

# MASTER THESIS GUIDELINES 2021-2022

Econometrics and Operations Research

Dear student,

This document provides rules and guidelines for the master thesis projects of all students enrolled in the Econometrics tracks of the Master of Econometrics and Operations Research.

These guidelines cover:

- The thesis timeline
- Finding a topic and a supervisor
- Writing your thesis in combination with an internship
- The thesis defense
- Grading scheme
- Example of a thesis proposal

Please read all items carefully! Your thesis is worth the attention: it is your final masterpiece to show your econometric mastership.

We tried to make all topics self-explanatory and as clear as possible. However, we are aware that you may have questions about the thesis process that are not answered here. We therefore organize a

**Thesis kick-off meeting: Dec 8, 10am**

For the link, go to Canvas > Thesis MSc EOR (2021) > Zoom

in which you can ask your questions about the thesis process. You find the link in the Zoom part of the Canvas page for the MSc Thesis.

Good luck conducting your research and writing your thesis!

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## 1 – THE THESIS TIMELINE

There are **two official starting moments** for the thesis: March 1 (Spring), and Sep 1 (Fall). You cannot start your thesis at a different moment.<sup>1</sup> Because the thesis comes with a deadline please think carefully about the starting point. For instance, if you follow two master programmes, make sure that the thesis fits your schedule.

Once you started the thesis process on one of the two entry moments, you need to finish the thesis before the end date (see below) of that thesis period. Not handing in or handing in a thesis of insufficient quality automatically results in a fail grade on the “Meeting deadlines” part of the grading rubric of the thesis. You then get an extension of 2 months to finalize the thesis to a passing grade. If after this second deadline there is still no thesis or no thesis of sufficient quality, a fail grade will be entered into the official VU grade system. You then have to re-start the thesis on the next entry moment with a sufficiently different focus than the previous attempt.

**Dec/Jan** (for the Spring thesis cycle)

- Thesis track coordinators of your specialization inform you about how the matching of supervisors and students is organized.

**Mar** (for the Spring cycle) or **Sep** (for the Fall cycle)

- Once the thesis track coordinator has completed the matching process for all students, you will receive an email with the contact information of the member of the Department of Econometrics and Data Science who will supervise you. At the latest one week after having received this email you must send email to [masterthesis.eds.sbe@vu.nl](mailto:masterthesis.eds.sbe@vu.nl) if you intended to start the thesis in March and for whatever reason you are no longer able to do so. Otherwise, your official starting moment will be Mar 1. If you intended to start the thesis in September and for whatever reason you are no longer able to do so, you must send an email to [masterthesis.eds.sbe@vu.nl](mailto:masterthesis.eds.sbe@vu.nl) at the latest on Aug 20. Otherwise, your official starting moment will be Sep 1.
- Once you are matched to a supervisor, you are in charge of contacting your supervisor as soon as possible to plan the thesis process.
- Your supervisor is your key contact for all decisions regarding your thesis process.
- Note that different supervisors may have different supervision styles and procedures. All of us are there to guide you in getting the most out of your thesis project.
- Somewhere 30 Jun (for Spring cycle) or 31 Dec (for Fall cycle) latest would be a moment to hand in the complete thesis draft for your supervisor to comment on and give final suggestions, but coordinate such a date with your supervisor.

**14Jul** (for Spring cycle) or **14Jan** (for Fall cycle): **Delivery deadline**

- Deliver final thesis draft to supervisor and 2<sup>nd</sup> reader.
- You upload your thesis into canvas for the plagiarism check.

**Jul/Aug** (for Spring cycle) or **Jan/Feb** (for Fall cycle): **Delivery deadline**

- You present the core contribution of your thesis and defend your approach and results.

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<sup>1</sup> The only exception is if you found a faculty member willing to start the process somewhat ahead of the scheduled official time, e.g., if the supervisor has an external internship project on offer. In all other cases, you have to wait until the official start of the thesis process, whether Spring or Fall.

- You receive your thesis grade.
- You upload your thesis to the VU library.

