INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI 2005–2010

RC-Specific Evaluation of TSEM – Time Series Econometrics

Seppo Saari & Antti Moilanen (Eds.)
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**Publisher:** University of Helsinki  
**Editors:** Seppo Saari & Antti Moilanen

**Title:**  

**Summary:**  
Researcher Community (RC) was a new concept of the participating unit in the evaluation. Participation in the evaluation was voluntary and the RCs had to choose one of the five characteristic categories to participate.

Evaluation of the Researcher Community was based on the answers to the evaluation questions. In addition a list of publications and other activities were provided by the TUHAT system. The CWTS/Leiden University conducted analyses for 80 RCs and the Helsinki University Library for 66 RCs. Panelists, 49 and two special experts in five panels evaluated all the evaluation material as a whole and discussed the feedback for RC-specific reports in the panel meetings in Helsinki. The main part of this report is consisted of the feedback which is published as such in the report.

Chapters in the report:  
1. Background for the evaluation  
2. Evaluation feedback for the Researcher Community  
3. List of publications  
4. List of activities  
5. Bibliometric analyses

The level of the RCs' success can be concluded from the written feedback together with the numeric evaluation of four evaluation questions and the category fitness. More conclusions of the success can be drawn based on the University-level report.

**RC-specific information:**

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<td>Time series econometrics, macroeconometrics, financial econometrics, econometric theory, empirical economics</td>
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<th>Participation category:</th>
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<td>2. Research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear breakthrough</td>
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**RC's responsible person:**  
Lanne, Markku

**Keywords:**  
Research Evaluation, Meta-evaluation, Doctoral Training, Bibliometric Analyses, Researcher Community

**Series title and number:**  
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Foreword

The evaluation of research and doctoral training is being carried out in the years 2010–2012 and will end in 2012. The steering group appointed by the Rector in January 2010 set the conditions for participating in the evaluation and prepared the Terms of Reference to present the evaluation procedure and criteria. The publications and other scientific activities included in the evaluation covered the years 2005–2010.

The participating unit in the evaluation was defined as a Researcher Community (RC). To obtain a critical mass with university-level impact, the number of members was set to range from 20 to 120. The RCs were required to contain researchers in all stages of their research career, from doctoral students to principal investigators (PIs). All in all, 136 Researcher Communities participated in this voluntary evaluation, 5857 persons in total, of whom 1131 were principal investigators. PIs were allowed to participate in two communities in certain cases, and 72 of them used this opportunity and participated in two RCs.

This evaluation enabled researchers to define RCs from the “bottom up” and across disciplines. The aim of the evaluation was not to assess individual performance but a community with shared aims and researcher-training activities. The RCs were able to choose among five different categories that characterised the status and main aims of their research. The steering group considered the process of applying to participate in the evaluation to be important, which lead to the establishment of these categories. In addition, providing a service for the RCs to enable them to benchmark their research at the global level was a main goal of the evaluation.

The data for the evaluation consisted of the RCs’ answers to evaluation questions on supplied e-forms and a compilation extracted from the TUHAT – Research Information System (RIS) on 12 April 2011. The compilation covered scientific and other publications as well as certain areas of scientific activities. During the process, the RCs were asked to check the list of publications and other scientific activities and make corrections if needed. These TUHAT compilations are public and available on the evaluation project sites of each RC in the TUHAT-RIS.

In addition to the e-form and TUHAT compilation, University of Leiden (CWTS) carried out bibliometric analyses from the articles included in the Web of Science (WoS). This was done on University and RC levels. In cases where the publication forums of the RC were clearly not represented by the WoS data, the Library of the University of Helsinki conducted a separate analysis of the publications. This was done for 66 RCs representing the humanities and social sciences.

The evaluation office also carried out an enquiry targeted to the supervisors and PhD candidates about the organisation of doctoral studies at the University of Helsinki. This and other documents describing the University and the Finnish higher education system were provided to the panellists.

The panel feedback for each RC is unique and presented as an entity. The first collective evaluation reports available for the whole panel were prepared in July–August 2011. The reports were accessible to all panel members via the electronic evaluation platform in August. Scoring from 1 to 5 was used to complement written feedback in association with evaluation questions 1–4 (scientific focus and quality, doctoral training, societal impact, cooperation) and in addition to the category evaluating the fitness for participation in the evaluation. Panellists used the international level as a point of comparison in the evaluation. Scoring was not expected to go along with a preset deviation.

Each of the draft reports were discussed and dealt with by the panel in meetings in Helsinki (from 11 September to 13 September or from 18 September to 20 September 2011). In these meetings the panels also examined the deviations among the scores and finalised the draft reports together.

The current RC-specific report deals shortly with the background of the evaluation and the terms of participation. The main evaluation feedback is provided in the evaluation report, organised according to the evaluation questions. The original material provided by the RCs for the panellists has been attached to these documents.
On behalf of the evaluation steering group and office, I sincerely wish to thank you warmly for your participation in this evaluation. The effort you made in submitting the data to TUHAT-RIS is gratefully acknowledged by the University. We wish that you find this panel feedback useful in many ways. The bibliometric profiles may open a new view on your publication forums and provide a perspective for discussion on your choice of forums. We especially hope that this evaluation report will help you in setting the future goals of your research.

Johanna Björkroth
Vice-Rector
Chair of the Steering Group of the Evaluation

Steering Group of the evaluation
Steering group, nominated by the Rector of the University, was responsible for the planning of the evaluation and its implementation having altogether 22 meetings between February 2010 and March 2012.

Chair
Vice-Rector, professor Johanna Björkroth

Vice-Chair
Professor Marja Airaksinen

Chief Information Specialist, Dr Maria Forsman
Professor Arto Mustajoki
University Lecturer, Dr Kirsi Pyhältö
Director of Strategic Planning and Development, Dr Ossi Tuomi
Doctoral candidate, MScSoC Jussi Vauhkonen
Panel members

CHAIR
Professor Hebe Vessuri
Social anthropology
Venezuelan Institute of Scientific Research, Venezuela

VICE-CHAIR
Professor Christine Helm
Psychology, neurobiology of early-life stress, depression, anxiety, functional somatic disorders
Charité University Medicine Berlin, Germany

Professor Allen Ketcham
Ethics and social philosophy, applied Social philosophy, ethics of business
Texas A&M University – Kingsville, USA

Professor Erno Lehtinen
Education, educational reform
University of Turku, Finland

Professor Enzo Mingione
Urban sociology
University of Milan - Bicocca, Italy

Professor Giovanna Procacci
Political sociology, transformation of citizenship, social rights, social exclusion, immigration policy
University of Milan, Italy

Professor Inger Johanne Sand
Law, public law, legal theory
University of Oslo, Norway

Professor Timo Teräsvirta
Time series econometrics
Aarhus University, Denmark

Professor Göran Therborn
General sociology
University of Cambridge, Great Britain

Professor Liisa Uusitalo
Consumer behaviour (economic & social theory), marketing and communication research
Aalto University, School of Economics, Finland

The panel, independently, evaluated all the submitted material and was responsible for the feedback of the RC-specific reports. The panel members were asked to confirm whether they had any conflict of interests with the RCs. If this was the case, the panel members disqualified themselves in discussion and report writing.

Added expertise to the evaluation was contributed by two members from the Panel of Humanities.

Experts from the Panel of Humanities
Professor Erhard Hinrichs
Professor Pauline von Bonsdorff
EVALUATION OFFICE
Dr Seppo Saari, Doc., Senior Adviser in Evaluation, was responsible for the entire evaluation, its planning and implementation and acted as an Editor-in-chief of the reports.

Dr Eeva Sievi, Doc., Adviser, was responsible for the registration and evaluation material compilations for the panellists. She worked in the evaluation office from August 2010 to July 2011.

MSocSc Paula Ranne, Planning Officer, was responsible for organising the panel meetings and all the other practical issues like agreements and fees and editing a part the RC-specific reports. She worked in the evaluation office from March 2011 to January 2012.

Mr Antti Molianen, Project Secretary, was responsible for editing the reports. He worked in the evaluation office from January 2012 to April 2012.

TUHAT OFFICE
Provision of the publication and other scientific activity data
Mrs Alja Kaltera, Project Manager of TUHAT-RIS served the project ex officio providing the evaluation project with the updated information from TUHAT-RIS. The TUHAT office assisted in mapping the publications with CWTS/University of Leiden.

MA Liisa Ekebom, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation. She also assisted the UH/Library analyses.

BA Liisa Jäppinen, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation.

HELSINKI UNIVERSITY LIBRARY
Provision of the publication analyses
Dr Maria Forsman, Chief Information Specialist in the Helsinki University Library, managed with her 10 colleagues the bibliometric analyses in humanities, social sciences and in other fields of sciences where CWTS analyses were not applicable.
Acronyms and abbreviations applied in the report

External competitive funding
AF – Academy of Finland
TEKES - Finnish Funding Agency for Technology and Innovation
EU - European Union
ERC - European Research Council
International and national foundations
FP7/6 etc. /Framework Programmes/Funding of European Commission

Evaluation marks
Outstanding (5)
Excellent (4)
Very Good (3)
Good (2)
Sufficient (1)

Abbreviations of Bibliometric Indicators
P - Number of publications
TCS – Total number of citations
MCS - Number of citations per publication, excluding self-citations
PNC - Percentage of uncited publications
MNCS - Field-normalized number of citations per publication
MNJS - Field-normalized average journal impact
THCP10 - Field-normalized proportion highly cited publications (top 10%)
INT_COV - Internal coverage, the average amount of references covered by the WoS
WoS – Thomson Reuters Web of Science Databases

Participation category
Category 1. The research of the participating community represents the international cutting edge in its field.
Category 2. The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.
Category 3. The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation.
Category 4. The research of the participating community represents an innovative opening.
Category 5. The research of the participating community has a highly significant societal impact.

Research focus areas of the University of Helsinki
Focus area 1: The basic structure, materials and natural resources of the physical world
Focus area 2: The basic structure of life
Focus area 3: The changing environment – clean water
Focus area 4: The thinking and learning human being
Focus area 5: Welfare and safety
Focus area 6: Clinical research
Focus area 7: Precise reasoning
Focus area 8: Language and culture
Focus area 9: Social justice
Focus area 10: Globalisation and social change
1 Introduction to the Evaluation

1.1 RC-specific evaluation reports

The participants in the evaluation of research and doctoral training were Researcher Communities (hereafter referred to as the RC). The RC refers to the group of researchers who registered together in the evaluation of their research and doctoral training. Preconditions in forming RCs were stated in the Guidelines for the Participating Researcher Communities. The RCs defined themselves whether their compositions should be considered well-established or new.

It is essential to emphasise that the evaluation combines both meta-evaluation\(^1\) and traditional research assessment exercise and its focus is both on the research outcomes and procedures associated with research and doctoral training. The approach to the evaluation is enhancement-led where self-evaluation constituted the main information. The answers to the evaluation questions formed together with the information of publications and other scientific activities an entity that was to be reviewed as a whole.

The present evaluation recognizes and justifies the diversity of research practices and publication traditions. Traditional Research Assessment Exercises do not necessarily value high quality research with low volumes or research distinct from mainstream research. It is challenging to expose the diversity of research to fair comparison. To understand the essence of different research practices and to do justice to their diversity was one of the main challenges of the present evaluation method. Understanding the divergent starting points of the RCs demanded sensitivity from the evaluators.

1.2 Aims and objectives in the evaluation

The aims of the evaluation are as follows:

- to improve the level of research and doctoral training at the University of Helsinki and to raise their international profile in accordance with the University’s strategic policies. The improvement of doctoral training should be compared to the University's policy.\(^2\)
- to enhance the research conducted at the University by taking into account the diversity, originality, multidisciplinary nature, success and field-specificity,
- to recognize the conditions and prerequisites under which excellent, original and high-impact research is carried out,
- to offer the academic community the opportunity to receive topical and versatile international peer feedback,
- to better recognize the University’s research potential.
- to exploit the University’s TUHAT research information system to enable transparency of publishing activities and in the production of reliable, comparable data.

1.3 Evaluation method

The evaluation can be considered as an enhancement-led evaluation. Instead of ranking, the main aim is to provide useful information for the enhancement of research and doctoral training of the participating RCs. The comparison should take into account each field of science and acknowledge their special character.

