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Column

Hein Fleuren:
The Zero Hunger
Lab



Column

René Peeters:
Bias



Special

The Working
Holiday Visa



Greetings from...

Hong Kong



Nekst Generation

With the leaves falling from the trees and Nekst falling on your doormat, a new year for this committee has started. This year I have gotten the chance to step in Mylan's footsteps as being the new Editor-In-Chief, and I must admit that I was quite nervous about this. Mylan and her editorial staff did an outstanding job last year, delivering the Nekst perfectly on time and always just as interesting as the one before. Via this way I want to thank them once again for their efforts. Keep in mind that last year was also the year that all meetings had to be online, making it even harder for Mylan to get the whole committee involved. Not to mention Dahli, who had to teach himself how to use InDesign from his bedroom!

But my nerves can be calmed since, luckily, there is a committee backing me up. This year the committee is filled with wonderful people again, coordinated by Patrick Floor. Together, we managed to fill the pages of the Nekst you are holding now

What can you expect? The Exchange Report section has gotten a little make-over and is (at least for this Nekst) known as 'Greetings from...'. In this section you can enjoy Tamara's adventures in Hong Kong! Furthermore, both René Peeters and the Hein Fleuren will be this year's columnists! Also be sure to check the Practical Report of Annabel Boers about strategic investment decisions in an innovation driven economy. Not to forget the various other articles like the well-known 'The Teacher' with Jop Schouten and the 'Familiar Faces' written by our own former board member Quirien Raat!

From here on I will leave it up to you to sit down, grab a drink and start enjoying what we created for you. In the meantime, we will start working on the next (or should I say 'Nekst') edition... may this Nekst bring you all the joy you need during these rainy days!

Yours sincerely,

Juliëtte Tillie
Editor-In-Chief

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Correspondence

Asset | Econometrics
Tilburg University
Room E 110
P.O.Box 90153
5000 LE Tilburg
Telephone: 013 466 27 47
info@Asset-Econometrics.nl
www.Asset-Econometrics.nl
www.Nekst-Online.nl

Editorial staff

Stijn Craenen
Sara Darwinkel
Roel Delescen
Matthijs Kroesen
Timo van Oorschot
Flora Poon
Tijn Scholten



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Lay-out editor
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Contributions
Annabel Boers
Bernard van den Broek
Jules van den Camp
Tamara Dert
Hein Fleuren
Elise Hage
René Peeters
Quirien Raat
Jop Schouten
Emma Segers
Bob Suijkerbuijk

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Dear Members,

Let me start by mentioning how happy I am that everything has returned to normal again (somewhat). I think I can speak for everybody when I say that the first few weeks of this academic year were really awesome.

Before I tell you more about the upcoming year, I will introduce myself because I believe I am not that known within the association yet. My name is Wout Temmink and I am currently 22 years old. I came to Tilburg for the Master Quantitative Finance and Actuarial Sciences but before I could start with the master, I had to finish a pre-master. Now due to my board year, starting with my master will be postponed for another year. In my spare time I like to play rugby at T.S.R.C. Tarantula, and next to that I am also active at T.S.C. St. Olof. Me and my fellow board members Patrick Floor, Joris te Booij, Floris Somers, Constantijn Wessel and Bram Marsman now are the 43rd board of Asset | Econometrics, and I am honored to work with these guys.

One of the first things that I want to mention is that the rooms have opened again. This means that all of you are all welcome to spend your spare time at the rooms in the Esplanade building. At the rooms you can make use of our sandwich iron to make grilled cheese sandwiches and we also brought the candy shop back to life. You are always welcome to grab a snack for 50 cents and come have some conversations with whoever is present.

During the past few weeks, Asset | Econometrics hosted a lot of events with the help of our amazing committees. Just think about the Landelijke Econometristen Sport Toernooi (LEST) and the EOR Business Diner. These events show what we as an association can do. Furthermore, all members can visit the rooms again to claim their committee points to make sure their committee can lay claim to the coveted prize of best committee of our association. Another thing to be proud of this year is the opening of the one and only Asset Café in Vrienden van Tilburg! Here our department logos shine proudly on the wall and beers are priced cheaply.

As a relatively new member of our association, I want to express my amazement with the fact that everyone is so enthusiastic and friendly. I want to especially thank our active members for their hard work. Without their help we as a board could not do our work. However, a big thanks also goes out to all the other members that attend our events or support our association in some other way.

Hopefully I will see all of you very soon at one of our events or at the rooms in the Esplanade building. For now, the only thing left to say is enjoy reading this autumn edition of the Nekst!

Wout Temmink
Chairman Asset | Econometrics 2021-2022



Meet the Crew!

Nekst committee 2021-2022



Juliëtte Tillie

First, we would like to introduce you to our new Editor-In-Chief: Juliette. She is 23 years old and from Roermond. Right now, she is in her 4th year of the Bachelor, which she combines with a musical school on Friday evenings. Before she joined the Nekst committee, she was already part of numerous other committees, including the Europe trip, Asset Events, the Nekst (as editor) and more recently the Education committee. Whenever she has the time, Juliette travels back to her parents' place to visit her beloved cats. Unfortunately, she has to work most weekends, which keeps her from visiting. But that is okay, because she loves her job as Safari Ranger (as many of you will already know).

Meike Goedschalk

The amazing design officer of this year is Meike! Meike is 22 years old, born and raised in Bergen op Zoom and is currently in her fourth year of her Bachelor's. She previously joined the Yearbook committee, the Active Members Day committee and the Europe Trip committee. She likes playing tennis at Lacoste and is part of the External committee there. Furthermore, she is a big fan of watching football, especially watching Feyenoord in the "Kuip" with her dad. If there is any free time left in her busy life, she spends it working at weddings, restaurants and company parties.



Sara Darwinkel

Sara is 18 years old and currently in her second year of her Bachelor. Last year she organised the magnificent weekend of AMW and in the future she wants to participate in a lot more committees. Nekst (;p) to her study she works at the restaurant 't Zusje and gives personal training in mathematics to high school students in need. You can also find Sara at Vidar rowing or taking care of the boats with the MatCie (Material Committee). When she decides she has some free time she will jump on the train to go to France to her hometown where her parents own a farm. There she will enjoy a cup of tea in the sun with her mother or help taking care of the animals.





Timo Klabbers

Timo is 20 years old and in the first year of his Bachelor. Last year he tried studying Econometrics and Operations Research in Rotterdam, but it was not a success. At the moment he still lives in Amersfoort, but he plans to move to Tilburg soon. Timo is a volunteer at the Scouting association and loves sports and photography (credits to him for the beautiful pictures of the whole committee). He works at various companies where he builds websites and writes software in Java and Python. This year, he will write articles for Nekst and will manage the website.

Stijn Craenen

Stijn is 19 years old and in his second year of his Bachelor. He is from Horst but recently moved to Tilburg. Here, in addition to studying, he also gives personal training in mathematics to high school students. Of course Stijn can often be found drinking beers in the pub (or anywhere else where you can find beer). On weekends Stijn goes back to his hometown to see his friends and family, to work in a cucumber greenhouse and to play football. He plays football in a team of friends where the first and second halves are usually decently good, however, the third half is always excellent!