## 2 – FINDING A TOPIC AND A SUPERVISOR

### 2.1. I already found a supervisor myself

In such a case

- Please inform your supervisor about the specialization you wish to obtain if you have not done so yet. This is crucial for making sure that your thesis topic matches the specialization that you seek;
- Please send an email that includes (1) the (working) title of your thesis, (2) your agreed supervisor, (3) the name of the course you will attend in period 3 to [masterthesis.eds.sbe@vu.nl](mailto:masterthesis.eds.sbe@vu.nl), and (4) whether you start working on the thesis in March or in September;
- You can skip some reading now and continue to read Section 4.

### 2.2. I do not have a topic and a supervisor yet

This will be the standard setting for most students. In such a case no need to worry because we will start the matching of students and supervisors in period 3. The matching will be done at the specialization level. Thesis track coordinators of the different specializations will inform you in December or January about how the matching is done within the specialization you follow. This has the advantage that you are ensured that your thesis topic matches the specialization you follow.

Below please find the list of the thesis track coordinators for this academic year. If you follow the open specialization further information will be provided via the Canvas page of the thesis course.

- Climate Econometrics: Marina Friedrich (please make sure that you are enrolled in the Canvas course “Climate Econometrics cohort 2021-2022”. If you face difficulties enrolling please send an email to [m.friedrich@vu.nl](mailto:m.friedrich@vu.nl))
- Econometrics and Data Science: Eric Beutner ([e.a.beutner@vu.nl](mailto:e.a.beutner@vu.nl));
- Econometric Theory: Eric Beutner ([e.a.beutner@vu.nl](mailto:e.a.beutner@vu.nl));
- Financial Econometrics: Andre Lucas ([a.lucas@vu.nl](mailto:a.lucas@vu.nl));
- Marketing Data Science: Kris Boudt ([kris.boudt@vu.nl](mailto:kris.boudt@vu.nl));
- Quantitative Economics: Andre Lucas ([a.lucas@vu.nl](mailto:a.lucas@vu.nl));
- Open specialization: Andre Lucas ([a.lucas@vu.nl](mailto:a.lucas@vu.nl)).

*What can you do now to help with the matching process in January?* Ideally, you start already thinking about two or three topics within your specialization that appeal the most to you. To inspire yourself, you can browse through recent issues of the Journal of Econometrics, Journal of Financial Econometrics, Journal of Applied Econometrics, Econometric Theory, Journal of Machine Learning Research, Journal of the American Statistical Association or other journals. If you not only have topics in mind but already concrete plans/ideas for your master thesis this is very welcome (but not mandatory). In such a case please write a short thesis proposal that you can show to your thesis specialization coordinator in January. Based on this your thesis specialization coordinator can find a thesis supervisor from the Department of Econometrics and Data Science for you. You can propose either a purely theoretical master thesis topic or one that is more applied.

- *Purely theoretical proposals:* If you want to write a purely theoretical thesis your proposal should contain a brief description of the article you want to study and what you would like to do. Possibilities are for example: Giving an extended version of the proofs and providing proofs for unproven claims, finding (new) examples to which the results can be applied, weakening assumptions of the paper, running simulations to see if the results hold also in settings that are weaker than the ones made in the paper ...
- *Other proposals:* They should include a description of the research question and the model you want to use to answer it. Moreover, it should include a description of the data set(s) you want to use and your confirmation that you have access to these data set(s). In Section 8 you can find an example of a proposal. The example is very detailed and shorter proposals of one or two pages are preferred at this initial stage, but the example may provide you with an idea how to structure your own proposal and what your proposal could include.

### 3 – WRITING YOUR THESIS IN COMBINATION WITH AN INTERNSHIP

In general, it is possible for you to write your master thesis in combination with an internship. The department does not find an internship for you: students are responsible themselves for securing such a position.

If you wish to pursue a combination of a thesis and internship, both the company and the VU supervisor have to agree in the end that the topic is suitable for a thesis.

After having found and agreed on possible topics with your company supervisor please send an email to [masterthesis.eds.sbe@vu.nl](mailto:masterthesis.eds.sbe@vu.nl) with [i.vande.werve@vu.nl](mailto:i.vande.werve@vu.nl) in cc. They will check if the proposed topics are suitable for a master thesis in Econometrics. If that is not the case they will come back to you to inform you how to improve the proposals to make them suitable. If the topic(s) is/are eligible they will inform you about your main supervisor within the Department of Econometrics and Data Science who can then help you draft a more detailed plan for your thesis together with your supervisor at the company providing the internship.

