

NOKUT's evaluations

EUROMA – critical factors for achieving high quality in Economics master programmes

Comparisons between programmes from Norway, Sweden, the Netherlands and Flanders

November 2017



NOKUT's work shall contribute to public confidence in the quality of both Norwegian higher and vocational education, as well as certified higher education from abroad. In the EUROMA project, this goal extends beyond Norwegian higher education. «NOKUT's evaluations» are expert assessments describing the state of affairs within academic disciplines and fields, as well as central common aspects of education relevant for different disciplines and fields.

We hope that the results will prove useful for higher education institutions in their programme-related quality assurance and development work.

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Preface

In September 2014, the Norwegian Ministry of Education and Research commissioned NOKUT to develop and carry out a pilot project to compare the quality of Norwegian master degree programmes with similar programmes in other European countries. NOKUT has carried out the pilot project in collaboration with NOKUT's sister organisations in the Netherlands and Flanders (NVAO) and Sweden (UKÄ), international expert panels, and participating programmes in two subject fields, Economics and Molecular Biology, from universities in the Netherlands and Flanders, Sweden, and Norway. The project was termed EUROMA – master programme education in a European context.

The project had two overarching goals: first, to develop and test a methodology to identify subject-specific critical factors (“what matters”) for achieving high quality in education at the master programme level; second, to facilitate quality enhancement through discussions and sharing of knowledge, experiences and good practice between participating programmes. The methodology was developed with the purpose of identifying subject-specific quality factors, but at the same time be applicable for all subject fields and educational levels. A characteristic feature of the methodology is that it promotes a programme-driven process in the identification of quality factors and discussions of quality development. The methodology is not connected to existing external and formal quality assurance processes in any of the participating countries, and it has not been an aim to assess or rank the programmes individually.

This report describes the methodology and results from the project. The methodology is described in detail with the purpose of making it possible for any programme to use the methodology for quality development. The feedback we have received from the participating programmes and expert teams strongly suggests that the methodology and process constitutes a valuable supplement to traditional programme evaluations, because it provides a programme-driven platform for discussions and sharing of experiences, self-reflections, practices and ideas among the participants. The results include analyses of major differences between countries and programmes, discussions of strengths and weaknesses of different strategies, scopes and practices related to the critical quality factors, as well as examples of good practices and relevant indicators. We believe that the report is relevant and provides inspiration for quality development for all stakeholders involved in higher education, including higher education institutions and programmes, students, employers, quality assurance agencies and governing authorities.

The process and analyses has been carried out separately for Economics and Molecular Biology, and the results for the two subject fields are presented in separate reports. At the overall level, the factors viewed by the programmes as the most important for achieving high quality are to a large degree the same for both subject fields. This indicates that the results from this project are relevant for quality development in different subject fields. However, there are major differences between the subject fields when it comes to what matters for quality development at the detailed level, for example related to the programmes structure and organisation, their scope and content, as well as other factors where strategies and practices are influenced by the different academic cultures and characteristics. Thus, while the discussion of what matters for achieving high quality has both generic and subject-specific components, the analyses indicate that efforts to enhance quality may be most effective when they are

directed at the subject-specific and programme level. Ultimately, quality in higher education and the students' learning outcome is developed through the interaction between students and academic staff at the programme level.

NVAO, UKÄ and NOKUT would like to thank the participating programmes and experts for their contributions to the project.

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1 Introduction

1.1 Background

In September 2014, the Norwegian Ministry of Education and Research commissioned NOKUT to develop and carry out a pilot project to compare the quality of Norwegian master degree programmes with similar programmes in other European countries. NOKUT developed and carried out the pilot project in collaboration with NOKUT's sister organisations in the Netherlands and Flanders (NVAO) and Sweden (UKÄ), international expert panels, and participating programmes from the Netherlands and Flanders, Sweden, and Norway.

The project had two overarching goals¹: first, to develop and test a methodology to identify subject-specific critical factors (“what matters”) for achieving high quality in education at the master programme level (see box 1 below); second, to facilitate quality enhancement through discussions and sharing of knowledge, experiences and good practice between participating programmes. Since this was a pilot project, it was important to ensure that the methodology allowed identifying subject specific quality factors, while at the same time be generic, i.e., to be applicable for all subject fields and educational levels. Neither the methodology nor the output of the project overlaps with, or is connected to existing external and formal quality assurance processes in any of the participating countries. Thus, the project and its methodology were developed with the purpose of promoting quality enhancement by identifying and comparing national characteristics, strengths and challenges, sharing experiences in general and good practices in particular. It has not been an aim to assess or rank the programmes individually on specific aspects or as whole entities².

Box 1

The term “critical quality factors” used in this report is the answer provided by the programmes on the following question: “*What elements (practices, resources, etc.) do you consider particularly important for achieving high quality in master programmes in your subject?*”

Throughout the project, it has been emphasised that critical quality factors should be considered both in general terms (“*what are the critically important factors for high quality in an MA programme in your discipline?*”) and in a programme specific context (e.g. related to the programmes strategy, goals, scope, size, etc.), in order to capture differences and similarities between countries and individual programmes.

What constitutes high quality in education, and what matters for achieving it, depends on who is asked. Different stakeholders may emphasise different quality areas and factors. This report discusses the participating programmes views. Moreover, the output from the project presented in this report is a discussion around important factors for *achieving* high quality, but does not seek to establish benchmarks for what constitutes high quality.

¹ See Appendix 1 for the full project plan.

² Reflective comments on the goals, process and methodology of the project are given in Appendix 2.

1.2 Participants

1.2.1 Programmes

The Norwegian Ministry of Education and Research left it up to NOKUT to decide which fields of study NOKUT should include in the project. NOKUT, in cooperation with its sister organisations in the Netherlands and Sweden, decided to include master programmes in Molecular Biology and Economics in the project. The main reason for this selection was that master programmes within these subject fields have a strong international orientation and have a sufficient degree of similarity to allow comparisons. At the same time, the programmes exhibit variation, both between and within countries, which has made it possible to compare strengths, challenges, and sharing of experiences and good practice with respect to quality in education. In order to include comparable Economics and Molecular Biology programmes from Sweden, the Netherlands/Flanders and Norway, UKÄ, NVAO and NOKUT decided to approach programmes from traditional universities and not university colleges or universities of applied science. This report describes the output of the project for Economics. Table 1 gives an overview of participating programmes and universities in Economics.

Table 1. Participating institutions and programmes in Economics.

Institution	MSc programme
Lund University	Master's programme in Economics
Uppsala University	Master's programme in Economics
Tilburg University	MSc in Economics
University of Amsterdam	MSc Economics
University of Antwerp	Master of Social and Economic Sciences
University of Oslo	Economics
	Economic Theory and Econometrics (5-year integrated MSc programme)
University of Bergen	Master Programme in Economics
	Professional Studies in Economics (5-year integrated MSc programme)
The Norwegian University of Science and technology	MSc in Economics
	Integrated Master of Science in Economics (5-year integrated MSc programme)

Throughout the project, the participating programmes have been represented by one MSc student and two faculty members who among them have experience from teaching, research and programme design/leadership. Thus the programmes' input is the combined experience and views from these stakeholders.

1.2.2 Expert teams

In addition to the programmes, two expert teams, representing academic peers and students in Economics and Molecular biology respectively, had crucial roles in the project. The expert teams have facilitated the discussions between programmes by challenging them to reflect on critical quality factors and their own practice, and assessing what constitutes good practice and relevant indicators related to these factors. The expert teams have performed comparative analyses at various stages during the project, highlighting differences and similarities between countries and programmes as a

baseline for identifying the most important quality factors, common strengths and challenges, and addressing important areas for further development of high quality. In Chapter 4 of this report, the Economics expert team summarises its analysis of major differences and similarities between countries and programmes, critical quality factors, assessments of good practice and provides comments and suggestions for further development.

The Economics expert team:

- Professor Janneke Plantenga, Utrecht University, the Netherlands.
- Professor Lars Hultkrantz, Örebro University, Sweden.
- Professor Arild Angelsen, Norwegian University of Life Sciences (NMBU), Norway.
- MSc Liliya Ivanova, European Students' Union (ESU).

1.2.3 Quality assurance agencies

Representatives from the national quality assurance agencies for the Netherlands and Flanders (NVAO), Sweden (UKÄ) and Norway (NOKUT) developed the plan and methodology for the project, recruited programmes and expert teams, organised meetings and seminars, and acted as secretaries. NOKUT administered the project.

From NOKUT – Stein Erik Lid (overall project manager), Helèn Sophie Haugen, Stephan Hamberg, Dagfinn Rødningen and Maja Søgård.

From NVAO – Lineke van Bruggen, Lisette Winsemius and Axel Aerden.