Flora Poon

Flora is 21 years old and started her journey at Tilburg University in 2019. On weekdays you can find her in Tilburg and on weekends she travels back to her parents in Kerkrade to help them out in their snackbar. In her spare time she spends hours in the kitchen baking different cakes (bavarois cakes are her specialty) and she loves playing sports with her friends such as swimming, skiing and badminton. Whenever she has time, she loves travelling around the world, getting to know other cultures and tasting all kinds of different delicacies.

Timo van Oorschot

Next up is the second Timo of the committee! He is 19 years old and lives in Kruisland, a small village next to Roosendaal. However, in the near future he wants to move to Tilburg as well. Currently he is a third-year Bachelor student and this is the first committee he joins at Asset | Econometrics. Besides studying, he sometimes works as an office assistant on the weekends. Furthermore, he likes to meet up with his friends to have a drink and he is also into sports. That's why you can find him on the hockey fields of Studenten Hockey Tilburg, or SHOT, in Tilburg.





Tijn Scholten

Tijn is 21 years old and is in his fourth year of the Bachelor. He was born and raised in the area of Nijmegen and Arnhem, but when he started studying he immediately moved to Tilburg. Some weekends he goes back to visit his friends and family. During his spare time, Tijn enjoys doing a lot of sports. Recently, he started to play some golf at Under Par. But from childhood on, he plays tennis two to three times a week and he also enjoys going to the gym several times a week. During wintertime he likes to go abroad for some skiing. Next to the Nekst-committee, which is his first committee at Asset, Tijn is also an active member at the student tennis association Lacoste.

Roel Delescen

Roel is 21 years old and is currently in his third year of the Bachelor. He was born and raised in Geldrop, a village next to Eindhoven. He lives with his parents, but lived in Tilburg last year. Roel enjoys doing a lot of sports like tennis and fitness, but also other sports. Next to this, he likes to work at Albert Heijn, where he is a shift leader. On the weekends, he likes to hang out with friends and go to "Stratumseind" in Eindhoven. This is the place in Eindhoven where you can find all the pubs. He also likes going on vacation and is planning to go to the south-east of Asia with his brother for six months about one year.



Matthijs Kroessen

There are even more Nekst editors; meet Matthijs! He is a second year student of 19-years old. Matthijs is a proud member of the rowing association Vidar, and even more proud about being part of the magnificent fraternity Superior in Noctem. Making music is a big hobby of Matthijs: he plays the saxophone and the clarinet. Joining committees at Asset is not a strange phenomenon for him, since he has organized this year's Europe Trip together with Meike.

Patrick Floor

Finally, we would like to introduce Patrick. Patrick is currently our coordinator and is the Secretary of the board of Asset | Econometrics. He is 22 years old and you can find a more in detail introduction about him in the article titled "Meet the board". For the Nekst committee he is responsible for the Columns, the Practical Report and more. Besides taking care of articles for Nekst he also likes to play some volleyball and hang out with his friends in Tilburg or his home city Veenendaal. Fun fact about Patrick is that he has a twin brother who does not look like him at all.



The Latest

Welcome to a new recurring article in Nekst. In The Latest we keep you informed about the latest news in the field of econometrics. In this edition of the Nekst, more about the winners of the Nobel Prize in Economics.

written by **Timo Klabbers**

Dutch-American econometrician Guido Imbens receives Nobel Prize in Economics

Econometrician Guido Imbens won the Nobel Prize in Economics, along with Joshua Angrist and David Card. Imbens and Angrist received the prize for their research into the use of natural experiments in economic research. Card received the prize for applying the results of this research in his socio-economic research on the labor market.

Natural experiments are situations that arise and lend themselves to do scientific investigations on. In socio-economic research, controlled experiments are not always possible because such experiments would not be ethically justified. For example, researchers cannot deny a group of people access to care in order to investigate the effect on their economic and social status.

Imbens and Angrist have been researching the possibilities and limitations of natural experiments in economic science for more than twenty years. They wondered if it was possible to demonstrate causality if researchers cannot determine who is participating in the experiments. Imbens and Angrist drew up a framework for the natural experiments which states, among other things, that the researchers must know the character of the studied group. With this framework, they have given the method legitimacy.

According to Eva Mörk, a member of the Nobel Committee, the three winners “totally revolutionized the way we do empirical work.” The research by Imbens, Angrist and Card allows researchers to explore things that were not possible before. Mörk: “We can go out and answer these super interesting and relevant questions about so many different things.”

Guido Imbens is a Dutch-American econometrician. He was born in 1963 in Geldrop, the Netherlands. He studied econometrics at Erasmus University. Since 2012, he has been a professor of economics at the Stanford Graduate School of Business. Joshua Angrist was born in 1960 in Columbus, Ohio. He attended Princeton University. Angrist is now a lecturer at the Massachusetts Institute of Technology. David Card was born in 1956 in Guelph, Canada. He received his PhD from Princeton University. Card is now a professor of economics at the University of California. What is special is that the three have been friends for a long time. Angrist even attended Imbens' wedding.

The Nobel Prize in Economics is called the Sveriges Riksbank Prize in Economic Sciences and is awarded in memory of Alfred Nobel. Formally, the award is not a Nobel Prize like the Nobel Peace Prize or Nobel Prize for Literature. The prize is awarded by the Royal Swedish Academy of Sciences, which also selects the other winners.

Strategic Investment Decisions in an Innovation Driven Economy

An important element of success in Formula One is the pace at which a team can develop through the season and constantly reinvent their car. If a team does not develop their components, their car will become inferior to the other teams' cars in a short amount of time. The components used in a Formula One car are examples where Research and Development (R&D) plays a prominent role. In this article you will find out how R&D is modelled in an investment decision.

Background

A company has to invest to be able to develop and maintain its position in the competitive market as explained by Avram et al. (2009). Gaining profit through investment is a complex matter through the variety of correlated variables involved in the opportunity. Take a television company for example, which is considering launching a new generation of screens. Among others, the company has to decide when to launch these new screens and how many to produce. Real options literature like Dixit and Pindyck (1994), Aguerrevere (2003), and Huisman and Kort (2015) assume that projects have an infinite lifetime. You can think of products with an infinite lifetime as products that do not need to evolve in order to remain in demand. However, these days the economy is innovation driven, implying that existing products live on for a certain amount of time, after which they are replaced by an innovative product with a change in design or use of new materials, resulting in higher quality and improved performance.

This changing pattern of economic activity was amplified during the COVID-19 crisis, as a substantial part of the economy was shut down while other parts flourished. For example, as working from home was strongly encouraged by the government, public transport was barely used, which resulted in a high demand for home office products and video software. Allowing for the current economy, we consider the situation where a firm has the option to delay the creative destruction process by introducing updates of its current product. A firm can do this by developing a Research and Development (R&D) laboratory, which is designed to facilitate the development of new technologies and products. Along with the decision whether and how much to invest in a certain product, a firm has to decide on investing an additional amount of money to set up this R&D laboratory.

Previous real options models from Dixit and Pindyck (1994), and Huisman and Kort (2015) determined only the investment timing or investment timing and size, whereas in this article, we also focus on a third decision: determining the optimal R&D investment size. The idea behind updating products is that the expected lifetime of a product will be extended and, therefore, a product can be sold over a longer period of time.