If no topic can be found that is eligible for a master thesis (either because the company's topics are too complex, or too straightforward) you can opt to delink the internship from the thesis, or to abandon the internship.

## 4 – TWO STUDY PROGRAMS, LONGER ILLNESS, 6M INTERNSHIPS

For prolonged and proven illness (case also known to the academic advisors) of two weeks or more an extension not exceeding the duration of the illness may be allowed by your supervisor.

Your thesis supervisor may also allow you to extend the deadline if you study for two master programs at the same time by a maximum of 2 months.

Your thesis supervisor may also allow you to extend the deadline up to a maximum of 1.5 months if you have an agreed thesis-internship combination and the internship contract lasts 6 months or more.

No extensions are granted for having a full-time job next to your program.

## 5 – DELIVERING YOUR FINAL THESIS

Once your thesis is complete, **you must ask permission from your supervisor to upload your thesis to the Econometrics Master Thesis course on Canvas**. You must submit your thesis in the corresponding canvas assignment. Uploading your thesis is required for the mandatory plagiarism check. **Be sure to avoid plagiarism**. Rules and guidelines can be found here:

<https://sbe.vu.nl/en/education/schedules-and-regulations/academic-and-examinations-regulations/index.aspx>

**Note:** uploading the thesis to the Canvas course does not substitute the mandatory upload of the thesis to the VU Library after your defense. This final step is required for you to obtain the master diploma.

**Tip:** to avoid plagiarism, read any literature that is relevant for you, then put it away, and only then start writing your own text.

Make sure to conform to good style guidelines regarding academic writing, format and layout of tables and figures (including explanatory notes to make them stand alone). See for instance the good example (long explanatory notes) of the figures and tables in Fajgelbaum and Schaal (2020) *Econometrica* 88(4), 1411-1453, doi-link <https://doi-org.vu-nl.idm.oclc.org/10.3982/ECTA15213> (and then click the pdf link just above the abstract) or you may have a look at <http://www.people.fas.harvard.edu/~pnikolov/resources/writingtips.pdf>.

## 6 – THE THESIS DEFENSE

Once your thesis is complete, you must prepare for your oral defense. The oral defense is mandatory. The thesis defense may take different formats, depending on your supervisor.

Some supervisors opt for individually planned defenses, others plan multiple defenses on one particular day with the opportunity to cross-question each other's work; e.g.

1. **Thesis seminar:** in a thesis seminar, multiple students defend their thesis in sequence. The supervisor and the co-reader of your thesis will be present in the seminar.
2. **Individual defense:** in an individual defense, your supervisor will inform you about the room and time of your thesis defense. In principle, only you, your supervisor and the co-reader will be present.

A typical defense format is

- 10 minutes for the presentation of the core contributions and results of the thesis,
- followed by 20 minutes of questions and answers.

Your supervisor will inform you about the precise format in your case.

Note: presenting the core of a research project, like your thesis, in a short time span is common practice in academia. It is an art that you need to master also outside academia: clients, managers, etc all like to know quickly and clearly what is new. So present to-the-point. Also note that you can present your work knowing that both your supervisor and the 2<sup>nd</sup> reader have read your thesis carefully beforehand.

The defense is part of the grade.

## 7 – EXAMPLE OF RESEARCH PROPOSAL

Below you find an example of a thesis proposal. Always use the elements for this example such that your supervisor can quickly see your chosen topic, your intended contribution, the feasibility of your methodology, the data availability (if you have an empirical part), and the time line.

On the thesis page in Canvas we provide LaTeX templates for both the research proposal and for the Thesis itself.

**Introduction:** Time-varying parameter (tvp) models are common in econometrics, ranging from volatility models (GARCH and friends) to models for expected waiting times (MEM and ACD and friends). These models can be studied both in a state-space formulation (parameter-driven), or in an observation-driven formulation using the score-driven set-up of Creal et al. (2013) and Harvey (2013). Koopman et al. (2016) show that observation-driven models provide point forecasts (1-period ahead) of roughly equal quality to parameter-driven models. As the former are typically much less cumbersome to estimate, this might provide a reason to use observation-driven models more. Little is known, however, about the relative density forecast performance of these two classes of models, in particular for risk forecasting. This is important in many applications, and it would be good to know whether the results of Koopman et al. (2016) also hold up for other performance criteria, such as density and risk forecasts.

