RESEARCH REVIEW ERASMUS SCHOOL OF ECONOMICS 2015-2021

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Preface

This report contains a research assessment of an external review committee of the Erasmus School of Economics (ESE) of the Erasmus University Rotterdam. What you are about to read is based on a careful examination of the written documentation provided by the Board of ESE and a three-day onsite visit in June 2022 with interviews of the board, staff, post-doctoral researchers, and doctoral students. The overall impression of the committee is that ESE is an outstanding school that hosts world-class economists who publish impactful research in the very best journals of the discipline. As with any other school, there is also room for improvement. We hope that this assessment provides a useful pause for thinking about how to improve further and tackle future challenges.

On behalf of the committee, I would also like to express our gratitude for the flawless organisation and the warm welcome by the board. The committee would like to thank all who participated in the interviews for their openness and positive and reflective approach. They made this exercise not just informative for the committee members but also rewarding and at times inspiring.

Lastly, the committee would also like to thank Annemarie Venemans of "De Onderzoekerij" for the support before and during the assessment, and in the preparation of this report.

On behalf of the committee,

Prof. dr. Maarten Lindeboom, Chair of the Peer Review Committee

1. Introduction

1.1 Aim of the assessment

All publicly funded university research in the Netherlands is evaluated at regular intervals in compliance with a national strategy evaluation protocol (SEP 2021-2027), as agreed by the Universities of the Netherlands (UNL), the Netherlands Organisation for Scientific Research (NWO) and the Royal Netherlands Academy of Arts and Sciences (KNAW). The evaluation process, which is applied at the research unit level, consists of an external peer review conducted every six years.

The committee is requested to assess the quality of research conducted by the five research programmes of the Erasmus School of Economics (ESE):

- Applied Economics
- Econometrics and Management Science
- Economics
- Finance and Accounting
- Marketing

as well as to offer recommendations to improve the quality of research and the strategy of ESE.

Accordingly, three main criteria are considered in the assessment: research quality, relevance to society, and viability. While evaluating these criteria, the committee was asked to incorporate four specific aspects: Open science, PhD policy and training, academic culture, and human resources policy.

In addition to these criteria specified in the Strategy Evaluation Protocol, the board requests the committee to pay attention to the following additional questions as well as to offer its assessment and recommendations on following up of the previous evaluation (2015) and the midterm (2018). The midterm evaluation recommended further improvements to three aspects:

- To communicate what is available in the doctoral programme to enhance the success and career of doctoral students:
- To allow for more heterogeneity in faculty;
- To consolidate the measures and policy to societal impact.

This report describes the findings, conclusions, and recommendations of this external assessment of the research of ESE.

1.2 The committee

The Board of the EUR appointed the following members of the committee:

- Dr. Maria Correia (associate professor in Accounting at LSE);
- Prof. dr. Maarten Lindeboom, Chair (professor of Economics and head of the department of Economics at the School of Business and Economics Vrije Universiteit Amsterdam);
- Caroline Liqui Lung, MSc (PhD student at Paris School of Economics);
- Prof. dr. Eitan Muller (professor in Marketing at Stern Business School);
- Prof. dr. Alexander Rinnooy Kan (emeritus professor of Economics and Business at the University of Amsterdam);
- Prof. dr. Reinhilde Veugelers (professor of Economics, KU Leuven);
- Prof. dr. Luk Van Wassenhove (professor of Technology and Operations Management, The Henry Ford Chaired Professor of Manufacturing, Emeritus, INSEAD).

The University Board appointed Annemarie Venemans of De Onderzoekerij as the committee secretary. All committee members signed a declaration form stating no conflict of interest and ensuring impartiality and confidentiality.

1.3 Procedures followed by the committee

Before the site visit, the committee reviewed detailed documentation comprising the self-assessment report of the institute including appendices.

The committee proceeded according to the Strategy Evaluation Protocol (SEP) 2021-2027. The assessment was based on the documentation provided by ESE and the interviews with their management, selections of senior and junior researchers, and PhD candidate representatives. The interviews took place on June 22-24, 2022 (see Appendix A).

During several site visit sessions, the committee discussed its assessment of each research programme. The committee chair had the coordinating role in the writing procedure and delegated the writing of sections to members of the committee. The committee members commented by email on the draft report. The draft version was then presented to the institutes for factual corrections and comments. Subsequently, the text was finalised and presented to the Board of the University.

2. Assessment of the research of ESE

2.1 Management, organisation and strategy

Erasmus School of Economics (ESE) is one of the seven Schools at Erasmus University Rotterdam (EUR). ESE consists of four departments, each of which covers its own specific area within the field of Economics. The departments are Economics, Applied Economics, Business Economics, and Econometrics and Management Science. Regarding research, each of the four departments has its own corresponding research programme, except the largest department - Business Economics - which has two: Finance & Accounting and Marketing.

ESE has grown to more than 7000 students, nearly 200 faculty and some 65 doctoral students.

The School's mission is to be the centre of choice for talented students, creative scholars, ambitious alumni, and others interested in learning, developing, and applying a quantitative economics approach, to persuasively drive change in society. It also wants to contribute to a world that will be more inclusive, more tolerant, and more sustainable. These are ambitious objectives for which the School appears to be well-prepared.

The dean holds complete responsibility for Erasmus School of Economics as a whole. The School's research activities are supported by a vice-dean and director of research. A small research office supports the School's research policies and provides specific services related to research, such as grant support or services related to the doctoral programme.

Affiliated with Erasmus School of Economics, two research institutes exist to further facilitate the research activities of the School: Amsterdam Rotterdam Consortium (ARC) in collaboration with University of Amsterdam (UvA) and Vrije Universiteit (VU), consisting of Tinbergen Institute (TI) and Business Data Science (BDS) with a focus on research in respectively economics and business; and Erasmus Research Institute of Management (ERIM), in collaboration with Rotterdam School of Management (RSM), one of the other schools at EUR, with a focus on research in management and providing research support to all ESE researchers

The committee was confused about the exact relationship between RSM and ESE, and the roles of ERIM and TI. There is ambiguity in the relationship between ESE and RSM; for outsiders it is not always clear what ESE is. ESE is not a typical economics department, and it is also not a regular business school, and the boundaries between business studies with the same names in RSM and ESE are not directly clear. ESE has large Marketing, Finance and Accounting departments, which generally holds for Business schools (RSM being one of them). In separating economics from business studies, ESE is nationally and internationally an outlier, which has consequences for the School's identity. ESE business programmes differ from similarly named RSM programmes, by focusing more on the quantitative approach to business research. In the committee's opinion, this ambiguity in the relationship and distinction between RSM and ESE is peculiar and confusing for no good reason that the committee has heard. It has consequences for the research output focus (focus on business journals, economics journals or both) and ESE's profile and visibility. It may also affect the ability of ESE to hire international top talent, needed to maintain the position in the academic world. The committee advises ESE to reassess its relationship with RSM and explore further synergetic opportunities.