Model Framework

We consider a firm with market power that has to make an investment decision on whether to enter the market by undertaking an investment in a particular commodity, thus we assume that the firm acts like it is in a monopoly. We denote the profit at time t of the firm in the market by

$$\pi(t) = P(t)Q(t) = X(t)Q(t)f(Q(t)), \quad (1)$$

where the price of a commodity equals $P(t) = X(t)f(Q(t))$, and $f(Q(t))$ is the inverse demand function that is used to create a relationship between the demand of a commodity and its price. $Q(t)$ is the demand of the market, and $X(t)$ is the random component of the future demand of the commodity. We assume that $X(t)$ follows a geometric Brownian motion:

$$dX(t) = \mu X(t)dt + \sigma X(t)dz(t) \quad (2)$$

in which μ denotes the trend, σ reflects the uncertainty, and $dz(t)$ is the increment of a Wiener process.

Furthermore, the firm has the option to invest in a project that ceases to exist with probability λdt . At the moment of investment the firm decides on a production capacity K . The firm produces up to capacity or refrains from producing. Investment timing is translated into reaching a threshold X^* , which is a stochastic process satisfying (2). At this threshold X^* ,

the firm is indifferent between investing and restraining from investing. The firm is risk neutral and discounts against a fixed rate r . Dixit and Pindyck (1994) have shown that the assumption $r > \mu$ has to be made. Because waiting longer to invest will always be a better option if the inequality does not hold.

For the firm to enter the market, it has to determine the optimal time to invest, the optimal size of the investment, and the optimal R&D investment size. We treat this as an optimal stopping problem in dynamic programming, because we have a binary choice where the firm can be in either of the following two regions: the stopping region and the continuation region. For $X < X^*$, demand of the product is too low for the firm to undertake the investment so the firm will wait. We call this the continuation region. For $X \geq X^*$ it is optimal for a firm to invest in the product right away, we call this the stopping region.

We denote the value of the firm by V , then the firm faces the following profit-maximization problem:

$$\begin{aligned} V(X) &= \max_{T \geq 0, K \geq 0, R \geq 0} E \left[\int_T^\infty e^{-(r+\lambda(R))t} X_t f(K) K dt \right. \\ &\quad \left. - e^{-rT} (\delta K + R) | X(0) \right] \\ &= X \end{aligned} \quad (3)$$

where T is the time of the investment, K is the capacity level that the firm acquires at time T , R is the additional amount that the firm invests in R&D at time T , and $\lambda(R)$ denotes the creative destruction parameter that depends on additional investment R . Investment costs of the firm are equal to $\delta K + R$, where δ denotes the investment cost per unit of production capacity. The assumption that the lifetime of a project is finite means that at the moment the firm will undertake the investment, the project will have a positive probability λdt that it ceases to exist. Through setting up and developing an R&D laboratory by investing an additional amount R , the firm can delay the creative destruction process of its product.

Results and Conclusions

We consider two situations, one in which the lifetime of a project is finite and option to invest is infinite, and one in which the lifetime of a project is finite and the option to invest is finite as well. To obtain a situation to invest in, we

add the probability that a project stops with $\lambda(0)dt$ to the continuation region. In Figure 1 we can see a visualization of the investment timeline. In the finite case, the option to invest can disappear if the firm waits too long to invest in a project. Think of it as if a new external product is launched on the market by another investor and that causes the product of the initial investor to be useless. For example, a videotape player became almost useless when DVDs entered the market.

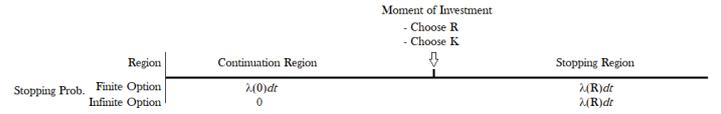


Figure 1: Visualization of the investment timeline, where the moment of investment denotes the beginning of the stopping region.

The value of a monopolist in the case of a finite option to invest is shown in Proposition 1. Note that we only state the propositions for the finite option to invest situation in this article.

Proposition 1. *The value of a firm with finite option to invest is equal to*

$$V(X) = \begin{cases} AX^{\beta_\lambda} & \text{if } X < X^* \\ \frac{Xf(K)K}{r+\lambda(R)-\mu} - (\delta K + R) & \text{if } X \geq X^* \end{cases}, \quad (4)$$

where A is an unknown constant, and

$$\beta_\lambda = \frac{1}{2} - \frac{\mu}{\sigma^2} + \sqrt{\left(\frac{1}{2} - \frac{\mu}{\sigma^2}\right)^2 + \frac{2(r+\lambda)}{\sigma^2}} > 1. \quad (5)$$

The optimal investment decision of a monopolist in the situation where project life is finite and the option to invest is finite can be seen in Proposition 2.

Proposition 2. *The optimal investment threshold equals*

$$X_\lambda^* = \frac{\beta_\lambda}{\beta_\lambda - 1} \frac{(\delta K + R)(r + \lambda(R) - \mu)}{f(K)K}, \quad (6)$$

where the optimal investment size satisfies

$$\frac{\beta_\lambda}{\beta_\lambda - 1} \frac{(\delta K + R)(f(K) + f'(K)K)}{f(K)K} = \delta, \quad (7)$$

and the optimal amount of money to invest in an R&D laboratory satisfies

$$\frac{-X_\lambda^* f(K)K}{(r + \lambda(R) - \mu)^2} \lambda'(R) = 1. \quad (8)$$

In order to gain more intuition on the implications of Proposition 2, we will visualize what happens to the optimal decision with respect to the stochastic drift rate μ .

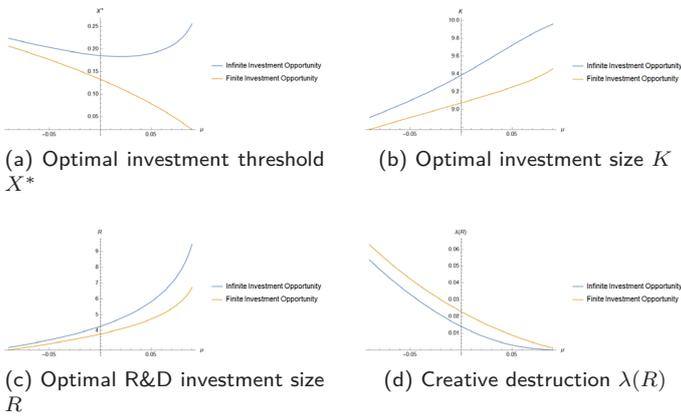


Figure 2: Optimal investment threshold X^* , optimal investment size K , optimal R&D investment size R , and creative destruction $\lambda(R)$ as a function of μ . Parameter values are $r = 0.1$, $\sigma = 0.2$, $\delta = 0.1$, $\eta = 0.05$, $f(K) = 1 - \eta K$, $\lambda(R) = \lambda(0)e^{-R}$, and $\lambda(0) = 1$.