**My intended contribution:** I will fill this gap by studying the differences between these two classes of models for two different financial econometric contexts: volatility forecasting and trade time forecasting.

**Methodology:** The thesis will have a part based on simulations, such that I can study the performance in a controlled environment.

Volatility models: I aim to simulate from SV dgps as well as GARCH dgps using empirically relevant parameters from the literature. For each of the dgps, I estimate both score-driven (GARCH normal / Student t, GJR GARCH, t-GAS, skewed – t GAS) and parameter driven models (SV model with/without leverage) and will compare their performance in terms of

- accuracy for the true tvp (1 - 5 periods ahead)
- accuracy for the data outcome (1 - 5 periods ahead)
- accuracy of density forecasts (1 – 5 periods ahead)
- accuracy of the 10%, 5%, and 1% quantile, as well as of the expected loss beyond this quantile.

I will consider both Diebold-Mariano tests and a Model Confidence Set approach to statistically compare the outcomes. I also will consider the Christoffersen test for VaR violations.

I will do a similar study for waiting time models.

**Application:** For the volatility application, I will compare risk forecasts at stock index level. I will consider 5 major indices (NYSE, NASDAQ, FTSE, EUROSTOXX, NIKKEI) over the period 2020-most recent, daily frequency, and forecast 1 to 5 days ahead the volatility using GARCH/GAS-type and SV-type models (as used in the simulations).

As volatility is not observed, I take realized volatilities as proxy for the unobserved volatilities to assess model accuracy. I use the same measures of comparison for the empirical data as I did for the simulated data.

For the waiting time model application, I will use high frequency data on 2 liquid and 3 illiquid US stocks and forecast 1 to 5 events ahead (period-ahead have little meaning here).

**Data availability:** I checked that I can download the index data using the FACTSET license of VU in the library. I checked the realized vols are freely available from the Oxford-Man library. And I checked that the tick data on the 5 stocks is available via the TAQ license of VU (either directly or via WRDS as licensed by VU in the library website). All these data are of academic quality and have been used in other academic studies.

**Expected challenges and risks and fallback options:** Coding up the parameter-driven models and their estimation is particularly challenging. I intend to code up the NAIS estimation methodology of Koopman et al. (2014) for this.

If the work on two model classes proves too daunting, I can drop the waiting time models and only concentrate on volatility (or is it better to drop volatility and concentrate on waiting time models?).

A risk is that the estimation of parameter-driven models using NAIS will be very computer intensive. I can then try to limit the number of simulations. Another way to mitigate this risk is to concentrate on the volatility models, and use the extended Kalman Filter to estimate them, which is a technique I have had in the time-series course.



**Suggested time line:**

- March: reading literature, writing literature overview, coding up the NAIS method for volatility, writing the methodology section of the thesis;
- April: setting up the simulation experiment and running it, reporting the results; also coding the waiting time models;
- May: completing the simulations on waiting time models and writing the results; obtaining the empirical results on volatilities and reporting them;
- June: obtaining the empirical results for waiting time models and reporting them; concluding the research; finalizing the write-up of the entire thesis.

**First relevant references:**

- Creal, Drew, Siem Jan Koopman, and André Lucas (2013): "Generalized autoregressive score models with applications." *Journal of Applied Econometrics*, **28**(5), 777-795.
- Harvey, Andrew C. (2013): *Dynamic models for volatility and heavy tails: with applications to financial and economic time series*. Vol. 52. Cambridge University Press.
- Koopman, Siem Jan, Andre Lucas, and Marcel Scharth (2015): "Numerically accelerated importance sampling for nonlinear non-Gaussian state-space models." *Journal of Business & Economic Statistics*, **33**(1), 114-127.
- Koopman, Siem Jan, Andre Lucas and Marcel Scharth (2016): "Predicting time-varying parameters with parameter-driven and observation-driven models", *Review of Economics and Statistics*, **98**(1), 97-110.

## 8 – GRADING SCHEME

The following matrices provide an overview of how every thesis will be graded. Please pay close attention to the row labeled **Deadlines**, which is related to any delay in delivering the thesis. If your supervisor agreed on a timeline for your thesis project that is different from the one stated in Section 1 for one of the reasons mentioned in Section 4, then this row will apply to the newly agreed timeline.