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\(^1\) The panellists did not read research reports or abstracts but instead, they evaluated answers to the evaluation questions, tables and compilations of publications, other scientific activities, bibliometrics or comparable analyses.

\(^2\) Policies on doctoral degrees and other postgraduate degrees at the University of Helsinki.
The comparison produced information about the present status and factors that have lead to success. Also challenges in the operations and outcomes were recognized.

The evaluation approach has been designed to recognize better the significance and specific nature of researcher communities and research areas in the multidisciplinary top-level university. Furthermore, one of the aims of the evaluation is to bring to light those evaluation aspects that differ from the prevalent ones. Thus the views of various fields of research can be described and research arising from various starting points understood better. The doctoral training is integrated into the evaluation as a natural component related to research. Operational processes of doctoral training are being examined in the evaluation.

**Five stages of the evaluation method were:**
1. Registration – Stage 1
2. Self-evaluation – Stage 2
3. TUHAT\(^3\) compilations on publications and other scientific activities\(^4\)
4. External evaluation
5. Public reporting

### 1.4 Implementation of the external evaluation

**Five Evaluation Panels**

Five evaluation panels consisted of independent, renowned and highly respected experts. The main domains of the panels are:
1. biological, agricultural and veterinary sciences
2. medicine, biomedicine and health sciences
3. natural sciences
4. humanities
5. social sciences

The University invited 10 renowned scientists to act as chairs or vice-chairs of the five panels based on the suggestions of faculties and independent institutes. Besides leading the work of the panel, an additional role of the chairs was to discuss with other panel chairs in order to adopt a broadly similar approach. The panel chairs and vice-chairs had a pre-meeting on 27 May 2011 in Amsterdam.

The panel compositions were nominated by the Rector of the University 27 April 2011. The participating RCs suggested the panel members. The total number of panel members was 50. The reason for a smaller number of panelists as compared to the previous evaluations was the character of the evaluation as a meta-evaluation. The panelists did not read research reports or abstracts but instead, they evaluated answers to the evaluation questions, tables and compilations of publications, other scientific activities, bibliometrics and comparable analyses.

The panel meetings were held in Helsinki:
- On 11–13 September 2011: (1) biological, agricultural and veterinary sciences, (2) medicine, biomedicine and health sciences and (3) natural sciences.
- On 18–20 September 2011: (4) humanities and (5) social sciences.

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\(^3\) TUHAT (acronym) of Research Information System (RIS) of the University of Helsinki

\(^4\) Supervision of thesis, prizes and awards, editorial work and peer reviews, participation in committees, boards and networks and public appearances.
1.5 Evaluation material

The main material in the evaluation was the RCs’ self-evaluations that were qualitative in character and allowed the RCs to choose what was important to mention or emphasise and what was left unmentioned.

The present evaluation is exceptional at least in the Finnish context because it is based on both the evaluation documentation (self-evaluation questions, publications and other scientific activities) and the bibliometric reports. All documents were delivered to the panellists for examination.

Traditional bibliometrics can be reasonably done mainly in medicine, biosciences and natural sciences when using the Web of Science database, for example. Bibliometrics, provided by CWTS/The Centre for Science and Technology Studies, University of Leiden, cover only the publications that include WoS identification in the TUHAT-RIS.

Traditional bibliometrics are seldom relevant in humanities and social sciences because the international comparable databases do not store every type of high quality research publications, such as books and monographs and scientific journals in other languages than English. The Helsinki University Library has done analysis to the RCs, if their publications were not well represented in the Web of Science databases (RCs should have at least 50 publications and internal coverage of publications more than 40%) – it meant 58 RCs. The bibliometric material for the evaluation panels was available in June 2011. The RC-specific bibliometric reports are attached at the end of each report.

The panels were provided with the evaluation material and all other necessary background information, such as the basic information about the University of Helsinki and the Finnish higher education system.

Evaluation material

1. Registration documents of the RCs for the background information
2. Self evaluation material – answers to the evaluation questions
3. Publications and other scientific activities based on the TUHAT RIS:
   3.1. statistics of publications
   3.2. list of publications
   3.3. statistics of other scientific activities
   3.4. list of other scientific activities
4. Bibliometrics and comparable analyses:
   4.1. Analyses of publications based on the verification of TUHAT-RIS publications with the Web of Science publications (CWTS/University of Leiden)
   4.2. Publication statistics analysed by the Helsinki University Library - mainly for humanities and social sciences
5. University level survey on doctoral training (August 2011)
6. University level analysis on publications 2005–2010 (August 2011) provided by CWTS/University of Leiden

Background material

University of Helsinki
- Basic information about the University of the Helsinki
- The structure of doctoral training at the University of Helsinki
- Previous evaluations of research at the University of Helsinki – links to the reports: 1998 and 2005

The Finnish Universities/Research Institutes
- Finnish University system
- Evaluation of the Finnish National Innovation System
- The State and Quality of Scientific Research in Finland, Publication of the Academy of Finland 9/09.

The evaluation panels were provided also with other relevant material on request before the meetings in Helsinki.
1.6 Evaluation questions and material

The participating RCs answered the following evaluation questions which are presented according to the evaluation form. In addition, TUHAT RIS was used to provide the additional material as explained. For giving the feedback to the RCs, the panellists received the evaluation feedback form constructed in line with the evaluation questions:

1. Focus and quality of the RC’s research
   - Description of
     - the RC’s research focus.
     - the quality of the RC’s research (incl. key research questions and results)
     - the scientific significance of the RC’s research in the research field(s)
   - Identification of the ways to strengthen the focus and improve the quality of the RC’s research

The additional material: TUHAT compilation of the RC’s publications, analysis of the RC’s publications data (provided by University of Leiden and the Helsinki University Library)
A written feedback from the aspects of: scientific quality, scientific significance, societal impact, innovativeness
   - Strengths
   - Areas of development
   - Other remarks
   - Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

2. Practises and quality of doctoral training
   - Organising of the doctoral training in the RC. Description of the RC’s principles for:
     - recruitment and selection of doctoral candidates
     - supervision of doctoral candidates
     - collaboration with faculties, departments/institutes, and potential graduate schools/docoral programmes
     - good practises and quality assurance in doctoral training
   - Identification of the RC’s strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.

The additional material: TUHAT compilation of the RC’s other scientific activities/supervision of doctoral dissertations
A written feedback from the aspects of: processes and good practices related to leadership and management
   - Strengths
   - Areas of development
   - Other remarks
   - Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

3. The societal impact of research and doctoral training
   - Description on how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).
   - Identification of the ways to strengthen the societal impact of the RC’s research and doctoral training.

The additional material: TUHAT compilation of the RC’s other scientific activities.
A written feedback from the aspects of: societal impact, national and international collaboration, innovativeness
   - Strengths
   - Areas of development
   - Other remarks
   - Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)
4. International and national (incl. intersectoral) research collaboration and researcher mobility
   - Description of
     - the RC's research collaborations and joint doctoral training activities
     - how the RC has promoted researcher mobility
   - Identification of the RC's strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.

A written feedback from the aspects of: scientific quality, national and international collaboration
   - Strengths
   - Areas of development
   - Other remarks
   - Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

5. Operational conditions
   - Description of the operational conditions in the RC's research environment (e.g. research infrastructure, balance between research and teaching duties).
   - Identification of the RC's strengths and challenges related to operational conditions, and the actions planned for their development.

A written feedback from the aspects of: processes and good practices related to leadership and management
   - Strengths
   - Areas of development
   - Other remarks
   - Recommendations

6. Leadership and management in the researcher community
   - Description of
     - the execution and processes of leadership in the RC
     - how the management-related responsibilities and roles are distributed in the RC
     - how the leadership- and management-related processes support
       - high quality research
       - collaboration between principal investigators and other researchers in the RC
       - the RC's research focus
       - strengthening of the RC's know-how
   - Identification of the RC's strengths and challenges related to leadership and management, and the actions planned for developing the processes

7. External competitive funding of the RC
   - The RCs were asked to provide information of such external competitive funding, where:
     - the funding decisions have been made during 1.1.2005-31.12.2010, and
     - the administrator of the funding is/has been the University of Helsinki
   - On the e-form the RCs were asked to provide:
     1) The relevant funding source(s) from a given list (Academy of Finland/Research Council, TEKES/The Finnish Funding Agency for Technology and Innovation, EU, ERC, foundations, other national funding organisations, other international funding organisations), and
     2) The total sum of funding which the organisation in question had decided to allocate to the RCs members during 1.1.2005–31.12.2010.

Competitive funding reported in the text is also to be considered when evaluating this point.

A written feedback from the aspects of: scientific quality, scientific significance, societal impact, innovativeness, future significance
   - Strengths
   - Areas of development
   - Other remarks
   - Recommendations

8. The RC's strategic action plan for 2011–2013
   - RC's description of their future perspectives in relation to research and doctoral training.

A written feedback from the aspects of: scientific quality, scientific significance, societal impact, processes and good practices related to leadership and management, national and international collaboration, innovativeness, future significance
   - Strengths
   - Areas of development
9. Evaluation of the category of the RC in the context of entity of the evaluation material (1-8)

The RC's fitness to the chosen participation category
A written feedback evaluating the RC's fitness to the chosen participation category

- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

10. Short description of how the RC members contributed the compilation of the stage 2 material
Comments on the compilation of evaluation material

11. How the UH's focus areas are presented in the RC's research?
Comments if applicable

12. RC-specific main recommendations based on the previous questions 1-11

13. RC-specific conclusions

1.7 Evaluation criteria

The panellists were expected to give evaluative and analytical feedback to each evaluation question according to their aspects in order to describe and justify the quality of the submitted material. In addition, the evaluation feedback was asked to be pointed out the level of the performance according to the following classifications:

- outstanding (5)
- excellent (4)
- very good (3)
- good (2)
- sufficient (1)

Evaluation according to the criteria was to be made with thorough consideration of the entire evaluation material of the RC in question. Finally, in questions 1-4 and 9, the panellists were expected to classify their written feedback into one of the provided levels (the levels included respective descriptions, ‘criteria’). Some panels used decimals in marks. The descriptive level was interpreted according to the integers and not rounding up the decimals by the editors.

Description of criteria levels

Question 1 – FOCUS AND QUALITY OF THE RC’S RESEARCH

Classification: Criteria (level of procedures and results)

Outstanding quality of procedures and results (5)

Outstandingly strong research, also from international perspective. Attracts great international interest with a wide impact, including publications in leading journals and/or monographs published by leading international publishing houses. The research has world leading qualities. The research focus, key research questions scientific significance, societal impact and innovativeness are of outstanding quality.

In cases where the research is of a national character and, in the judgement of the evaluators, should remain so, the concepts of “international attention” or “international impact” etc. in the grading criteria above may be replaced by “international comparability”.

Other remarks
Recommendations
Operations and procedures are of outstanding quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are in alignment with the documentation. The ambition to develop the community together is of outstanding quality.

**Excellent quality of procedures and results (4)**

Research of excellent quality. Typically published with great impact, also internationally. Without doubt, the research has a leading position in its field in Finland.

Operations and procedures are of excellent quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of excellent quality.

**Very good quality of procedures and results (3)**

The research is of such very good quality that it attracts wide national and international attention.

Operations and procedures are of very good quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of very good quality.

**Good quality of procedures and results (2)**

Good research attracting mainly national attention but possessing international potential, extraordinarily high relevance may motivate good research.

Operations and procedures are of good quality, shared occasionally in the community. The improvement of research and other efforts are occasionally documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of good quality.

**Sufficient quality of procedures and results (1)**

In some cases the research is insufficient and reports do not gain wide circulation or do not have national or international attention. Research activities should be revised.

Operations and procedures are of sufficient quality, shared occasionally in the community. The improvement of research and other efforts are occasionally documented and operations and practices are to some extent in alignment with the documentation. The ambition to develop the community together is of sufficient quality.

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**Question 2 – DOCTORAL TRAINING**

**Question 3 – SOCIETAL IMPACT**

**Question 4 – COLLABORATION**

**Classification: Criteria (level of procedures and results)**

**Outstanding quality of procedures and results (5)**

Procedures are of outstanding quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are in alignment with the documentation. The ambition to develop the community together is of outstanding quality. The procedures and results are regularly evaluated and the feedback has an effect on the planning.