Note that we also added the optimal investment decision when considering an infinite investment opportunity in the figure. We can see the difference between both the finite case and the infinite case clearly in Figure 2a. It is noticeable that for small μ , the investment threshold is decreasing, while for larger μ , the investment threshold is increasing in μ . In the finite option to invest case, a firm will always accelerate its investment when the trend is higher. We have to take into account that a project can stop before a firm even invested in it, which is why it seems plausible that the higher the trend, the earlier a firm wants to invest in the project so a firm cannot lose its option. Likewise, if the trend is very low, it is not that unfortunate if the option to invest disappears and therefore a firm is willing to wait longer to invest in a product. In equation (9) you can find the comparative statistics analysis of Figure 2a for the finite option to invest situation.

$$\begin{aligned} \frac{dX^*}{d\mu} &= \frac{\partial X^*}{\partial \mu} + \frac{\partial X^*}{\partial \beta_\lambda} \frac{\partial \beta_\lambda}{\partial \mu} + \frac{\partial X^*}{\partial K} \frac{\partial K}{\partial \beta_\lambda} \frac{\partial \beta_\lambda}{\partial \mu} \\ &+ \frac{\partial X^*}{\partial R} \left(\frac{\partial R}{\partial \beta_\lambda} \frac{\partial \beta_\lambda}{\partial \mu} + \frac{\partial R}{\partial \mu} \right). \end{aligned} \quad (9)$$

Balter, Huisman, and Kort (2021) distinguish three effects: the net present value (NPV) effect $\frac{\partial X^*}{\partial \mu}$, option effect $\frac{\partial X^*}{\partial \beta} \frac{\partial \beta}{\partial \mu}$, and quantity effect $\frac{\partial X^*}{\partial K} \frac{\partial K}{\partial \beta} \frac{\partial \beta}{\partial \mu}$. The NPV effect is the effect of an increase in the net present value of an investment when the trend is higher, whereas the option effect causes the value of the option to invest to increase under a higher trend. The quantity effect is the effect where a larger drift rate causes a firm to invest more in capacity, which also increases the total investment costs and therefore the investment threshold. By adding an extra decision to the model we found a fourth effect; the R&D effect $\frac{\partial X^*}{\partial R} \left(\frac{\partial R}{\partial \beta} \frac{\partial \beta}{\partial \mu} + \frac{\partial R}{\partial \mu} \right)$. The R&D effect accelerates a firm's investment together with the option effect and the quantity effect, while the NPV effect does the exact opposite.

To conclude, in this article we have started investigating an additional decision on the investment, by introducing the possibility to invest in a R&D laboratory at the moment of investment. With a R&D laboratory a firm can update its product throughout the time it is active in the market to extend the expected lifetime of the product. We find that a new effect arises with the introduction of a new decision on investing in a R&D laboratory. ●

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Annabel Boers
Master EME Graduate (2021)

Bias

The underlying topic of this column is bias. It might seem strange to write about bias if you are an autochthonous, straight, middle-aged white man like me that has an average marriage with an average wife, an average number of children, two dogs and one rabbit but my experience is that most people do not expect that a farmer could also be a math teacher nor the other way around.

Bias only plays a role when people do not know you that well and can lead under- and overestimation. I like both. When I tell people that I am a farmer they automatically think I work hard, get up early and can only speak dialect. When I am lucky they also think I am not that educated and civilized and accept that I eat my dinner with my fork only. When I tell people I am a mathematician they automatically think I am smart, can solve Rubik's cubes by heart and am willing to help their children with their math homework. They also understand that I need some extra time to formulate my answers to their questions and accept a lower standard of social behaviour because of my autism.

My favorite character is the farmer. To give an example: when our daughter started at the secondary school we noticed that in the first three months more than fifty classes were cancelled. Often for lousy reasons. My wife thought it would be a good idea if I went to the first mentor meeting with our daughter to complain about this. So when we concluded that our daughter was doing fine and the mentor asked whether I had something else I told her that we didn't let our daughter stay home from school for a lousy reason but that several teachers served as a bad example. When you wake up with a headache or a bad

mood you still have to get up and milk the cows. The mentor did not look really happy but thanked us friendly for the conversation and she promised to pass the message.

Our daughter hated me afterwards and I was banned from mentor meetings for the next five years. For some reason I got one last chance to go with her to the final mentor meeting before her graduation. The condition was that I had to behave 'normal'. Since my daughter had already decided what to do next and passing the last exams seemed like a formality, the mentor decided to explain to us what studying at a university is like. In a split second I realized that he knew I was a farmer but not that I also worked at Tilburg University so automatically I switched to our local dialect. The funny thing is that he was her math teacher and he studied mathematics in Utrecht a few years after I studied mathematics in Eindhoven. When he said there were lectures with more than one hundred students I was impressed ('Wow!!') and as a standard parent I said to be confident that our daughter could handle all the freedom and responsibility she would be challenged with. My suggestion that students drink beer every night and skip all the morning classes because of the hangover was, according to him, not true for most of them but he gave up when I stated that students are completely useless as soon as they have to work with their hands. Time was up already and after an 'Houdoe en bedankt' we left the classroom.

'Why didn't you tell him that you work at a university yourselves?' my daughter asked afterwards. I don't know. She did not tell him either. I think the situation was just too funny to disturb. I had a smile on my face for the rest of that week. ●

René Peeters

is dairy farmer and part time assistant professor in mathematics and operations research. He is specialized in discrete mathematics, in particular in algebraic graph theory and combinatorial optimization.



A winding road to now

A world has changed, from Tilburg and joining Asset | Econometrics till working working at Flow Traders and moving to Amsterdam. Most of you reading this, will remember me from the last few years at Asset | Econometrics in Tilburg and would maybe never imagine me leaving the beautiful city. So let's take you on the journey of my (student)life.

For those that really know me from the beginning, know that I actually did not start my student life in Tilburg but in Utrecht in 2012. I always dreamed of becoming a veterinarian and therefore I always said I would study in Utrecht. Since I was not selected to become a veterinarian I went for my back up option(s) and studied Economics and Business Economics at Utrecht University and Econometrics at Tilburg University. Most people would say this was a crazy move but I never regret doing both of them at the same time. After two years in Utrecht I moved to Tilburg to finish my study there.

When I moved to Tilburg I planned to be gone in two-and-a-half to three years (well this turned out to be a little different). I finished my honors programs and Bachelor's degree in Utrecht in 2015 and one year later I would also finish my Bachelor's degree in Tilburg. Despite my original plan to graduate in one year from then, I decided to continue with the Masters Econometrics and Mathematical Economics (EME) and Business Analytics and Operations Research (BAOR) and accepted this would be delaying me another half a year.

So far I had done two committees at Utrecht and had been on the board of my fraternity, however my main focus had still been to get my study done and start working. I do believe we learn a lot during the Bachelor degree in Tilburg, however personal development never has been a core focus of the University. I wanted to spend more time on other things for personal development but also enjoy my student time. I was looking for a new challenge from this moment and was actually looking at investing more actively. It

was at the start of the academic year that members of Asset | Econometrics came to one of the classes and told about the Quantitative Investment Group (QIG). I was really interested as I was looking for a new challenge and investing, so why not combine them. However, there was a waiting list for the QIG but I could drop by the rooms to have a chat about what else Astrics (as Asset | Econometrics is often called) offers.