Part I: FINAL ASSESSMENT							
Criterion **		5 or lower	6	7	8	9 or 10	Sub grade
Research question	Final score:						
Research design	Final score:						
Description and analysis of results	Final score:						
Positioning in literature	Final score:						
Conclusion and discussion	Final score:						
Editorial quality	Final score:						
Degree of independence	Final score:						
Oral presentation	Final score:						
Deadlines	Final score:						
Final grade:							

Criterion	5 or lower	6	7	8	9 or 10
<b>Research question</b>	Question is unclear or illogical. Question is not functional (does not cover actual content of thesis/is not guiding in structuring the research). Question is too simple or too limited for the programme or the study load.	Adequate and functional research question, but lacking originality (e.g. mainly a replication of earlier work) and/or set at a minimum level of ambition.	Adequate and functional research question including one or more elements with the potential to add marginally to the existing literature; set at a level of ambition broadly appropriate for programme and study load.	Well-formulated and clearly functional research question, with the potential to add significantly to the existing literature, set at a level of ambition which is clearly more than adequate for the programme and study load.	Original research question, displaying unusual insight and skill to translate relevant issues into well-formulated and researchable questions.
<b>Research design</b>	Research design is not appropriate to address research question. Design contains evident logical errors or omissions that prevent reliable conclusions. Research design is too simple or too limited for programme or study load.	Research design is basically sufficient to yield marginally persuasive results. Design is based on well-established and routinely used approaches in the literature. Does not reflect the state of the art but includes considerable simplifications or shortcuts. Efforts in data collection, theory development or application of theory at a minimum level of adequacy for study load.	Research design is clearly appropriate to address research question. Does not match state of the art, but shows awareness of important design issues and some reflection on own design choices. May be based on well-established approaches, but contains a modicum of originality. Efforts in data collection, theory development or application of theory are broadly appropriate for study load.	Well-explained design. Clear evidence of reflection on design issues. May not fully reflect state of the art, but reflects a good understanding of the current state of research and a clear understanding of the significance of own research design choices. Efforts in data collection, theory development or application of theory show willingness to go an extra mile.	Research design that fully reflects the state of the literature. Addresses methodological issues that are well beyond what is covered in this programme. Very extensive efforts in data collection theory development or application of theory.
<b>Description and analysis of results</b>	Poorly organized. Contains important errors of interpretation or logic; reveals lack of understanding of own research approach.	Standardized and/or mechanical presentation of results. Broadly effective, but inefficient or somewhat clumsy presentation. Contains minor errors of interpretation. Minimal critical ability regarding robustness or reliability of findings. Considerable unused potential for further analysis.	Adequate and generally readable presentation, broadly in line with standard academic practice. Largely correct analysis of findings. Showing reasonable awareness of key issues in analysis and interpretation of the data, theoretical results or implications for application, with some attention paid to alternative interpretations or robustness of findings.	Well-organized and thoughtful presentation of results, showing a good understanding of the nature of the data, generality of theoretical results, or the implications for applications, and many of the issues in interpretation. Chosen research approach has been correctly followed in all aspects. Potential of the data has been fully utilized.	Very thorough analysis, showing a deep understanding of the research question, the research design, and the data. Presentation is highly effective in conveying a clear view of the nature and limitation of the data, theoretical results or applications, and of the precise nature and degree of reliability of the findings.