**Excellent quality of procedures and results (4)**

Procedures are of excellent quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of excellent quality. The procedures and outcomes are evaluated and the feedback has an effect on the planning.

**Very good quality of procedures and results (3)**

Procedures are of very good quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and
management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of very good quality.

**Good quality of procedures and results (2)**

Procedures are of good quality, shared occasionally in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of good quality.

**Sufficient quality of procedures and results (1)**

Procedures are of sufficient quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are occasionally documented and operations and practices are to some extent in alignment with the documentation. The ambition to develop the community together is of sufficient quality.

**Question 9 – CATEGORY**

Participation category – fitness for the category chosen

The choice and justification for the chosen category below should be reflected in the RC’s responses to the evaluation questions 1–8.

1. *The research of the participating community represents the international cutting edge in its field.*
2. *The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.*
3. *The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation. The research is of high quality and has great significance and impact in its field. However, the generally used research evaluation methods do not necessarily shed sufficient light on the merits of the research.*
4. *The research of the participating community represents an innovative opening.* A new opening can be an innovative combination of research fields, or it can be proven to have a special social, national or international demand or other significance. Even if the researcher community in its present composition has yet to obtain proof of international success, its members can produce convincing evidence of the high level of their previous research.
5. *The research of the participating community has a highly significant societal impact.* The participating researcher community is able to justify the high social significance of its research. The research may relate to national legislation, media visibility or participation in social debate, or other activities promoting social development and human welfare. In addition to having societal impact, the research must be of a high standard.

**An example of outstanding fitness for category choice (5)**

The RC’s representation and argumentation for the chosen category were convincing. The RC recognized its real capacity and apparent outcomes in a wider context to the research communities. The specific character of the RC was well-recognized and well stated in the responses. The RC fitted optimally for the category.

- Outstanding (5)
- Excellent (4)
- Very good (3)
- Good (2)
- Sufficient (1)

The above-mentioned definition of outstanding was only an example in order to assist the panellists in the positioning of the classification. There was no exact definition for the category fitness.

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5 The panels discussed the category fitness and made the final conclusions of the interpretation of it.
1.8 Timetable of the evaluation

The main timetable of the evaluation:

1. Registration November 2010
3. External peer review May–September 2011
4. Published reports March–April 2012
   - University level public report
   - RC specific reports

The entire evaluation was implemented during the university’s strategy period 2010–2012. The preliminary results were available for the planning of the following strategy period in late autumn 2011. The evaluation reports will be published in March/April 2012. More detailed time schedule is published in the University report.

1.9 Evaluation feedback – consensus of the entire panel

The panellists evaluated all the RC-specific material before the meetings in Helsinki and mailed the draft reports to the evaluation office. The latest interim versions were on-line available to all the panellists on the Wiki-sites. In September 2011, in Helsinki the panels discussed the material, revised the first draft reports and decided the final numeric evaluation. After the meetings in Helsinki, the panels continued working and finalised the reports before the end of November 2011. The final RC-specific reports are the consensus of the entire panel.

The evaluation reports were written by the panels independently. During the editing process, the evaluation office requested some clarifications from the panels when necessary. The tone and style in the reports were not harmonized in the editing process. All the reports follow the original texts written by the panels as far as it was possible.

The original evaluation material of the RCs, provided for the panellists is attached at the end of the report. It is essential to notice that the exported lists of publications and other scientific activities depend how the data was stored in the TUHAT-RIS by the RCs.
2 Evaluation feedback

2.1 Focus and quality of the RC’s research

- **Description of**
  - the RC’s research focus
  - the quality of the RC’s research (incl. key research questions and results)
  - the scientific significance of the RC’s research in the research field(s)
- **Identification of the ways to strengthen the focus and improve the quality of the RC’s research**

**ASPECTS:** Scientific quality, scientific significance, societal impact, innovativeness

The research of TSEM is focused on statistical theory of econometrics and time series analysis. Many research problems investigated are not only relevant but belong to central areas of time series econometrics, such as the analysis of nonstationary economic time series. More recently, the analysis of noncausal models has received attention, and a host of new results have been obtained. Applications are concentrated on macroeconomic issues and modeling and forecasting volatility. The latter is an important area in finance because volatility is a measure of risk, and investors usually abhor uncertainty. One of the strengths of the group is the concentration of the research efforts on a rather narrow area, which has led to research output of top quality.

The societal impact of the theoretical results is indirect: the results are available to researchers using applied economics or finance research.

It should be mentioned that a senior member of TSEM, Professor Pentti Saikkonen, has been recently ranked No. 6 in the world in the area of theoretical econometrics. The ranking is based on the volume (standardized page count) of publications in top econometric journals 1989-2005. Mostly due to Prof Saikkonen, University of Helsinki has rank 65. See Baltagi, B.H. (2007). Worldwide econometrics rankings 1989-2005. Econometric Theory 23, 952-1012.

The best recommendation that can be given is to keep up the good work and maintain the high quality of the output.

**Numeric evaluation:** 5 (Outstanding)

2.2 Practises and quality of doctoral training

- **Organising of the doctoral training in the RC. Description of the RC’s principles for:**
  - recruitment and selection of doctoral candidates
  - supervision of doctoral candidates
  - collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes
  - good practises and quality assurance in doctoral training
  - assuring of good career perspectives for the doctoral candidates/fresh doctorates
- **Identification of the RC’s strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.**
- **Additional material:** TUHAT compilation of the RC’s other scientific activities/supervision of doctoral dissertations

**ASPECTS:** Processes and good practices related to leadership and management

TSEM is relatively small and therefore recruits its graduate students by individual selection. However, due to the strong reputation of the leading researchers, Professors Saikkonen and Lanne, an open recruitment process might produce very good candidates. However, due to the small size of the group (few
supervisors) one has to be rather risk averse, and for this reason individual selection can be viewed as a satisfactory method of recruitment.

Supervision is well organized. Every doctoral student has two personal supervisors.

Given more funding and researchers with supervisory capacity, it would be possible to arrange open competitions to attract international doctoral students. Without extra resources this does not seem fully realistic.

**Numeric evaluation: 4 (Excellent)**

### 2.3 The societal impact of research and doctoral training

- **Description on how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).**
- **Identification of the ways to strengthen the societal impact of the RC’s research and doctoral training.**
- **Additional material: TUHAT compilation of the RC’s other scientific activities.**

**ASPECTS:** Societal impact, national and international collaboration, innovativeness

TSEM contributes to the society by training well qualified PhDs for the economic research institutes, central banks and financial institutions. Due to the reputation of the TSEM members, they are also sought after as lecturers and speakers at various meetings and workshops of practitioners. The RC also publishes a timely macroeconomic indicator that is available to the general public. Close contacts of members of TSEM with Bank of Finland and Statistics Finland are worth a separate mention.

On a more indirect level, econometric techniques developed by the RC members are incorporated into software packages.

Further opportunities could be found in the financial sector of the economy in particular. Exploiting them can be recommended in cases where it generates extra funds for TSEM.

**Numeric evaluation: 3 (Very good)**

### 2.4 International and national (incl. intersectoral) research collaboration and researcher mobility

- **Description of**
  - the RC’s research collaborations and joint doctoral training activities
  - how the RC has promoted researcher mobility
- **Identification of the RC’s strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.**

**ASPECTS:** Scientific quality, national and international collaboration

Since time series econometrics is an international research area where the relevant research questions do not recognize country borders, it is natural to have international co-operation. The leading members of the RC, Professors Saikkonen and Lanne, have both spent extended periods of time at the European University Institute, Florence, and collaborated with researchers there. Due to their connections with colleagues around the world, TSEM has also managed to organize its younger researchers opportunities to visit renowned economics departments at universities such as University of California, San Diego (the Economics Department of UCSD has housed two winners of the Nobel Memorial Prize in Economic Sciences), Princeton and Stanford.

Joint graduate training programme activity is in a standstill since Stockholm School of Economics dismantled their graduate programme in econometrics. Plans exist to revive this type of co-operation with another Scandinavian University. This can be strongly recommended.

It may be noted that members of TSEM are active in presenting their work in international conferences, including conferences and workshops arranged by invitation. This is important, in particular for the junior
but also for more senior members of the RC. For the latter, a part of the importance lies in informal contacts formed during such events.

**Numeric evaluation: 5 (Outstanding)**

### 2.5 Operational conditions

- **Description of the operational conditions in the RC’s research environment (e.g. research infrastructure, balance between research and teaching duties).**
- **Identification of the RC’s strengths and challenges related to operational conditions, and the actions planned for their development.**

**ASPECTS: Processes and good practices related to leadership and management**

Physical conditions of TSEM (availability of space, computing facilities) are satisfactory, although the physical distance to the Department of Mathematics and Statistics is seen as a minor problem. Access to macroeconomic and financial data needed in applications is not satisfactory. This problem can be solved by increased funding.

TSEM is rather small, and increasing its size is desirable. Two senior members, albeit with excellent international reputation, is too little. Recruiting at least one more senior researcher would be a first step in the right direction. Possibilities for finding funds for that should be investigated. Teaching and administrative loads of the RC members, at least on a more senior level, are rather high and restrict the research activities of TSEM. For example, long research visits abroad are difficult to arrange because of this.

Lack of resources also makes it difficult to increase the number of doctoral students. Moving Professor Saikkonen from the mathematics department to economics should be considered.

### 2.6 Leadership and management in the researcher community

- **Description of**
  - the execution and processes of leadership in the RC
  - how the management-related responsibilities and roles are distributed in the RC
  - how the leadership- and management-related processes support
    - high quality research
    - collaboration between principal investigators and other researchers in the RC
    - the RC’s research focus
    - strengthening of the RC’s know-how
- **Identification of the RC’s strengths and challenges related to leadership and management, and the actions planned for developing the processes**

**ASPECTS: Processes and good practices related to leadership and management**

Since TSEM is small, the administrative structure is informal. There is thus not much to say about the distribution of responsibilities.

Managing TSEM works well, and there is no need for extra recommendations.

### 2.7 External competitive funding of the RC

- **The RCs were asked to provide information of such external competitive funding, where:**
  - the funding decisions have been made during 1.1.2005–31.12.2010, and
  - the administrator of the funding is/has been the University of Helsinki
- **On the e-form the RCs were asked to provide:**
1) The relevant funding source(s) from a given list (Academy of Finland/Research Council, TEKES/The Finnish Funding Agency for Technology and Innovation, EU, ERC, foundations, other national funding organisations, other international funding organizations), and
2) The total sum of funding which the organisation in question had decided to allocate to the RCs members during 1.1.2005–31.12.2010.

Competitive funding reported in the text is also to be considered when evaluating this point.

ASPECTS: Scientific quality, scientific significance, societal impact, innovativeness and future significance

The RC has a strong research profile and international connections, so should be in a good position to obtain external funding.

Unfortunately, econometrics has not been an area of high priority in Finland, which makes it more difficult to obtain funds for the RC. Collaboration with economists may be considered. The university should recognize a top research unit when it sees one.

The recommendation is to continue efforts to obtain funds. The possibility of consultation activities has already been mentioned. Applications for postdoc positions should be encouraged and help given in drafting them.

2.8 The RC’s strategic action plan for 2011–2013

- RC’s description of their future perspectives in relation to research and doctoral training.

ASPECTS: Scientific quality, scientific significance, societal impact, processes and good practices related to leadership and management, national and international collaboration, innovativeness, future significance

TSEM is, albeit its size, already one of the leading centres in time series econometrics in Europe. Its decision to keep the focus on theoretical research as a generator of useful application is laudable. Publishing in high-quality journals and attending international conferences are obvious goals even in the future. Achieving them should not be difficult, given the strong track record of the centre in these activities.

New developments such as broadening the focus of research cannot be recommended without extra human resources. Enlarging the size of the RC is, however, strongly dependent on additional funds. According to the action plan, efforts to obtain extra funding will continue, which is a correct decision.

Since the centre is small, increased collaboration in developing a PhD programme in time series econometrics is practically a necessity. Strengthening the role of econometrics within HECER and obtaining good graduate students that way is a good idea. Co-operation with Bank of Finland and Statistics Finland is important for the RC, and efforts should be made to ensure its continuation.