During this research review the committee assessed five research programmes. The committee observed that the boundaries between the different research programmes are not always clear. For instance, research in Economics and in Applied Economics is mainly empirical and (as an example), both groups have behavioural economics as a core research area. Still, researchers of both teams do not

seem to interact much. Cooperation and perhaps even merging the two departments makes sense and may lead to synergies and improved quality. The groups should make a case to the School as to why they should stay separate or merge. Similar issues may occur for the boundaries between other research programmes, such as Marketing and Econometrics that content-wise may overlap.

ESE's strategy can be summarised as a dedication to quality over quantity. For the reporting period, five strategic research priorities have been defined: increase research funding, intensify connections with leading schools, publish more high-quality papers, improve doctoral education and increase societal impact. These priorities were, however, difficult to pursue in the context of decreased funding and Covid.

Three of these priorities are directly related to the core research activities of the School, as defined for universities in national law: perform research, train new researchers and transfer knowledge outside academia. The other two objectives concern facilitating those core activities, by obtaining more funds and developing more international connections.

ESE has taken specific measures to ensure scientific integrity and compliance with General Data Protection Regulation (GDPR) and to stimulate Open Access. Scientific integrity is ensured in several ways. Erasmus University has implemented a campus-wide structure to address violations of scientific integrity, including a university-level Scientific Integrity Committee. In addition, ESE has appointed a research integrity coordinator to stimulate a culture of integrity and to ensure that integrity issues remain on the academic agenda. ESE has also established ethical boards and a dedicated privacy officer is appointed at ESE to ensure compliance with GDPR regulations. Individual researchers can contact the officer for guidance and advice to process privacy-sensitive data adequately. In addition, a data steward is appointed at the school who can advise and support research data management. This is also important for data availability policies that most academic journals have implemented. Generally, ESE embraces Open Science and specific measures have been taken to make all sorts of scientific work available as Open Access. For example, EUR has covered the Open Access publication fees for most journals free of charge.

According to its self-evaluation report, ESE will increase its efforts toward Open Science, such as enhancing training and support to ensure that the research data are findable, accessible, interoperable, and reusable, and encouraging more replication studies. The committee is pleased with the measures the School will take.

2.2 Research quality

In its strategy, the Erasmus School of Economics (ESE) states that it aims to commit to high-quality research: quality over quantity. To measure this, ESE uses the article influence score (AIS), a well-known quantitative measure for the average influence per article published in a journal. The cut-off of 2.3 is used to define high quality. This translates to the top 10% of economic journals. Generally, this includes the so-called top 5 (general interest, top 1% AIS) journals, other high-quality general interest journals (just below the absolute top) and top field journals. For some fields in business, such as accounting, the AIS may be an imperfect measure and for this reason, ESE also adopted the so-called ERIM star journal list for business studies. ESE has further tightened the criteria for tenure and promotion and for membership of the Tinbergen Institute and ERIM. The faculty is expected to publish primarily in economics and business journals. To facilitate interdisciplinary research and collaboration with other fields publications in leading journals in different fields are acknowledged to a certain extent.

ESE generally performs very well on quality across all different research programmes. The fraction of ESE publications in the top ten percentile of the AIS distribution has increased from about 10% of all publications in 2015 to more than 20% in 2021. According to the committee, ESE's research output has been prolific and publications are in influential journals with broad reach and impact. The committee likes that emphasis is put on the clarity of the rules that define excellence, and that this is not just specified as an article in a top 5 publication. Furthermore, the committee appreciates that collaborations across disciplines are encouraged. Yet, cooperation across faculty and students from the different research groups is limited.

Erasmus School of Economics as one of the oldest schools of economics has an excellent academic reputation and ESE lives up to this reputation. ESE has some prominent researchers who are viewed internationally as the leaders in their field, publish in the top 5 economics journals and are represented on the editorial boards of leading journals in Economics and Business.

The committee is pleased that ESE has implemented measures to intensify the connection with researchers from internationally acknowledged top schools. Each research programme receives €50.000 annually to stimulate international activities. This budget is typically used to finance trips of ESE faculty to schools abroad. Further, the number of visits from faculty at foreign institutions was stimulated, including a longer-term visiting scholar programme. Additionally, ESE has appointed several high-profile scholars on a part-time basis.

High-quality doctoral students also attract high-quality (international) staff, improving research quality at ESE. The doctoral students participate in high-quality doctoral programmes. ESE has implemented a comprehensive, international recruiting process to enhance the quality of incoming doctoral students. Student placement is also an important signal to incoming (international) doctoral students. ESE has offered courses and guidance to prepare students for the international job market. ESE also introduced the possibility of extending doctoral student contracts by one year for students who show promise for placement at top academic institutions. The committee appreciates ESE's efforts to further improve the quality of the incoming doctoral students.

Stimulating external research funding is important for any school, and ESE remains committed to increasing external funding. However, due to budget cuts, grant support capacity is currently 55% lower than in 2016. Still, during the reporting period, ESE has successfully obtained grants from the national science foundation, the European Union, and other institutions. It has to be noted that the share of external money is only about 20-25% of the total budget. It is not clear why ESE scores relatively low on external funding. This is strange given the research groups' high quality and prominence in some areas. The committee felt that ESE and the programme leaders of the research groups should put more effort and resources into attracting external funding.

2.3 Societal relevance

The relationship between academics and society is reinforced in different ways. ESE researchers make the results from academic papers accessible to a broader public, for instance by publishing in non-academic outlets, producing blogs, Twitter and being present in the Dutch media.

The faculty of ESE participate actively in companies that are part of the Erasmus University Rotterdam Holding (EURH). EURH is committed to transferring knowledge generated at Erasmus University through training or contract research. The Erasmus University Rotterdam Holding also allows for a channel to transfer knowledge from academics to companies in the local Rotterdam area. In recent years ESE has also focused on "organising impact" via Erasmus Initiative "Smarter Choices for Better Health" (SCBH), a joint initiative of ESE, Erasmus School of Health Policy and Management and Erasmus Medical Centre.

This initiative applies new insights from research to improve population health. SCBH includes 30 researchers in multidisciplinary teams.

Although the committee has seen many noteworthy initiatives to integrate the research quality and relevance it would urge the school to operationalise how it understands, measures, and evaluates "impact" in much more concrete ways. This will help its researchers to think of impact in the various aspects of their research endeavour. The committee notes that ESE intends to better measure and monitor societal relevance.

The committee advises ESE to focus on and invest more in topics high on the social (policy) agenda. As an example, one of such topics is health and (sustainability of) health care. It is stated as one of the core themes of Erasmus University (and other universities) and one of the biggest challenges for many countries. This is picked up by other disciplines such as the medical sciences and health sciences and it will foster multidisciplinary research. It is relevant for stakeholders outside the academic world (insurance companies, ministries, health care providers) and will generate impact. Additionally, it opens up opportunities for second and third-stream funding. The research programme Applied Economics is an excellent example of where such initiatives are taken. This group is involved in a cooperation with Erasmus Medical Centre. Other examples are there, and the current opportunities for increased first stream funding, ESE could, in this way encourage innovative and potentially high-impact research.