<b>Positioning in literature</b>	Literature review is unfocused, or not functional. No or hardly any academic literature used. Reveals significant lack of understanding of the literature reviewed. Failure to relate research question to existing literature.	Literature review is adequate, but not original, stays close to textbook levels or relies heavily on existing reviews. Includes at least some of the key references that may be expected for this question. Reveals some problems of understanding and difficulties in selecting and ordering relevant materials.	Research question is adequately positioned in the existing literature. May rely on existing reviews, but also provides evidence of student's own reflection. The literature review is broadly functional in guiding own research, and shows a reasonable understanding of the issues. A fair number of the relevant key references are discussed.	Extensive and well-organized literature review. A degree of originality in bringing together several strands of literature, and/or evidence of clear determination to find less obvious but relevant materials. Clear demonstration of critical skills in assessing and reviewing previous research. Review clearly focused on own research.	Exhaustive review of complex literature, without benefit of earlier reviews. Insightful analysis that strongly drives own research. Very clear and persuasive articulation of how own research contributes significantly to previous research.
<b>Conclusion and discussion</b>	No clear answer to research question, or an answer that does not follow from the research findings. No reflection on contribution to literature. No or trivial suggestions for further research (e.g. 'collect more data').	Research question is answered by simple summary of findings. Minimal attempt to relate to existing literature. Perfunctory discussion of limitations and suggestions for further research.	Functional summary of findings, leading to discussion of extent to which research question is or is not answered. Contribution to existing literature articulated. Meaningful reflection on limitations of own research. Some suggestions for further research that could be useful.	A well-considered review of the findings in the light of the research question and the literature review. Shows a clear understanding of limitations of own research. Several suggestions for further research that are properly explained and that are clearly meaningful and practical.	Succeeds in putting the findings and the research question in the widest possible context, drawing out significant implications for theory development, research methodology and practice.
<b>Editorial quality</b>	Would be unacceptable in a professional setting, unfit for publication on VU website.	Fairly frequent errors in spelling or syntax, poorly conceived structure of many paragraphs and sections. Some sloppiness in references.	Generally adequate in the light of academic standards. Notwithstanding occasional slips, it is evident that reasonable care has been bestowed on spelling, syntax, structure, tables, figures and references.	A document of good quality, thoughtfully written, readable, and carefully edited to high academic standards.	A high-quality document, an engrossing read, a powerfully expressed and persuasive argument. Very rigorous editing.
<b>Degree of independence</b>	Student has been unable or unwilling to take meaningful initiatives or to advance own ideas, and largely ignored suggestions for improvement. Evidence of extensive reliance on assistance from third parties which student has not clarified.	Has required extensive coaching regarding all aspects of the thesis, but has shown a general willingness to work, to accept guidance and suggestions, and to learn. There may have been some help from third parties with aspects of the thesis, but this has been discussed with the supervisor.	Has required a normal level of coaching, but student has also displayed own initiatives. Student has been willing to accept advice and suggestions, but has during discussions also been willing and able to defend own choices.	Student has worked largely independently. Although the thesis shows influence from the supervisor, a large proportion of the thesis reflects the student's own thinking and initiatives. Student has taken the initiative to raise specific questions for discussion.	Student can fairly take (almost) all credit for an original and high-quality thesis.
<b>Oral presentation</b>	The presentation is not well structured, and it is difficult to follow the presentation. It is not clear what is the conclusion of the thesis. The student does not seem to understand the questions that are asked during the discussion.	The presentation is reasonably well structured, but not always easy to follow, although the student makes clear what is the main conclusion of the thesis. The student understands the questions asked during the discussion, but is not able to respond clear.	The presentation is well structured, mostly easy to follow, and focusses on essentials. It is clear what is the main conclusion of the thesis. The student answers the questions during the discussion.	The presentation is well structured and focusses on essentials. It is easy to follow and the student can keep the attention of the audience. The student answers questions well and clear for the full audience.	The presentation is of very high quality, and is comparable with presentations in conference contributed paper sessions. The student answers questions well and clear and is comfortable in a discussion with the audience.
<b>Deadlines</b>	Thesis delivery is overdue by more than one month.	Thesis delivery is overdue by no more than one month.	Thesis delivery is overdue by no more than two weeks.	Thesis delivery is overdue by no more than one week.	Thesis delivered on time.