Since R (a free programming language) is gaining more and more ground among time series econometricians, writing code and producing software in that language should be encouraged.

2.9 Evaluation of the category of the RC in the context of entity of the evaluation material (1-8)

The RC’s fitness to the chosen participation category.

Category 2. The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.

TSEM may fit well in the chosen category, if it is thought of as a lower bound. In fact, the assessment is too modest. The RC, with its strong focus on time series econometrics and emphasis on theoretical research combined with an excellent publication record merits an upgrade to Category 1. The group has definitely made the breakthrough referred to in the category definitions (see that of Category 2).
As has been repeated a few times, TSEM is small, and the main restriction on its size is funding. If UH wants to support truly excellent research conducted on a high international level, this RC is an obvious candidate.

A given area of development is the (so far non-existing) PhD programme, but as has become clear, developing one requires two things: co-operation with other universities with strong traditions in the area, and extra funding.

**Numeric evaluation: 5 (Outstanding)**

2.10 **Short description of how the RC members contributed the compilation of the stage 2 material**

2.11 **How the UH’s focus areas are presented in the RC’s research**

*Focus area 7: Precise reasoning*

2.12 **RC-specific main recommendations**

The achievements of TSEM should be acknowledged, and the unit should definitely be rewarded for the top level research it is producing.

2.13 **RC-specific conclusions**

Research of this RC is absolute top quality. The university should recognize this when it comes to funding.
3 Appendices

A. Original evaluation material
   a. Registration material – Stage 1
   b. Answers to evaluation questions – Stage 2
   c. List of publications
   d. List of other scientific activities

B. Bibliometric analyses
   a. Analysis provided by CWTS/University of Leiden
   b. Analysis provided by Helsinki University Library (66 RCs)
NAME OF THE RESEARCHER COMMUNITY:
Time Series Econometrics (TSEM)

LEADER OF THE RESEARCHER COMMUNITY:
Professor Markku Lanne, Faculty of Social Sciences, Department of Political and Economic Studies

RC-SPECIFIC MATERIAL FOR THE PEER REVIEW:
- Material submitted by the RC at stages 1 and 2 of the evaluation
  - STAGE 1 material: RC’s registration form (incl. list of RC participants in an excel table)
  - STAGE 2 material: RC’s answers to evaluation questions
- TUHAT compilations of the RC members’ other scientific activities 1.1.2005-31.12.2010

NB! Since Web of Science (WoS)-based bibliometrics does not provide representative results for most RCs representing humanities, social sciences and computer sciences, the publications of these RCs will be analyzed by the UH Library (results available by the end of June, 2011)
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 1 MATERIAL (registration form)

1 RESPONSIBLE PERSON

Name: Lanne, Markku
E-mail: markku.lanne@helsinki.fi
Phone: 19128731
Affiliation: Faculty of Social Sciences, Department of Political and Economic Studies
Street address: Arkadiankatu 7

2 DESCRIPTION OF THE PARTICIPATING RESEARCHER COMMUNITY (RC)

Name of the participating RC (max. 30 characters): Time Series Econometrics
Acronym for the participating RC (max. 10 characters): TSEM
Description of the operational basis in 2005-2010 (eg. research collaboration, joint doctoral training activities) on which the RC was formed (MAX. 2200 characters with spaces):
The RC comprises researchers of time series econometrics whose background is in economics or statistics. As econometrics is a naturally multidisciplinary area involving both economics and statistics, research calls for collaboration of researchers from both disciplines. In addition, because econometrics is not taught as a separate discipline at Finnish universities, doctoral training of PhD students of economics and statistics specializing in econometrics greatly benefits from the existence of the RC. The core members of the RC formed the time series econometrics research team of a centre of excellence nominated by the Academy of Finland in 2002 - 2007 (Research Unit on Economic Structures and Growth), and thereafter the RC has gathered external funding from other sources. The fact that there were a number of promising graduate students interested in time series econometrics at the time when the centre of excellence was closed down, in part motivated continuing the operation of the RC in 2007. In the evaluation period, a large number of research publications have been co-authored by the members of the RC, several jointly supervised doctoral dissertations have been published, and given its size and short history, the RC has received considerable amount of external research funding for joint research programmes. The RC also organizes a regular research seminar series in time series econometrics.

3 SCIENTIFIC FIELDS OF THE RC

Main scientific field of the RC’s research: social sciences
RC’s scientific subfield 1: Economics
RC’s scientific subfield 2: Statistics and Probability
RC’s scientific subfield 3: --Select--
RC’s scientific subfield 4: --Select--
Other, if not in the list:
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 1 MATERIAL (registration form)

4 RC’S PARTICIPATION CATEGORY

Participation category: 2. Research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through

Justification for the selected participation category (MAX. 2200 characters with spaces): The members of the RC regularly publish in high-quality journals in econometrics, economics and statistics. The research covers several topics in time series econometrics and involves both theoretical and applied research as well as empirical work employing econometric methods. The publications of the members of the RC include oft-cited articles dating back to the 1980s, and publishing has continued quite steadily up to these days. The collaboration of the senior members dates back to the late 1990s. Some members of the RC also belonged to a centre of excellence nominated by the Academy of Finland in 2002 – 2007. Although the publication record is impressive, and the members of the group actively engage in academic activities such as conferences and editorial work, including peer review, there is so far no single clear break-through. In part, this may result from the fact that the RC is small, there are quite a few doctoral students requiring supervision, and also otherwise the time that can be devoted to research is quite limited. Nevertheless, in the evaluation period the RC has managed to raise a considerable amount of external funding and the number of graduated PhDs supervised by members of the RC is relatively large.

5 DESCRIPTION OF THE RC’S RESEARCH AND DOCTORAL TRAINING

Public description of the RC’s research and doctoral training (MAX. 2200 characters with spaces): The research of the RC focuses on theoretical and applied research in time series econometrics. Theoretical work involves the development of new methods applicable in empirical work involving time series data, while in applied research these methods are employed in studying specific economic phenomena. Main fields of application include macroeconomics and financial economics. Doctoral training involves both coursework and supervised research. Economics majors follow the curriculum of the Finnish Doctoral Programme in Economics (FDPE), while the statistics majors have their own course programme. Both typically have substantial studies in the other discipline. In addition, courses of the Finnish Graduate School of Finance as well as courses in mathematics are often included in the studies. Supervision of doctoral dissertations is mostly conducted in cooperation among the senior researchers of the RC. Doctoral students in both economics and statistics regularly present their work at the biannual Workshop in Econometrics and Computational Economics coordinated by members of the RC on behalf of the FDPE. The Time Series Econometrics Seminar series organized by the RC on behalf of Helsinki Centre of Economic Research (HECER) offers another forum for presenting the research in time series econometrics; in addition to presentations by the members of the RC, national and international visitors are regularly invited. The members publish their research in high-quality international peer-reviewed journals, give talks at international conferences and participate in editorial work, including peer review. There has also been fair amount of international research collaboration over the years.

Significance of the RC’s research and doctoral training for the University of Helsinki (MAX. 2200 characters with spaces): The RC has managed to produce a relatively large number of high-quality publications in international peer-reviewed journals. Members of the RC have also regularly made public appearances and acted as experts outside academia, contributing to the societal impact of the university. In
the evaluation period, five graduate students of the University of Helsinki belonging to the RC have obtained the PhD degree, and more are underway. Four of these graduates have subsequently been employed by the University as post doctoral researchers or university lecturers. The RC has also managed to attract foreign visitors and graduate students, some of whom we have been able to accept. All members, including those employed by means of external funding, participate in teaching at the University. In relation to its size and short history, the RC has been able to raise considerable amount of external funds in the evaluation period. The availability of researchers with expert knowledge on econometrics at the University also benefits other faculty and graduate students doing empirical work in economics. Since the establishment of the RC, more courses in econometrics have been offered and interest in time series methods among MSc students in economics has markedly increased. This is partly due to the relatively extensive course programme in statistics which also includes several regularly lectured courses in time series analysis. As a consequence, more and more master’s theses in this area are being produced. Because there is constant demand for economists with econometric skills, these graduates have easily found employment.

**Keywords:** Time series econometrics, macroeconometrics, financial econometrics, econometric theory, empirical economics

### 6 Quality of the RC’s Research and Doctoral Training

**Justified estimate of the quality of the RC’s research and doctoral training at national and international level during 2005-2010 (MAX. 2200 characters with spaces):** In Finland, the RC is probably the only one focusing on both serious theoretical and applied research in time series econometrics, so comparisons at the national level are not straightforward. The RCs at other universities that come closest, tend to concentrate heavily on empirical work, and therefore, their publication profiles are quite different. Compared to them, we, in general, publish in journals ranked higher and our research receives more citations. Moreover, the other RCs mostly concentrate on empirical applications to finance, while our focus is wider covering also a number of other areas of economics. Corresponding international RCs tend be considerably larger and typically consist of only researchers with a background in economics. Compared to most international RCs that we know of, our research seems more versatile in that it covers deep theoretical research in econometrics in addition to empirical research and the accompanying development of methods. The engagement in both of these activities supporting each other seems to facilitate making faster progress and to lead to higher quality. Given the small size and short history of our RC, the publication record seems quite comparable to some of the best international RCs. Members of our RC are also frequently accepted to present their research in international high-quality conferences. These issues are manifested in the RC’s ability to raise a considerable amount of external funding over the evaluation period and in the fact that some members have received prestigious honours and prizes for their research. The graduated PhDs supervised by senior members of the RC have been employed by institutions such as the University of Helsinki, Aalto University and Bank of Finland.

**Comments on how the RC’s scientific productivity and doctoral training should be evaluated (MAX. 2200 characters with spaces):** The key evaluation criterion should be the number and quality of research publications. Other relevant criteria include conference and editorial activities, including peer review. Also honours and prizes as well as the amount of external funding raised should be taken into account. Finally,
the number and quality of PhD degrees and doctoral dissertations as well as the employment record of the graduates are additional indicators of the success of the RC.

As is typical in econometrics (and in economics and statistics in general), research results of our RC are communicated through journal articles, and our goal is to publish frequently in international high-quality peer-reviewed journals. Initially all results are presented in scientific conferences and published as working papers in national and international series widely available on the internet. Wide circulation of the results and making them available on the internet at an early stage benefit further publication and facilitate receiving feedback at an early stage. Also doctoral students are encouraged to publish their work and give talks at conferences already before graduation. When feasible, we also strive to make the results available to the general public, especially to experts in the financial industry and the public sector to whom the empirical results and methods developed might be of practical value.
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INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE
UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