2.4 Viability

With the broad and balanced composition of the school's research programmes and the relatively low age of its faculty, availability of expertise is not an issue in the coming years. ESE's research is of very high quality with a substantial part of the publications published in the best journals. Quality attracts quality. Indeed, the high quality of recent hires shows that the school remains attractive to (young) talent. ESE has a large and steady student inflow, guaranteeing stable governmental funding. Indeed, ESE provides a stable research environment, with transparent rules for tenure and promotion that reveal commitment to high-quality research.

Due its scale and size, ESE can cover a wide range of specialisations. This enables collaboration within as well as across different research areas. This fosters interdisciplinary research, becoming more critical for the funding of large-scale programmes. There are partnerships between ESE, Erasmus Medical Centre and the Delft Technical university, and faculty members from the research programmes are internationally well connected.

Multidisciplinary research is gaining importance for funding decisions. This is reflected in funding opportunities for large cross-disciplinary programmes. It requires proactive behaviour from the research groups. The ESE organisation should foster and facilitate this. Further, ESE has the ambition to invest in areas for which expertise is not readily available at Erasmus University. For instance, Computational Sciences and Artificial Intelligence (AI) are promising areas in quantitative research and these fields would stimulate student inflow. However, Erasmus University lacks a mathematics/computational science department, which makes it challenging to recruit and maintain specific expertise in these areas at a more senior level and to recruit and supervise PhD students and junior faculty. Strategic cooperation, for instance with CWI in Amsterdam, is one route to explore.

Quality and impact can go hand in hand; "Be good and tell it". This is essentially what the committee advises ESE. This means signalling that ESE produces high-quality and relevant research that matters to the Rotterdam area and the Dutch society at large. It starts with visibility of the research output of the academic staff and clear communication to the outside world about what ESE sees as their core competence, what ESE wants to be known for and what it adds over and above what other schools in

the Netherlands and abroad can offer. Stated differently, what is the signature of ESE? This requires a vision about the direction ESE wants to go to. Right now, the committee feels that this is for an important part left to the research teams. The ESE board should be more involved in governing this process.

2.5 Working environment and personnel policies

ESE believes that diversity and inclusion contribute to a favourable working environment for quality and impact. ESE has therefore put effort into creating a more diverse workforce in terms of gender, age, nationality, cultural background and ethnicity. Despite an increase in its academic ranking, the school's faculty is relatively young, indicating it has successfully attracted young and high-quality researchers. Further, ESE's staff is highly international. The committee was also pleased to observe that the School has made significant progress in attracting female talent in the past six years. The School has set up rotating chairs to attract more female professors and has increasingly hired on the international market, gradually creating a more international faculty. ESE is committed to more diversity and inclusion in the years to come.

However, according to the committee, there is room for improvement concerning the School's diversity. First, it turns out that holding onto female talent is challenging. Turnover rates for female researchers are relatively high. This means that more work could be done here. The committee advises that the board gets a better understanding of what drives these high turnover rates and what can be done to decrease these. Second, ethnic diversity is high in the Rotterdam area, which is reflected in the student population. However, this is not reflected in the composition of the staff, and inflow into the PhD programme from minority groups is very limited. Attention to safety and the work environment may turn out to be crucial. More engagement and active outreach to such students in the undergraduate programmes are desirable.

There is a more comprehensive discussion concerning the recognition and reward of a broader set of skills than are currently relevant in academia. In line with the suggestions made in the national position paper 'Room for Everyone's Talent', ESE intends to implement more differentiated career paths. Tenured researchers have the opportunity to develop along the traditional career path of ordinary professors in teaching and research or to develop in more focused career paths in research, impact or management. In all tracks, professors teach at least one course and get a minimum of 30% of research time. The research track emphasises excellence in top publications and personal grants. The impact track emphasises skills to build connections with external parties and the management track is for those who want to take on leadership roles in the organization. The HR department will be involved to better monitor specific talent and coach staff. ESE intends to substantially increase training opportunities for the staff.

ESE provides a stable research environment with transparent rules for tenure and promotion. Nevertheless, it is observed (and voiced) that research productivity and quality have declined in some groups, especially for some already tenured researchers. In itself, this need not be a problem when the core tasks of the academic staff (research, teaching and management) can vary across an individual's career path. The proposed diversity in career tracks is a possible solution, but the committee believes that diversified career tracks should not be a goal in itself.

A balance between junior staff (PhD students, post-docs and assistant professors), associate level staff and senior level staff is of prime importance for a healthy academic environment. The middle layer (associate level) is essential for the coaching of junior staff. Some research groups' middle layer is relatively 'thin'. This can also influence (female) turnover at the junior level.

In addition, there are challenges with the departure of some high-profile researchers who either found a job elsewhere or who (are about to) retire(d). The market for high-quality researchers is tight and Dutch academic salaries are much lower than in leading departments in North America and some universities in the UK. This makes it very difficult to attract and maintain high-profile researchers. The research groups perceive little flexibility in the hiring process. A possibility could be to supplement the salaries of untenured assistant professors with "soft money" all the way up to their tenure, and give these untenured people more flexibility such as lower teaching loads, freedom to travel, and association with other schools. Otherwise, the committee wonders for how long could ESE hold its leadership position in these management areas (accounting, finance and marketing) where the salaries of full professors at ESE are much lower than entry-level salaries in leading schools in the US, Europe, and the UK.

With the reputation of Rotterdam, ESE should be able to attract high-profile (international) senior researchers. However, Dutch academic salaries are not competitive with salaries paid in Anglo-Saxon universities. The committee believes that more flexibility in the monetary and non-monetary compensation for high-profile researchers is necessary.

2.6 PhD programme

Via ERIM the Rotterdam School of Management (RSM) provides support for PhD training of business students. Economics students get this support via the Tinbergen Institute (TI). For course work, Economics students typically follow the MPhil programme of the TI. This programme resembles the course programmes of US graduate schools in Economics, with a set of mandatory core courses in the first year and elective (field) courses in the second year. Quantitatively oriented business students get their training from the Business Data Science (BDS) programme. Business students can also take courses from ERIM, the Limperg Institute and (for Operations Research) the national PhD training network LNMB (Landelijke Netwerk Mathematische Besliskunde). External PhD students must take their coursework (40 EC in total) from the TI and/or the Limperg Institute or LNMB. PhD students in business from RSM and ESE in Marketing, Finance and Accounting and Operations Research may have (co-) supervisors from RSM (and the other way around).

The committee has spoken with representatives of the research programmes and with a representative set of PhD students. Some notable positive/strong points of the PhD programme:

- The research programmes have informal brown-bag seminars for PhD students, where they
 can present preliminary versions of their papers. Seniors often attend these brown bag
 seminars to provide constructive comments;
- The faculty of the research groups have an open-door policy, that is much appreciated by the students (and staff);
- Most research programmes offer ample opportunity to meet visiting scholars and seminar speakers;
- The TI, ERIM and the research programmes have separate budgets for their PhD students to fund conferences and academic visits. PhD students consider this the main strong point of the programme;
- The selection of incoming students and the training and supervision of the students during their PhD seems to work very well as witnessed by on average good placements of graduate students;
- Promising students who aim at an academic career can extend their PhD contract for an additional year to prepare for the academic job market.