Looking back at my student life and the years after, it was probably this day that changed a lot. You probably all already know the Landelijke Econometristendag (LED) (and otherwise probably will soon as this very important for you and also the committee is back at Tilburg from this year) and Astrics would be organizing the LED 2018. And as some things go in life I decided at that moment I really wanted to do this. Luckily enough I got selected to be the chairman of the LED 2018 and from January 2017 onwards the new adventure would start. Not only would I be busy organizing the LED together with my wonderful committee members but I was now also an active member of Astrics. From that moment I have rarely missed any event. In our preparation for the LED 2018 we went through a lot of fun moments together and we really became a united group that you saw almost at any event. It might also be the time I got fully committed to the slogan of the LED which is 'LED it be'. One of the events I definitely remember is when the LED 2018 joined the LEST 2017, where we won the competition. We even went a weekend away together in Breda and we won the committee competition within Astrics! Despite the many evenings and weekends we had to work on the LED, it never felt like anyone would wish differently. When it was finally Wednesday the 7th, the day was so magical. Despite us having to start at five in the morning and not returning after the after party more than 24 hours later, it might have been one (if not the one) of the most magical 24 hours in my life.

As mentioned earlier, I became active when I joined the LED 2018 committee and quickly figured out the warm and



Quirien Raat

Graduated Master QFAS

Age: 27

welcoming association I was now an active member of. The social events I liked the most (but not remember the best) are the cantusses we joined. Let it be the TUC, the CoDe or the Astrics cantus, all of them had their own charm. Probably the most famous party will be the Pre-Carnaval Party of 2018, which was the day after the LED 2018, which quite likely does make it one of the funnest parties. Most people will just remember it as a normal event but a selected group of people will remember it for the legends that are still attached to that party.

It was all these good times and memories that made me want to continue my participation in Astrics and before I knew it, it was 2019 and me and my Board were leading the association. Being the new board of Astrics meant more of the fun we had but also organizing even more for the members of the association. This concerns not only career events but also support and contact with the University about the program. Together with the other six Asset associations we ran the second biggest association of the Netherlands. It was also the year that we launched an improved portal for vacancies, Tilburg Career Platform, and we steered

the association forward after some difficult moments in the past. Together with my fellow boardies (three of us were from the LED committee) we had a wonderful year and we had time to give back to our members. We also had the opportunity to get to know the other (Asset) board members and organize events together. Some of them we still meet today.

During this time one would almost forget that I still had to finish up my Master degrees. Besides the LED 2018, I was able to finish my final courses and I did an internship at Building Blocks while organizing the LED 2018. Shortly after the LED but before my board year I graduated from BAOR. In September 2019 it was time to write my 4th and final thesis and in January I would finish my second Master degree after 7.5 years of being a student.

With this a new chapter in my life started. Despite having a lot of fun I always worked incredibly hard and was fully committed to the course. With my student life coming to an end I was looking for my full time professional challenge. I actually already figured out in my board year that I wanted

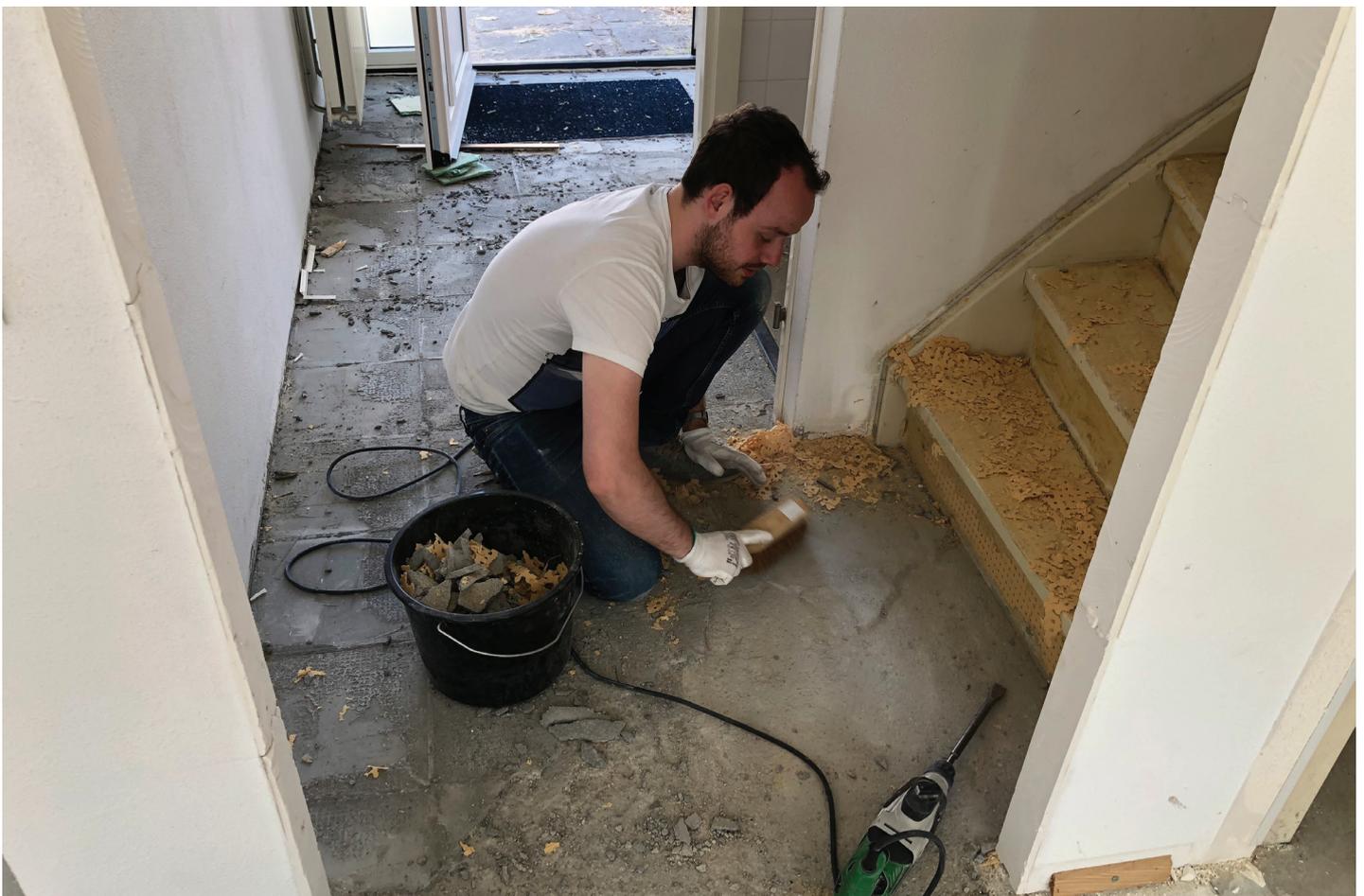
to join Flow Trades and started my application during my board year. In November 2019 I passed all the rounds and from March 2020 I was working at Flow Traders in Amsterdam.

This all meant sayin (sort of) goodbye to Tilburg and after some great goodbye moments I left Tilburg behind and moved to Amsterdam. By now you all know how a horrible (and great) timing this was. I was still moving into my new room in Amsterdam when Corona fully locked down the Netherlands. It is therefore that till today I never really feel like I have fully explored Amsterdam. However it also helped me focus on my new challenges in life as we knew it was not there for anyone. It was however a remarkable time to be active in the financial markets. Since Flow Traders is a market maker, they have to be (and want to be) in the market even in these special circumstances. We continued to buy and sell products in the market and due to the high market volatility it was a very interesting time to be working at Flow traders. I still go to the office every day and I like my working days a lot, though they will not become as interesting as

March last year. Luckily we do get the opportunity to have some fun with the company now that corona is easing, not too long ago we finally had the chance to go on a company trip and we actually can go to the bar with colleagues again.