## 9 – FAQ (THESIS Q&A SESSION 2021.12.08)

Q: Do we start in March already with the thesis? Since period 4 starts with courses as well. From which month do you count 4.5 months?

A: For the Spring cycle, the clock starts ticking March.

Q: Is the final grade an equally weighted average of the subgrades?

A: It is a summary of all the sub grades, but not equally weighted and not mechanistically. For instance, methodology is more important than editorial quality.

Q: Are there special extensions for internships?

A: If companies are adamant on longer thesis projects (6 months is not uncommon), then we accommodate this. See Section 4. You have to have an internship that is approved by your supervisor to be combinable with the thesis, and you have to show to your supervisor that the contract with the company is 6 months or more for this thesis-internship project.

Q: What are the deadlines for getting your internship round? Since most selections take place in January for companies.

Q: If you choose to combine your thesis with an internship, will you find a VU supervisor after you found the company?

Q: I want to check whether the content of an internship is appropriate, but the matching of supervisor is not until January. Who decides until then?

A: We have no strict deadlines for getting your internship straightened out, but preferably as early as possible (January). The supervisor needs to agree on the combination of the thesis and the internship. If you have a company before you are matched to a supervisor, follow Section 3 and we will make a decision whether the combination of thesis + internship is possible, even before you have matched to a supervisor.

Q: Does the internship supervisor co-determine the grade?

A: No. The supervisor and second reader determine the grade. It is quite common though that they also ask the internal supervisor for feedback on your performance, initiative, etc. and take this information into account into the grading using the rubric from Section 8.

Q: When does the possible thesis topic will be announced (for Financial Econometrics)?

A: January a number of faculty may announce some topics. However, it is much more common that students come up with their own topic or topic direction. Given a topic direction, during the first discussions with your supervisor you will then be helped defining your topic more clearly, or changing your topic to something that is even more interesting.

Q: When does the thesis defense typically happen?

A: Given the thesis guideline, most defenses are in July and August for the Spring cycle, sometimes already in June. For the Fall cycle most defenses will be in February and March.

Q: If we want a specific supervisor can we ask him via email from now? Or do we have to wait?

A: You can already contact them now. Early matches are accounted for in the matching process (see also

regulations), but remember it is not needed to have already found a supervisor. We will ensure everyone gets a good supervisor in the matching process.

Q: I was matched already last academic year. What do the deadlines mean for me? Which thesis regulations apply to me?

A: If you were matched last year, last year's rules (including the regulations for handing in) apply to you.

# 10 – SLIDES THESIS Q&A SESSION 2021.12.08

**MSc Econometrics & OR: Econometrics Track**

Master thesis guidelines

Academic year 2021 – 2022

**VU** VRIJE UNIVERSITEIT AMSTERDAM

You do not need

**VU** VRIJE UNIVERSITEIT AMSTERDAM

## No need

- to find a supervisor yourself (whatever your specialization is we will match you with a supervisor);
- to have already a topic;
- more generally to worry about your thesis.

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**Defence**

**VU** VRIJE UNIVERSITEIT AMSTERDAM

## Defence

- The thesis comes with a defence.
- The defence will take place after you handed in your thesis.
- The defence lasts 30 minutes (10 min presentation + 20 minutes discussion).
- Your thesis supervisor decides on the exact format of the defence. For instance, it might be a thesis seminar or an individual defence.

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You do not need

**VU** VRIJE UNIVERSITEIT AMSTERDAM

## No need

- to find a supervisor yourself (whatever your specialization is we will match you with a supervisor);

2 of 6

**Procedure**

**VU** VRIJE UNIVERSITEIT AMSTERDAM

## Matching procedure & topics

- Matching will start in period 3 at the specialization level. Specialization coordinators will inform you about this.
- Matching for the open specialization also starts in period 3 via the Canvas course 'Thesis MSc EOR - Econometrics'.
- General and/or more specific topics will also be announced at the specialization level.
- Of course, you can propose your own topic to your specialization coordinator.
- Even if you do not want to propose your own topic it is advisable to think about topics you find appealing.

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**Coordinators**

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## Specialization coordinators

- Climate Econometrics: Marina Friedrich (m.friedrich@vu.nl)
- Econometrics and Data Science: Eric Beutner.
- Econometric Theory: Eric Beutner (e.a.beutner@vu.nl).
- Financial Econometrics: Andre Lucas (a.lucas@vu.nl).
- Marketing Data Science: Kris Boudt (kris.boudt@vu.nl).
- Quantitative Economics: Andre Lucas (a.lucas@vu.nl).
- Open specialization: Andre Lucas (a.lucas@vu.nl).

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You do not need

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## No need

- to find a supervisor yourself (whatever your specialization is we will match you with a supervisor);
- to have already a topic;

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**Timeline**

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## Timeline

- If you participate in the matching in period 3 **you can choose** to start your thesis officially either in March 2022 or in September 2022.
- After the official start you have 4.5 months to finish it.
- The thesis counts 18EC, i.e. two courses and a case study. The time you spend on your thesis should reflect this.
- Working intensively on a thesis for a fixed time frame, is easier and leads better results than working only occasionally on it for a longer period of time.
- If you do not manage to finish within 4.5 months you get an extension of 2 months.

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