

Assessment report
Limited Programme Assessment

Master Finance

Vrije Universiteit Amsterdam

Contents of the report

1. Executive summary	2
2. Assessment process	5
3. Overview of the programme.....	7
3.1 Basic information about the programme	7
3.2 Main facts about the institution	8
3.3 Intended learning outcomes.....	9
3.4 Outline of the curriculum	10
4. Overview of assessments.....	12
5. Findings, considerations and assessments per standard	13
5.1 Standard 1: Intended learning outcomes	13
5.2 Standard 2: Teaching-learning environment	15
5.3 Standard 3: Assessment.....	18
5.4 Standard 4: Achieved learning outcomes	20
6. Recommendations	21
Annex 1: Site visit schedule	22
Annex 2: Documents reviewed	24
Annex 3: Theses reviewed	25
Annex 4: Assessment panel composition.....	26

1. Executive summary

In this executive summary, the panel presents the main considerations which have led to the assessment of the quality of the programme Master Finance of Vrije Universiteit Amsterdam, which has been assessed according to the NVAO Assessment Framework.

The panel observed programme management has taken up the recommendations made in the previous assessment in 2010. Programme management, among others, organised the teaching-learning line on research methodology, specified admission requirements in greater detail and improved the information to the students.

The panel is positive about the Faculty's objectives to educate students not only in academic and professional knowledge and skills but also to train them to become responsibly thinking and acting professionals or academics. The latter is a distinct and valuable characteristic of the Vrije Universiteit economics programmes.

The panel approves of the broadness and the depth of the programme objectives, allowing students to gain finance knowledge and in a broad sense and, at the same time, to specialise in one of the subdomains of finance. Students are introduced to academic knowledge and research in this field, are educated to address problems in the professional practice, applying academic concepts, and are trained academic and professionals skills to be able to implement ideas and solutions.

The programme intended learning outcomes meet the objectives, exhibiting, among others, disciplinary knowledge of finance, including the subdomains of corporate finance, investments and asset pricing and institutional finance. They include also analytical skills, research skills, quantitative knowledge and skills and societal awareness and an attitude of responsibility. The learning outcomes apply to the regular programme (60 EC) as well as to the Duisenberg Honours Programme in Quantitative Risk Management (84 EC), the latter being the extended, quantitative track of this programme. In addition, they are consistent with the domain-specific reference framework, which has been drafted by this Faculty and the economics programmes of Erasmus University Rotterdam and Wageningen University and correspond to master level requirements.

Programme management conducted a sound comparison to other master in finance programmes in the Netherlands and abroad. From this comparison, the similarities between programmes in the Netherlands and the United Kingdom and this programme are evident.

The panel supports the policies of programme management to align the programme with trends in the professional field.

The admission requirements and processes for the regular programme and for the Duisenberg Honours Programme are sound, taking the challenging nature of the latter programme into account. The panel approves of the pre-master programme, which has been put in place for students with deficiencies.

The curriculum reflects all of the intended learning outcomes of the programme adequately and evenly. The panel regards the curriculum to be very well designed, being a very appropriate mix of core courses and elective courses. The panel is especially positive about the academic level of the programme, as exemplified, among others, by the articles from high-ranking journals to be studied. The panel approves of the academic and professional skills, which students acquire. The panel noted corresponding views on the principles governing the curriculum among the Faculty Board, programme management, lecturers and students and regards this to be effective for the quality of the programme.

The panel is satisfied about the educational principles and the study methods of the programme, as these are conducive to the students' learning processes. The number of contact hours is adequate. The policies regarding the introduction and deployment of new and innovative study methods are satisfactory.

Programme management monitors the study pace of the students appropriately. The study success rates of the programme are very good.

The panel approves of the lecturers deployment and evaluation procedures, as these procedures ensure qualified lecturers to teach in the programme. The panel regards the lecturers to be very good researchers, working in the forefront of their field of expertise. In addition, the panel is especially positive about the educational capabilities of the lecturers, and their interaction with the students, which may be regarded as intensive and effective.

The examination and assessment rules and regulations of the programme are sound. They conform to the Vrije Universiteit and Faculty of Economics and Business Administration policy statements and address subjects which are relevant for assuring the examinations and assessments quality. These rules and regulations include, among others, measures to assure the examinations' validity, the reliability of assessments and the competencies and expertise of examiners.

The panel approves of the examination methods, programme management has selected, these methods being in line with the course contents to be assessed. The diversity of examination methods in courses and across courses allows for the assessment of both knowledge and skills, relevant to the programme.

Programme management drafted a comprehensive thesis manual, in which the organisation and the timeline of the thesis writing process have been explained clearly. The supervision and assessment of the thesis are well organised. The assessment of the theses is a reliable process, as at least two examiners are involved and sound assessment forms are used. The panel welcomes the transition process from assessment forms to scoring models or rubrics, as these may raise the quality of the assessments further.

The panel ascertained the Examination Board to have the responsibilities and to work along the lines, as intended by Dutch applicable law. The Board monitors the examination and assessment processes and inspects examinations. The panel recommends to step up these inspections and to include theses in the quality assurance checks, as is intended by the Examination Board.

The panel regards the examinations of the courses to be of adequate quality and of an appropriate level, meeting the courses' learning goals, to be challenging and to address up-to-date subjects.