Despite never really having discovered Amsterdam I was looking for some more space (and green) and I already left the city to move to the outskirts and bought a small (in need of some love) family home in Diemen-Noord. With the help of my family, certainly I am blessed with them, and many friends, I planned to renovate the major parts of the house in two months. However, we are three months in now and I am writing to you how my life is without any floor or furniture, but nothing brings down my unlimited amount of optimism and energy. Everyday, I am, besides a trader, also a construction worker and slowly but surely I am building my own palace!

I do still think back at all the great years the association has given to me, and the fun we all had together and I hope to see you all soon again! ●



Fun, games and bubble football

After two years, it was finally time for the biggest and greatest econometric sports tournament in its full physical glory. On Thursday October 7, the National Econometricians Sport Tournament - Landelijke Econometristen Sport Toernooi (LEST) – was organized. The LEST is an annual event and, as every year, it took place in the beautiful city of Utrecht. Each time, this tournament is structured by a different Econometrics study association. This year it was by our own amazing one: Asset | Econometrics. Of course, I had to be there.

Early in the morning, many students gathered at the central station of Tilburg to take the train to Utrecht. When we all arrived at sports center SV Kampong, we got our shirts and bags filled with nice goodies: we were ready to compete against the other teams. Teams could choose to participate in one of the three competitions, the “Competitive Football Tournament”, the “Recreational Football Tournament”, or the “Sport and Games Tournament”. My team and I played in the tournament for Sports and Games composed of different games such as Knots Hockey, Dodgeball, Bubble Football, Multiball, Mega Beer Pong & Mölkky and Relay. Asset | Econometrics was very present at every tournament, having four teams in the “Sport and Games Tournament” and three teams in the “Competitive Football Tournament”. The LEST is the perfect opportunity to meet people

from the six other Econometrics study associations and the different companies in an informal way.

We started off with the game Multiball, in which we, with full surrender, lost to our opponents. Yet, we still had the idea that we could win all the other games. This wish changed the moment we played against the team of Ortec Finance in the Bubble Football game. They were very good, so after having a great time, we left, not only defeated, but also with some bruises and injuries. Around the middle of the day, we got a lovely lunch and got the break we deserved after playing so hard. After lunch we continued with the games. Despite the difference in talent compared to the other teams, we really enjoyed playing the Tournament together. We bonded as a team and discovered the natural talents of some.

When the games were over, the teams from all the three sport categories were reunited to have a nice barbeque all together. Here, there was a bit of time to chat with our fellow econometricians and participating companies. This was also the moment to announce the winners of the LEST tournaments. Unfortunately we did not win the “Sport and Games Tournament”, but the Asset | Econometrics team with captain Lotte Gerrits won the recreational football tournament! Following the barbeque, it was time to check-in at the nice hostel StayOkay in the center of



Elise Hage

Bachelor EOR

Age: 20

Utrecht. After some time for ourselves, in my case sleeping, we ended the day at the LEST 2021 party at De Vrienden Utrecht. Despite most students having quite sore muscles, many joined for a beer to talk about the great day. I really enjoyed this day and I hope everyone loved it as much as I did! ●



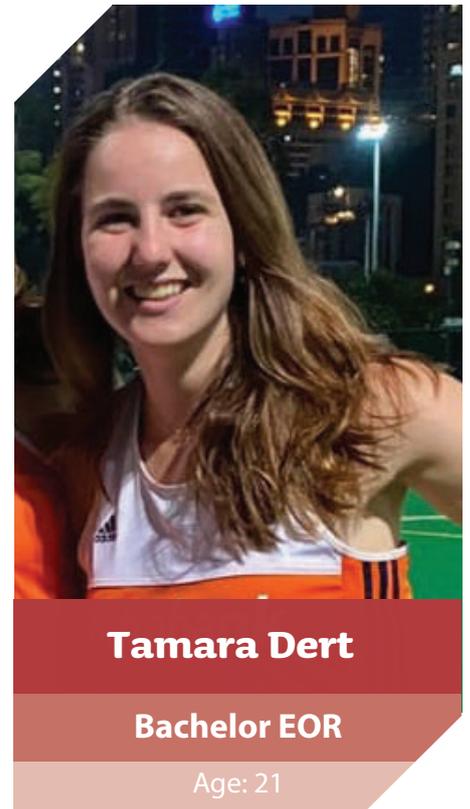
... Hong Kong!

Heyhey my dear Tristjes. Today I am writing to you from the safe comfort of my student residence, whilst waiting out a nr. 8 Typhoon warning: "... winds with mean speeds of 63 km/h ... Do not stand near windows on the exposed side of your home...". Sounds kind of serious right? Well, here nobody really seems to care. The street is (as always) full of people and 96% are trying to hold umbrellas. It is a vibe. People here are a vibe. They are so open and interested in us, honestly my whole experience here is nothing like I expected.

Hong Kong is known to have the longest mandatory hotel-quarantine period in the world during the covid crisis. I spent 14 days in the Ramada Harbour View Hotel, if you wanna have some (slightly sadistic) fun you can read about it on the facebook group . Here I will keep it short: the view was great from the 19th floor, the rest not so much. It did however give some time to actually realise where i just landed: Hong Kong! The days before leaving were crazy busy: calling for hours with PCR test labs about getting the right documents, trying to pack all my stuff in one bag (and going on a wine trip). How to optimally extract the needed information from companies/government institutions is definitely a new skill that should be put on my resume. Nonetheless, stuck in a quarantine bus, I got my first look at Hong Kong. I got a bit stressed about how huge it was, an Asian version of New York City I told my dad. But then I saw the "Dutch Cheese store" and knew it would be fine. No, okay, that is not true, but 14 days and 6 PCR tests later, I knew that the holes in buildings are for dragons and felt ready to take on the covid-free world here.

So what do you do when you come out of quarantine in Hong Kong? Answer: 1. instantly become a puddle of sweat; and 2. eat eat eat. Me and this German guy I met in the plane here, dropped our stuff and went for dumplings, as if an angel pissed on your tongue, a-ma-zing it was. Hong Kong is like the food capital of Asia (yes also non-riced/noodle dishes), eating/taking out is often cheaper than cooking. So we had dumplings, sushi, everything-rice, wraps, eggwaffles and doza's all around Hong Kong, but the one place I feel like everyone should know about is Mr Wong's. 80HKD, roughly €9.00 for unlimited beer and food and the chance to be entertained by the amazing Mr Wong himself. Is it money-laundering or does he just love exchange students so much? Nobody knows for sure, but yes, the man is a legend. Where other unlimited places try to make you eat/drink less, Mr Wong would like to be your food husband and shoves your bag full of beer cans when leaving for the clubs. Now I must say Mr Wong is a bit of an exceptional person, but if locals have time, they like to come up to you and talk, show off their English (sometimes with hands and feet) or randomly on a night out invite you to go hiking with them.

The way they do things is just different, they do not make sense to me at all, but for some reason, it works. I have now been here for 2 months and I still have no clue on whether they officially walk left or right. People just adapt and follow each other, it is organized chaos and for some reason, it works. It is interesting. I mean, I could hype for ages about the nightlife, junk party boats and not to forget: sugar daddies (and mommies), but I feel like Hong Kong is so much more. 70 percent is wild nature that can be explored with numerous hikes, the ambitiousness of



Tamara Dert

Bachelor EOR

Age: 21

people is killing but also kind of inspiring and the culture is so Chinese but so western at the same time. I love it here, but on some points you also learn to appreciate even more what and who I have back home. I now have about two months left and feel like I will not have enough time to see/do it all, but after, I will be happy to return and see all of your beautiful faces.