Some aspects that can be improved:

- The main issue is that there seems to be no single person who coordinates the PhD programme and looks after the placements in the (international) job market. Moreover, it is unclear to students if there is an independent person students can turn to when they encounter problems. After the first year, it is decided whether the student can proceed with the PhD. Still, after that, there are no interim performance reviews of students, where besides the supervisor an outside member is present. When supervision quality is low, there is, therefore, no objective person that could notice problems and a lack of progress over time. A person who coordinates what is expected from supervisors and PhD students alike and who is there for students in case lines are crossed or problems arise is critical. PhD students are often in a vulnerable position and student's success depends very much on the supervisor's dedication, efforts and support. The ESE does not seem to have put the necessary structure in place to avoid an unbalanced and unproductive relationship between a supervisor and the student;
- The cohorts of PhD students are small and fluctuate in size. One way to solve this is to smooth PhD funding over time, for instance by reserving part of the first stream funding to hire yearly (say, at least) two students. In addition, they make a considerable effort (and succeed) to hire additional students from second- or third-stream money;
- Much emphasis was placed by the faculty on the option of extending the PhD contract. Still, students mentioned that in practice there is much uncertainty about whether they are indeed able to get this extra year, which negatively affects their preparation;
- Though TI has clear strategy for job placement, there appears to be no overall and uniform strategy for job placement. ESE could make a more collective effort of all seniors for placement of students: to prepare the students, to exploit international networks of staff and for staff to approach research contacts at these schools actively. Faculty have the opportunity to use their networks to improve the visibility of their students and their chances of getting an interview. The students nevertheless mentioned that there is no uniform rule for this and that this depends very much on the supervisor. Since all groups say that their priority is to place their students in academic jobs, they could improve this process by collectively supporting the students that are on the market;
- There is a psychologist to help students if they encounter mental problems, but the students expressed that this is often not helpful, as this person is unfamiliar with what it takes to complete a PhD programme.

2.7 Recommendations

In sum, the committee wants to make the following recommendations:

- Attract more second-stream and third-stream funding;
- Consider reorganising the five research programmes into programmes that have less overlap;
- Stimulate collaboration among the researchers of the different research programmes;
- Clarify the signature of ESE and reassess the relationship between ESE and RSM;
- Increase the visibility of the research output and clarify the communication to the outside world about what ESE sees as its core competence;
- Be more creative in attracting and retaining female staff and staff from minority groups;
- Consider using flexible HR practices to attract high-profile (international) talent;
- Appoint a PhD programme coordinator, to whom students can turn to when they encounter problems and who guides and monitors the job market placements.

3. Assessment of the Research programmes

3.1 Research programme 1: Applied Economics

3.1.1 Aim and strategy

The Applied Economics research programme of Erasmus School of Economics is an extensive research programme which has existed for 12 years. Research in Applied Economics crosses disciplines within economics and business, with other social sciences. Its teaching and research focus on three areas: (1) Behavioural Economics (BE), (2) Health Economics (HE), and (3) Organisation, Strategy and Entrepreneurship (OSE).

Research conducted at Applied Economics is closely connected to themes with significant societal impact. It involves collaborative research, not only with other academic disciplines but also with stakeholders, such as companies and public policy institutions. New themes are developed to respond to unknown societal calls while expanding and consolidating the expertise of its scholars. A most notable example is the urban and regional economics area.

3.1.2 Research quality

The Applied Economics group performs very well in terms of research quality. In terms of publications, the focus is on quality over quantity. An increasing number of research papers have been published in top economics journals (e.g. American Economic Review, Econometrica), interdisciplinary high-level journals (e.g. The Lancet, Nature), and top field journals (e.g. Journal of Urban Economics, Journal of Health Economics, Journal of Public Economics, Management Science). In terms of scientific impact, several senior researchers in the group are highly cited.

Placement of their PhD students on the international academic job market also reflects their research quality and the ability to attract top visiting scholars. The Applied Economics group has also been very successful in acquiring funds, not only excellence grants NWO (Veni, Vidi, NWA) and the European Commission (ERC and Marie Sklodowska Curie grants) but its focus on applications with high societal relevance has also paid off in terms of attracting more external funding.

The group seems to balance well between academic excellence and societal relevance. As this is a non-obvious challenge, this should be supported and further strengthened as a unique strength and recognised the group's identity.

There is a great deal of overlap between the research of the Applied Economics programme and the Economics programme, and it is unclear what exactly makes the two groups different. This is remarkable because there appears to be little cooperation between the two groups' researchers; therefore, research synergies are not fully exploited. It is argued that merging the two groups would make the research programme too big. Still, size should not be the main argument in deciding the boundaries between different research programmes.

3.1.3 Societal relevance

Health Economics, Behavioural Economics and Organisation, Strategy and Entrepreneurship are all research areas with the potential for high societal impact. This reflects in the group's capacity to attract

external funds but also its capacity to regularly attract media attention. Increasingly, some of its scholars also actively contribute to policy advice.

As the demand for more societal relevant research will increase in the coming decade, the group, with its applied focus, is well positioned within the School to reply to this increasing demand. Doing so should not jeopardise its research excellence, as this should remain the base for making a difference in societal impact. The challenges that societies face change over time. The group's long-term strategy should be such that it can flexibly adjust to new calls. This may imply investing in new competencies needed to address the recent calls. To this end, it should further expand and intensify its collaborations with other complementary disciplines within the Applied Economics group, ESE and beyond needed to respond to the multi-disciplinary dimensions of new societal challenges.

3.1.4 Viability

The focus of the Applied Economics groups on research excellence with high societal relevance positions it well for the future. Nevertheless, future success will not come quickly. It requires the continuing performance of current talents in the group and their networks and recruiting researchers and networks with new complementary skills. Mainly the sustainability theme is one where increasing societal demand will need a more structured strategic response from the group to develop and connect the relevant multi-disciplinary approaches to deliver excellent research for this societal challenge. The group is well placed to take leadership in building this eco-system of researchers within the School.

The committee could not find a well-articulated vision on a strategy for positioning the group in the future in documents like the self-evaluation report. A more explicit vision, focus and strategy are required, and choices about the appropriate themes and services need to increase visibility.

Challenges the group faces to further develop its unique strengths in the future include its ability to maintain and recruit a profile of talents which combines essential research excellence with applications of societal relevance. The criteria for recruiting and rewarding researchers and allocating resources should recognise both dimensions correctly. Therefore, measuring and assessing societal relevance is of tantamount importance for the viability of the Applied Economics group.

Another challenge/opportunity for the sustainability of the Applied Economics group's focus is recognising cross-disciplinary research, which is a critical success factor for excellent research with societal impact. Also, the criteria for recruiting, rewarding and allocating should adequately recognise the value of cross-disciplinarity.

3.2 Research programme 2: Econometrics and Management Science

3.2.1 Aim and strategy

The Econometrics and Management Science programme, also known as the Econometric Institute, aims to advance methodological knowledge related to econometrics, statistics, data science, transportation and operations research. Under the "Econometrics" theme, the programme focuses on data-driven research using advanced statistical methods and techniques. This research pushes state of the art in econometrics, data science and machine learning. In the Management Science theme, the group is at the European forefront of transportation, logistics and supply developments.