The panel studied four theses of students in the programme. These theses ranged from satisfactory to very good. Not one of the theses is considered by the panel to be unsatisfactory. The panel agrees with the grades of the theses, as given by the examiners. The panel recommends to give more attention in the theses to adequately reviewing the scientific literature, related to the topic.

The panel welcomes the initiatives by programme management to inform students about their career perspectives. The panel is positive about the positions the graduates obtained.

The panel assesses the programme Master Finance of Vrije Universiteit Amsterdam to be satisfactory and recommends NVAO to grant re-accreditation to this programme.

Rotterdam, 6 March 2017

Panel chair
Prof. dr. T.J. Wansbeek

Secretary
drs. W. Vercouteren RC

2. Assessment process

Certiked VBI received a request to conduct a limited programme assessment for the re-accreditation of the academic degree programme Master Finance. This request was submitted by Vrije Universiteit Amsterdam.

Certiked requested the approval by NVAO of the proposed panel of experts to conduct this assessment. NVAO have given their approval. The panel composition was as follows (for more detailed information please refer to Annex 4: Assessment panel composition):

- Prof. dr. T.J. Wansbeek, Emeritus Professor of Statistics and Econometrics, University of Groningen (panel chair);
- Prof. dr. J. Hartog, Emeritus Professor of Microeconomics with visiting scholar position, University of Amsterdam (panel member);
- Prof. dr. R. Kabir, Professor and Chair of Corporate Finance and Risk Management, University of Twente (panel member);
- S.M. van den Hoek, student Bachelor programme Tax Economics, University of Amsterdam (student member).

On behalf of Certiked, drs. W. Vercoeteren RC was responsible for the process coordination and for drafting the panel's report. All panel members and the secretary signed a statement of independence and confidentiality.

The panel conducted this assessment on the basis of the NVAO Assessment Framework of 19 December 2014 (Staatscourant nr. 36791). Regarding the selection of the theses, the panel proceeded in line with the NVAO Guidelines for the assessment of final projects during external assessments of 18 February 2015. On 19 September 2016, NVAO determined the number of theses to be studied by the panel in this particular case.

The following procedure was adopted. The panel members of the panel studied the documents presented beforehand by programme management, including a number of theses (please refer to Annex 2 and 3: Documents reviewed and Theses reviewed).

Before the date of the site visit, the panel chair and the panel secretary met to discuss the assessment procedures. On 9 and 10 November 2016, the panel had meetings to discuss the preliminary findings concerning the quality of the programme. Beforehand, the panel members had sent a number of questions to be put to the programme representatives during the site visit.

During the meeting on 9 and 10 November 2016, the findings of the panel members, including those concerning the theses, were discussed. On the basis of the input of the panel, the secretary summarised the questions, which served as a starting point for the discussions with the programme representatives during the site visit.

On 10 November 2016 and 11 November 2016, the panel conducted the site visit on the Vrije Universiteit Amsterdam campus. The site visit was conducted in accordance with the schedule drawn up beforehand (please refer to Annex 1: Site visit schedule). Prior to the site visit, programme management communicated the open office hours to the students in the programme and the staff. No one called on the panel.

A draft version of this report was finalised by the secretary, having taken into account the information presented as well as the findings and considerations of the panel. The panel members studied the draft report and made a number of changes. Thereupon, the secretary drew up the final report. This report was presented to programme management to be corrected for factual inaccuracies. After having been corrected for these factual inaccuracies, the report was sent to the institution's Board to accompany their request for re-accreditation.

3. Overview of the programme

3.1 Basic information about the programme

Administrative information about the programme:

Name programme in CROHO: Master Finance
Orientation, level programme: Academic Master
Grade: MSc
Number of credits: 60.0 EC
Specialisations: N.A.
Location: Amsterdam
Mode of study: Full-time (English-taught programme)
Registration in CROHO: 60046

Administrative information about the institution:

Name of institution: Vrije Universiteit Amsterdam
Status of institution: Government-funded university
Institution's quality assurance: Approved

Quantitative data about the programme

Percentage of students who completed the programme in two years (n+1)

Cohort	2011	2012	2013
Percentage of students	91 %	82 %	87 %

Lecturers' qualifications

Qualification	MSc	PhD	BKO*
Percentage of lecturers	100 %	100 %	45 %

*BKO means having obtained Dutch University Teaching Qualification.

Student-to-staff ratio

The student-to-staff ratio is 43 : 1 (study year 2015 – 2016)

Contact hours

In regular periods, the contact hours are 12 hours per week. In period 3, contact hours are 3 hours per week. In periods 5 and 6, students are supervised individually, while preparing and completing the master thesis.

3.2 Main facts about the institution

The degree programme Master Finance is a programme of the Faculty of Economics and Business Administration of Vrije Universiteit Amsterdam.

Vrije Universiteit Amsterdam (VU) was founded in 1880. According to the website, the university aspires to be an open organisation, strongly linked to people and society. For the University, what matters is not just the acquisition of a greater depth of knowledge, but also the pursuit of a wider scope. VU expects students, researchers, PhD candidates and employees to look beyond their own interests and their own field.

The aim of Vrije Universiteit Amsterdam is to offer academic research and education at a high level of ambition, and to encourage free and open ideas and communication. In its own words, VU stands for universal university values such as academic freedom and independence. The basic philosophy of the university is expressed in three core values: responsibility, openness and personal engagement.