From UKÄ – Charlotte Elam and Carl Sundström.

1.3 Brief overview of major outcomes from the project

The major outcomes from the project fall in three categories:

- The first outcome is the development and testing of the methodology. The details are described in this report with the purpose of making it possible for any programme to use the methodology for quality development.
- The second outcome is the analysis of critical quality factors for master degree education in Economics given in this report. This also includes analyses of major differences between countries and programmes, discussions of strengths and challenges/weaknesses of different strategies, scopes and practices related to the critical quality factors, as well as examples of good practices and relevant indicators. This gives all stakeholders, including universities and programmes that did not participate, as well as quality assurance agencies and governing authorities, insights into how the programmes work to achieve high quality, and inspiration for quality development and improvement.
- The third outcome lies in the self-reflection, discussions and sharing of experiences, practices and ideas among the participants, which provide points of reference for quality enhancement and further development at the participating programmes.

2 Methodology and process

The methodology for this project was developed with the purpose of identifying and comparing characteristics, strengths and challenges, sharing experiences in general and good practices in particular, and promoting quality enhancement. It has not been an aim to assess or rank the programmes individually on specific aspects or as whole entities.

The key elements of the methodology are that the participating programmes first contributed to identifying critical factors for achieving high quality subject-specific master's education, and subsequently reflected on their own goals and practices related to these quality factors together with peers from other programmes and external experts. The methodology included meetings and discussions between programmes, which served to highlight common critical quality factors, as well as facilitated comparisons of practices and sharing of knowledge and experience between programmes.

2.1 Key steps

The project had three main phases:

- In phase one, descriptive information was collected such as the programmes' goals, structure, scope and intended learning outcomes, information about what the programmes' considered to be the most important factors for achieving high quality education, and the programmes' own assessment of quality in prioritised areas. Each programme provided this information in short self-presentations³. The programmes then shared and discussed the information at subject-specific national seminars, with programme representatives from each programme, within each country, and the expert team (the Dutch and Flemish programmes participated in the same national seminar)⁴. Following the national seminars, the secretariat and the experts wrote preliminary reports for each subject field, where the expert teams compared national characteristics, similarities and differences between programmes, and developed a list of across-country (international) subject specific critical quality factors to be explored further in the next phase of the project⁵.
- In phase two, the programmes performed a self-reflection analysis on strengths, weaknesses and examples of good practice related to the international subject specific critical quality factors established during phase 1⁶. All of the programmes then shared and discussed the information further at one subject specific international seminar, with programme representatives from every participating programme, within each subject field and the expert team⁷.
- In phase three, the expert teams and the Quality assurance agencies analysed the output from the previous phases of the project, the results of which are summarised in this report.

Table 2 gives a schematic overview of the methodology for the project, including the main phases, key steps and timeline. The full project plan can be found in Appendix 1.

³ The detailed template for the programmes' self-presentation reports can be found in Appendix 3.

⁴ The detailed programmes for the national seminars can be found in Appendix 4.

⁵ The preliminary reports will not be published.

⁶ The detailed template for the programmes' self-reflection analysis can be found in Appendix 5.

⁷ The detailed programmes for the international seminars can be found in Appendix 6.

Table2. Schematic overview of the methodology for the project.

Step	Task/event	Timeline	Involved	Comment
PHASE 1 (Establishing critical quality factors)				
1	The programmes submit self-presentations	June-August 2016	-Programmes	<p>The self-presentation contains three parts, where the programmes are asked to:</p> <ul style="list-style-type: none"> • Highlight elements and practices they consider vital for high quality of master education within their subject field. • Describe areas of quality and/or practices where they consider they do especially well. • Key facts that describe their programme such as number of students, learning outcome descriptors, programme structure and assessment of master thesis/project/dissertation. Where possible, factual information were filled in by the national agencies. <p>The primary purpose of the self-presentations is to share information between programmes and experts as part of the preparation for the national seminars (step 3). Documentation will not be required. The self-presentations should be kept short and sharp (maximum 5 pages).</p>
2	National subject specific seminars/ workshop (one day in each country)	September-October 2016	-Programmes (1 seminar each) -Expert panels (3 seminars each) -National QA agencies acts as secretaries	The programmes within the same subject field and country together with the expert team meet and through discursive processes arrive at 'national' critical factors for achieving high quality master's programmes in a given subject. The expert teams attend the seminar in every country. Their role is to facilitate the discussions and challenge the programmes to pinpoint which factors are critical for high quality.
3	Preliminary quality profile reports	November 2016-January 2017	-Expert panels (one report each) -NOKUT (secretarial assistance)	Two reports (one for each discipline) where the experts compare and comment on differences and similarities between programmes and countries. Based on the self-presentations and the discussions at the national seminars, the experts also develop a list of across-country subject specific critical quality factors that the programmes will compare themselves against in phase 2.
PHASE 2 (Strength/weakness analyses)				
4	Programmes' self-reflection	January-February 2017	-Programmes -National agencies	<p>Self-reflection in the form of a strength/weakness analysis and examples of good practice against subject critical quality factors from phase 1. Self-reflections are kept short and to the point, and supported by documentation only as necessary.</p> <p>Documentation that already is available through national register databases or recent quality assurance processes will be compiled by the QA agencies to lessen the administrative burden for the programmes.</p>
5	Analyses of self-reflection	February 2017	-Expert panels	Expert teams' introductory analysis of submitted self-reflections, with the purpose of preparing questions for the seminars in step 6.
6	International seminars (One day gathering all programmes in each subject field)	March 2017	-Programmes (1 seminar each) -Expert panels (1 seminar each) -National agencies acts as secretaries	Expert teams will facilitate discussions between programmes on their strengths and weaknesses related to the international subject specific critical quality factors, as well as sharing good practices. The discussions will be organised as workshops and presentations. They will have the character of a peer conversation and seeks to clarify and highlight how strategies and practices reflect subject specific critical quality factors.

PHASE 3 (Analyses and discussion of output from the project)

8	Final report	Fall 2017	<ul style="list-style-type: none"> -Expert panels -NOKUT , UKÄ, NVAO (secretarial assistance) -Programmes 	<p>Experts' final analysis of the output of the project in the form of a published report, presented in terms of discussions of characteristics between programmes and countries, strengths and weaknesses, areas for improvement, and good practice, in relation to critical quality factors. The emphasis will be comparisons and discussions of strategies and practices rather than individual programmes. The programmes comment on factual errors before publication.</p>
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3 Brief description of participating programmes

Eight universities and twelve master programmes in Economics participated in the project. All programmes are full-time (the programme at the University of Antwerp can also be taken part-time) and government-funded. Table 3 indicates some characteristics of each programme related structure, number of students and teaching language.

Table 3. Characteristics of the participating Economics programmes.

Institution	Programme	Duration	Master research project	Number of students admitted in 2015	Teaching language
Lund University	Master programme in Economics	2 years, 120 EC	15 EC + 15 EC	39	English
	Master programme in Economics	1 year, 60 EC	15 EC	Approx. 20	English
Uppsala University	Master's programme in Economics	2 years, 120 EC	30 EC	Approx. 35	English
Tilburg University	MSc in Economics	1 year, 60 EC	15 EC	84	English
University of Amsterdam	MSc Economics	1 year, 60 EC	15 EC	125	English
University of Antwerp	Master of Social and Economic Sciences	1 year, 60 EC	18 (15+3) EC	40	Dutch
University of Oslo	Economics	2 years, 120 EC	30 EC	77	English
	Economic Theory and Econometrics	5 years integrated programme	30 EC	50	Norwegian
University of Bergen	Master Programme in Economics	2 years, 120 EC	30 EC	42	Norwegian
	Professional Studies in Economics	5 years integrated programme	30 EC		Norwegian
The Norwegian University of Science and technology (NTNU)	MSc in Economics	2 years, 120 EC	30 EC	22	Norwegian
	Integrated Master of Science in Economics	5 year integrated programme	30 EC	20	Norwegian

3.1 Lund University

The university offers a two-year master degree (120 EC) taught in English, but students can also apply for a one-year degree (60 EC). In the two-year programme the first semester contains mandatory courses in Mathematics, Econometrics, Microeconomics and Macroeconomics, followed by specialisation and elective courses in the second, third and fourth semesters. Students chose from six different specialisations (Econometrics, Financial Economics, International Economics, Macroeconomics, Microeconomics, and Public Economics). The one-year programme is identical to the first year of the two-year programme.

Distinguishing features

- Students have the opportunity to choose between a one- and a two-year master. The one-year master is referred to as Magister in the Swedish education system.
- In the two-year programme, students carry out two theses projects of 15 EC credits each. They write the first in the second semester and the second in the fourth semester.
- The programmes' goal is to provide students with sound knowledge of the basic methods of advanced economics. Students have a high degree of flexibility as the programme offers a choice of six different specialisations and a variety of courses within these.