<table>
<thead>
<tr>
<th>BACKGROUND INFORMATION</th>
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<tbody>
<tr>
<td>Name of the RC’s responsible person: Lanne, Markku</td>
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<tr>
<td>E-mail of the RC’s responsible person: <a href="mailto:markku.lanne@helsinki.fi">markku.lanne@helsinki.fi</a></td>
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<tr>
<td>Name and acronym of the participating RC: Time Series Econometrics, TSEM</td>
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<tr>
<td>The RC’s research represents the following key focus area of UH: 7. Eksakti ajattelu – Exact thinking</td>
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<tr>
<td>Comments for selecting/not selecting the key focus area: The RC’s research concentrates on developing econometric methods and their application in empirical economic and financial research. The basis of these methods is in statistics, and mathematics is employed in deriving the results. The ultimate goal in applying the methods is the quantification of economic theories whose development also relies on mathematical thinking.</td>
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<th>1 FOCUS AND QUALITY OF RC’S RESEARCH (MAX. 8800 CHARACTERS WITH SPACES)</th>
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<tr>
<td>• Description of the RC’s research focus, the quality of the RC’s research (incl. key research questions and results) and the scientific significance of the RC’s research for the research field(s).</td>
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<td>The RC’s research has covered various aspects of time series econometrics. Before 2005, research on nonstationary trending economic time series was the main topic of the senior members but recently its role has been somewhat declining. The quality of the RC’s research has been generally high. Most of the papers have been published in first-rate or even top journals of the field such as Journal of Econometrics, Journal of Business and Economic Statistics, Review of Economics and Statistics, and Econometric Theory. Below, the discussion of the RC’s research is divided according to the main topics but there is some natural overlap between the topics.</td>
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<td>1. Financial econometrics. The RC’s research includes developing new models for the analysis of both univariate and multivariate financial data. In the univariate case, Lanne and Saikkonen developed a generalized autoregressive conditional heteroskedasticity (GARCH) model which appears to be the first one to involve nonlinearity in the lagged conditional variance term. This model has several useful properties which offer new ways to allow for features observed in financial time series. Later on, they introduced a new GARCH-in-mean model with conditional skewness. In the multivariate case, Lanne and Saikkonen developed a factor GARCH model with two practically useful properties. First, testing for the number of employed factors can be carried out in a simple way and, second, the general version of the model based on a mixture of Gaussian likelihoods makes possible to identify some parameters which are not identifiable under the conventionally used Gaussian likelihood. The latter finding was new and subsequently made use of by Lanne in the context of vector autoregressions. Lanne also considered multiplicative error models, subsequently extended by Lanne and Katja Ahoniemi, for forecasting financial volatility. Laakkonen used high-frequency financial data to analyse the effects of macroeconomic news announcements on financial volatility.</td>
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| 2. Vector autoregressions and error correction models. Part of the RC’s research on nonstationary economic time series builds upon the work Saikkonen started in the early nineties with Helmut Lütkepoh and his associates on vector autoregressive (VAR) error correction models. A long term project on allowing level shifts in these models was completed and diagnostic test procedures for checking for serial correlation in the residuals of VAR error correction models was developed. The latter work became useful for applied people partly, though not solely, because it provided a correct result for one of such tests implemented in one of the leading software packages. In a work related to VAR error
correction models Saikkonen completed a project with In Choi on nonlinear cointegrating regression. The third paper of this project developed a test procedure for testing for nonlinear cointegration. It appears to be the first paper were this problem has seriously been studied. The two other papers of the project, dealing with parameter estimation and linearity testing in nonlinear cointegrating regressions, have attracted considerable interest since their publication in 2004, presumably because the corresponding alternative methods have been more complex and less general in terms of assumptions. With Lütkepohl, Lanne studied ways of statistically identifying structural VAR models by exploiting deviations from normality of the error term. They showed that when the error distribution of a VAR model is not Gaussian or has nonconstant unconditional covariance matrix, identification is achieved even without structural restrictions that in this case become overidentifying. The latter feature is useful as it allows for testing restrictions that typically are exactly identifying and, thus, not testable. Juselius examined testing the cointegration rank and rational expectations in a cointegrated VAR model with applications to the New Keynesian macroeconomic model.

3. Stability of nonlinear time series models. A central topic in the theory of nonlinear time series models is the stability of the model which Saikkonen has studied in several papers some of which written jointly with Mika Meitz. The importance of this issue stems from the fact that stability results provide a fundamental first step for the development of statistical estimation and testing theory for time series models. For nonlinear time series models stability results are much more difficult to obtain than for conventional linear models. The results obtained by Saikkonen make use of the stability theory developed for Markov chains which rather few people working on time series econometrics master. The results widened the available results in the area and can broadly speaking be divided into two groups. One group contains results for models used in financial time series and the other one for nonlinear vector error correction models. Presumably the most important result obtained in the first group provides the first practically useful conditions for the stability of nonlinear autoregressive models with errors following a first order nonlinear GARCH process. This work opened up the way for the development of estimation and testing theory for these models. Such an estimation theory was developed by Saikkonen and Meitz in subsequent work. The stability results Saikkonen obtained for nonlinear vector error correction models were among the first ones in the area. They have already been made use of by other people developing estimation theory for these models.

4. Binary time series models. A rather special topic on nonlinear time series analysis studied by Saikkonen with Kauppi deals with binary time series models. Despite its special nature this topic has attracted considerable interest in economic applications because binary time series models have been used to forecast recession indicators, especially the well-known NBER business cycle indicator. Kauppi and Saikkonen formulated new versions of the previously used simple dynamic probit model and showed how to estimate the parameters of the model by the method of maximum likelihood. They also derived closed form formulas for computing (multiperiod) forecasts. Both parameter estimation and forecasting are considerably simpler than with similar Bayesian techniques. This topic was further studied by Nyberg in a series of papers based on his PhD thesis. In addition to gathering experience of the usefulness of the model of Kauppi and Saikkonen, Nyberg has also developed new models. One example is a bivariate probit model and another one a new regime switching GARCH-in-mean model in which the regime is defined by the value of the business cycle indicator.

5. Noncausal autoregressions. A couple of years ago Lanne and Saikkonen started to work on noncausal autoregressive models which is a rather unexplored area in time series econometrics, although it has been studied in statistics since the early nineties. The literature is not voluminous, though, and applications have mostly been confined to engineering and natural sciences. On this topic the RC has produced three papers accepted for publication and three working papers that are under editorial review. Two main findings emerge from this research. First, noncausal autoregressive models provide a powerful tool for checking the validity of conventional econometric methods especially in models.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

involving expectations. Second, considerable gains in forecasting accuracy can be achieved by using a noncausal autoregressive model instead of its conventional causal counterpart. These findings are encouraging from the viewpoint of future work on this topic.

- Ways to strengthen the focus and improve the quality of the RC’s research.

The balanced composition of personnel is of utmost importance in an interdisciplinary research area such as time series econometrics. In particular, both statisticians and economists are required for research whose aim is to combine novel econometric methods with interesting empirical applications deeply rooted in economic theory. The development of new modern econometric methods calls for advanced knowledge of the underlying theoretical statistics and mathematics, and assuring sufficient representation of such knowledge in the RC is necessary for producing top-quality research in this field. As computational methods are becoming increasingly important, it is necessary to make sure that people with computational skills are also recruited. To meet these requirements wider use of international recruitment might be useful. Easy availability of high-quality time series data would be one way to improve the quality of empirical research.

2 PRACTISES AND QUALITY OF DOCTORAL TRAINING (MAX. 8800 CHARACTERS WITH SPACES)

- How is doctoral training organised in the RC? Description of the RC’s principles for recruitment and selection of doctoral candidates, supervision of doctoral candidates, collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes, good practises and quality assurance in doctoral training, and assuring good career perspectives for the doctoral candidates/fresh doctorates.

Doctoral candidates have typically been selected from among the recent graduates of the MSc programmes in economics and statistics at the University of Helsinki. Most often prospective doctoral candidates have expressed their interest in pursuing graduate studies, and they have subsequently been recruited to starting, externally financed research projects. In some cases, the activities of the RC, such as the regular seminar series, have attracted interest among the first-year graduate students in economics, who have already completed most of their coursework and are looking for a field of specialisation. Most of these candidates receive financing from the graduate school or the university. Finally, in one case, a foreign doctoral candidate was hired through open recruitment. To help future recruitment, summer internships have annually been offered to promising undergraduate students in the last few years.

Because of the multidisciplinary nature of econometrics, for each doctoral candidate two supervisors have typically been appointed (one economist and one statistician), who contribute to the supervision in varying proportions, depending on the candidate’s research topic. This arrangement has been found to serve well the goal of the RC to combine serious theoretical econometric research with relevant empirical work in economics. Quite recently, the newly appointed post doctoral researchers have also participated in supervising the doctoral candidates in their respective fields of specialisation. In addition to regular meetings with the supervisors and doctoral candidates, two regular seminar series (the monthly Time Series Econometrics Seminar of the HECER and the biannual FDPE Workshop in Econometrics and Computational Economics) are an important part of supervision. In these seminars, the doctoral candidates have an opportunity to present their research, to receive comments from their peers as well as outside experts in addition to the actual supervisors. The senior members of the RC play a central role in the organisation of these seminars, where also visitors, including graduate students and senior faculty, from other Finnish and foreign universities participate. The FDPE workshop typically has a foreign visitor who comments on all the student presentations and, in addition, may have longer discussions with the students working in his or her special field. A few years ago, we collaborated with
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

the Department of Economic Statistics of Stockholm School of Economics, whose graduate students attended the FDPE econometrics workshop regularly.

Doctoral candidates in economics do most of their coursework within the Finnish Graduate Programme in Economics (FDPE), and they also have the option to take courses offered by the Graduate School of Finance (GSF). Graduate students of economics typically also include advanced MSc level courses arranged by the Department of Mathematics and Statistics in their studies. In addition to courses in statistics, graduate students of statistics also take courses in mathematics and, in some cases, in economics. They also have courses arranged by The Finnish Doctoral Programme in Stochastics and Statistics available. Almost all doctoral candidates of the RC have their offices at the Economim building of the University of Helsinki that also houses the FDPE, HECER, the discipline of Economics, and the Departments of Economics of Aalto University and Hanken School of Business. This arrangement encourages informal exchange of ideas across the different departments and facilitates participation in the activities in the building. In particular, doctoral candidates concentrating on empirical research in economics benefit from the many specialised seminars arranged regularly. In addition to the FDPE and HECER seminars, graduate students specialising in financial econometrics regularly present their work at the biannual research workshop of the GSF.

The doctoral candidates are strongly encouraged to submit their research to national and international conferences, and they have been quite successful in getting their papers accepted. The doctoral candidates are also encouraged to spend at least a semester during their graduate studies at a high-quality foreign university that is strong in their field of specialisation. Participation in international conferences and visits abroad not only facilitate receiving wider feedback but also help build connections and networks that may be useful in their future career and offer opportunities for collaboration in research. Furthermore, the doctoral candidates are encouraged to submit their work to international peer-reviewed journals at an early stage of their studies, and in several cases, some of the papers included in the dissertation have already been accepted for publication at the time of the defence.

Because there is a constant demand for economists and statisticians with econometric skills in universities as well as places like research institutes, banks, and central banks, graduating doctoral candidates have found employment without great difficulty. Some have been employed outside academia, but most work as professors, lecturers or post doctoral researchers at universities. All graduate students employed by the university are required to participate in teaching to gain experience for their potential academic career. Moreover, they are encouraged to participate in university pedagogical training already during their graduate studies, which a large part of them have indeed taken up. We also attempt to offer opportunities to teach to doctoral candidates financed by a scholarship.

- RC’s strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.

Time series econometrics is a small field in which doctoral training at the University of Helsinki relies on the collaboration of a small number of faculty members. Despite this, the results of doctoral training are quite good in that a relatively large number of doctoral candidates within the RC have graduated with very good grades during the evaluation period, and two of the doctoral theses have even been awarded the OP-Pohjola Group annual prize for the best doctoral thesis in finance. However, to guarantee continuity in doctoral training, more staff is needed as the volume cannot much increase without additional supervisors. There have been plans to make time series econometrics one of the special fields of the FDPE such that graduate courses would be offered regularly. This would help establish the field among new doctoral candidates and might also attract more students of statistics to specialise in econometrics. Although doctoral training works quite well, graduate students specialising in this field are currently forced to assemble their study programme from several sources.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

3 SOCIETAL IMPACT OF RESEARCH AND DOCTORAL TRAINING (MAX. 4400 CHARACTERS WITH SPACES)

- Description of how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).

Members of the RC are regularly invited to give presentations at institutions of the public sector, such as the Bank of Finland, Statistics Finland, Ministry of Finance, and the National Audit Office of Finland. Most of these presentations are rather applied in nature, but the Bank of Finland also has a research seminar series that members of the RC often visit. The connections to the Bank of Finland and Statistics Finland are particularly close, as Saikkonen has paid a longer visit to the research department of the Bank of Finland, and Lanne has held and Ripatti currently holds a professorship financed by Statistics Finland. These professorships involve memberships of the Board of the Research Laboratory and the Scientific Council of Statistics Finland, in addition to a number of presentations, consultation work and participation in personnel training.

Members of the RC have written a number of articles popularising econometric research and given interviews to the media. In addition, we maintain a website (https://blogs.helsinki.fi/makrosuhdanne/), where we publish our Finnish business cycle indicator that has attracted some interest among practitioners due to its timeliness compared to official business cycle statistics.

Some methods developed by members of the RC are already implemented in the JMulTi econometric software package popular also among practitioners.

In addition to academia, there is a substantial demand for economists with econometric skills in places such as research institutes, banks, and central banks, where some doctoral candidates have found employment upon graduation. External funding has facilitated recruiting doctoral candidates and post doctoral researchers, who have taught specialised courses in applied econometrics that are likely to have advanced the employment opportunities of graduating MSc students of the University of Helsinki and elevated the level of quantitative skills in, say, the banking sector in Finland.