The Faculties of Vrije Universiteit Amsterdam are the Faculties of Dentistry, Earth and Life Sciences, Economics and Business Administration, Behavioural and Movement Sciences, Humanities, Law, Medicine, Sciences, Social Sciences and Theology. Nearly 25,000 students are enrolled in the programmes of the university. About 10,000 staff is employed by the university and by the affiliated VU Medical Center.

The Faculty of Economics and Business Administration offers four bachelor programmes, seven master programmes and 17 postgraduate programmes. Approximately 4,000 bachelor and master students and about 1,700 postgraduate students study at the Faculty and over 500 academic and non-academic staff are employed by the Faculty. The Faculty of Economics and Business Administration is the largest faculty of Vrije Universiteit Amsterdam.

In 2012, the Faculty of Economics and Business Administration started the process of reorganising all of the bachelor and master programmes, beginning with the bachelor programmes. The objectives of this process were to raise the quality of the programmes. Measures which have been taken, are more strict selection of incoming students, raising the education capabilities of the lecturers, restating the intended learning outcomes of the programmes and redesigning the curricula. In 2014, the Faculty offered these reorganised bachelor programmes for the first time.

At the time of this assessment process, the first two years of the bachelor programmes had been renewed, whereas the third and last year still was traditionally organised. The master programmes had not yet been renewed but will, in the coming years, starting in 2017, follow the bachelor programmes. The panel has taken this process of transition into account, when assessing this and the other programmes of the Faculty.

3.3 Intended learning outcomes

The intended learning outcomes of the programme are as follows.

- **Disciplinary knowledge:**
 - Students know the main defining principles, methodological cornerstones, and tools in modern corporate finance and possess applicable knowledge to analyse complex questions in this area.
 - Students know the main defining principles, methodological cornerstones, and tools in modern investments/asset pricing and possess applicable knowledge to analyse complex questions in this area.
 - Students know the main defining principles, methodological cornerstones, and tools in modern institutional finance and possess applicable knowledge to analyse complex questions in this area.
- **Analytical thinking:**
 - Students are able to search, identify, read and understand important contributions to the literature in the area of finance and critically assess the (de)merits of these contributions as well as the limitations of the conclusions and/or framework laid out in the contribution.
 - Students are able to abstract complex realistic problems in finance to their core, formulate the appropriate corresponding research question, and create their own frame of analysis to address the research question. Where appropriate, they are able to build bridges to other subfields in or outside finance to answer this research question.
- **Quantitative skills:** Students possess the quantitative analysis skills to answer complex research questions in the area of finance and financial decision making. They are able to select the appropriate quantitative techniques for analysis, manipulate large data sets, efficiently use statistical software to perform the analysis, critically interpret the results and adjust methodology in those cases where initial assumptions appear to be violated.
- **Professional skills:** Students possess the relevant professional skills to be successful academic professionals. In particular:
 - Students have the skill to be professionally independent: they have the ability to work and plan effectively, both individually and in teams. Students can identify the areas in which they need to develop and implement a strategy for self-development. They are able to communicate effectively and in a balance way to a variety of audiences (professionals, non-experts).
 - Students possess the skills to identify new relevant questions in the area of finance. They are able to put these questions into societal context and reflect on their own responsibility, as well as that of organizations they may work for.
 - Students have the ability to self-reflect, to critically assess their own (and others) output and performance, and to improve upon this were needed. Their critical reflection allows them to formulate issues and/or research questions that lie beyond (or after) the research question at hand and thus contribute to further knowledge creation.

3.4 Outline of the curriculum

In the table below, the programme curricula are presented. There are two, partly overlapping curricula, one being for the regular programme (60.0 EC) and one being for the Duisenberg Honours Programme in Quantitative Risk Management (84.0).

Regular programme curriculum

Courses	Credits
Advanced Corporate Finance	6.0 EC
Asset Pricing	6.0 EC
Empirical Finance	6.0 EC
Corporate Valuation for Finance*	6.0 EC
Derivatives*	6.0 EC
Research Project Finance	6.0 EC
Financial Markets and Institutions	6.0 EC
Bank Management*	6.0 EC
Behavioural Corporate Finance*	6.0 EC
Institutional Investments and ALM for Finance*	6.0 EC
Quantitative Financial Risk Management*	6.0 EC
Real Estate Management*	6.0 EC
Thesis	18.0 EC
Total credits regular programme	60.0 EC

*These courses are electives, offered in distinct periods in the curriculum. Students are to take at least two electives, constituting 12.0 EC.

Duisenberg Honours Programme in Quantitative Risk Management curriculum

Courses	Credits
Asset Pricing	6.0 EC
Econometrics for Quantitative Risk Management	6.0 EC
Stochastic Processes for Finance	6.0 EC
Evolutionary Computing*	6.0 EC
Advanced Corporate Finance*	6.0 EC
Derivatives	6.0 EC
Corporate Valuation for Finance*	6.0 EC
Bank Management*	6.0 EC
Research Project Finance	6.0 EC
Ethics	3.0 EC
Financial Sector Regulation	6.0 EC
Institutional Investments and ALM for Finance	6.0 EC
Behavioural Corporate Finance*	6.0 EC
Time Series Econometrics*	6.0 EC
Simulation and Stochastic Systems*	6.0 EC
Bank Management*	6.0 EC

Quantitative Financial Risk Management	6.0 EC
Data Mining Techniques*	6.0 EC
Real Estate Management*	6.0 EC
Thesis	21.0 EC
Total credits	84.0 EC

*These courses are electives, offered in distinct periods in the curriculum. Students are to take at least three electives, constituting 18.0 EC.