3.2 Uppsala University

The university offers a two-year master degree (120 EC) taught in English. Most students follow a 'standard track', where the first semester contains Microeconomics, Macroeconomics, Mathematical Analysis and Game Theory. The second semester consists of courses in Statistics, Econometric Theory and Applied Econometrics. The third semester is devoted to applied specialised courses and the fourth semester is fully devoted to thesis work (30 EC).

Distinguishing features

- Even though most of the students follow the 'standard track', the programme only requires students to take 30 EC in advanced economics and to write a 30 EC master thesis in Economics. For the remaining 60 EC, 30 EC should be in Economics but can be at any level and 30 EC can be in any subject field and level.
- The overall focus of the programme leans towards public policy and public sector employment, and within that, the programme has a strong profile in Labour Economics. The research connected to the programme has a strong empirical focus.

3.3 Tilburg University

The university offers a one-year master programme (60 EC) taught in English. Students take four methods courses of 3 EC each (Econometrics, Experiments and Surveys, Applied Economic Analysis, and Game Theory). The types of methods courses students must take depend on their choice of specialisation. In addition, the students take five field courses where students specialise in one of six economic fields: Competition and regulation; Public policy; Sustainability and growth; Money, banking and financial markets; Pensions, aging and retirement; Behavioural Economics. The thesis project is divided into two activities. All students must first take a course in Applied Economic Analysis (3 EC) as preparation for the thesis. In this course students develop their thesis proposal. The thesis itself is a 15 EC research project. These two components are graded separately.

Distinguishing features

- The program has a strong focus on applying theory and academic tools to, first, analyse incentive problems and markets and, second, formulate implications for policy and strategy.
- The programme integrates career development into one course each semester.
- The programme includes a set of specific attitudes in their learning outcome descriptors:
 - Be critical towards the theories and empirical evidence presented

- Eagerness to keep abreast of the new developments in the field throughout one's career
- Have a willingness to provide constructive criticism to the work of others, and to critically assess one's own work
- Be flexible to work in teams

3.4 University of Amsterdam

The university offers a one-year master degree (60 EC) taught in English. The first semester consists of three mandatory courses (5 EC) in Microeconomics and Game Theory, Macroeconomics and Applied Econometrics. In addition, the students must take three mandatory courses (5 EC) in one of six specialisations (Behavioural Economics and Game Theory; Industrial Organisation, Regulation and Competition Policy; Development Economics; International Economics and Globalisation; Monetary Policy, Banking and Regulation; Public Economic Policy). In the second semester, students take two additional mandatory courses (5 EC) in their chosen specialisation, a Research seminar (5 EC) that is also specialisation-specific, and write their master thesis (15 EC). Writing a thesis proposal is part of the research seminar.

Distinguishing features

- The programme has a broad portfolio of specialisations and aims at developing the students' critical thinking and analytical and quantitative skills, to maximise their employment opportunities
- The programme has a very high number of students all together (125 enrolled in 2015), and a high share of international students (approximately 50 percent).
- The programme stresses that it requires significant personal initiative from the students and the admission criteria include a motivation letter and a reference letter from instructor at previous institution.

3.5 University of Antwerp

The University offers a one-year master programme in Social and Economic Sciences. The programme is mainly taught in Dutch. The programme is divided into three main components. Students take two methods courses (6 EC each), a compulsory course in Socioeconomic Analysis and either Applied Multivariate Analysis or Applied Economics. Students then select two predefined specialisations among the following: Labour and policy; Sociological and economic analysis of environmental issues and policies; Government policy and the study of inequality; Socio-economic analysis of the care sector; Socio-economic policy evaluation and organisation. Each specialisation includes three courses that address the topic from different perspectives: a Sociology course (4 EC), an Economics course (4 EC) and an interdisciplinary assignment/paper (4 EC). In addition to the specialisation courses, students choose one elective course (6 EC) or an internship (6 EC). The master thesis consists of a compulsory seminar (3 EC) and a written thesis (15 EC). In the seminar, students present and review each other's projects.

Distinguishing features

- The programme is an interdisciplinary programme that combines Sociology and Economics. The goal is to educate candidates with strong transferrable skills such as critical and analytical thinking and complex problem solving skills in an interdisciplinary framework. The rationale is that because students learn to tackle a social-economic theme in an integrative way, they develop an intellectual range and versatility that mono-disciplinary programmes cannot quite deliver at the same level. This scope is inspired by similar programmes in the US and UK.
- Students can, after approval, get credits for an internship.
- The programme is mainly taught in Dutch.

3.6 University of Oslo

The university offers a two-year master programme in Economics (120 EC) and a 5-year integrated master programme in Economic Theory and Econometrics (300 EC). The five-year programme is a combined bachelor and master programme, and is mainly taught in English, except for the first two years of the programme. The two-year programme is taught in English. For the last two years of the 5-year programme, the learning outcomes and structure is quite similar to the 2-year programme.⁸

Students in the two-year programme take three compulsory courses (10 EC) in the first semester: Mathematics (calculus and linear algebra), Microeconomics and Macroeconomics. In the second semester students must take a course in Introductory Econometrics (10 EC). They then take an additional five elective courses (10 EC each) in the second and third semester. Students chose elective courses within one of three specialisations: Economics; Environmental, Resource & Development Economics; Research. Students work on their master thesis in the fourth semester.

Distinguishing features

- The two-year programme is an international programme taught in English, which is a distinguishing factor in the Norwegian context.
- The department emphasises that they have a strong grounding in Mathematics and Statistics, and a relatively theoretical orientation.
- The programme has a Research specialisation, which prepares students for a PhD trajectory (in particular the 5-year integrated programme).

3.7 University of Bergen

The university offers a two-year master programme in Economics (120 EC) and a 5-year Professional studies master degree in Economics (300 EC). Both programmes are taught in Norwegian. The

⁸ We only describe the two-year programme in detail here. Students in the five-year programme take the same courses, though they take some of them in the third year of the programme. For a detailed view of the structure of the five-year programme see: <http://www.uio.no/studier/program/samfunnsokonomi-5aar/oppbygging/>.

learning outcomes and structure for the last two years of the 5-year programme is quite similar to the 2-year programme.⁹

Students in the 2-year programme take three compulsory courses (10 EC) in their first semester: Microeconomic analysis, Macroeconomic analysis, and Econometrics. In the second and third semester, they take five elective courses in Economics (10 EC each). The electives are not linked to set specialisations and students can choose between a range of courses in Economics offered by the department. In addition, they take a mandatory preparatory course for the master's thesis (10 EC) in the third semester. In the fourth semester, the students write their master's thesis (30 EC).

Distinguishing features

- The programme builds on the department's core areas of research competence in Game Theory, Incentive Theory and Micro-Econometrics.
- The programme emphasises the importance of developing new teaching formats to strengthen the quality of teaching and learning, and has recently implemented more student active learning forms in several courses.
- The programme has a 10 EC prep-course for the master's thesis.

3.8 Norwegian University of Science and Technology (NTNU)

The university offers a 2-year master programme in Economics (120 EC) and a 5-year integrated master programme in Economics (300 EC). Both programmes are taught in Norwegian. Students in the 5-year programme take many of the same courses as students in the two-year programme, but are able to take more elective courses in the last two years of their programme¹⁰.

Students in the 2-year programme take three courses in the first semester. They take an Advanced Mathematical Analysis course (15 EC), a course on Foreign Exchange, Oil and Macroeconomic policies (7.5 EC) and Taxation, Behaviour and Economic policies (7.5 EC). The second semester consists of the mandatory courses in Econometrics I (15 EC), Information and Market theory (7.5 EC) and Experts in teamwork (7.5). The third semester students take two elective courses within Economics (15 EC each). The fourth semester consists of the students' thesis work.

Distinguishing features

- The programme has a strong emphasis on Applied Econometrics and application of software for quantitative analysis.
- "Experts in teamwork" is a mandatory course of 7.5 EC for all master students at the university, where students across disciplines work on solving problems in teams. The main goal is for the students to experience cooperation in an interdisciplinary framework.

⁹ We only describe the two-year programme in detail here. Students in the five-year programme take the same courses, though they take some of them in year three of the integrated programme. This leaves the students with more opportunities to take elective courses during the last two years. For a detailed view of the structure of the five-year programme see: <http://www.uib.no/studieprogram/PROF-S%C3%98K#uib-tabs-oppbygging>.

¹⁰ We only describe the two-year programme in detail here. Students in the five-year programme take the same courses, though they take them during the first three years of the programme. This leaves the students with more opportunities to take elective courses during the last two years. For a detailed view of the structure of the five-year programme see: <http://www.ntnu.no/studier/msok5/oppbygning>.

