres av Divisjonsstyret for vitenskap.

****

Vi står foran et utfordrende arbeid og håper at fagmiljøene vurderer den forestående evalueringen som interessant og viktig, og at den vil være nyttig for faget og forskningen. Vi fra vår side, vil gjøre det beste for at arbeidet skal kunne gjennomføres så greit som mulig.

Ta gjerne kontakt hvis dere har spørsmål eller kommentarer.

Med vennlig hilsen
Norges forskningsråd

Hege Torp
avdelingsdirektør
Divisjon for vitenskap

Janike Harsheim
spesialrådgiver

Vedlegg:

- Anvisninger for innsending av faglig materiale (appendix 1-2)
- Oversikt over institusjoner som omfattes av evalueringen (appendiks 3)
- Tidsplan for evalueringen (appendiks 4)

Evaluation of Economic Research in Norway

Submission deadline: 15 September 2006

This submission relates to each tenured academic employee and post-doc fellow employed at the institution as defined in our letter of 10.3.2006.

The institution is requested to supply

1. One scientific publication produced during the past five years.
2. List of publications for the past ten years. One paper copy as well as an electronic copy.
3. CV of professional positions held over the past ten years. One paper copy as well as an electronic copy.

INSTRUCTIONS

1. Scientific paper produced during the past five years, i.e. 30 June 2001 – 30 June 2006

a) A professional publication that occupies a key position in the researcher's scientific production
b) Justification of the key position of this publication
c) Three paper copies of each publication (originals will be returned)

2. List of publications for the past ten years, i.e. 30 June 1996 – 30 June 2006

The list to be submitted should only include publications in the following categories:

a) Books published by publishing houses (editorship *not* included, separate chapters in the editorship of books to be included under b)
b) Articles in anthologies published by publishing houses (chapters in books)
c) Articles in scientific journals (including review articles but not book reviews, editorial material, contributions to discussions and similar)
d) Papers/reports published by the employing institution
e) Papers/reports published by other institutions
f) Ph.D. dissertations

Publications not covered by any of the above categories must not be included in the lists (material such as popular science articles, feature articles, book reviews and conference papers not published in written form are clearly outside the scope of the categories given above).

Please do not include publications issued outside the stated period (for example publications in the categories "submitted", "forthcoming" and "in press"). A full list of references is required for a publication to be included in the evaluation and to be assigned a category (including year, author and all co-authors [if any], title, publisher, name of journal/anthology where an article was published, volume number and pages when relevant).

To facilitate processing procedures we would appreciate it if a line break is inserted between each publication. No line breaks are required between information pertaining to the same publication.

One paper copy as well as an electronic copy.

3. CV of professional positions held over the past ten years

We also request that you submit a complete list of positions held in Norway and abroad over the past ten years.

One paper copy as well as an electronic copy.

The Research Council of Norway, Division for Science
1 June 2006 Appendix 2

Evaluation of Economic Research in Norway

Submission deadline: 15 September 2006

The institution is requested to supply a list of:

1. All doctoral graduates over the past 5 years (2001-2005) who have been affiliated with the institution (by a position or by a stipend) when working with the doctoral thesis. The list should include the name of each graduate, the title of the doctoral thesis as well as the name of the Faculty or University (or University College) who has accepted the dissertation.

2. All present doctoral students affiliated with the institution and, if decided, topic (title) of doctoral work.

Please supply one paper copy as well as an electronic copy of both lists.

Appendix IV: Self-evaluation request sent from Research Council to each unit under evaluation

Norges **forskningsråd**
The Research Council of Norway

Til forskningsinstitusjoner
som inngår i
Evalueringen av
økonomifaglig forskning

Vår saksbehandler/tlf.	**Vår ref.**	Oslo, 20.12.06
Janike Harsheim, +47 22 03 74 37	200507595	
jh@forskningsradet.no	**Deres ref.**	

Evaluering av økonomifaglig forskning – bestilling av underlagsmateriale: Egenevaluering og dokumentasjon

Vi er kommet til fase II i prosessen med innhenting av underlagsmateriale for evalueringen (jf tidligere utsendt mandat). Vi ber nå fagmiljøene om å utarbeide en egenevaluering og dokumentasjon av virksomheten. Som for fase I, følger det med en anvisning for hvilke spørsmål og tema som skal behandles i egenevalueringen og hva slags dokumentasjon vi ønsker innsendt. Retningslinjene følger vedlagt. Bestillingen på dokumentasjon er omfattende, men ekspertutvalget trenger dette for å kunne gjøre et fullgodt arbeid.

Frist for innsending av dette materialet er satt til **1. mars 2007**. Materialet skal sendes til Forskningsrådet v/Janike Harsheim.

Hvis dere har spørsmål eller merknader til det arbeidet som skal gjøres og bestilt dokumentasjon, vennligst ta kontakt med faglig sekretær, seniorforsker Dag Aksnes ved NIFU STEP, tlf 22595165 epost: dag.w.aksnes@nifustep.no

Med vennlig hilsen
Norges forskningsråd

Hege Torp
Avdelingsdirektør
Divisjon for vitenskap

Janike Harsheim
Spesialrådgiver
Divisjon for vitenskap

Vedlegg:
- ”*Self Evaluation and Documentation for the Institute's Activity*” – dokument som gir anvisning for innsending av egenevaluering og dokumentasjon

Evaluation of Economic Research in Norway
December 2006

Self Evaluation and Documentation of the Institute’s Activity

The Norwegian Research Council has decided to evaluate research activities within the field of economics at Norwegian universities and relevant research institutes. The main purpose of this evaluation is to assess the strengths and weaknesses of research, to identify research groups at a high international level, and to investigate the situation regarding recruitment into research.