3.2.2 Research Quality

The Econometrics and Management Science programme has an excellent reputation and is considered at the top in Europe. The research output is substantial and growing, with a 43% increase in publications and a steady increase in top-tier journals. The group has managed to attract external grants, and a few staff members hold associate editor positions, participated in international science review boards, or received awards and recognition for the quality of their work. The group also organised several international conferences.

In summary, research quality is definitely at a high level. A suggestion would be to create consortia and lead in developing solutions for pressing problems (like some other schools are doing). Another avenue to explore is to create (multi-disciplinary) groups working on a longer-term research programme (with serious external funding) to complement the excellent individual research.

3.2.3 Societal Relevance

Societal relevance is increasingly requested but hard to measure. The primary role of a research group is to search for excellence in research and teaching. Bringing knowledge creation into one's programs is societally relevant, provided the research and teaching topics are timely (like data analytics or health management), and teaching extends to all audiences (e.g. including executive education). The group has a long tradition of successful collaboration with the National Railways and companies like ORTEC. It intends to extend these types of cooperation, e.g. in the area of health care. It has also been proactive in helping to create Erasmus Quantitative Intelligence (EQI), a vehicle allowing for much closer contact with the managerial practice and increased income through executive education. There is undoubtedly an excellent opportunity to further develop this avenue, provided capacity and appropriate incentives exist. Increased teaching loads in demanding programs and misaligned incentives may hamper this potential for increased societal relevance.

The group has developed excellent skills in data analytics, artificial intelligence, and related topics. There is a massive demand for this in society. Still, once again, the question can be raised about the group's proper structure (econometrics vs management science) and the required competence (e.g. computer scientists). It is unclear how to attract, fit and reward experts in the current structure. Perhaps one should pro-actively look for coalitions with other universities or organisations like the CWI (in addition to existing efforts).

The group has actively supported the drive for Open Science by making code and packages of the methods available to the outside world. They launched a successful MOOC on Econometrics: Methods and Applications.

The group has great societal relevance. It should be encouraged to make more noise about this in all available media and to all relevant stakeholders, not only students and practitioners but also the general public.

3.2.4 Viability

The group's strategic intent in the next six years is to extend their research on developing new methods for applications in economics, data science and business analytics, including machine learning and artificial intelligence. This strategic intent should be tested against the objectives of increasing research funding, better connections with leading schools, more high-quality papers, improving PhD education, and increased societal impact. The relationship between strategic intent, objectives, and action should be developed in much more detail to gauge viability correctly.

A first simple question would be: is there sufficient capacity? The group mentions its growing teaching load, compounded by the time-consuming supervision of master thesis work. Combining this with decreased basic funding and the challenge of attracting and keeping faculty, it becomes clear that one must proactively search for solutions. Can the teaching be reorganised to free up faculty time? Can additional efforts be made to attract additional external funding? Can collaborations with other schools and businesses provide an opportunity? Is there a structure that will reward faculty for spending time and effort on these activities while at the same time aspiring to improve connections with leading schools, the number of high-quality research papers and attracting and placing top-notch PhDs? Not to mention increasing one's societal impact. Priorities need to be set, and actionable plans need to be developed. Please note that this is not a criticism but simply realpolitik. Strategy is useless if one does not have a clear execution plan with adequate resources and committed people (which raises the question of incentives and rewards).

The group mentions the potential for more collaboration between econometrics and management science. It remains unclear where the two meet, i.e. where increased cooperation would be beneficial. One should realise that there are few groups (nationally and internationally) where econometrics and management science co-exist. There must be a reason for that. Hence, if one desires to keep this situation, one should carefully evaluate the benefits and how to exploit them.

Similarly, the group states its strong desire to move further into data analytics and artificial intelligence. Still, without computer scientists, this is not obvious, and the current structure, evaluation and reward structure do not facilitate tackling this challenge. Again, an excellent viable strategy would require a careful action plan rather than a stated intent. This would include ideas to develop the required computer infrastructure.

Another important element to consider is the positioning and profiling of the group. The management science sub-group deals with quantitative methods for industrial problems like inventory management and logistics. However, the same topics are central to researchers at the Rotterdam School of Management. The difference must be complicated to understand to an outsider, assuming a significant difference. The statement that one can collaborate and be complementary is not entirely convincing since it raises the questions of potential resource duplication and lack of apparent profiling. Work should be done on resolving this issue, at the very least, to determine if and where sub-groups should be different and where they should merge.

Finally, it should be mentioned that the current rules are much less strict than they seem to be interpreted by the group. This concerns things like the 60/40 teaching-research rule, the freedom in the internal allocation of funds, the potential to attract external funds to bring in expert faculty, or even the possibility to make attraction or retention more interesting by adjusting the total package. There

appears to be much room for creativity and entrepreneurship in dealing with apparent constraints most schools struggle with. A narrow interpretation of the rules or excessive risk-aversion (e.g. in budgeting) may stifle progress and jeopardise viability.

The attention paid to viability in this report is partial because quality is excellent, societal relevance is good (but can be improved by making more noise about it), but viability is a concern. It is not sufficient to state a strategic intent. The world has changed, and many elements may create viability issues. Therefore, the group should be encouraged to proactively develop a careful execution plan while being creative in circumventing the (sometimes self-imposed) constraints. Some cases have been left unresolved for a long time. They may need resolution in the current context.

3.3 Research programme 3: Economics

3.3.1 Aim and strategy

The research programme Economics aims to make high-quality policy-relevant contributions to important research areas in economics. The strategy is to aim at top 5 journals, at least top 30 general interest, or top field journals. Research is concentrated in a limited number of areas, including international economics, public economics, and organisational economics.

3.3.2 Research quality

The research programme Economics is a successful and internationally acknowledged research group that regularly publishes in top economic journals. Publications have appeared in the top 5 journals (Journal of Political Economy and Review of Economic Studies) as well as high-quality journals just below the top 5 (Review of Economics and Statistics, American Economic Journal (Applied Economics and Micro Economics); Economic Journal, International Economic Review, Management Science) and top field journals (Journal of Public Economics, Journal of Labor Economics, and Journal of Health Economics). The number of publications fluctuates annually. The group has produced 1,5 top publications per person over the past six years. Since some researchers are very active and productive, this also means that a substantial part of researchers hardly publishes in top-ranked journals. Indeed, it has been voiced by the programme management that the productivity of some tenured members is very low.

The research programme has been successful regarding research grants, with two NWO Vidi grants and two Marie Sklodowska Curie Postdoctoral Fellowships. The research programme has recruited recent PhDs from top schools in Europe. This opens opportunities to obtain more external funding.