- The programme provides a list of options for thesis projects to help the students develop project proposals that may realistically be carried out within the nominal time.

4 Discussions on critical quality factors

As described in the introduction, the term “critical quality factor” used in this report is the answer provided by the programmes on the following question: “*What elements (practices, resources, etc.) do you consider particularly important for achieving high quality in master programmes in your subject?*” Based on the programmes’ self-presentations, self-reflection analyses and discussions at the seminars, the participating programmes together with the group of experts identified a range of factors that were considered critical for achieving high quality in master education in Economics across the participating programmes. The quality factors can be grouped in different areas shown in Table 4.

Table 4. Areas of critical quality factors.

Programme design	Programme structure and organisation
	Scope and content
Input factors	Recruitment of motivated and talented students
	Teachers as quality factors
	Quality assurance systems
Learning processes and assessment	The master research project(s)
	Innovative teaching and learning formats
	Feedback to students

In addition to identifying critical quality factors, the programmes were challenged to reflect on their own practices, as well as sharing and discussing examples of good practice and what they consider relevant indicators for monitoring quality, all related to the identified quality factors. The rest of this chapter discusses the critical quality factors in detail. First, the discussion highlights major similarities and differences between countries and programmes, compares different practices, reflects on strengths and weaknesses, and gives examples of good practice in terms of quality in education related to the critical quality factors. Next, the experts provide general comments to the discussion and suggestions that the programmes may consider for further development. The final section (4.4) provides examples of relevant indicators suggested by the programmes.

Some readers of this report may find it puzzling that research-based or research-led education is not highlighted as a separate quality area of critical importance in Table 4 (above) and the discussion below. There was general agreement among the participating programmes that the most critical factor for achieving high quality in master programmes in Economics is that the programmes should be *research-based and research-led*. Throughout the project, questions pertaining to research-based and research-led education was typically discussed with reference to areas such as scope and content, teachers (competence) as quality factors, and master research projects. The discussion on research-based education is therefore embedded in the discussion of these topics below.

4.1 Programme design

4.1.1 Structure and organisation

The Economics programmes that participated in this project include a mixture of one-year programmes and two-year programmes. The three Norwegian programmes are “straight” two-year

programmes, building on a well established five-year “Cand. oecon.”¹¹ programme tradition. The Norwegian universities have adapted to the Bologna format by offering a structure of three-year bachelor programmes plus two-year master programmes, but the five-year format is still available as integrated master programmes¹². The Swedish programmes at Uppsala University and Lund University are also “straight” two-year programmes, but at Lund University it is possible to leave the two-year programme after one year with a one-year master (a so called “Magister” degree). In the Netherlands and Flanders, the regular master in Economics is a one-year academic research-based programme that formally qualifies for a PhD. In addition, several Dutch universities also offer two-year master programmes called research masters. These programmes are highly selective and most graduates from the research masters enter a PhD trajectory. The Dutch and Flemish programmes participating in this project are all one-year programmes.

A question discussed at the seminars was whether it is possible to compare one- and two-year master programmes in terms of content and employability. The experts provide some general reflections about this below, but the discussions showed that programmes find advantages with both one- and two-year programmes. The programmes expressed the view that two-year programmes are preferable to qualify for a PhD, but the Norwegian programmes and the programme at Uppsala University in particular, also argued that the two-year programmes provides candidates with strong theoretical and methodological backgrounds that are also sought after by employers outside academia. On the other hand, some of the Dutch and Flemish programmes felt that one advantage with the one-year programme is that since it does not primarily aim to educate candidates for PhDs, less emphasis on the basic theoretical courses allows students to specialise and work on solving problems at an earlier stage. This can be exemplified by the following statement from Tilburg University: “the distinction between our one-year master programme from the two-year programmes [Dutch research master], is the focus on application of academic research rather than creation of academic research”. Lund University has deliberately chosen to offer both one- and two-year programmes. The first year is equal, the difference is just the second year, the argument being that the one-year programme gives most students a sufficient ground for further on-the-job training and learning during their career.

Another important difference between the one-year and two-year programmes is whether it is possible to include one or two semesters of study abroad. At NTNU in Trondheim, over 40 percent of the students spend one semester at another university. In order to achieve this, the programme has freed up the third semester with elective courses, and this represents an example of good practice for enabling students to take advantage of exchange options. Clearly, such combinations are difficult within a one-year frame. However, the Dutch participants commented at the workshops that several students combine studies in two one-year master programmes at different universities and even countries.

Despite this diversity in the general framework for master programmes, they all share some common structural features. An overview is given in Table 5 showing the overall structures of the programmes. In particular, all programmes follow a three-stage process. They start with a bundle of “base courses” in Mathematics, Economic Theory (especially Microeconomics) and Econometrics, in various proportions across the programmes, continue with a second stage consisting of “field courses” and more advanced “base courses” and finally finish in the third stage with a thesis project. All

¹¹ Cand.oecon. is an academic degree in Economics. From 1934-2003 it was given as a five year education in Economics at the University of Oslo, but replaced by the bachelor/master degree system in 2003.

¹² Several universities, specialised universities and university colleges in Norway offer 5-year integrated master programmes in different types of education. These programmes, most often connected to professional education (e.g. Civil Engineering, Economics, Law), have traditionally had a good reputation, and are often more popular than similar 3+2 programmes among Norwegian students and employers.

programmes follow this process, although the two-year programme at Lund University splits the thesis work in two parts, at the end of each year. The base courses are often obligatory, but Uppsala University has no obligatory courses except for the thesis, and the NTNU programme has some “field- or more advanced base” courses that are compulsory.

Table 5. Overview of programme structures (only the 2-year programmes from the Norwegian universities are included).

University	Base courses	Field courses + more advance base courses	Thesis
Oslo	Math 10 EC Theory 20 EC Econometrics 10 EC	50 EC	30 EC
Bergen	Theory 20 EC Econometrics 10 EC	60 EC	30 EC
NTNU	Math 15 EC Econometrics 15 EC Theory 7,5 EC	45 EC Teamwork 7,5 EC	30 EC
Uppsala	Math & theory 30 EC Econometrics 30 EC	30 EC	30 EC
Lund	Math & theory 22.5 EC Econometrics 7,5 EC	15 (45) EC	2 x 15 EC
Tilburg	Method 12 EC	30 EC	18 EC
Amsterdam	Theory 10 EC Econometrics 5 EC	30 EC	15 EC
Antwerp	Method 12 EC	24 EC	18 + 6 EC

The length of the three stages vary across programmes of the same length. Among the two-year programmes, Uppsala University includes a full semester of Econometrics in the base course bundle (although formally not mandatory). However, Econometrics seem to play a major role in all two-year master programmes, and for instance, NTNU also stresses the need to train students in using relevant software. Among the one-year programmes, the apparent emphasis in the Netherlands/Flanders on field courses can be contrasted to the one-year programme in Lund that offers just 15 credit points in applied courses.

Among the two-year programmes, the one that at the outset seems to be most similar to the Dutch/Flemish one-year programmes is the one at NTNU. For instance, both the University of Tilburg and NTNU include a large portion of field courses and both emphasise training in generic abilities and attitudes needed in working life, for example how to work in teams.

All programmes face common challenges related to students’ mobility and freedom to elect courses within the programme or the whole university. One such challenge is how to provide progress within the programme given that students follow different routes through the system. This concern is especially pressing for universities that recruit international students with a varying background. The programme at the University of Amsterdam for example, reports that the variation in the students’ background sometimes leads teachers to lower the ambitions of the course material. Another problem is encountered in programmes with a relatively small number of students, such as NTNU and Uppsala University, where the number of electable courses needs to be more limited than at large universities such as UiO, Lund University and the University of Amsterdam, which may make it more difficult to

customise the education to specific interests from the students. A good communication to prospective students of the programme's specific profile is therefore especially important in these cases.

In sum, one can say that all programmes share the same overall curriculum, i.e., "mainstream Economics" in a broad sense integrated with some Econometrics, possibly with Antwerp's combination of Economics and Sociology as an exception.

Expert comments

Master programmes provide the second cycle of the "Bologna-process" three-cycle model for higher education. Their content and structure are therefore much dependent on the content and structure of especially the first cycle bachelor education and to some degree on the third PhD education cycle. Thus, depending on the extent of specialisation in the bachelor programme, students in a two-year programme can possibly be able to cover more advanced matters than students in a one-year programme. However, the discussions at the seminars indicated that up to one full year of the bachelor degree in Norway and Sweden can be made up of non-Economics courses, whereas this is not the case in the Netherlands/Flanders. Thus, the difference between the structures when it comes to the amount of Economics courses taken by master graduates, may not necessarily be that large. In addition, the students' background in Mathematics, Statistics and Econometrics may vary substantially on a national or individual level with ramifications for how much of these topics at a basic level that needs to be included in the master programme.