4. Overview of assessments

Standard	Assessment
Standard 1. Intended learning outcomes	Satisfactory
Standard 2: Teaching-learning environment	Good
Standard 3: Assessment	Satisfactory
Standard 4: Achieved learning outcomes	Satisfactory
Programme	Satisfactory

5. Findings, considerations and assessments per standard

5.1 Standard 1: Intended learning outcomes

The intended learning outcomes of the programme have been concretised with regard to contents, level and orientation; they meet international requirements.

Findings

As the Dean of the Faculty of Economics and Business Administration explained to the panel, the main objectives of the Faculty are not only to train students to become experts in their field, but also to educate students to handle subjects and problems in a responsible way. So, students are not only trained content-wise but also with respect to their attitudes. These objectives are condensed in the values expressed in the Vrije Universiteit's mission statement, namely responsibility, openness and personal engagement. These values have been translated into the main objectives of the programme, which are to train the students as academics, professionals and citizens.

In preparation of this external assessment, the Faculty of Economics and Business Administration of Vrije Universiteit in collaboration with the management of the economics programmes of Erasmus University Rotterdam and Wageningen University updated the domain-specific reference framework for economics. The current reference framework is an update on a number of non-essential points of the 2009 edition, which was approved by the Deans of all Economics Faculties in the Netherlands. The major change has been the removal of sections referring to business administration.

The objectives of the programme are to give students a solid core background in finance, covering the field of finance and financial decision-making in a broad sense and, at the same time, to enable students to specialise in one of the subdomains of finance and to select the career path of their preference. The programme intends to train students in international finance, not being limited to the institutional features of one country. The programme rests on three pillars. Firstly, students are introduced to academic knowledge and research in finance. Secondly, they are educated in applying these academic concepts and notions to address and solve problems in the professional practice. Thirdly, they are trained in academic and professional skills to be able to implement ideas and solutions.

Programme management drafted the programme's intended learning outcomes. These intended learning outcomes specify students to have disciplinary knowledge, analytical skills, research skills and quantitative analysis knowledge and skills. In addition, they are to acquire the professional skills to work independently, to be aware of societal contexts and their own responsibilities and to critical reflect on their own and on other's ideas and results. The disciplinary knowledge students are to acquire spans the finance subdomains of corporate finance, investments and asset pricing and institutional finance.

The intended learning outcomes apply to the regular programme (60 EC) as well as to the Duisenberg Honours Programme in Quantitative Risk Management (84 EC). This last programme is the quantitative, extended track of this programme, having been transferred from the former Duisenberg School of Finance to the Faculty of Economics and Business Administration of Vrije Universiteit Amsterdam.

Programme management drafted a table, to show the correspondence of the intended learning outcomes of the programme to the Dublin-descriptors for master programmes. From this table may be deduced the programme intended learning outcomes match these Dublin-descriptors.

The programme learning outcomes have been compared to master finance programmes in the Netherlands and abroad. Programmes, which have been considered, are programmes of Rotterdam School of Management (Erasmus University Rotterdam), London School of Economics and London Business School. These programmes can be considered to be quite similar in contents and level to this programme.

Programme management maintains relations with the professional field, in order to align the programme with professional field trends. An Advisory Board with representatives of the professional field has been installed and meets with programme management annually. All the part-time lecturers in the programme have their main occupation in the professional field. Guest lecturers from the industry give classes.

Considerations

The panel is positive about the Faculty of Economics and Business Administration objectives to train the students not only in terms of academic and professional knowledge and skills but to train them equally to become responsibly thinking and acting professionals or academics in the economics field. The panel holds the opinion the latter to be a distinct and valuable characteristic of the Vrije Universiteit economics programmes.

The panel welcomes the efforts of this Faculty and of the economics programmes of Erasmus University Rotterdam and of Wageningen University to update the 2009 domain-specific reference framework.

The panel is positive about the broadness and the depth of the programme objectives, allowing students at the one hand to gain finance knowledge and in a broad sense and at the other hand to specialise in one of the subdomains of finance. Students are introduced to academic knowledge and research in this field, are educated to address problems in the professional practice, applying academic concepts and are trained in academic and professional skills to be able to implement ideas and solutions.

The panel studied the programme's intended learning outcomes and observed these to meet the programme objectives, exhibiting, among others, disciplinary knowledge of finance, including the subdomains of corporate finance, investments and asset pricing and institutional finance, analytical skills, research skills, quantitative knowledge and skills and professional skills, including societal awareness and an attitude of responsibility.

The panel ascertained the intended learning outcomes of the programme to match the Dublin-descriptors for master programmes and, therefore, to meet the requirements of a master level programme.

Programme management conducted a sound comparison to other master in finance programmes in the Netherlands and abroad. From this comparison, the similarities between programmes in the Netherlands and the United Kingdom and this programme are evident.

The panel supports the policies of programme management to align the programme with trends in the professional field.

Assessment of this standard

These considerations have led the assessment panel to assess standard 1, *Intended learning outcomes* to be satisfactory.