Over the past six years, the group has grown from 29 FTE in 2015 to about 38 FTE. The share of full professors has grown over the years, and there are about 12 full professors, eight associate professors and 14 assistant professors. During this same period, the number of PhD students remained constant, at about 11 FTE yearly. The Economics programme focuses on hiring juniors. The faculty is hired on the international job market, and there are clear targets for tenure-track assistant professors. These targets are usually above the school-wide minimum criteria. Most senior faculty of the research group is fellow of the TI and teach in the TI-MPhil programme. The group wants to get their students from the TI MPhil programme primarily. In this system, prospective students choose their supervisors from the Economic schools that participate in this programme (Erasmus University, Vrije Universiteit Amsterdam (VU) and The University of Amsterdam (UvA)). Most of the activities of the TI are concentrated in Amsterdam, where there is a separate (floor of the) building where teaching takes place for the TI MPhil students and students and faculty interact. This is a disadvantage for the Economics programme.

The research of ESE TI fellows fits in perfectly in the Empirical Microeconomics and Macroeconomics groups of the TI. More visibility of ESE-Economics in the Amsterdam activities (such as seminars) would increase the chances of attracting more students and foster research cooperation between the fellows in Amsterdam and Rotterdam.

There is a great deal of overlap between the research of the Applied Economics programme and the Economics programme, and it is unclear what exactly makes the two groups different. This is remarkable because there is little cooperation between the two groups' researchers; therefore, research synergies are not fully exploited. It is argued that merging the two groups would make the

research programme too big. Still, size should not be the main argument in deciding the boundaries between different research programmes.

The group has made some progress in the placement of PhD students at other (international) academic schools, but still, international placements remain few.

3.3.3 Societal relevance

Societal impact is gaining in importance and is explicitly mentioned in the national position paper 'Room for everyone's talent'. ESE has therefore introduced the concept of differentiated careers. The research programme Economics does not embrace this ESE strategy. The plan is new, and Economics chooses to stick to the old model, at least in the short run. The idea is that impact comes with high quality, particularly for applied and policy-relevant work. Therefore, Economics does not see an immediate need to formalise impact as part of the strategic aims.

This programme's researchers actively work with banks, public sector organisations, and policy institutes. The results of these academic papers are transferred to stakeholders through presentations, publication in professional outlets, and interviews in the media.

Members of the group are active in the national policy discussion and regularly appear in the Dutch media. There are contacts with banks (ING) and local, national and international governments (France, US), Dutch policy Institutions (CPB), and international organisations (World Bank). In this way much of the research of Economics has found its way to policy makers in the Netherlands and elsewhere. These contacts also generated research data and opportunities to implement field experiments. While very relevant, the group may consider extracting more external funding from these contacts.

3.3.4 Viability

The research programme is considered very viable; it is a high-quality research group working on issues of high relevance to society.

The programme has grown over the past six years, and the group has managed to hire four more tenure-track assistant professors from internationally acknowledged institutes. They have published or have a revise and resubmit at top outlets. The midterm committee recommended putting more effort into a sizable community of TI students living in Rotterdam and creating an open and stimulating research-intensive research environment. The midterm committee also observed that incentives and recognition for societal impact remain somewhat limited. This has not changed.

The group has tried to act upon these suggestions by organising highly interactive seminars and small-scale workshops. Creating a sizable community of TI students living in Rotterdam requires mass and explicit cooperation with other research programmes such as Econometrics, Marketing, and Applied Economics would make sense. Also, the number of PhD students is not significant compared to the capacity of Associate and full professors. Most students are financed from first stream (public) money. Given the applied nature of most of the work and existing contacts with stakeholders, more soft funds to supplement public funding should be possible.

Societal impact will become increasingly important in the years to come. The group relies on the school's new policy for more recognition of societal influence in promotion and reward decisions, but as noted above, this is not embraced internally. It seems that the research group proposes to continue in the same way they have done in the past years: focusing on impact through (spinoffs of) high-quality papers. If the group wants to make a big step forward, they should be more active.

There appears to be no differentiation in research, teaching and administrative tasks for the staff. In principle, it should be possible for the management of the research programme to allocate the different tasks flexibly and more efficiently. One way of doing this is, for instance, by reducing teaching time for those who publish in high-quality journals. This would also imply more teaching for those who are less successful. The allocation of individual teaching and research time may be adapted periodically and, of course, there should always be room for discretion. Perhaps this has to be coordinated at the level of the school.

3.4 Research programme 4: Finance and Accounting

3.4.1 Aim and strategy

The Finance and Accounting research programme aims to be one of the leading programmes in Europe, focusing on producing and disseminating high-quality quantitative research that is publishable in top academic journals. The programme's strategy to achieve this aim involves: (i) increasing faculty research time by promoting efficiency in teaching and reducing the time spent on administrative tasks; (ii) providing ample research funding to encourage internationalisation; (iii) supporting an inclusive research environment, with extensive cooperation among faculty members within the research programme, as well with across ESE, RSM and other institutions; (iv) recruiting of high quality tenure-track and senior faculty; (v) attracting high-quality PhD students and creating conditions for their success in the international job market; and (vi) making efforts to align the programme's research with societal relevant issues.

3.4.2 Research quality

The Finance and Accounting research programme has an excellent reputation, with an impressive research output, increasingly targeted at and successfully published in top academic journals. During the assessment period, tenure-track faculty have been increasingly successful in publishing their work, contributing to a decrease in the concentration of top publications among a few faculty members. This limits the research programme's exposure to the risks associated with senior faculty turnover, which remain nonetheless significant. It is hard to assess the extent to which the faculty's research is cited, as many faculty members do not have Google Scholar pages. Still, there appears to be a significant variance among faculty members (with some of the senior faculty having very highly cited work). While this disparity is natural as citations are also a function of time from publication, this variance compounds the costs associated with senior faculty departures. Faculty at different levels have secured significant grants, yet another important indicator of the quality of the research that they conduct.

The research programme should investigate ways to further encourage more robust collaboration between the accounting and finance research areas and other research programmes within ESE. This collaboration is fostered by topic-related research hubs and has produced a successful joint publication, but still appears to remain mainly left to the individual researchers' initiative. Some of the topics of current interest to the faculty lend themselves to interdisciplinary work. Strengthening these interactions would help build the research programme's competitive advantage.

While the faculty is relatively junior, with full professors on average representing only 15% of FTEs during the assessment period, it regularly participates in international conferences and enjoys a good reputation. Moreover, the research programme organises conferences that attract high-quality international researchers, which has contributed significantly to the dissemination of the research programme's work, fostering collaborations with researchers in other institutions, and strengthening the research programme's reputation.

The PhD programme is small, but the accounting and finance departments continue to invest in recruiting good students from the Tinbergen institute (also actively encouraging Master's students to take this route), as well as in the training of these PhD students, which is often complemented by visits to other universities, in mentoring by faculty, and in preparing students for the international job market. The ability to recruit students from (and actively encourage students to apply to) the research masters at the Tinbergen institute gives the research programme an important competitive advantage when

good economic training is an essential part of top accounting and finance PhD programmes. The research programme has also swiftly responded to the increase in the standard length of accounting and finance PhD programmes by giving students who pursue an academic career the opportunity to extend their study period. Some of their recent graduates have secured positions in top schools, such as the University of Chicago (finance) and LSE (accounting). This is impressive given that the international job market has become increasingly competitive in recent years.