Adding a fifth year of university education, i.e. choosing a two-year instead of a one-year master programme, considerably raises the total cost of the education, especially since the opportunity cost from forgone earnings during this year is probably much higher for many students than that of the first years at the bachelor level. Based on the discussions during the project seminars, it seems that the cost-benefit trade-off between four and five (total) years is more actively discussed among students and universities in Sweden and the Netherlands/Flanders than in Norway. One reason for this is probably the historical position of the 5-year Cand. oecon. degree. We also got the impression from the workshop discussions that there is a continuing differentiation in the scope and content between the one and two-year programmes in the Netherland/Flanders. The one-year programmes aim at preparing students for broad careers by emphasising applications of economic theory to policy problems in specific fields and to develop generic skills and attitudes needed in professional life.

To justify the additional costs of a two-year master programme, it should provide a critical mass of courses that takes the student to a higher "base level" for subsequent learning that cannot be given within a one-year format. This can for instance be a package of courses in Mathematics, Statistics, Economics and Econometrics, including proficiency in use of relevant analytical software. A remark made in the self-reflection by the one-year programme in Amsterdam can be seen as a reflection of a similar opinion: "Are 1-year masters employable in the long run? More and more employers ask for PhDs".

The Norwegian universities also give five-year integrated master programmes, combining the Bachelor and Master. Discussions at the seminars indicated both advantages and disadvantages with this structure that the experts would like to highlight in this report. NTNU and UiB require more Mathematics from high school for admission to the integrated programmes compared to the 3-year bachelor programmes, and find that the 5-year integrated programmes recruits stronger Norwegian students than the 2-year programmes. One disadvantage is that students risk ending up with no degree

if they do not complete the programme (although it is usually possible to transfer to the bachelor degree if they only finish the first three years). Another disadvantage is that this programme structure could hinder internationalisation and student mobility because these students may not have the option to do their bachelor and their master at different universities. Moreover, the fact that students have to commit to a 5-year programme from the start, and that the programmes are given in Norwegian, makes them unattractive for most international students.

4.1.2 Scope and content

Economics as a discipline has a long and rich tradition, also in the four countries included in this project. For example, the first Nobel Prize in Economics (1969) was shared between a Dutchman and a Norwegian. This history has given Economics, compared to other Social sciences, a relatively uniform theoretical framework. Neoclassical Economics, with rational choice and competitive markets combined with a strong emphasis on quantitative methods form the backbone of Economics as taught at leading universities, providing powerful tools for analysis.

Yet, the discipline has changed during the last decades. The inclusion of Non-cooperative Game Theory (Strategic interaction, Asymmetric information and Imperfect competition), from the mid-1970s and onwards was perhaps the largest revolution of the Economics discipline in the 20th century. This change has become an integral part of the Economics curriculums at most universities, also those included in this project. The emphasis of different fields of Economics has varied, following student demand and policy interest, as exemplified by the fact that some of these programmes offer specialisations in Environmental- and Resource Economics.

A more recent development relates to the emergence of Institutional- and Behavioural Economics, which brings the discipline closer to other Social sciences such as Political Science, Sociology and Social/Behavioural Psychology. Compared with the introduction of Game Theory in the 1980s and 1990s, the impact has been much smaller thus far, for a number of reasons: at least some parts of Behavioural Economics questions the basic assumptions of rational choice theory, and therefore cannot be easily accommodated into existing paradigms and theoretical and methodological frameworks. Some programmes have strong research groups (Tilburg University in particular) and electives in Behavioural Economics.

The debate on the conservatism of Economics – as taught at leading universities worldwide - has been lively over the past few years, and has expressed itself in organisations or movements such as “Rethinking Economics”, “Pluralism in Economics”, or more creative labels such as “post-autistic Economics”. Yet, it is fair to say that the impact on teaching and the curriculum of Economics – again, as taught at leading universities – has been rather limited. (The expert group provides some reflections on this issue at the end of this section.)

Against this background, seven out of the eight Economics programmes that have participated in this project could be characterised as mainstream programmes, in the way that they have a strong emphasis on standard Micro- and Macroeconomics and quantitative methods (Mathematical models and Econometrics). The exception is the programme in Antwerp, which is an interdisciplinary programme between Economics and Sociology.

In terms of thematic focus, there are some differences across the three Norwegian programmes within a rather uniform theoretical/methodological approach. The University of Oslo has traditionally had (and still has) a strong focus on Macroeconomics and Quantitative methods; The University of Bergen has a relatively stronger Micro-focus (Game- and Incentive Theories and Micro Econometrics), while NTNU has a strong focus on Public Economics and quantitative methods. Overall, however, the three Norwegian programmes appear rather similar in scope.

Among the two programmes in Sweden, Uppsala University has deliberately chosen a focus on applied and policy analysis within the sub-fields of Public and Labour Economics. The rationale for this scope is that the number of Economics researchers at Uppsala is limited, and that they feel they are able to offer higher quality of education by specialising according to their research strength. Lund University offers a broader programme with six different specialisations in the form of what is termed “structured flexibility”. This is partly reflecting the different size of the two university departments, but also the fact that Uppsala University – together with the University of Antwerp – is the programme that most clearly has chosen a specialisation within the broad field of Economics.

In the Netherlands and Flanders, the three Master programmes participating in the project are all one-year programmes, and they have a more job market focus compared with their Nordic counterparts, preparing candidates for jobs outside academia. The University of Amsterdam appears to have the strongest theory focus among the three universities, with a standard theory-method core and then six specialisation tracks. At Tilburg University, the one-year Master degree is more job market oriented, stressing the job-relevant skills, also with six specialisation opportunities. At the other end of the spectrum, the University of Antwerp with its interdisciplinary Master, emphasises critical social thinking, and offers five specialisation clusters.

On the method side, sound knowledge of Econometrics is an essential part of what is to be expected of an Economics graduate. The field is in continuous development, and the courses are taught by active researchers who update the courses to give students the state-of-the-art methods. In terms of more general methods, some programmes (most formalised and extensive at the University of Bergen and the University of Amsterdam) have particular courses or seminars on research methods, in preparation for the Master thesis. At the University of Oslo, the students can choose a research specialisation that aims to prepare candidates for a PhD, but which can also be taken for students who wants a stronger methodological orientation. The approach to the Master thesis differs substantially, from very demand-driven (the department announces thesis topics that students apply for) to supply-driven (students propose and search for advisors), to intermediate forms where topics are suggested by faculty but students have to spell out the details.

Graduates from all programmes do compete well in the labour market, and all programmes state to have high employability. Several strategies may be underlying the good record in producing attractive candidates. First, the recruitment of good students. Second, developing and maintaining a strong Economics brand name, in the form of a unified programme and producing candidates with strong quantitative skills. Lund University state that “it is a strength to offer a programme that, in general, is purely Economics”. Third, special courses or activities that focus on developing job-relevant skills.

While all programmes stress the first two points, some programmes have also included the third, and several good examples can be found. At NTNU, all Master students have a mandatory course called “Experts in teamwork”, where students across disciplines work to solve a problem, aiming to develop

skills in interdisciplinary work and cooperation. At Tilburg University the students take a compulsory course of 3 EC, where the learning outcomes are centred around awareness of how to solve problems and how to apply Economics in several areas. The students are challenged to write up what specific skills and knowledge they would need to become experts in a field, and discuss this with students from other fields. At Uppsala University, students in an Econometrics course select a policy measure and are to analyse its effectiveness with real-world data. At Uppsala University (and perhaps also elsewhere), a wide set of criteria for assessing the Master thesis is presented to students; some of these are transferrable skills such as presentation skills. At the University of Oslo, a work/employer panel of former graduates have been established to get feedback on how the content of the programme matches potential employers' demand. This appears to be a very good idea for securing that this type of feedback is actively used for programme development.

Several times throughout the project, the programmes raised questions about the future of Economics education, especially as it related to Big Data, programming, informatics and job market relevance. Whereas all of the participating programmes provide students with the skills to conduct Econometrics analysis, none of the programmes have yet seriously included programming and informatics training in their programmes. In a world where the collection, management, and analysis of Big Data becomes ever more important, the programmes feel there is a risk that students with Economics degrees, but without strong understanding and skills in programming and Big Data analysis, will lose out on the labour market to computer scientists. At the present, none of the programmes have found the “right” solution to address these challenges, but several programmes raised the possibility of closer collaboration with computer science programmes to offer students a more multi-disciplinary Economics education.