- Ways to strengthen the societal impact of the RC’s research and doctoral training.

The macroeconometric methods developed within the RC are relevant in policy making and the related research. Some of these methods are planned to be implemented in the DYNARE software package that is popular among research economists in central banks. We plan to make the methods developed by the RC available as easily accessible software packages and potentially incorporate some of them into an existing package such as JMulTi. Research in financial econometrics conducted within the RC should be of interest also to the private sector, especially to practitioners in financial markets. So far, one doctoral candidate has been employed by an investment bank upon graduation, and by strengthening collaboration with the GSF, we expect to have more graduates with knowledge of both advanced econometric methods and finance relevant in the banking sector. Financial econometrics is also likely to offer consulting opportunities as econometric methods are increasingly being used in risk management and asset pricing.

4 INTERNATIONAL AND NATIONAL (INCL. INTERSECTORAL) RESEARCH COLLABORATION AND RESEARCHER MOBILITY (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the RC’s research collaborations and joint doctoral training activities and how the RC has promoted researcher mobility.

In doctoral training we collaborate with the nationwide FDPE and GSF. Most of the courses taken by the doctoral candidates in economics are arranged by the FDPE, while some students also take courses
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

offered by the GSF. Members of the RC also regularly teach graduate courses included in the course programmes of these graduate schools and coordinate the biannual FDPE Workshop in Econometrics and Computational Economics. A few years ago, we collaborated with the Department of Economic Statistics of Stockholm School of Economics (SSE), whose graduate students attended the FDPE econometrics workshop regularly. Lanne is the vice chairman of the steering committee and member of the supervisory board of the FDPE. The monthly HECER Time Series Econometrics Seminar acts as a meeting place of researchers interested in methods of time series econometrics and related empirical research in the Helsinki area. At the annual meeting of the Finnish Economic Association, the RC has arranged special sessions on financial econometrics and macroeconometrics since 2008.

Members of the RC collaborate with Finnish and international researchers. The collaborators include In Choi (Sogang University, Seoul), Matei Demetrescu (University of Bonn), Martin Ellison (University of Oxford), Niklas Ahlgren (Hanken School of Economics), Kaija Ahoniemi (Aalto University), Arto Luoma (University of Tampere), Helmut Lütkepohl (European University Institute), Katarzyna Maciejowska (European University Institute), Mika Meitz (Koc University), James Stock (Harvard University), Carsten Trenkler (University of Mannheim), and Mika Widgren (Turku School of Economics). The collaboration has resulted in a considerable number of publications in international peer-reviewed journals. In the evaluation period, Lanne and Saikkonen have paid longer visits to the European University Institute, and Saikkonen has also visited the research department of the Bank of Finland. In 2010, we participated in a joint application for funds from the European Commission together with a large number of European econometricians, but the application was unfortunately not successful.

The members of the RC regularly attend high-quality international conferences and give presentations at research workshops at Finnish and international universities and other institutions. Doctoral candidates are strongly encouraged to submit their research to international conferences already at early stages of their studies. They are also encouraged to spend at least one semester during their graduate studies at a foreign university prominent in their area of specialisation, and help is provided in finding additional financing for such a visit. Doctoral candidates have also participated in international summer schools. Also post doctoral researchers are encouraged to visit foreign universities; in the evaluation period, longer visits to Princeton University, Stanford University, University of California (San Diego), University of Cambridge, and University of Copenhagen have taken place.

Members of the RC have hosted a number of short-term visits by foreign researchers, mostly in connection to our seminars. In addition to giving presentations, these visitors have advised doctoral candidates in their special fields.

- RC’s strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.

Active participation in international conferences and longer visits by doctoral candidates and post doctoral researchers to prominent foreign universities have proved useful, and will be maintained also in the future. While there has been quite a lot of international collaboration, we acknowledge that it would be useful to have more such activities. Longer visits by the senior faculty to foreign universities would probably best promote collaboration, but due to the heavy teaching and administrative load, they are difficult to arrange. Additional resources and recruitment of more senior faculty in the RC’s field would relieve the situation. We are also seeking possibilities to participate in internationally financed research groups. Now that the collaboration related to the FDPE workshop with SSE has ceased, we plan to revive similar collaboration with another Nordic university. Finally, we intend to increase international recruitment, which is likely to become more feasible with the expected expansion of the HECER MSc and PhD programmes.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

5 OPERATIONAL CONDITIONS (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the operational conditions in the RC's research environment (e.g. research infrastructure, balance between research and teaching duties).

The activities of the RC are concentrated in the Economicum building of the University of Helsinki, where all members employed by the University have an office. The computer equipment and software are up-to-date. Because we have recently been quite successful in acquiring external financing, there have been sufficient resources for research expenses, such as travel and inviting visitors to seminars. In addition to the funds acquired from the Academy of Finland and private foundations, administered by the University of Helsinki, members of the RC have received a fair amount of personal grants. In particular, the number of graduate students is rather large relative to the number of potential supervisors. Additional senior faculty in econometrics would, hence, be desirable. Another problem is the unavailability of high-quality macroeconomic and especially financial data. Because no database service, such as Datastream, is readily available, time series for empirical work have to be sought separately for each project from different sources, which can be time-consuming and expensive.

- RC's strengths and challenges related to operational conditions, and the actions planned for their development.

As a multidisciplinary group, the RC benefits from being part of the HECER community, which facilitates close connections to researchers representing various special fields of economics. On the other hand, the physical distance from the Department of Mathematics and Statistics is a slight problem that is somewhat alleviated if statisticians also in the future have some office space in the Economicum building. The RC is likely to remain relatively small unless more senior faculty members are recruited. At the moment, the time available for research is limited due to the relatively heavy teaching and administrative load. Therefore, with the current personnel, increasing the number of doctoral candidates seems infeasible. At the moment, the situation is particularly problematic, because Ripatti’s professorship financed by Statistics Finland is temporary and his term is likely to end at the end of the year 2011 unless the contract with Statistics Finland is renewed or other funding becomes available.

6 LEADERSHIP AND MANAGEMENT IN THE RESEARCHER COMMUNITY (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the execution and processes of leadership in the RC, how the management-related responsibilities and roles are distributed in the RC and how the leadership- and management-related processes support high quality research, collaboration between principal investigators and other researchers in the RC, the RC’s research focus and strengthening of the RC’s know-how.

The RC is quite small, and the processes of management and leadership are very informal. As the leader of the projects financed by the Academy of Finland and the OP-Pohjola Group Research Foundation, Lanne is mainly responsible for the use of funds. Besides salaries, the individual expenses typically amount to rather small sums for travel and acquiring data or software. These are agreed upon with the individual researcher in question, and fair allocation of resources is sought. The recruitment decisions are made by Lanne and Saikkonen. Currently Lanne is the immediate superior of the doctoral candidates and post doctoral researchers employed by the University of Helsinki in the RC. In 2002 – 2007, when the RC worked as one of the teams of the Research Unit on Economic Structures and Growth (a centre of excellence nominated by the Academy of Finland), Saikkonen was the team leader.
RC’s strengths and challenges related to leadership and management, and the actions planned for developing the processes.

Because the RC is small, and the active members meet regularly (those working in the Economicum building, in practice, daily) communication is uncomplicated and potential problems can be dealt with swiftly. Therefore, decision-making is efficient, and different views can easily be taken into account. Even with potential additional resources, the RC will probably remain rather small, and therefore these conditions are not likely to change much in the short run. In the future, it is hoped that some of the post doctoral researchers apply financing for research projects of their own. This would potentially bring some challenge to leadership and somewhat more formal processes might have to be introduced. Nevertheless, the post doctoral members of the RC are encouraged to apply funding for independent research and to participate in training related to these issues.

### 7 EXTERNAL COMPETITIVE FUNDING OF THE RC

- **Listing of the RCs external competitive funding**, where:
  - the funding decisions have been made during 1.1.2005-31.12.2010, and
  - the administrator of the funding is/has been the University of Helsinki

- **Academy of Finland (AF)** - total amount of funding (in euros) AF has decided to allocate to the RC members during 1.1.2005-31.12.2010: **710000**

- **Finnish Funding Agency for Technology and Innovation (TEKES)** - total amount of funding (in euros) TEKES has decided to allocate to the RC members during 1.1.2005-31.12.2010: **0**

- **European Union (EU)** - total amount of funding (in euros) EU has decided to allocate to the RC members during 1.1.2005-31.12.2010: **0**

- **European Research Council (ERC)** - total amount of funding (in euros) ERC has decided to allocate to the RC members during 1.1.2005-31.12.2010: **0**

- **International and national foundations** – names of international and national foundations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the foundations: [OP-Pohjola Group Research Foundation](#)
  - [Yrjö Jahnsson Foundation](#)
  - total amount of funding (in euros) from the above-mentioned foundations: **340000**

- **Other international funding** - names of other international funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the funding organizations: [ ]
  - total amount of funding (in euros) from the above-mentioned funding organizations: **0**

- **Other national funding** (incl. EVO funding and Ministry of Education and Culture funded doctoral programme positions) - names of other national funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the funding organizations: [ ]
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

- total amount of funding (in euros) from the above-mentioned funding organizations: 0

8 RC’S STRATEGIC ACTION PLAN FOR 2011–2013 (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the RC’s future perspectives in respect to research and doctoral training.

Our goal is to become one of the leading RCs in the field of time series econometrics. We distinguish ourselves from other Finnish and most international RCs in time series econometrics with a stronger emphasis on serious theoretical work on econometric methods that, combined with related empirical work, in our view, offers a superior route to high-quality research than heavy concentration on applications alone. Engagement in both deep theoretical research in econometrics and empirical research with the accompanying development of methods support each other and facilitate making fast progress and lead to higher quality. While the members of the RC have done solid work and produced a relatively large number of high-quality publications, there is so far no single major breakthrough. We believe that our latest research topic, noncausal autoregressive models and noninvertible autoregressive moving average models closely related to them, might become one. These models have hardly at all been considered in the econometric literature, and they seem to have a large number of potential empirical applications. Our results so far are very encouraging and they have also attracted a lot of interest.

We aim to keep publishing in high-quality peer-reviewed international journals and give presentations at high-quality international conferences. In addition, in fields such as time series econometrics where new methods of empirical research are an important part of the output, it is important to make these methods accessible in the form of software. This way, they benefit applied research in academia as well as practitioners, and, in addition, help make our results known and generate references to our publications. Therefore, we plan to incorporate all new methods into existing software packages, such as DYNARE and JMulTi, or make them available as stand-alone programmes written in popular matrix programming languages, such as R or Gauss.

We plan to moderately expand the RC. In order to do that, we will apply for funding from the European Commission and the European Research Council in addition to the Academy of Finland and Finnish foundations. Post doctoral researchers are also encouraged to apply funds for research project of their own that would form a part of the RC. Expansion calls for successful recruitment also in the future. In particular, it is important to take care of the balance between personnel with excellent skills and knowledge in statistics and the underlying mathematical methods, the major application fields in economics and finance, and computation.

Doctoral training will be developed in cooperation with the FDPE and potentially also the GSF and the Finnish Doctoral Programme in Stochastics and Statistics. Making time series econometrics one of the fields continuously offered by the FDPE has already been discussed; the major obstacle is the lack of teachers willing and able to teach courses in this field. Nordic cooperation related to the FDPE Workshop on Econometrics and Computational Economics is also planned. The establishment of the HECER MSc and PhD programmes is likely to attract a number of good foreign students of economics, which facilitates the recruitment of new international doctoral candidates to the RC.