Greetings from HK
xx Tamara

ps1: If you are in doubt, definitely go on exchange. It is already one of the best experiences of my life, among other things due to the exchangers community being super easy going and nice. Do not worry, have fun and let me know if you ever have any questions about Hong Kong or something else related!

ps2: Lovely to see that you are having fun again as well! Special shoutout to my dear hackathon committee I left and that pulled our event over the finish so nicely! ●



The Working Holiday Visa

written by **Flora Poon** and **Timo van Oorschot**

Many students have always dreamed of temporarily living abroad, meeting all kinds of people from all over the world and gaining tons of incredible experiences in countries such as Australia, Canada and the United States. The Working Holiday Visa (WHV) offers them a great opportunity to realize their dreams. This visa allows them to travel to countries while also being able to apply for a job in the relevant country. At first glance, obtaining such a visa looks like an effortless task, but there is more to it than most people think. What does a WHV exactly involve? What kind of jobs can be applied for using the WHV? And, does the Netherlands also offer such a visa for students? In this Special, these queries will be treated, starting off with the personal story of Keziah, Marjolein, Malou and Latisha, four personal friends of Flora.

Keziah, Marjolein, and Latisha always had the dream of backpacking. Together with their friend Malou, they chose Australia since the country is well known for its natural beauties and its big cities. The perfect combination for an amazing backpacking trip. They prepared themselves by working for a period of time to finance their trip. Furthermore, they attended multiple information sessions with loads of tips and tricks.

The trip started off with a tour through Indonesia for one month. One day before Christmas, they arrived at their next stop: Sydney. They stayed in an AirBnb for the first two weeks, so that they had enough time to get used to living in Australia. They celebrated New Year's Eve in Luna Park (Sydney), which they have heard many stories about. In this park visitors had an amazing view of the fireworks over the Sydney Harbour Bridge. After a couple of days of exploring the city, they finally started looking for a job.

Latisha did not want to work on a farm, so she registered herself with multiple employment agencies hoping to find an office job. She applied to multiple companies in Melbourne, but there was no one that accepted her application. After much effort and many interviews, she travelled to Sydney and finally found her first full time job as a receptionist. She had worked there for one and a half months with a salary of twenty one dollars per hour. That may sound like a lot, but in the end, she could not save much money since rent in Sydney is very high.

Keziah and Marjolein went for another approach. They put an advertisement on Gumtree (comparable with 'Marktplaats' in the Netherlands) with the message that they were looking for a job, preferably on a farm. At first, nobody responded to their advertisement, so they started side jobs such as working in a kebab restaurant and helping with renovations. After a while, a man called George approached them. He and his friend were looking for au pairs (live-in caretakers) for their children, since the men are miners with shifts of twelve hours a day. Keziah and Marjolein accepted the offer and they moved in with the families to look after their children. Since the families provided them shelter and food, the money they received was minimal. Despite the fact that they earned less, they both enjoyed their stay.

Latisha and Keziah: "If you are really looking for a job to earn money for your road trip, you should look for a job before your trip. The money that we made in Australia is minimal compared to the money we made in the Netherlands." Marjolein, Keziah and Latisha worked for a short while, since they wanted to get the full experience of living in Australia. Keziah and Marjolein for instance, stayed in a small local village (located in the outback), which gave them a good impression of normal life in Australia.

After two months of working they travelled around with their newly purchased van, which they bought on the website Gumtree. Marjolein: "If you ever come to the point in your life of buying a vehicle in Australia, make sure that you do enough research. In Australia, every vehicle is registered to a certain state with their own policy for the rego (yearly registration including car insurance and road tax). When a car is for example registered in New South Wales, you have to go to a Motor Vehicle Registry in that particular state to extend your rego. Besides, the transfer of ownership of a vehicle also takes place in that particular state. If you do not pay attention, you might buy a car that is registered in another state. As a result, you will have to drive long distances to arrive at an approved Registry."

Keziah: "We have chosen a van, since it reduces living costs in the long term. We were free to travel to any place we liked and fuel was relatively cheap, even though the distances we had to drive were nothing compared to the distances in the Netherlands." At night they set up their tents in camping places for a low price or parked their van at a truck stop for free.

Marjolein: "During our trip, we tried to save every penny by taking showers at swimming pools and beach showers. We even brushed our teeth in a Mcdonalds. We often ate canned food in our van, but on special occasions we had dinner in a restaurant. At a given moment we discovered meat pies at gas stations, which was the best food you could get for a low price. I wish that we had discovered this earlier, since the pie was delicious and affordable." Since Australia is an island, importing fresh fruit and vegetables is relatively expensive. Therefore, it is rather difficult to get proper food for an acceptable price. Especially fast food is a daily go-to, since it is most affordable.

The money they saved was used for big purchases such as travel tours or vacations

in other countries. For example Keziah went to New Zealand, Hong Kong, Indonesia and Thailand. Latisha: "Normally when you go on vacation, you make a tight schedule to visit all the touristy places in a country. However, in our case, we had no plan at all. It is the best opportunity to explore all the nearby countries at your own speed. There is no specific location for your stay, since you are carrying your backpack all day. Besides, flight tickets to exotic countries in Asia are relatively cheap. Sometimes there are tickets available to Bali for only \$100."

In the end, they worked for approximately two months, travelled for eleven to twelve months and spent more than €13.000 per person (excluding the money they made during the trip). Latisha: "I am so thankful I had the opportunity to make this trip with my friends. To me, it sounded scary to go backpacking in Australia since I am not the biggest fan of snakes. However, it turned out that you will not find exotic animals on every corner of the street. Of course, when we went camping once, we had an enormous spider inside our van, but after all, it is nothing compared to the memories I got in return."

Does this story catch your interest and are you maybe planning to go backpacking yourself, then the remaining part of this article would be useful for you. It will provide all the information needed to apply for a working holiday visa.

The WHV and its purpose

As stated before, the Working Holiday Visa is a special kind of visa that allows travelers to work while staying abroad. They receive a residence permit for a year, being able to stay in the country they applied for. However, the visa expires after one year, which means that it cannot be extended by some months or years. By the time the WHV expires, the travelers have to return to their country of origin or they can extend their stay with a standard visa for the country, although they will not be able to apply for jobs and earn some money. The main target group of the WHV consists of students between 18 and 30 years old. Some countries also offer visas for people between 30 and 35 years old, but the focus lies on (prospective) students choosing to take a gap year or already graduated students using an extra year to travel and gain experiences abroad. It is possible to apply for a WHV using a so-called Working Holiday Programme (WHP), which immediately



offers some jobs the applicants can choose from. The advantage of these programmes is that students get the chance to travel in groups and get to know each other more easily. However, applying for a WHV while registered at a WHP is not necessary.