To assess these issues the evaluation panel will be focusing on i) research output (quantitative and qualitative aspects of research) ii) research cooperation iii) funding, iv) recruitment and research training, and v) outreach to society.

An important part of the evaluation is the institutes’ self-evaluations. In addition to the material already collected, the panel will ask all the involved institutes to provide information on the abovementioned issues and to offer their own assessment of the situation. All of this will contribute to the evaluation panel’s attempt to identify the most important constraints for research in Norway.

The evaluation panel assumes that the self-evaluation will be the outcome of **a process at the institute involving all members of staff**, and as such not only reflects the viewpoints of the current leadership.

Elements from the self-evaluation will be elaborated at meetings between the research institutions and the evaluation panel. Such meetings will be arranged in the spring 2007.

Your self-evaluation should be written in English and not exceed 6000 words (approx. 10 pages) (not including the documentation enclosures). In the form we have used the word “institute” as a collective term for the various units included in the evaluation (institutions, departments, institutes, research centers etc.). The units selected for the evaluation do not always represent entire institutes. In such cases you should answer for the selected units only. We realize that on some issues the requested information may not be available for the units selected. In these cases you can submit the information at the institute level and note the lack of available data in your comments.

We encourage you to take the opportunity to make this self-evaluation **a critical discussion of the institute’s situation, challenges and deliberations for the future**, rather than a mere list of statistical facts. The deadline for submission is **1 March 2007**.

Self Evaluation Form

1. Research profile and output

a) What are the specific research areas (use e.g. JEL-classifications, "double digit"[9]) that identify the research profile of the institute? Allocate the members of staff included in the evaluation according to these areas.

b) Have there been any changes in the main research areas over the past 10-20 years, and what has initiated such shifts?

c) What are the institute's strengths and weaknesses in terms of research profile and research quality?

c) Which journals are by the members of staff considered the top 5 journals within the research areas of the institute, and to what extent has research from the institute been published in these journals?

d) Considering the research profile of the institute, which other institutions/institutes in i) Scandinavia and ii) outside Scandinavia would you compare yourself to in terms of research output and quality?

f) What opportunities and threats do you see for the research activity at the institute?

e) If additional resources became available, which of the institute's current research themes should then be strengthened and why? Would new research areas be prioritized?

2. Research cooperation

a) Is research cooperation at the institute based on a bottom up policy driven by the initiatives of members of staff, or is there an institute policy and initiatives?

b) Are there any barriers to internal, national or international cooperation, and if so which?

3. Funding

a) Is funding a major constraint, and which activities are in particular constrained by lack of funding?

b) To what extent is the research profile of the institute affected by the need to raise external funding and the conditions for acquiring such funds?

c) How does the institute perceive its competitive position for generating external funding?

[9] JEL, Journal of Economic Literature: http://www.aeaweb.org/journal/jel_class_system.html

4. Research training and recruitment

a) Is human capital considered a binding constraint for research activities at the institute? If so, in what form?

b) Are there any barriers to the recruitment into the PhD programme?

c) Are there any barriers in hiring members of staff, and if so which?

d) Has the institute attempted international hirings, and if so, what is the experience?

e) What are the main constraints in connection with the PhD programme, and which part would be improved if resources (human and financial) were available?

f) How is the quality of PhD students from the institute assessed compared to other Norwegian and international PhD programmes?

5. Outreach to society

a) Is there a policy in this area, or are these activities driven by the initiatives of staff members?

b) Is increasing focusing on outreach being considered as an activity crowding out research or as an opportunity to highlight the profile of the institute and bring its output to further use?

Additional documentation – The self-evaluation should be supplied with the following written documentation of the institution's operations **the past five years** (unless otherwise stated)

i) Annual plans and annual reports (from the past five years)
ii) Any strategic plans / action plans for the same period
iii) Overview of seminars (internal, external Norwegian and international speakers)
iv) Overview of seminar presentations by members of staff at other institutions (other Norwegian institutions and internationally).
v) Overview of the number of (scientific) conference participations listed by year, international and national conferences
vi) Overview of visiting researchers (stays of at least one week)
vii) Overview of research visits by members of staff to other institutions
viii) Overview of participation in international research projects
ix) Overview of funding and its division between base (internal) funding and external funding (national and international).
x) Overview of the number of master students at the unit, listed by gender
xi) Is there a regular PhD course programme, and if so how is it structured?
xii) Overview of other PhD courses
xiii) Overview of participation in PhD networks nationally or internationally
xiv) Overview of the hiring history of PhD graduates
xv) How many new members of the scientific staff (including post doctors and professor II) have been hired in the past five years, and to which positions? Where do they come from (hired internally, from another Norwegian institution, internationally)?
xvi) How many members of the scientific staff have left during the past five years due to retirement, and how many have left for new jobs, and whereto (to another Norwegian institution, international institutions)? (Persons on leave or in temporary positions not to be included).
xvii) A brief description of the institute's consultancy activities with non-research units
xviii) A brief description with overall figures if available of the institute's popular scientific activities, visibility in media etc.

About the publication

In 2006 an international Panel was commissioned to evaluate research activities within the field of economics in Norwegian universities and relevant research institutes. The evaluation has resulted in two publications:

- Economic research in Norway – An Evaluation, report submitted by the Panel.
- Bibliometric analysis – Economic Research in Norway, supplementary report written by Dag W. Aksnes.

The publication can be ordered at
www.forskningsradet.no/publikasjoner

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