Cooperation with institutions like the Bank of Finland and Statistics Finland will be continued and hopefully deepened. In addition to making software publicly available, the members of the RC will also continue to make the results known to the wider audience by means of popular writings, presentations at institutions outside academia and potentially participating in consulting.
All members of the RC were asked to make sure that information on all publications and activities were recorded in the TUHAT database by the deadline. The first draft of the text for the e-form was written by Lanne and Saikkonen, and it was posted on the wikispace specifically set up for this purpose. Access to the wikispace and the possibility to edit the text directly was given to all professors, university lecturers and post doctoral researchers of the RC currently working at the University of Helsinki. Details were informally discussed among the members of the RC during the whole process.
TSEM/Lanne

1 Analysis of publications

- Associated person is one of Valtteri Ahti , valtteri.ahti@helsinki.fi, Rasmus Matias Ahvenniemi , rasmus.ahvenniemi@helsinki.fi, Saara Susanne Hämäläinen , saara.hemalainen@helsinki.fi, Mikael Juselius , mikael.juselius@helsinki.fi, Leena Kalliovirta , leena.kalliovirta@helsinki.fi, Heikki Kauppi , heikki.kauppi@helsinki.fi, Hannu Kinnunen, hannu.kinnunen@helsinki.fi, Annar Korttosen, annar.korttosen@helsinki.fi, Helmi Lankkonen, helmi.lankkonen@helsinki.fi, Jarkko Miettinen, jarkko.miettinen@helsinki.fi, Henri Nyberg, henri.nyberg@helsinki.fi, Antti Ripatti, antti.ripatti@helsinki.fi, Pentti Saikkonen, pentti.saikkonen@helsinki.fi, Harri Turunen, harri.j.turunen@helsinki.fi, Tommi Vuorenmaa, tommi.vuorenmaa@helsinki.fi

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<td>A3 Contribution to book/other compilations (refereed)</td>
<td>1</td>
<td>1</td>
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<td>1</td>
<td></td>
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<tr>
<td>B1 Unrefereed journal article</td>
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<tr>
<td>C1 Published scientific monograph</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>16</td>
<td>15</td>
<td>7</td>
<td>60</td>
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<tr>
<td>D4 Published development or research report</td>
<td>3</td>
<td></td>
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<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

1
2 Listing of publications

A1 Refereed journal article

2005

2006

2007

2008
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

TSEM/Lanne


2009


A3 Contribution to book/other compilations (refereed)

2007

INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

TSEM/Lanne

2009

2010

A4 Article in conference publication (refereed)

2005

2010

B1 Unrefereed journal article

2008

C1 Published scientific monograph

2005
Juselius, M 2005, Long-run relationships between labor and capital: Indirect evidence on the elasticity of substitution, Discussion papers / Helsinki Center of Economic Research, no. No 57, Helsinki Center of Economic Research (HECER), [Helsinki].

Kauppi, H, Saikkonen, P 2005, Predicting U.S. recessions with dynamic binary response models, Discussion papers / Helsinki Center of Economic Research, no. No 79, Helsinki Center of Economic Research (HECER), [Helsinki].


Lanne, M, Saikkonen, P 2005, Why is it so difficult to uncover the risk-return tradeoff in stock returns?, Working paper / University of Jyväskylä, School of Business and Economics, no. 294, University of Jyväskylä, Jyväskylä.

Lanne, M, Saikkonen, P 2005, A multivariate generalized orthogonal factor GARCH model, Discussion papers / Helsinki Center of Economic Research, no. No 63, Helsinki Center of Economic Research (HECER), [Helsinki].

Lanne, M, Saikkonen, P 2005, Modeling conditional skewness in stock returns, EUI working papers ECO / European University Institute, Department of Economics, no. No. 2005/14, European University Institute, Department of Economics, Florence.

Lanne, M, Vesala, T 2005, The effect of the transition tax on exchange rate volatility, EUI working papers ECO / European University Institute, Department of Economics, no. No. 2005/19, European University Institute, Department of Economics, Florence.


2006
Haavio, M, Kauppi, H 2006, House price fluctuations and residential sorting, Discussion papers / Helsinki Center of Economic Research, no. No 137, Helsinki Center of Economic Research (HECER), Helsinki.

Juselius, M 2006, Testing the new Keynesian model on U.S. and aggregate euro area data, Discussion papers / Helsinki Center of Economic Research, no. No 131, Helsinki Center of Economic Research (HECER), Helsinki.

Kalliovirta, L 2006, Mispecification tests based on quantile residuals, Discussion papers / Helsinki Center of Economic Research, no. No 124, Helsinki Center of Economic Research (HECER), Helsinki.

Lanne, M 2006, Forecasting realized volatility by decomposition, EUI working papers ECO / European University Institute, Department of Economics, no. No. 2006/20, European University Institute, Department of Economics, Florence.

Lanne, M 2006, A mixture multiplicative error model for realized volatility, EUI working papers ECO / European University Institute, Department of Economics, no. No. 2006/3, European University Institute, Department of Economics, Florence.
Lanne, M, Luukkonen, H 2006. Identifying monetary policy shocks via changes in volatility. EUI working papers ECO / European University Institute, Department of Economics, no. No 2006/23, European University Institute, Department of Economics, Florence.


Lanne, M, Saikkonen, P 2008. Identifying monetary policy shocks via changes in volatility. EUI working papers ECO / European University Institute, Department of Economics, no. No 2006/23, European University Institute, Department of Economics, Florence.


INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

TSEM/Lanne


2009


Lanne, M, Saikkonen, P 2009. GMM estimation with noncausal instruments, Discussion papers / Helsinki Center of Economic Research, no. No 274, Helsinki Center of Economic Research (HECER), Helsinki.

Lanne, M, Saikkonen, P 2009. Structural vector autoregressions with Markov switching, EUI working papers ECO / European University Institute, Department of Economics, no. No 2009/06, European University Institute, Department of Economics, Florence.


2010


D4 Published development or research report

2006

2010
1 Analysis of activities 2005-2010

Associated person is one of Valtteri Ahti, valtteri.ahti@helsinki.fi, Rasmus Matias Ahvenniemi, rasmus.ahvenniemi@helsinki.fi, Saara Susanne Hämäläinen, saara.hamalainen@helsinki.fi, Mikael Juselius, mikael.juselius@helsinki.fi, Leena Kalliovirta, leena.kalliovirta@helsinki.fi, Heikki Kauppi, heikki.kauppi@helsinki.fi, Hannu Kivimäki, hannu.kivimaki@helsinki.fi, Anssi Kohonen, anssi.kohonen@helsinki.fi, Helmi Laaksonen, helmi.laaksonen@helsinki.fi, Markku Lanne, markku.lanne@helsinki.fi, Jarkko Miettinen, jarkko.miettinen@helsinki.fi, Antti Ripatti, antti.ripatti@helsinki.fi, Tero Salminen, tero.salminen@helsinki.fi, Pentti Saksi, pentti.saksi@helsinki.fi, Henri Nyberg, henri.nyberg@helsinki.fi, Heikki Kalliovirta, heikki.kalliovirta@helsinki.fi, Heikki Kauppi, heikki.kauppi@helsinki.fi, Hannu Kivimäki, hannu.kivimaki@helsinki.fi, Antti Ripatti, antti.ripatti@helsinki.fi, Tero Salminen, tero.salminen@helsinki.fi, Henri Nyberg, henri.nyberg@helsinki.fi, Heikki Kalliovirta, heikki.kalliovirta@helsinki.fi, Heikki Kauppi, heikki.kauppi@helsinki.fi, Hannu Kivimäki, hannu.kivimaki@helsinki.fi, Antti Ripatti, antti.ripatti@helsinki.fi, Tero Salminen, tero.salminen@helsinki.fi, Henri Nyberg, henri.nyberg@helsinki.fi, Heikki Kalliovirta, heikki.kalliovirta@helsinki.fi, Heikki Kauppi, heikki.kauppi@helsinki.fi, Hannu Kivimäki, hannu.kivimaki@helsinki.fi, Antti Ripatti, antti.ripatti@helsinki.fi, Tero Salminen, tero.salminen@helsinki.fi, Henri Nyberg, henri.nyberg@helsinki.fi, Heikki Kalliovirta, heikki.kalliovirta@helsinki.fi, Heikki Kauppi, heikki.kauppi@helsinki.fi, Hannu Kivimäki, hannu.kivimaki@helsinki.fi, Antti Ripatti, antti.ripatti@helsinki.fi

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<td>Supervisor or co-supervisor of doctoral thesis</td>
<td>13</td>
</tr>
<tr>
<td>Prizes and awards</td>
<td>7</td>
</tr>
<tr>
<td>Peer review of manuscripts</td>
<td>91</td>
</tr>
<tr>
<td>Assessment of candidates for academic posts</td>
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<td>Membership or other role in review committee</td>
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<td>Membership or other role in national/international committees, council, board</td>
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<td>Membership or other role in public Finnish or international organization</td>
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<tr>
<td>Participation in radio programme</td>
<td>1</td>
</tr>
</tbody>
</table>
2 Listing of activities 2005-2010

Supervisor or co-supervisor of doctoral thesis
Markku Lanne , Markku.Lanne@helsinki.fi
- Supervisor of Doctoral Thesis, Markku Lanne, 01.08.2004 → 10.01.2009, Finland
- Supervisor of Doctoral Thesis, Markku Lanne, 01.01.2008 → 31.05.2010
- Supervisor of Doctoral Thesis, Markku Lanne, 01.01.2009 → ...

Pentti Saikkonen , Pentti.Saikkonen@helsinki.fi
- Hyväksynyt väitöskirjan ohjaus (Tommi Vuorenmaa), Pentti Saikkonen, 09.2008
- Hyväksynyt väitöskirjan ohjaus (Leena Kalliovirta), Pentti Saikkonen, 12.2009
- Hyväksynyt väitöskirjan ohjaus (Henri Nyberg), Pentti Saikkonen, 06.2010
- Hyväksynyt väitöskirjan ohjaus (Jarkko Miettinen), Pentti Saikkonen, 01.2010

Prizes and awards
Henri Nyberg , henri.nyberg@helsinki.fi

Antti Ripatti , antti.ripatti@helsinki.fi
- CEPR/ESI Prize 2005 for the best Central Bank Research Paper, Antti Ripatti, 2005

Pentti Saikkonen , Pentti.Saikkonen@helsinki.fi
- Fellow of Journal of Econometrics, Pentti Saikkonen, 12.02.2007 → ...
- Bernhard Braudel Senior Fellow, Pentti Saikkonen, 03.01.2008 → 30.06.2008, Italy
- Reward of the Yrjö Jahnsson Foundation for significant contributions in promoting Finnish economics, Pentti Saikkonen, 16.12.2008

Tommi Vuorenmaa , Tommi.Vuorenmaa@helsinki.fi
- OP-Pohjola Bank Doctoral Thesis Reward, Tommi Vuorenmaa, 2010 → ..., Finland

Editor of research journal
Mikael Juselius , mikael.juselius@helsinki.fi

Markku Lanne , Markku.Lanne@helsinki.fi
- Finnish Economic Papers, Markku Lanne, 01.10.2002 → 31.07.2005

Pentti Saikkonen , Pentti.Saikkonen@helsinki.fi
- Econometric Theory, Pentti Saikkonen, 01.01.2006 → 31.12.2006
- Econometric Theory, Pentti Saikkonen, 01.01.2007 → 31.12.2007
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

TSEM/Lanne

Econometric Theory, Pentti Saikkonen, 01.01.2010 → 31.12.2010

Peer review of manuscripts
Leena Kalliovirta, leena.kalliovirta@helsinki.fi
Markku Lanne, Markku.Lanne@helsinki.fi
Economic Modelling, Markku Lanne, 11.06.2005
International Journal of Forecasting, Markku Lanne, 31.08.2005
Journal of Econometrics, Markku Lanne, 30.05.2005
Journal of Statistical Computation and Simulation, Markku Lanne, 06.11.2005
Scandinavian Journal of Economics, Markku Lanne, 19.01.2005
Economic Inquiry, Markku Lanne, 20.06.2006
Economics Bulletin, Markku Lanne, 18.10.2006
Empirical Economics, Markku Lanne, 30.10.2006
Energy Journal, Markku Lanne, 18.10.2006
Finnish Economic Papers, Markku Lanne, 12.06.2006
Journal of Applied Econometrics, Markku Lanne, 08.06.2006
Journal of Applied Econometrics, Markku Lanne, 09.09.2006
Journal of Econometrics, Markku Lanne, 17.01.2006
Journal of Empirical Finance, Markku Lanne, 06.01.2006
Journal of Financial Econometrics, Markku Lanne, 09.03.2006
Journal of Money, Credit, and Banking, Markku Lanne, 06.01.2006
Journal of Money, Credit, and Banking, Markku Lanne, 13.02.2006
Quantitative Finance, Markku Lanne, 19.04.2006
Review of Economic Studies, Markku Lanne, 04.04.2006
Economics Bulletin, Markku Lanne, 10.08.2007
Economics Letters, Markku Lanne, 23.10.2007
Energy, Markku Lanne, 15.03.2007
Fourth IFSTED International Conference on Financial Engineering and Applications, Markku Lanne, 01.05.2007 → 31.07.2007
Journal of Futures Markets, Markku Lanne, 23.09.2007
Manchester School, Markku Lanne, 04.05.2007
Studies in Nonlinear Dynamics &amp; Econometrics, Markku Lanne, 02.01.2007
22nd Nordic Conference on Mathematical Statistics, Econometrics Section, Markku Lanne, 01.02.2008 → 19.06.2008
Econometrics Journal, Markku Lanne, 06.01.2008
Econometrics Journal, Markku Lanne, 05.08.2008