Expert comments

The scope and content of the programmes is a matter of choice, with no objectively correct way of making these choices. Yet, the expert group offers the following observations and reflections:

We observed some conservatism and path dependence among the programmes. Several universities noted that, for example, “teachers typically stick to what they did before”, or that it takes “too long to integrate new elements into the programme”, either due to lack of qualified lecturers or the costs of change. Compared to firms in competitive markets, university departments have smaller incentives to respond to changes in demand of students and employers and in supply (new offerings of theories/approaches and methods).

Many students feel that Economics is too theoretical and not sufficiently linked to (so-called) real world problems. Even if such statements clearly are debatable, the fact this is a common perception needs to be taken seriously for the programmes to remain competitive. The programmes also admit that more could be done to include cases and policy problems into the programmes and in individual courses. In, for example, business studies, student-active approaches, such as problem-based-learning or case studies are a main form of teaching and learning. While basic theories and methods need to be taught at a general level, more case-/problem-based approaches would respond to some of the demands raised by students, would be highly job-relevant (see more on this in chapter 4.3.2), and would in many respects also represent a more pedagogical approach to learning basic concepts and theories.

Further, several programmes have introduced other elements, that the expert group also thinks could be part of a standard Master degree in Economics. This includes, as they do at the University of Bergen, a course in research methods in preparation for the Master thesis (alternatively, as a significant block of another course). Further, training and evaluation in transferrable job-relevant skills can be included as part of individual courses or the Master thesis, and some good examples are given in the discussion above.

The issue of offering generic versus specialised programmes presents a dilemma. All programmes have a core set of courses, and a set of electives, oftentimes structured into a set of specialisations. Generic programmes have advantages in terms of a unified product (graduates) and facilitate student exchange (and movements between universities and national borders from Bachelor to Master to PhD). Yet, from a societal point of view and given the diverse interests of the students, a larger degree of specialisation and division of labour between programmes might be desirable, in line with the founding father Adam Smith's tenet of division of labour being the key to prosperity!

4.2 Input factors

Within education, quality is not a given; high quality education develops in the interaction between students and teachers and is improved based on feedback by relevant stakeholders. This makes both students and teachers, as well as quality assurance, critical input factors in the quality of higher education.

4.2.1 Recruitment of motivated and talented students

Given the importance of highly qualified students, all universities are concerned with attracting and selecting the right students. Over the years, this issue has become more urgent given the growing diversity of the student population. This diversity has many dimensions and is among other things related to differences in socio-economic, educational or cultural backgrounds. The diversity also increases because of the growing internationalisation of the educational system, and the increased mobility of students.

Even though a heterogeneous student population can be an advantage, it also poses some challenges from a quality perspective. In most instances, universities deal with this growing diversity by introducing standardised admission requirements. Depending on the actual programme, this might concern the content of the preliminary training (bachelor in Economics) or the level of academic and professional skills. Programmes select for example on proficiency in English (indicated by an IELTS or TOEFL score), Mathematics (GMAT), overall performance (GPA) and general skills (GRE). Standardised admission requirements create a minimum threshold in the knowledge and skills level of students entering the programme, while at the same time informing prospective students about the required pre-knowledge. An interesting example of good practice was reported by the University of Amsterdam that continuously adjust the admission requirements based on analysis of their students' performance compared to their level when they entered the programme. Most programmes are highly attractive, in the sense that they have more qualified applicants than they admit. In some cases, universities also constrain the number of available slots and opt for highly selective programmes. As such the university actively selects the most motivated and talented students. This is for example the

case for the NTNU programme that receives about 150 applicants yearly but only admits a maximum number of 25.

While all participating programmes mention the importance of attracting the right students, the actual policy mix differs. UiO has recently added a GRE or GMAT test as criterion for the requirement of students with previous education from outside the Nordic countries, to ensure that all students are on the same (minimum) level when they start in the master's programme. Uppsala has strict requirements with regard to both the bachelor degree and proficiency in English. In addition to the formal English requirements, the Uppsala programme systematically evaluates English skills in the admissions decision. The discussions indicated that the other programmes found this to be an interesting example of good practice that, although time consuming, could be implemented by more programmes. At the University of Bergen and NTNU, the programme language is Norwegian, with just a few courses taught in English, which limits the number of international applicants and students. This is also the case for the University of Antwerp, due to legal requirements regarding the number of courses taught in Dutch. At the same time, the master programme in Antwerp is interdisciplinary, combining Sociology and Economics. This leads to a greater diversity in the bachelor degrees of the incoming students. In Tilburg and Amsterdam, all courses are taught in English.

All programmes agree that it is essential that the students are thoroughly informed about what is expected from them from the start. One interesting way of doing this can be found at Tilburg University, where the programme has defined some operational criteria for proper student activity that distinguishes the master from the bachelor level: “from exercises to assignments”, “from consumption to production of outputs”, and “activity in discussions, the students should demand rather than teachers giving assignments”.

In addition to relatively strict admission requirements, some programmes, among them the programmes at the Universities of Antwerp and Amsterdam, have set up pre-master programmes or have introduced summer courses or other preparatory courses to facilitate meeting the thresholds. Other programmes are considering developing similar measures. Several participants have also introduced mentoring programmes to smoothen the transition for (especially) international students and to lower the number of dropouts. In most instances, the participants combine a university wide introduction week with programme specific introductory meetings throughout the year. The purpose of these activities is to help the students' network and to make them more familiar with the national context. In addition, information about study skills, efficient ways of planning, career events etc. is provided to both national and international students.

Expert comments

Heterogeneous student populations seems to be a challenge the programmes increasingly face, and it is critical that the programmes find adequate ways of handling this challenge. Setting the correct admission requirements is a learning process. In order to recruit the right students it is important to adjust the admission requirements on a regular basis, based on experiences and data analyses. Some examples of how this can be carried out or improved is given in the discussion above. At the same time, programmes taught in a national language are unlikely to recruit strong international students, thus shrinking the pool of highly qualified and motivated students.

The mix of instruments used for student selection, seems to indicate that there is no simple recipe for attracting the right students. The actual choice is the result of national regulation, teaching language,

and the size and scope of the programme. Most participants also emphasised that it is important to have some flexibility in this respect. If the admission criteria are not all met, student motivation may also be an important element in a successful application.

4.2.2 Teachers as a quality factor

Within academia, including the participating programmes, there is a consensus that high quality teaching implies a research-driven educational programme with solid theoretical foundations. In practice, this implies that teachers have doctoral degrees and active research agendas, guaranteeing up-to-date knowledge on the topics taught. This also implies that the courses that are on offer and/or the focus of the overall programme are in accordance with the research competence of the staff.

While all participants agree that active researchers is a critical input factor in the quality of the programme, there is much less emphasis on formal teaching qualifications. Some universities offer formal training and a certification of the teaching qualification. In most instances, policies like these start with young teachers, just entering the job. Certification may be part of personnel policy in the sense that a certification is a necessary element for a permanent position. The programmes experience that extending these formal qualifications to existing staff is not always easy, partly because senior staff is to a large extent evaluated and promoted on research output. Informal ways of quality assessment might be a supplement or an alternative – like peer consultations, informal contact and peer pressure. An example of good practice was provided by Uppsala University, which initiated a project and allocated resources, by which pedagogical innovation can be funded after application from their teachers. This way, teachers are encouraged to think innovatively about how to improve their teaching.

Expert comments

There is a strong consensus that high quality teaching implies research-active staff. There is much less emphasis on teaching skills of staff and on certification of teaching skills. In order to increase the profile of quality teaching, teaching skills should become part of the promotion and tenure policy of the department. Moreover, programmes should facilitate peer-learning and feedback on teaching and learning activities by establishing arenas where teachers can meet and discuss their teaching efforts and strategies.

Despite the consensus that the programmes should be research-driven, there is a growing awareness that from an employability point of view, the quality of the programmes might increase when also practitioners from business and/or research institutions are involved in the programme. The actual involvement differs, however, depending on the national particularities and the scope of the programme. Guest lectures or extra-curricular activities are a first step. More elaborate efforts include on-site visits and internships. There is quite some debate among the programmes whether this concerns mainly extra-curricular career events (for example organised by student associations), or whether this should be a structural element of a high quality programme. As a result, the actual involvement from non-academic staff is rather *ad hoc*. The experts believe that most of the programmes could benefit from a more systematic approach for involving external resources in teaching and learning processes.