5.2 Standard 2: Teaching-learning environment

The curriculum, staff and programme-specific services and facilities enable the incoming students to achieve the intended learning outcomes.

Findings

The responsibility for the programmes of the Faculty of Economics and Business Administration rests with the Dean of the Faculty, and the Faculty Board. Programme management, being the programme director or, in the Faculty's larger programmes, the programme director assisted by the programme coordinator, is responsible for the organisation and the contents of the programme and for assuring and maintaining the quality thereof. Programme management is advised on the programme quality by the Programme Committee, composed of an equal number of lecturers and students. As will be elaborated under standard 3, an Examination Board has been put in place, monitoring the examinations and assessments of the programme.

The number of students enrolling in the programme fluctuated somewhat in the last six years, showing an influx of 49 students in 2010, 89 students in 2011, 110 students in 2012, 138 students in 2013, 79 students in 2014 and 119 students in 2015. About 60 % of the students are from the Vrije Universiteit bachelor programmes, 15 % to 20 % come from other Dutch universities and 20 % to 30 % of the students are from abroad. The number of students having a vocational bachelor degree (hbo) is limited. Every year, some students with this background enrol, after completing the pre-master programme. The proportion of students taking the Duisenberg Honours Programme in Quantitative Risk Management is about 20 %.

The admission procedures and admission requirements are subject to the Faculty-wide regulations for master programmes. Students with a bachelor degree from this Faculty may be admitted without condition, provided they have adequate knowledge about financial markets, corporate finance, quantitative methods and statistics. Other applicants, from Dutch universities as well as from foreign universities, have to meet specific prerequisites. They may need to remedy deficiencies and take courses to that effect. Students having a vocational bachelor degree (hbo) are to take a pre-master programme of 30.0 EC. Applicants are only admitted to the pre-master programme, if they can show a GMAT-score of at least 550. This is Faculty policy. To be admitted to the Duisenberg Honours Programme, students are to meet additional requirements, such as a solid background in mathematics, mathematical statistics and probability theory, investments and introductory econometrics. The Duisenberg Honours Programme typically is meant for more talented students.

The regular curriculum and the Duisenberg Honours Programme both take one year, although the latter has a study load of an extra 24.0 EC. Both curricula are composed of compulsory core courses, electives and the master thesis. Students in the curricula share a number of courses. Some courses are specifically meant for honours programme students. In the curriculum of the regular programme a number of teaching-learning lines may be detected. In the course *Empirical Finance*, students are taught statistical methods and in the *Research Project*, they conduct a group research project, both of which prepare them for the master thesis. In the courses *Asset Pricing*, *Derivatives*, *Institutional Investments and ALM for Finance*, *Real Estate Management* and *Quantitative Financial Risk Management*, students are introduced to the finance subdomain of investments and asset pricing. In the courses *Advanced Corporate Finance*, *Corporate Valuation*, *Behavioural Corporate Finance* and *Bank Management*, students are taught the corporate finance subdomain of finance. In the Duisenberg Honours Programme, the emphasis is more on financial markets and the accompanying quantitative techniques. This is demonstrated by the core courses in this programme, such as *Econometrics for Quantitative Risk Management*, *Stochastic Processes for Finance* and *Quantitative Financial Risk Management*.

The quality and coherence of the curriculum are discussed every year between programme management and the course coordinators. In addition, the programme director approves the course descriptions, which are proposed by the course coordinators.

Programme management presented a table in which the relations between the intended learning outcomes and the curriculum components have been specified. From this table, it may be deduced that all of the intended learning outcomes are addressed in one or more courses.

The educational principle of the programme is to educate students in academic knowledge and research, to be deduced, among others, from the advanced literature to be studied, to train them to develop research skills and academic skills, acquired in the cases which are part of nearly all of the courses and to acquaint them with the professional practice through lectures, offered by part-time and guest lecturers from the professional field. Study methods in the programme are lectures, tutorials and cases.

To foster the introduction of new, innovative study methods, the Faculty of Economics and Business Administration has set up the Innovation Center. Lecturers are encouraged to suggest new study methods and may be granted financial support by the Faculty to develop or test their method. All innovations will be presented in the Innovation Center, with the purpose of other lecturers being informed about these methods, seeing the benefits and adopting these in their own classes.

Programme management monitors the study progress of the individual students and of the cohorts. In the programme, lecturers supervise and assist students. The students with whom the panel met, expressed being very satisfied about their lecturers in this respect. The proportion of students completing the programme within one year was for the last five cohorts on average 52 %, whereas the figure for completion within two years was an average of 87 %, based on figures for the last four cohorts.

Lecturers are employed as researchers in one of the departments of the Faculty. The programme director is responsible for the deployment of the lecturers, discussing this with the department head. In the deployment process, the research and/or the professional track records of the lecturers are being taken into account. Underperformance by lecturers will be signalled by the programme director and the Programme Committee. Unfavourable scores in students evaluations may adversely affect tenure track prospects. There are 20 lecturers in the programme, 15 being full-time employed and 5 being part-time employed. All of these lecturers have obtained a PhD and 9 of them (45 %) are in possession of the BKO-certificate, testifying to their capabilities in education. The percentage BKO-certified lecturers among full-time staff is 60 %. The students with whom the panel met, described the lecturers as being good and stimulating teachers and being approachable and helpful.