3
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

TSEM/Lanne

Empirical Economics, Markku Lanne, 07.08.2008
Energy, Markku Lanne, 05.03.2008
Energy Economics, Markku Lanne, 30.10.2008
International Journal of Forecasting, Markku Lanne, 27.03.2008
International Journal of Forecasting, Markku Lanne, 22.06.2008
Journal of Applied Econometrics, Markku Lanne, 17.08.2008
Journal of Banking and Finance, Markku Lanne, 29.07.2008
Journal of Business and Economic Statistics, Markku Lanne, 12.03.2008
Journal of Environmental Economics and Management, Markku Lanne, 03.11.2008
Journal of Futures Markets, Markku Lanne, 12.05.2008
Journal of International Financial Markets, Institutions & Money, Markku Lanne, 05.05.2008
Journal of Money, Credit, and Banking, Markku Lanne, 17.02.2008
Quarterly Review of Economics and Finance, Markku Lanne, 12.05.2008
Annals of Econometrics, Markku Lanne, 12.05.2009
Empirical Economics, Markku Lanne, 07.10.2009
Journal of Applied Econometrics, Markku Lanne, 25.06.2009
Journal of Economic Dynamics & Control, Markku Lanne, 15.07.2009
Journal of Money, Credit, and Banking, Markku Lanne, 10.06.2009
Studies in Nonlinear Dynamics & Econometrics, Markku Lanne, 06.08.2009
Emerging Markets Finance and Trade, Markku Lanne, 01.11.2010
Empirical Economics, Markku Lanne, 13.02.2010
European Journal of Finance, Markku Lanne, 26.02.2010
Journal of Applied Econometrics, Markku Lanne, 14.08.2010
Journal of Econometrics, Markku Lanne, 08.10.2010
Journal of Economic Dynamics and Control, Markku Lanne, 06.04.2010
Journal of Economics and Business, Markku Lanne, 14.01.2010
Journal of Financial Econometrics, Markku Lanne, 03.05.2010
Journal of the American Statistical Association, Markku Lanne, 09.03.2010
Journal of the American Statistical Association, Markku Lanne, 02.12.2010
OP-Pohjola Group Research Foundation Seminar on Research on Saving and Finance, Markku Lanne, 31.03.2010 → 13.10.2010
Oxford Bulletin of Economics and Statistics, Markku Lanne, 30.05.2010
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

TSEM/Lanne

Oxford Bulletin of Economics and Statistics, Markku Lanne, 29.08.2010
Tuomas Malinen, tuomas.malinen@helsinki.fi
Arvioija: CESifo Economic Studies, Tuomas Malinen, 05.2009
Arvioija: Journal of Economic Behavior &amp; Organization, Tuomas Malinen, 11.2010
Henri Nyberg, henri.nyberg@helsinki.fi
CESifo Economic Studies, Henri Nyberg, 08.2010
Canadian Journal of Economics, Henri Nyberg, 10.2010
International Journal of Banking, Accounting and Finance, Henri Nyberg, 12.2010
Antti Ripatti, anti.ripatti@helsinki.fi
Finnish Economic Papers, Antti Ripatti, 2008
Journal of Economic Dynamics and Control, Antti Ripatti, 2008
American Economic Review, Antti Ripatti, 2010, United States
Pentti Saikkonen, Pentti.Saikkonen@helsinki.fi
Stochastic Processes and their Applications, Pentti Saikkonen, 01.01.2007 → 31.12.2007
Tommi Vuorenmaa, Tommi.Vuorenmaa@helsinki.fi
Reviewer, Tommi Vuorenmaa, 01.10.2007, United Kingdom
Reviewer, Tommi Vuorenmaa, 15.11.2007, United States

Assessment of candidates for academic posts
Markku Lanne, Markku.Lanne@helsinki.fi
Senior lectureship, Markku Lanne, 17.12.2007

Membership or other role in review committee
Markku Lanne, Markku.Lanne@helsinki.fi
Social Sciences and Humanities Research Council of Canada, Markku Lanne, 26.01.2009, Canada

Membership or other role in national/international committee, council, board
Leena Kaliovirta, leena.kaliovirta@helsinki.fi
Council member, Leena Kaliovirta, 01.01.2005 → 31.12.2005, Finland
Council member, Leena Kaliovirta, 01.01.2006 → 31.12.2006, Finland
Council member, Leena Kaliovirta, 01.01.2007 → 31.12.2007, Finland
Council member, Leena Kaliovirta, 01.01.2008 → 31.12.2008, Finland
Markku Lanne, Markku.Lanne@helsinki.fi
OP-Pohjola Group Research Foundation, Markku Lanne, 01,01,2004 → ...
Finnish Foundation for Advancement of Securities Markets, Markku Lanne, 01.05.2006 → ...
Helsinki Center of Economic Research (HECER), Markku Lanne, 19.10.2010 → 31.03.2014, Finland

Membership or other role in public Finnish or international organization
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

TSEM/Lanne

Markku Lanne, Markku.Lanne@helsinki.fi

Board of the Research Laboratory of Statistics Finland, Markku Lanne, 01.05.2007 → 31.12.2010


Scientific Council of Statistics Finland, Markku Lanne, 01.05.2007 → 31.12.2010

Expert Group on National Accounts, Markku Lanne, 05.03.2009 → 31.12.2010

Participation in radio programme

Henri Nyberg, henri.nyberg@helsinki.fi

Radio Interview: "How to forecast the probability of recession", Henri Nyberg, 2008, Finland
Appendix B.b.

Maria Forsman, Chief Information Specialist, DSocSc
Helsinki University Library 7.7.2011

The bibliometric analyses by Helsinki University Library (HULib)

Background: The bibliometric analyses – especially citation analyses – have raised a lot of discussion and critics among researchers in social sciences and humanities. Researchers view that bibliometric analyses are often unfair to these fields of sciences because they do not give a good enough picture of the publishing. Citation databases – Web of Science and Scopus – cover only weakly the main publications in these fields. Also, in humanities and social sciences monograph is still the main form of publishing, and it does not include in these article databases.

At the University of Helsinki, the above mentioned concerns have been taken into account in the evaluation. The Evaluation Office has ordered analyses from the Helsinki University Library (HULib) for the participating researcher communities that are weakly represented in Web of Science. The database for the HULib analyses is TUHAT (https://tuhat.halvi.helsinki.fi/portal/en/) including all the publications that the researchers have considered important.

Based on this data, information specialists at HULib have carried out the following analyses:

1) Number of authors/publication/year as a table; a pie of authors/publication in the period 2005-2010;
2) Language of publication/year; a pie of language of publication in the period 2005-2010;
3) Articles/journal/year; journals have been compared by ISSN with the Norwegian, Australian and ERIH (2007-2008) journal ranking lists; number of articles in ranked journals;
4) Publisher/monograph type (according to TUHAT database); monographs have been compared with the Norwegian publisher ranking list. According to this, it has been counted how many monographs are published by a leading scientific publisher (2) or a scientific publisher (1).
5) Conference publications (from TUHAT database) especially in computer sciences; compared with the Australian conference ranking list.

Where relevant, some additional analyses and notes concerning the publication culture of a scientific field have been added. Overall, these analyses complement the other evaluation material and lists of the publications of the participating researcher communities.

If the publications of the RCs were less than 50 or and the internal coverage less than 40 percentage, the WoS analyses were considered not reliable. These RCs were 58 altogether.

In addition, both Leiden and Library analyses were done to the RCs if WoS analyses covered less than 40 per cent of the peer review (A+C) publications of the RC. These RCs were 8 altogether.

The appendix includes the analyses of the RC under discussion.
Analysis of publications by Helsinki University
Library – 66 RCs altogether

Biological, Agricultural and Veterinary Sciences
Luukkanen, Olavi – VITRI
Valsta, Lauri – SUVALUE

Natural Sciences
Abrahamsson, Pekka – SOFTSYS
Kangasharju, Jussi – NODES
Ukkonen, Esko – ALKO
Väänänen, Jouko – HLG

Humanities
Aejmelaeus, Anneli – CSTT
Anttonen, Pertti – CMVG
Dunderberg, Ismo – FC
Heinämäa, Sara – SHC
Henriksson, Markku – CIA
Kajava Mika, – AMNE
Klippi, Anu – Interaction
Knuuttila, Simo – PPMP
Koskenniemi, Kimmo – BAULT
Lauha, Aila – CECH
Lavento, Mika – ARCH-HU
Luukkanen, Ville – AHCI
Lyytikäinen, Pirjo – GLW
Mauranen, Anna – LFP
Meinander, Henrik – HIST
Nevalainen, Terttu – VARIENG
Petterson, Bo – ILLC
Pulkkinen, Tuija – Gender Studies
Pyrhönen, Heta – ART
Ruokanen, Mikkia – RELDIAL
Saarinen, Risto – RELSOC
Sandu, Gabriel – LMPS
Tarasti, Eero – MusSig
Vehmas-Lehto, Inkeri – TraST
Östman, Jan-Ola – LMS

Social Sciences
Airaksinen, Timo – PPH
Engeström, Yrjö – CRADLE
Granberg, Leo – TRANSURBAN
Haila, Anne – Sociopolis
Hautamäki, Jarkko – CEA
Heinonen, Visa – KUMU
Helén, Ilpo – STS
Hukkinen, Janne – GENU
Jallinoja, Riitta – SBII
Kaartinen, Timo – SCA
Kettunen, Pauli – NordSoc
Kivinen, Markku – FCREES
Koponen, Juhan – DEVERLE
Koskenniemi, Martti – ECI
Kultti, Klaus – EAT
Lahelma, Elina – KUFE
Lanne, Markku – TSEM
Lavonen, Jari – RCMER
Lehtonen, Risto – SocStats
Lindblom-Ylänne, Sari – EdPsychHE
Nieminen, Hannu – MECOL
Nuotio, Kimmo – Law
Nyman, Göte – METEOS
Ollikainen, Markku – ENFIFO
Pirttilä-Backman, Anna-Maija – DYNASOBIC
Rahkonen, Keijo – CulCap
Roos, J P – HELPS
Simola, Hannu – SOCE-DGI
Sulkunen, Pekka – PosPus
Sumelius, John – AG ECON
Vaattovaara, Mari – STRUTSI
Vainio, Martti – SigMe

The next appendix includes the analyses of the RC under discussion.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

30.6.2011 PJK /19.4.2012 MF

PUBLICATION DATA 2005-2010

RC/TSEM/Lanne

Category 2. The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.

Number of authors in publications/year

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43% of publications have 2 authors and 40 % have a single author.
**Language of publication / Year**

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<td>Grand Total</td>
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<td>18</td>
<td>15</td>
<td>26</td>
<td>22</td>
<td>23</td>
<td>116</td>
</tr>
</tbody>
</table>

91% of publications are in English and 9% in Finnish.
### Journal / Year / Total

<table>
<thead>
<tr>
<th>Journal</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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#### Language of Publications 2005-2010

- en_GB: 91%
- fi_FI: 9%
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**Journal ranking (Norway, Australia, ERIH)**

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### Book publishers

**Publisher ranking (based on Norwegian ranking list)**

2 = leading scientific  
1 = scientific  
no = non-scientific or not ranked

- C1 Published scientific monograph (58)  
- C2 Edited book, compilation, conference proceeding or special issue of journal (0)  
- D5 Text book or professional handbook or guidebook or dictionary (0)  
- E2 Popular monograph (0)

For the total of 58 books there was no ranked publishers.

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