4.2.3 Quality assurance systems

All the participating programmes agree that quality assurance is a critical quality factor, and that it is important that students provide feedback on teaching and curricula through course and programme evaluations. All participating programmes have a formalised feedback system in which students give their views on the strengths and weakness of a particular course and/or the overall programme. Students also have many opportunities to suggest improvements. Most of the time the feedback is given through formal questionnaires, but also by regular meetings with student representatives ('programme committee', 'teacher council') and staff. At NTNU, for example, each course has a student reference group (3-4 students), which contributes to the evaluation of the course, both during and after the semester. In addition, all students have the opportunity to give online anonymous feedback on the course. The University of Bergen has a system of structured student evaluations of all courses at both mid-term and at the end of the term. Lund University obtains regular feedback from the students regarding both programme and the course structure through the use of questionnaires, which in general have a good response rate. Tilburg has a comparable system but the system suffers from low response rates, partly because students are supposed to fill in the form electronically and the questionnaire is not always tailored to the course. To amend this problem, an additional instrument - 'sounding boards' - are set up, to get interactive feedback between students and teachers. A good example that involves all students is given by the University of Oslo, where the programme organises a so called "critical day" each semester, where students and teachers together discuss different topics relevant for improving the quality of the programme. Another very interesting example is the involvement of the Economics student organisation Pareto associated with the programme at Uppsala University, which carries out its own student evaluations of the quality of the programme. The student turnout in Pareto's evaluations is higher than the surveys carried out by the University, and the results and analyses are communicated back to the Economics department.

Whereas the input of students is taken seriously and is rather well organised, the input from other important stakeholders such as alumni, business representatives and employers is much more *ad hoc*. All of the programmes are in contact with working life through different activities, and many isolated examples of good practice can be found, some of which are described below. However, most of the programmes felt that although they keep contact with alumni and employers through different activities, there is a need for a more systematic approach to collecting alumni and employer feedback.

Some programmes organise alumni nights, to foster contact between students and graduates. Others try to have regular contact with (large) employers, not only from a career perspective but also to receive feedback on the actual skill level of graduates. The University of Oslo for example has an employee panel consisting of former students, who give advice on how the programme should be designed to best prepare students for their future career, which is one example of good practice related to receiving external feedback on quality. Several programmes have also carried out employer surveys in order to monitor their satisfaction with their candidates and provisions. Moreover, the Economics student organisations at campus often play very important roles for facilitating contact with the working life, the students and the programmes, by organising events and visits to major employers.

Expert comments

A general conclusion is that formal and informal student involvement is important for continuous quality enhancement of the programmes. The available evidence also seems to suggest that all universities have good systems for this and take it seriously. However, several of the programmes

struggle with low response rates from students, and students complain that they do not receive information about how their feedback is used to improve the programmes. Where this is the case, the experts believe this should be addressed by creating arenas where the students and teachers can discuss the results of evaluations, and share information they feel is important for further quality development.

Several programmes reported that it can be frustrating if formal teaching evaluations (by students) constitute the main indicator used by the University to monitor the quality of teaching and learning. The expert committee agrees with the programmes that the quality of programmes should be assessed by a broader range of relevant indicators. This report gives examples of different indicators that may be used in section 4.4.

Input from other stakeholders is generally treated less systematically than student feedback. Considering the growing mobility of students and the increased pressure on universities to educate students with broad sets of transferrable skills, it is likely that the quality of the programmes will increasingly be defined in terms of employability. The experts therefore believe that it is important for the programmes to systematically collect feedback and involve different stakeholders (especially alumni and prospective employers) in the development of their programmes.

4.3 Learning processes and assessment

4.3.1 The master (thesis) research project(s)

The quality of the thesis work is an important indicator of the overall programme quality. Representatives from all the participating programmes agree that the thesis project is the most important assignment and that it is critical in stimulating students' active learning, where theoretical knowledge as well as methodological and transferable skills are used, developed and assessed. There was general agreement among the participating programmes that the goal of the thesis project(s) is to introduce the students to real research questions and research methods, and to enable them to carry out independent research work under supervision.

In Norway, students carry out one thesis project of 30 EC. At NTNU, the programme provides a list of options for the thesis projects to help the students develop project proposals that may realistically be carried out within the nominal time. This strategy has been developed as a response to challenges with completion rates and that too many students spend too much time on their project. At the University of Bergen, students must take a preparatory course for the master's thesis in their third semester. In the course, students prepare a research proposal for their thesis, which they present for the other students, their advisor and an external committee. At the University of Oslo there is no preparatory course and students are expected to develop their own projects. At the University of Oslo, this is seen as an important quality factor for enabling students to demonstrate initiative and have ownership of their project. At the Norwegian programmes, the students present and defend their thesis for a committee consisting of either the supervisor(s) and an external examiner, or an internal and an external examiner. The external examiner is responsible for assessing the thesis. The final grade is largely based on the written work, but the examiners can adjust the grade based on the oral defence. National legislation requires that the external examiner cannot be affiliated with the university, and usually comes from another university, university college or research institute in Norway. The Norwegian

programmes feel that this is a good way of organising the assessment, as it takes away the pressure from supervisors to give their students good grades, and also helps to secure transparency. The Norwegian programmes grade the master research project using a grading system from A-F, where A-E are passing grades and F is fail.

Students at the Dutch and Flemish programmes carry out one research project of 15 EC. At the University of Amsterdam, students take a research seminar (5 EC) where the main output is a research proposal for their thesis project. The student's supervisor assesses the thesis, but a second supervisor also reads it. There is no defence. At Tilburg University the thesis project is divided into two activities. All students must first take a course in Applied Economic Analysis (3 EC) as preparation for the thesis. In this course students develop their thesis proposal. The thesis itself is a 15 EC research project. These two components are graded separately. The thesis is assessed by the supervisor and a second reader after a one-hour defence. The University of Antwerp's students take a master's thesis seminar (3 EC) concurrently with writing their thesis. The purpose of the seminar is to enhance the quality of the thesis through a process of "peer coaching" and "peer review, and the students also receive coaching on peer-reviewing. At various stages in the writing process, the students present and discuss their work with fellow students in addition to their supervisors. In addition to improving the final product, the University of Antwerp reports that students also learn valuable transferrable skills associated with presenting, discussing and giving feedback on projects. This appears to be a very good system for student-active learning, involving students in providing feedback and facilitating valuable discussions, as well as training of transferrable skills. The assessment of the thesis is structured in two parts, a continuous process assessment, and a final assessment of the written assignment including an oral presentation. The Dutch and Flemish programmes use their national grading systems. In the Netherlands this means grades from 1-10 including half grades, where below 5.5 is fail. In Flanders it means grades from 1-20, where 10 and below is fail.

At the two Swedish programmes, the organisation of the thesis project differs. The Uppsala University follows the Norwegian model with one project of 30 EC. The thesis assessment is organised as a defence with an external examiner. Uppsala has recently developed specific grading criteria that they communicate to the students, which they feel is important for communicating the expected level. The University of Lund requires students who complete the two-year master to complete two theses of 15 EC each, one at the end of the first year and one at the end of the second year. The assessment of the theses consists of presenting and defending the thesis at a seminar, discussing another thesis and actively participating in at least three other seminars. An appointed examiner, not the supervisor, decides the grade. The final grade is based on several criteria: choice of subject, theory, method, independence, objectivity, link to previous research, approach to data, analytical ability, awareness of limitations, conclusions, written and oral presentation, and time use. The Swedish programmes grade the thesis on a three-point scale: fail, pass, or pass with distinction.

Expert comments

The expert team agrees with the programmes that that the primary goal of the thesis projects should be to learn and not produce science. The discussions throughout the project indicates that there are advantages and disadvantages with both longer and shorter master research projects, and that it is not meaningful to conclude that one particular way of organising the master research project(s) results in the highest level of quality. It is clear that a one-year programme cannot block a whole semester for thesis work, and that a 15 EC thesis seems to fit these programmes well. For the two year-programmes, the majority have chosen one 30 EC project. The strength of this strategy may be that

students obtain a more in-depth understanding of their topic and the relevant research process. Only the University of Lund splits the thesis project into two theses. Both student and faculty members at Lund argue that this approach works well. Even though students lose some of the depth that a 30 EC project may provide, they feel that this is more than compensated by the steep learning curve most students exhibit between the two projects, especially (but not only) for those students that have not written a bachelor thesis. The experience is thus that the second thesis is significantly better than the first one.

Many of the programmes organise a preparatory course in conjunction with, or prior to, the actual thesis project and the programmes presented many good arguments in favour of this approach. Allowing students to participate in seminars where they develop and present their research proposal to fellow students not only allows the students to produce better research proposals; it also facilitates learning of a range of valuable transferrable skills.

The discussions at the seminars indicated that involving external examiners in the assessment process has many benefits, and the expert team feels that all programmes should consider implementing that system. However, the discussion in section 4.3.3 below points to some complications that the programmes should be aware of.

4.3.2 Innovative teaching and learning methods

All the participating programmes and the experts agree that the use of innovative teaching and learning methods is a critical quality factor. Though there are some differences between the programmes, it is clear that the traditional lectures and seminars constitute the dominant teaching and learning methods. The programmes reported that one main challenge is that the development of new teaching methods is often left up to individual, often new, teachers. Also, several programmes find that there is little time and resources for development of new teaching formats, and that there is some scepticism towards innovation, also among some of the students.