Considerations

The admission requirements and processes are adequate. The requirements for the regular programme, being knowledge about financial markets, corporate finance, quantitative methods and statistics, are valid. The requirements for the Duisenberg Honours Programme, being a solid background in quantitative methods, are equally sound and take the challenging nature of this programme into account. The panel approves of the pre-master programme, which has been put in place for students with deficiencies.

The curriculum reflects all of the intended learning outcomes of the programme adequately and evenly. The panel regards the curriculum to be very well designed, being a very appropriate mix of core courses and elective courses. The panel is especially positive about the academic level of the programme, as exemplified, among others, by the articles from high-ranking journals to be studied. The panel approves of the academic and professional skills, which students acquire. The panel noted corresponding views on the principles governing the curriculum among the Faculty Board, programme management, lecturers and students and regards this to be effective for the quality of the programme.

The panel is satisfied about the educational principles and the study methods of the programme, as these are conducive to the students' learning processes. The number of contact hours is adequate. The policies regarding the introduction and deployment of new and innovative study methods are satisfactory.

Programme management monitors the study pace of the students appropriately. The study success rates of the programme are very good.

The panel approves of the lecturers deployment and evaluation procedures, as these procedures ensure qualified lecturers to teach in the programme. The panel regards the lecturers to be very good researchers, working in the forefront of their field of expertise. In addition, the panel is especially positive about the educational capabilities of the lecturers, and their interaction with the students, which may be regarded as intensive and effective.

Assessment of this standard

These considerations have led the assessment panel to assess standard 2, *Teaching-learning environment* to be good.

5.3 Standard 3: Assessment

The programme has an adequate assessment system in place.

Findings

The examinations and assessments of this programme, as of all the other programmes of the Faculty of Economics and Business Administration, are governed by the Vrije Universiteit Assessment Policy, this being part of the VU Quality Assurance Handbook, as well as by the Faculty Assessment Policy, which has been derived from this VU Assessment Policy. The examination and assessment rules and regulations of this and the other programmes of the Faculty are in line with these University and Faculty policy statements.

For this programme as well as for each of the other Faculty of Economics and Business Administration programmes, rules and regulations for the examinations and assessments have been specified and have been implemented. Firstly, programme management drafted an assessment plan, in which the courses' learning objectives are shown to cover the programme intended learning outcomes. This plan allows to verify whether the examinations of the courses comply with the intended learning outcomes of the programme. Secondly, programme management took a number of measures to promote the validity, reliability and transparency of examinations and assessments. To enhance the validity of the examinations, each of the examinations is prepared by one of the lecturers and is presented to another lecturer for review. The examiners ensure examinations to meet the course objectives and to conform to the intended learning outcomes of the programme. To foster the reliability of the assessments, answer models are being used by the examiners. This way, a degree of objectivity is introduced in the assessments. To promote the transparency of the examinations, students may inspect the grading of their work and examiners will explain the grading to students upon request. Thirdly, programme management ensures the examiners to have adequate expertise and competencies to fulfil their tasks. To this effect, examiners are formally appointed by the Examination Board, following the recommendation of the programme director. Fourthly, the examination methods or assessment types of the courses are to be consistent with the courses' learning objectives and study methods. In the assessment plan, these examination methods have been listed.

Examination methods include multiple-choice examinations, written examinations with open questions, group cases/papers, individual cases/papers, computer assignments and presentations. In the courses, multiple examinations are to be taken by the students. The final grade of the courses is a composite grade, being the weighed outcome of the grades of the separate examinations.

At the end of the programme, students are required to complete their master thesis. In the thesis manual, the procedures and the timeline for the thesis have been stipulated. Students receive guidance of the thesis writing process by a supervisor. Theses may be linked to an internship, for which, however, no credits are given. Theses are assessed by both the thesis supervisor and the second reader. These two examiners assess and grade the thesis independently and meet to arrive at the final grade. In case they cannot agree, a third examiner will be asked to grade the thesis. For the thesis assessment, the examiners use assessment forms, showing the criteria to be assessed. The programmes of the Faculty are in the transition process from these forms to scoring models or rubrics, specifying the assessment criteria and statements per criterion to support the grading. Theses are checked for plagiarism and plagiarism scores are mentioned on the assessment forms or scoring models.

For the programmes of the Faculty of Economics and Business Administration, two Examination Boards have been installed, one for all of the regular bachelor and master programmes of the Faculty and one for all of the accredited postgraduate programmes. As this programme is one of the regular bachelor and master programmes of the Faculty, the first mentioned Examination Board has the authority. The Examination Board consists of a number of members of the Faculty as well as an external expert on examinations and assessments. The Board monitors examinations and assessments processes, in accordance with the Faculty Regulations and Guidelines regarding Examinations. In addition, the Examination Board ensures examinations, including final examinations, to conform to quality standards. In recent years, the Board scheduled training sessions for examiners and analysed multiple-choice examinations. The Examination Board studies assessment plans to verify the contents thereof. In 2016 – 2017, written examinations with open questions are analysed as well. The Board inspects examinations on an at random basis and has the intention to inspect examinations and theses more systematically in the coming years.

Considerations

The panel is positive about the examination and assessment rules and regulations of the programme. They not only conform to the Vrije Universiteit and Faculty of Economics and Business Administration policy statements but also address subjects which are relevant for assuring the examinations and assessments quality. These rules and regulations include, among others, measures to assure the examinations' validity, the reliability of assessments and the competencies and expertise of examiners.