3.4.3 Societal relevance

Faculty are working on projects with the potential for high impact and societal relevance (e.g., projects that link to the U.N. sustainable development goals), and funds have been funnelled to support and actively encourage this research. The research programme organises conferences and roundtables to strengthen interactions with industry and regulators to inform research and contribute to its dissemination. Faculty members' research has received coverage from reputable media outlets with high circulation (e.g., the Economist, the Financial Times, the Wall Street Journal, and the New York Times). The two impact narratives produced by the research programme are very strong, with some of the research conducted by faculty members leading, for example, to an amendment of financial reporting requirements.

Many of the research programme's outputs have the potential for significant societal relevance and impact. A challenge is how to reduce (increase) personal costs (benefits) associated with dissemination, thus incentivising faculty to broadly publicise their research when it has potential for societal impact (acknowledging that perhaps not all research will fall into this category). The development of an "impact track" could be a way to increase the benefits but needs to be carefully designed and implemented as societal relevance should not be dissociated from research quality.

The research programme should consider developing a system for tracking and objectively measuring societal impact. Establishing objective measures and goals and monitoring these measures over time is essential for successful strategy implementation. Likewise, the research programme could find additional ways to monitor academic impact (e.g., by keeping track of citations).

A further aspect to consider is how to minimise the costs to individual faculty of research dissemination (e.g., facilitating interaction with media outlets and the preparation of research summaries accessible to a broader audience) and to use departmental/School websites to promote and disseminate the research area's main findings to students, alumni, and broader audiences. Organising small faculty research presentations for students might be an additional (seemingly underexplored) way to disseminate research to students, thereby increasing societal impact.

3.4.4 Viability

The research programme has hired both at the (rookie and seasoned) tenure-track and senior levels but has also experienced significant turnover in recent years. Turnover is normal but brings increased risks to departments that are bottom-heavy. Junior faculty are increasingly publishing in top journals and successfully moving through the ranks mitigates this risk to some extent. However, considering salary differentials concerning other schools in the U.S., Asia, and Europe, retention of faculty that successfully publish in top journals is likely to remain an issue.

Another significant risk that the research programme faces is that the small number of senior faculty likely results in a large administrative load for these faculty members, with implications for the senior faculty's research time, as well as for the time they can devote to mentoring more junior faculty and

advising PhD students. A further concern is that, because of capacity concerns, significant administrative duties may have to be undertaken by associate professors, which in turn might delay their promotion to the full professor rank.

While occasionally recruiting at the senior level could be an effective way to increase the output, visibility, impact, and reputation of the research programme, this will imply significant financial effort and might not be viable in the short run (recruiting of senior faculty in these two areas is notably difficult even when schools can offer salaries that are competitive in the international market). Therefore, creating the conditions to internally promote associate professors to the full professor rank might be a more promising strategy. Of course, this takes more time.

As the attraction and retention of junior and senior faculty remain a critical risk, the accounting and finance departments should explore creative ways to supplement salaries and/or build attractive offer packages (e.g., contracts that shield faculty from teaching and other administrative responsibilities, affording them more research time). This implies having the flexibility to supplement salaries and tailor individual teaching/research time allocations.

Another possibility to improve retention of high-quality researchers (that could also encourage continued productivity after tenure) is to introduce a reward for faculty that publish successfully via performance pay or reduced teaching and administrative loads. This might imply more flexibility in hiring adjunct faculty that are full-time lecturers.

3.5 Research programme 5: Marketing

3.5.1 Aim and strategy

The programme aims to be a leading marketing science (i.e., quant marketing) programme in the world. The research programme focuses on three substantive areas: Marketing and Innovation, Marketing Decision-Making and Preference Measurement and Marketing Analytics. The programme's strategy is to steer the research programme on achieving (1) rigour and (2) relevance/importance.

3.5.2 Research quality

The research programme's research output is excellent in quality and quantity: out of 120 papers in the last five years, more than a fifth is in top journals (as measured by ESE's criterion). The one issue that the research programme should face is its relationship with ESE. This has other implications, as discussed below, yet it also has implications for the type of research conducted by the management groups of the school.

As said in chapter 2, the Erasmus School of Economics is a unique structure: It is neither a business school nor an economic department yet is similar to both. The subject is a core issue concerning the school's identity, as, in general, economic departments do not have such extensive accounting, finance, and marketing departments. Business schools, on the other hand, do. Especially for a marketing programme, this obfuscated school identity is a cause for concern.

The likely implication to the research environment within the marketing research programme is that the emphasis and main thrust of the marketing group are not in marketing but in related fields more often associated with economics, econometrics, and management science. Thus, most of the papers published by the group members are outside the marketing journals (about two-thirds of the publications in the past five years are not in marketing journals).

This has implications for the marketing group's effect on the marketing discipline: The research programme is punching below its weight. This is also reflected in the number of leadership roles in marketing journals, which is good but not outstanding. This relatively low participation in editorial boards can also be explained by the large number of junior faculty.

Similarly, concerning citations: There is a significant gap between the more senior members of the research programme whose citations number is impressive and the junior faculty where this number is low, and some do not even have a Google Scholar webpage.

Another issue to consider is whether the research programme wishes to concentrate on a select number of research topics to achieve a critical mass in these areas, ensuring a significant impact on these areas. For example, health care is an area that the school and the marketing research programme excel in, and new faculty members can be encouraged to join existing research and subsequently lead their own.

3.5.3 Societal relevance

The societal relevance of the marketing research programme papers is stellar: The research topics are diverse and impactful on business and society: On retirement, social media, financial market crashes and business cycles, emigration, cultural norms and counterfeits, corruption and inequality, healthcare

management in developing nations, mobile phone usage and effects in developing countries, customer response to service bots, performance and gender bias, commercialisation of innovation, crowdsource-based innovations, consumers as co-producers, and the gender gap in social media, to name a few examples. Not all research has direct relevance to society, and a paper, say, on robust groupwise least-angle regression is similar in nature to basic research – it will take time before its effect will be felt, and its impact on society will be of a second degree, that is restricted to other researchers.

Thus, if the relevance to society has recently increased in importance and the school wishes to address it, it might be an issue of communication, that is, communicating the societal relevance of the research to the society it impacts. The committee realises that such communication exists, yet the school might wish to broaden its targeting to outlets such as WSJ or the Economist.

3.5.4 Viability

The research programme has a good mix of junior and senior faculty, yet with the following caveats: First, out of 13 researchers, there is only one associate professor, and thus, the research programme, in its subsequent hiring, might wish to target a mid-level position.

Hiring and retaining top people in marketing also ties in with the obfuscated identity of ESE and the labour market in the Netherlands. Currently, the school does not recognise a significant difference in the salaries of the management fields: accounting, finance, and marketing, on the one hand, and economics professors, on the other, at all levels of seniority. The school might know about such a gap but is unwilling or unable to address it. It's not clear how long ESE could hold its leadership position in these management areas (accounting, finance and marketing) where the salaries of full professors at ESE are much lower than entry-level salaries in leading schools in the US, Europe, and the UK.