However, this project identified a number of interesting developments taking place that can serve as examples of good practice. For example, the programme at the University of Bergen has recently adopted a strategy for developing more student active learning processes. So far, new methods such as flipped-classrooms, enquiry-based learning processes and team assignments have been implemented in the elective courses, and they strongly feel that this significantly contributes to increase the quality of the students' learning experiences. Although resource intensive, they also report that it is more interesting and motivating for the teachers. The programme plans to implement these learning strategies to a larger extent throughout their portfolio, but finds that it is more challenging for the mandatory basic courses because they feel that it is easier to ensure that their students learn the necessary basics through traditional methods. Also, Tilburg University reported that they are in the process of experimenting with different approaches, such as video lectures to free up time in class for discussions, case-based problem solving and team-work assignments. The programme plans to implement relevant methods based on an evidence-based approach for evaluation of the effectiveness of the different teaching and learning activities. Other interesting examples of approaches to student-active learning are already mentioned in this report. They include the seminar at the University of Antwerp where the students are involved in peer-reviewing of each other's thesis projects (described in section 4.3.1), and an Econometrics course at Uppsala University where students select a policy measure and analyse its effectiveness with real-world data (section 4.1.2).

Expert comments

The primary criteria for assessing the effectiveness of teaching and learning formats should be that they are fit for purpose to reach the programmes' intended learning outcomes. As the programmes have a range of different intended learning outcomes, they should also use different and fit for purpose teaching and learning formats. The discussions throughout this project indicates that especially the learning outcomes related to transferrable skills might be difficult to reach using traditional formats such as lectures. Thus, there is a potential for quality development by implementing new and more student active learning approaches to a larger degree. Students typically also report that such learning processes are more engaging and motivating. One would therefore expect that over time, student active learning formats might also have a positive effect on the programmes attractiveness (e.g. number of applicants), retention rates and drop-outs.

The traditional lecture format supplemented with seminar papers is a well-established learning process at all participating programmes. However, there is a growing expectation from many students (in general, but also expressed by student representatives in this project) that the programmes should develop their teaching and learning formats to become more student active. This pressure also comes from other stakeholders, such as employers who ask for candidates with a broader range of transferrable skills, trends in pedagogical research and the higher education authorities in many countries, including the Quality assurance agencies. The discussions throughout this project indicated that the programmes are highly motivated for modernising their arsenal of teaching and learning methods. Although the programmes are currently at different stages in their efforts to develop and implement more varied teaching and learning forms, the discussion and examples above indicates that this is high on the agenda at all programmes, and that changes are taking place gradually.

4.3.3 Feedback to students

All of the participating programmes agreed that the amount and quality of the feedback students receive on their performance is a critical factor for enhancing student learning, motivation and retention. At the same time, most programmes felt that this is a quality factor with a large potential for improvement. Some programmes test their students not only on final exams, but also in assignments, projects, papers and presentations where formative feedback can be given. The discussions at the project seminars showed that the quality of the formative feedback given during these processes is highly variable, both between programmes, but also within. Another means for providing formative feedback typically used, is to ensure that students can receive feedback from and discuss directly with their teachers, either by having an open-door policy (possible for smaller programmes), or defined weekly contact hours. However, some of the programmes find that their students do not use these possibilities or take the initiative to receive individual feedback to the extent they would like.

When the traditional lecture is the dominant teaching method and the traditional exam and term paper is the principal assessment form, the programmes find that providing students with formative feedback during the learning process can be difficult. A particular issue that was raised is that traditional exams are poorly suited for testing learning outcomes related to transferrable skills, and this is viewed as a major problem by several programmes. Thus, assessment of transferrable skills is mainly taking place through the assessment of the master thesis, which does not provide the students with formative feedback for improvement. The programmes reported that just as developing new teaching methods is time consuming for teachers, so is providing formative feedback to the students. It was argued by

some of the programmes that improving the quality and amount of feedback students receive, probably requires more systematic support from the university leadership and a shift in the incentive structures for the academic staff, which tends to be skewed in favour of research.

The Norwegian programmes argue that they face an additional challenge when it comes to providing students with feedback, which is related to the legal framework surrounding grade appeals. In Norway, all student can ask faculty members for an explanation for their grade. The ease with which students can ask for grade explanations leads many students to do so, which further limits the time faculty members have to develop new teaching methods and to provide good formative feedback to students. Another challenge for the Norwegian programmes comes with the use of external examiners (not only for the thesis). The programmes feel that it is difficult to develop new assessment methods where formative feedback is an integrated part, when it is required that external examiners should be involved in the assessments.

Even though all of the programmes face many of the same challenges, several programmes have found ways to provide students with feedback after exams that require relatively few resources and time. For example, at the University of Tilburg, faculty members have online review sessions after exams where students can submit questions online. At Lund University, faculty members have review lectures after the exams where student can show up to ask questions. These are good examples and are clearly an improvement from just handing students a grade, but they still lack the element of formative assessment that gives the students a chance to improve prior to being assessed.

Expert comments

High quality formative feedback is clearly a critical factor for the quality of the students learning experiences. Students need relevant and often individual feedback in order to progress, and students do not learn much from receiving grades on final exams. Moreover, traditional assessments of exams and papers fail to test the students' transferrable skills the programmes outline that students should acquire, which is clearly a major challenge. Both the written input from the programmes and the discussions at the seminars during this project, strongly indicate that the quality and amount of formative feedback it is possible to give students is connected to both the teaching and learning- and assessment methods used. Thus, it appears that strengthening of formative feedback to students, at least to some degree, depends also on developing alternative teaching and learning formats as well as alternative assessment methods to supplement or substitute traditional exams.

4.4 Indicators

The following list of indicators have been identified by the programmes as relevant for monitoring the quality of master programmes in Economics. The indicators are grouped under different headings, but several indicators may be relevant for monitoring quality in different areas.

The list of indicators does not establish benchmarks for what constitutes a high quality level, but point to relevant information that programmes may use to monitor quality in their programmes. When using these indicators, programmes have to identify their own thresholds.

Some quality factors may be analysed and monitored by quantifiable data and indicators. For other factors, quantitative data may not be available or relevant. In this case, qualitative indicators may be used, and the list suggests types of relevant assessments or surveys. In addition to the indicators, the

list suggests control questions relevant for quality assurance of quality factors not easily expressed as indicators.

Employability

Indicators

- Percentage of graduates who are employed 6 months, 1 year and 5 years after graduation
- Salaries 6 months, 1 year and 5 years after graduation (mean, median and quantiles)
- Monitoring of candidates' careers
 - Sectors where they work
 - Percentage of candidates with relevant/non-relevant positions
- Feedback from alumni and employers
 - Results from candidate- alumni and employer surveys
 - Feedback through meetings or advisory panels
- The quality of career services as assessed by student and candidate surveys
- Number and quality/relevance of activities where students meet prospective employers (e.g. visits, seminars, internships)
- Share of students continuing with a PhD

Control question

- Are the students accepted as PhD students at Universities of good international reputation?

Student data

Indicators

- Number of applicants/admitted/enrolled
- Student success rate and time to completion (mean, quantiles)
- Share of students who drop out and information of when and why they drop out
- Grades from universities of good reputation
- Admission requirements:
 - Required grades (GPA or similar) and/or scores on language tests to enter the programme
- Heterogeneity within student population with respect to variation in the abovementioned indicators
- Share of international students
- Performance of international students (success rate, completion time)

Teachers and research connection

Indicators

- Share and number of research-active teachers (e.g. publications last 5 years)
- Share and number of teachers with formal pedagogic competence
- Available time, resources and incentives for pedagogic development
- Share of teachers with international backgrounds
- Results from student evaluations and surveys
- Quality assurance of guest lecturers (pedagogic competence, relevance to the programmes learning outcomes)

Control questions

- Are courses/specialisations in line with the staffs' research expertise?
- Organisation of teaching: are teachers working in teams, and are they aware of the whole programme?

Teaching, learning and assessment

Indicators

- Student satisfaction with learning experiences/courses (from evaluations and surveys)
- Turnout in student surveys/evaluations
- Use of student active learning forms in courses
- Available time, resources and incentives for developing new teaching and learning methods
- Arenas for social and academic integration of students
- The quality of the theses evaluated by re-assessment carried out by external experts

Control questions

- Are feedback to students given in a format conducive to learning and improvement (formative versus summative)?
- To which extent does the programme collaborate with and involve external stakeholders in teaching and learning processes (e.g. guest lecturers, internships)?

Internationalisation and mobility

Indicators

- Share of international students
- Possibilities for exchange (programme structure and exchange agreements)
- Share of students taking a semester or courses abroad