The panel approves of the examination methods, that programme management has selected. They are in line with the course contents to be assessed. The diversity of examination methods in courses and across courses allows for the assessment of both knowledge and skills, relevant to the programme.

Programme management drafted a comprehensive thesis manual, in which the organisation and the timeline of the thesis writing process are explained clearly. The supervision and assessment of the thesis are well organised. The assessment of the theses is a reliable process, as at least two examiners are involved and sound assessment forms are used. The panel welcomes the transition process from assessment forms to scoring models or rubrics, as these may raise the quality of the assessments further.

The panel ascertained the Examination Board to have the responsibilities and to work along the lines, as intended by Dutch applicable law. The Board monitors the examination and assessment processes and inspects examinations. The panel recommends to step up these inspections and to include theses in the quality assurance checks, as is intended by the Examination Board.

Assessment of this standard

The considerations have led the assessment panel to assess standard 3, *Assessment* to be satisfactory.

5.4 Standard 4: Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

Findings

In the two most recent years, 2014 – 2015 and 2015 – 2016, the average grades for the master theses as estimations for the learning outcomes achieved by the graduates, were 7.5 and 7.7.

Programme management offers career workshops to inform students about labour market perspectives. The graduates of the programme are trained to enter the labour market. According to the results of the alumni survey, no less than 84 % of the graduates finds a position within six months after graduation. Most graduates find positions in the financial sector.

Considerations

The panel studied examinations of a number of courses in the programme. The panel regards these examinations to be of adequate quality and of an appropriate level, meeting the courses' learning goals. The examinations are considered by the panel to be challenging and to address up-to-date subjects.

The panel studied four theses of students in the programme. These theses ranged from satisfactory to very good. Not one of the theses is considered by the panel to be unsatisfactory. The panel agrees with the grades of the theses, as given by the examiners. The panel recommends to give more attention in the theses to adequately reviewing the scientific literature, related to the topic.

The panel welcomes the initiatives by programme management to inform students about their career perspectives. The panel is positive about the positions the graduates obtained.

Assessment of this standard

The considerations have led the assessment panel to assess standard 4, *Achieved learning outcomes* to be satisfactory.

6. Recommendations

In this report, recommendations have been listed. For the sake of clarity, these recommendations are reproduced here.

- To step up the inspections of examinations by the Examination Board and to include the theses in these quality assurance checks, as the Examination Board is already planning to do.
- To give more attention in the theses to adequately reviewing the scientific literature, related to the topic.

Annex 1: Site visit schedule

The site visit was conducted in Amsterdam on 11 November 2016. On 10 November 2016, the panel met with the Faculty Board.

Site visit schedule for 10 November 2016.

09.00 h. – 09.45 h. Faculty Board
Prof. dr. W. Verschoor (Dean of Faculty Economics and Business Administration), drs. R. de Crom (Faculty Director of Education), M. Eigenhuis (Student Assessor Faculty Board)

Site visit schedule for 11 November 2016.

08.30 h. – 08.45 h. Arrival and deliberations panel (closed session)

08.45 h. – 09.45 h. Examination Board regular bachelor programmes and master programmes
Examination Board postgraduate programmes
Prof. dr. B. van den Hooff (chair Examination Board regular programmes), prof. dr. H. van Herk (member Examination Board regular programmes), mr. drs. H. Welling (secretary Examination Board regular programmes), L. Spoor RA (chair Examination Board postgraduate programmes), prof. dr. F. Roozen (former chair Examination Board postgraduate programmes), B. de Graaff MSc (secretary Examination Board postgraduate programmes)

09.45 h. – 10.45 h. Programme management Master Marketing (full-time as well as part-time programmes)
Prof. dr. J. Boter (programme director, Master Marketing, both programmes), dr. M. Kleijnen (associate professor, Master Marketing, both programmes), drs. I. Leijen (lecturer, Master Marketing, both programmes)

11.00 h. – 11.45 h. Lecturers and examiners Master Marketing (full-time as well as part-time programmes)
Dr. A. van Lin (assistant professor, chair Programme Committee, Master Marketing, both programmes) prof. dr. P. Verlegh (Professor of Marketing, head of Department Marketing, Master Marketing, both programmes), prof. dr. H. van Herk (Professor of Cross-Cultural Marketing Research, Master Marketing, both programmes)

11.45 h. – 12.45 h. Students and alumni Master Marketing (full-time as well as part-time programmes)
E. Funken BSc (student, member Programme Committee, Master Marketing, full-time programme), M. Baskaric (student, Master Marketing, full-time programme), A. Fluitman MSc (alumna, member Advisory Board, Master Marketing, full-time programme), A. de Jong (second year student, Master Marketing, part-time programme), M. van Staalduinen (second year student, Master Marketing, part-time programme), P. Kapteijn MSc (alumnus, Master Marketing, part-time programme), J. Wiegman (alumna, Master Marketing, part-time programme)

12.15 h. – 13.45 h. Lunch panel (closed session), open office hours 12.15 h. – 12.45 h.