On the other hand, the ESE board voiced that the hiring process is flexible, that soft money could be used to increase salaries, and that research budgets are expected.

The gender diversity of the marketing group is below that of ESE, where in the latter, about 35% of the faculty is female at the junior level, 20% at the senior level and about 12% at the full professor rank. In the marketing research programme (after the departure of the two senior people), about 30% of the junior faculty is female, and none are in the senior and full professor ranks. Moreover, the departure of the single female full professor in the research programme should cause apprehension for apparent reasons.

Appendix A - Programme of the site visit

Wednesday 22 June

Time	Part
15:00 - 17:00	Preparatory meeting committee
17:00 – 18:30	Management: ESE Research Strategy, priorities and highlights
18:30 - 19:00	Evaluation
19:00	Dinner with management team ESE

Thursday 23 June

Time	Part
08.30 - 09:00	preparation committee
09.00 - 10:00	Impact Strategy
10:00 - 10:30	Evaluation
10:30 - 10:45	Break
10:45 - 12:00	Economics
12:00 – 12:30	Evaluation
12:30 – 13:30	Lunch
13:30 – 14:45	Applied Economics
14:45 – 15:15	Evaluation
15:15 – 15:30	Break
15:30 – 16:45	Econometrics and Management Science
16:45 – 17:15	evaluation
17:15 – 17:45	End day 1
18:00	dinner committee

Friday 24 June

Time	Part
09:00 – 10:15	Marketing
10:15 – 10:45	evaluation
10:45 – 11:00	Break
11:00 - 12:15	Finance & Accounting
12:15 – 12:45	evaluation
12:45 – 13:30	Lunch
13:30 - 14:30	Doctoral Students
14:30 - 15:00	preparation 2nd discussion Management ESE
15:00 – 15:30	Management (2nd discussion)
15:30 – 17:00	evaluation
17:00	End presentation

Appendix B - Quantitative data

B.1 ESE - Research staff in FTE

	2015	2016	2017	2018	2019	2020	2021*
Professor	10.64	10.52	11.04	11.40	11.36	17.00	8.62
Associate prof	8.88	11.20	12.24	15.20	17.20	13.44	6.32
Assistant prof	29.24	26.28	26.20	26.44	29.04	30.28	15.42
PhD candidates	57.76	46.56	47.28	51.44	56.32	54.40	26.00

^{* 1&}lt;sup>st</sup> half

B.2 ESE - Funding and expenditure

	2015	2016	2017	2018	2019	2020	2021*
Funding							
Direct funding	5.214	5.010	5. 593	5.951	7.346	7.123	3.691
Research grants	1.460	1.210	1.078	1.493	865	1.275	685
Contract research	967	952	800	754	821	935	413
Total funding	7.641	7.172	7.471	8.198	9.032	9.333	4.789
Expenditure							
Personnel	6.978	6.580	6.886	7.591	8.402	8.723	4.497
Other costs	663	592	585	607	630	610	292
Total expenditure	7.641	7.172	7.471	8.198	9.032	9.333	4.789

^{* 1&}lt;sup>st</sup> half

B.3 ESE – PhD completion

	Females	Males	≤ 4 yr	≤ 5 yr	≤6 yr	≤7 yr	Not yet finished
2013	3	2	1	4	5		
2014	5	2	1	4	5	6	1
2015	6	4	2	5	7		3
2016	12	9	12	15			6
2017	11	9	2				18

B.4 Applied Economics – Scientific staff

	2015	2016	2017	2018	2019	2020	2021
Professor	5.4	7.9	7.0	7.0	12.2	11.5	12.5
Associate prof	8.3	7.9	11.3	13.5	13.8	9.5	10.7
Assistant prof	17.1	16.0	13.0	15.6	17.1	14.5	14.2
Lecturers		1.6	2.0	2.0	3.0	4.0	2.0
Researchers	1.0	0.5	3.4	2.6	2.6		2.2
PhD candidates	18.6	18.0	22.5	28.4	27.0	24.5	19.7
Total staff excl PhD	31.8	33.9	36.7	40.7	48.7	39.5	41.6
Total staff incl PhD	50.4	51.9	59.2	69.1	75.7	64.0	61.3

B.5 Econometrics and Management Science – Scientific staff

	2015	2016	2017	2018	2019	2020	2021
Professor	6.6	6.8	6.8	6.8	9.8	9.0	8.8
Associate prof	6.3	7.3	5.9	9.9	9.9	8.2	7.3
Assistant prof	20.4	19.5	22.5	24.7	23.7	29.5	27.5
Lecturers	3.0	4.7	6.0	5.9	6.2	3.9	3.7
Researchers		0.5				1.0	2.0
PhD candidates	28.6	22.9	23.8	23.7	25.0	26.0	25.0
Total staff excl PhD	36.3	38.8	41.2	47.3	49.5	51.6	49.3
Total staff incl PhD	64.9	61.7	65.0	71.0	74.5	77.6	74.3

B.6 Economics – Scientific staff

	2015	2016	2017	2018	2019	2020	2021
Professor	6.8	5.8	5.8	6.8	11.9	10.74	10.84
Associate prof	9.6	8.4	10.4	11.4	11	6	7.9
Assistant prof	12.2	10.6	11.8	13.8	13.8	14.8	13.8
Lecturers	0.5	2.3	1.6	1.1	1.1	0.6	1.0
Researchers				0.2	2.8	5.6	3.2
PhD candidates	12.9	11.8	9.9	9.9	11	11	9
Total staff excl PhD	29.1	27.1	29.6	33.3	40.6	37.74	36.74
Total staff incl PhD	42.0	38.9	39.5	43.2	51.6	48.74	45.74

B.7 Finance and Accounting – Scientific staff

	2015	2016	2017	2018	2019	2020	2021
Professor	4.6	5.6	5.4	4.8	4.6	7.6	7.6
Associate prof	5.8	6.6	5.6	6.8	9.6	7.6	7.6
Assistant prof	18.0	21.6	23.5	22.5	19.2	20.2	19.2
Lecturers	1.0	2.0	1.5	1.8	1.8	2.3	2.4
Researchers					2.0	2.0	1.0
PhD candidates	9.8	7.0	8.6	10.0	12.0	11.0	12.0
Total staff excl PhD	29.4	35.8	36.0	35.9	37.2	39.7	37.8
Total staff incl PhD	39.2	42.8	44.6	45.9	49.2	50.7	49.8

B.8 Marketing – Scientific staff

	2015	2016	2017	2018	2019	2020	2021
Professor	4.3	4.3	5.3	4.3	5.3	5.3	5.3
Associate prof	0.6	2.6	3.6	3.6	2.6	1.0	2.0
Assistant prof	9.1	7.8	4.8	3.3	6.8	7.2	7.4
Lecturers			0.9	1.7	0.8	0.8	0.7
Researchers			0.2	0.2	0.2		
PhD candidates	8.0	7.0	6.0	7.0	4.0	4.0	5.0
Total staff excl PhD	14.0	14.7	14.8	13.0	15.6	14.3	15.4
Total staff incl PhD	22.0	21.7	20.8	20.0	19.6	18.3	20.4