- 13.45 h. – 14.30 h. Programme management Master Finance
Programme management Master Investment Management
Dr. R. Zwinkels (programme director, Master Finance), prof. dr. A. Lucas (Professor of Finance, Master Finance), prof. dr. I. van Lelyveld (Professor of Banking and Financial Markets, Master Finance), prof. dr. T. Steenkamp (programme director, Master Investment Management), prof. dr. Ph. Stork (Professor of Finance, Master Investment Management)
- 14.30 h. – 15.15 h. Lecturers and examiners Master Finance
Lecturers and examiners Master Investment Management
Dr. A. Siegmann (associate professor, chair Programme Committee, Master Finance), dr. N. Seeger (assistant professor, member Programme Committee, Master Finance), dr. M.J. Boes (assistant professor, Master Finance), drs. H. de Rooter (module coordinator, Master Investment Management), drs. H. Veldman RA (module coordinator, Master Investment Management), prof. dr. T. Loonen (module coordinator, Master Investment Management), drs. P. Bronger RBA (module coordinator, Master Investment Management)
- 15.30 h. – 16.00 h. Students and alumni Master Finance
Students and alumni Master Investment Management
R. Nguyen BSc (student, member Programme Committee, Master Finance), Y. Hallers BSc (student, Master Finance), X. Hut BSc (student, Master Finance), S. Verschuure BSc (student, Master Finance), G. Czenk MSc (alumna, Master Finance), J. Boerendonk MSc (alumna, Master Finance), drs. A. van Vuren MPhil (second year student, Master Investment), drs. F. Vinke (second year student, Master Investment), R. Buijendijk MSc (second year student, Master Investment), W. Bouwman MSc RBA (alumnus, Master Investment), T. Dolman MSc RBA (alumnus, Master Investment)
- 16.00 h. – 17.15 h. Deliberations panel (closed session)
- 17.15 h. – 17.30 h. Main findings presented by panel chair to the programme management

Annex 2: Documents reviewed

The panel studied the following documents, presented prior to the site visit

- Critical Reflection Report Limited Programme Assessment Master Finance
- Redesign Faculty of Economics and Business Administration programmes
- Domain-specific frame of reference
- Intended learning outcomes
- Programme overview 2015 – 2016
- Course descriptions 2015 – 2016
- Assessment plan 2016 – 2017
- Thesis manual and assessment form 2015 – 2016
- Academic and Examination Regulations 2015 – 2016
- Rules and Regulations regarding examinations 2015 – 2016
- Overview of academic staff, including quality
- List of graduates in academic years 2014 – 2015 and 2015 – 2016
- Intake, drop out and success rates
- Staff/student ratio
- Average number of contact hours

On the day of the site visit, programme management presented the following documents

- Applications and enrolments figures
- Course material of a number of selected courses of the programme
- Examinations of a number of selected courses of the programme
- Programme management annual reports
- Programme Committee annual reports
- Examination Board annual reports

Annex 3: Theses reviewed

The theses of the following four students have been selected for review by the panel

- 2519125
- 2500634
- 2117134
- 2544520

Annex 4: Assessment panel composition

The assessment panel had the following composition:

- Prof. dr. T.J. Wansbeek, Emeritus Professor of Statistics and Econometrics, University of Groningen (panel chair);
- Prof. dr. J. Hartog, Emeritus Professor of Microeconomics with visiting scholar position, University of Amsterdam (panel member);
- Prof. dr. R. Kabir, Professor and Chair of Corporate Finance and Risk Management, University of Twente (panel member);
- S.M. van den Hoek, student Bachelor programme Tax Economics, University of Amsterdam (student member).

Prof. dr. T.J. Wansbeek, panel chair

Mr. Wansbeek is Emeritus Professor of Statistics and Econometrics at University of Groningen. He took his doctorate from University of Leiden. Among others, he held positions as Professor of Microeconomics at University of Amsterdam, as the Dean of the Faculty of Economics and Business of University of Amsterdam and as the Dean of the Faculty of Economics of University of Groningen. He was and is an editorial board member of a series of academic journals, such as *Journal of Econometrics*. Mr. Wansbeek held and holds a number of visiting scholar positions at, among others, University of Southern California, United States and Zhejiang University, China.

Prof. dr. J. Hartog, panel member

Mr. Hartog is Emeritus Professor of Microeconomics at University of Amsterdam, holding a visiting scholar position at this university. He took his doctorate from Erasmus University Rotterdam. At this university, he held the position of researcher and associate professor, subsequently becoming Professor of Microeconomics at University of Amsterdam. He held a number of visiting positions at universities in countries Europe, the United States and Asia. He also was an editor and referee for a number of international academic journals. Mr. Hartog is a member of the Royal Netherlands Academy of Sciences.

Prof. dr. R. Kabir, panel member

Mr. Kabir is Professor and Chair of Corporate Finance and Risk Management at University of Twente and Head of the Department of Finance and Accounting. He took his doctorate from Maastricht University. He held visiting scholar positions at, among others, Central University of Finance and Economics, Beijing, China, New York University, United States and University of Melbourne, Australia. Before becoming Professor at University of Twente, Mr. Kabir was Associate Professor of Finance at Tilburg University and Professor of Finance at University of Stirling, United Kingdom.

S.M. van den Hoek, student member

Ms. Van den Hoek is a student in the Bachelor programme Tax Economics of University of Amsterdam. She has taken on a number of extra-curricular activities, such as being the chair of the Student Association of her programme and being a member and the chair of the Student Council of the Faculty of Economics and Business of University of Amsterdam. In addition, Ms. Van den Hoek is employed by Canal Company as a guide and a host.