The reason why some countries offer these visas is to get students acquainted with the cultural aspects of the country. The two corresponding countries (the country where the student travels to and the country where the student is from) stated this principle in a Memorandum of Understanding. Since not all partnerships of countries have this principle stated in a Memorandum of Understanding, the travel options for students are limited. Therefore, a student in the Netherlands can choose to apply for a WHV in Australia, but not in Indonesia, as these countries do not have an agreement when it comes to visas for working students. [1]

Common restrictions

Currently, you might assume that obtaining a WHV is relatively simple. However, this is not the case. Many WHVs have some restrictions and the applicants must meet certain criteria before they obtain their visa. Although each country has their own rules concerning this, there are some rules that most countries have in common. First of all, as described above, the applicants must be aged 18 to 30 (or exceptionally 35). Furthermore, a certain amount of money would have to be demonstrated in order to get the visa. This is a precautionary measure for the fact that students might get into deep debt if they struggle with finding a job or cannot afford a temporary residence. The exact amount of money fluctuates upon each country, but students must take into

account that they are obliged to have between 2000 to 5000 euros or dollars in their bank accounts before they go on their adventure. Another rule enforced in many countries is that a WHV can only be obtained once per country and three times in your whole life. Therefore, many travelers describe their adventure as a "once in a lifetime" experience, as they are not able to travel to the same country again in a few years to apply for a job as a student. So, if you are a very adventurous person, you still have the option to use a WHV for different countries with a maximum of three times. Another restriction of the visa is that it is only valid for one year. However, in some countries, an extension of the duration of the visa is possible when specific work has been done for three months or longer. When it comes to work, some countries have a maximum amount of time in which a traveler can work for one employer (six months for example). A reason for this is that continuously staying in one place all the time is prevented in this way. It also gives the students the time to spend their saved money on visiting monuments or events in the country as a part of their holiday, because the holiday part of the visa is also very important. For that reason, you are free to do everything you want outside of these restrictions, as long as the law is obeyed of course. [1][2]

Working Holiday vs. Work and Holiday

The WHV is a visa itself, but within the WHV, there are also some other kinds of visas. As every country has its own visas, the system in Australia is zoomed in on. This is done, because some countries have a very similar system and in Australia, there is quite a difference between some kinds of visas people can apply for. First, we can distinguish the

Working Holiday Visa and the Work and Holiday Visa. The names of these visas are quite confusing and most people recognize them as if they are the same, but there are quite some differences. It depends on your country of origin what corresponding visa must be applied for. Most of the time, students from the countries that have best developed speaking the important languages (English, Spanish, Chinese, etc.) are eligible for a Working Holiday Visa. The other countries stick to the Work and Holiday Visa. Additionally, the Work and Holiday Visa requires a letter of support from the government of the country of origin, which you can request. This is not necessary for a standard WHV. There is also the possibility that, when applying for a Work and Holiday Visa, a motivation letter from the student is asked. The main focus when checking this letter lies in the use of functional language, to check if the applicant is able to communicate with the local people of the country where the visa is for. Summarizing, it can be concluded that the Work and Holiday Visa is a bit harder to obtain as there are more requirements for it. [3]

A distinction can also be made between a first, second and third visa within the WHV. Students traveling to a country they have never been to before apply for the first visa, which forms a basis of the time they can work there (short-term). After three months working in specified sectors, mainly the tourism sector and the agricultural sector, applicants are eligible for the second visa. This second visa allows the travelers to find work in some extra other sectors as well, as they already gained some working experience abroad and should be able to have a job in other specific sectors as well. Tour guides or instructors of activities are especially popular for students having a second

visa. If they do these kinds of jobs for six months, they are eligible for the third visa, which gives the travelers even more freedom when searching for a job. Furthermore, the third visa may allow an extension of the WHV by three months if work in the specific sectors (for the first visa) is done for three months or longer. Therefore, this is a constructive system where the third visa can be worked towards, which makes it attractive for other countries to use this system as well. [4]

Applying for a WHV

If a traveler wants a WHV and knows about the restrictions and rules of the country, the last step of obtaining the WHV is the application for it. To describe this process, The Netherlands is taken as an example, as The Netherlands also offers WHVs for students from abroad. The first step of applying is filling in a form on the site of the Immigration and Naturalisation Service (IND), which each country has. This form contains some questions about the applicant's origin, purpose of visiting the Netherlands and some other data. If the applicant lives in a specific country, it is possible that he/she is asked to visit the Dutch embassy in the relevant country for a proof of pre-registration. After filling in the form and, optionally, obtaining a proof of preregistration, the applicant is asked to fill in the date of entry and the location where the residence permit will be collected. These can both be changed according to preferences. Afterwards, it is asked to confirm that the applicant is financially able to live abroad. In the Netherlands, this is done by uploading a return ticket in combination with a document of the bank account, which proves that the financial means of the applicant are sufficient. Now, the applicant is able to accomplish the

payment of the WHV to the IND, which contacts this with him/her. The full application is done now and the waiting time for the delivery of the visa starts. It is important to know for travelers that the residence permit shall take effect after the day they visit the Netherlands (or the other country) for the first time, and not the day they receive the WHV in their own country. Finally, the applicants are ready to go on their adventure! [5][6]

These are some final tips from Keziah, Marjolijn and Latisha for future backpackers:

- Look for backpack communities on social media. Here you can meet fellow backpackers and share helpful tips.
- Save enough money. Since there are many uncertainties involved in backpacking, there could be unforeseen costs.
- Open a local bank account. There are no currency exchange fees and payments are much easier.
- Back-up for all photos. In foreign countries it can be easy to lose items such as a camera or a phone. A back-up lowers the risk of losing valuable photos. ●

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f.l.t.r.: Latisha, Keziah, Marjolijn, Malou

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Econometrics

Active Members Weekend

The Committee's View

written by Sara Darwinkel

Last year was my freshmen year and Tjum (who was the internal of the board at that time) persuaded me to join the AMW-committee and I absolutely did not regret it! You probably know that we were in a pandemic, resulting in all our meetings being online. I think that the whole committee will agree that we had the least efficient meetings in the world, but we had a lot of fun, even via zoom. We wanted to get to know each other better, so we organised some activities. The centurion was the best, especially because it was, due to the lockdown and different COVID-19-measurements, the first and only activity we could do all together. This activity was also the beginning of the adventures of the black bucket of Jarno (thanks for that one by the way ;)).

As AMW could not be held in April as usual, we were more than happy to hear that it was possible to plan a new weekend! Fortunately, the accommodation we wanted was available during the weekend from September 3 to 5 and we finally had something to work towards. In the upcoming months it was difficult seeing each other due to the exams and the summer holidays. Luckily, we already made some important decisions such as the theme (beer games) and some games we wanted to play. In the end, we managed to make it all in time!

The weekend took place and I can tell you one thing: it was intense. It began with all the preparations the week beforehand:

we finished the last tasks, bought and collected the ultimate items and arranged the script of the weekend. On Friday we had our breakfast together and we went to Koningssplein to welcome every team and send them in the right direction. They first had to do at least ten assignments of the crazy 88, then they went from town to town in order to find the final location. For me it was a chill afternoon at a café, enjoying the sun! At the end of the afternoon, every team except for one was at the accommodation. We had to go pick the last team up with Jeroen's blue bus which was hilarious, because six people and six bikes is really the maximum capacity of that bus.

After having dinner we started the games. I think my favourite was the flunky ball, especially because I had to explain the game. The rest of the night was filled with a lot of singing and dancing with everyone!

The next morning, to wake the group up, Jeroen (who does not have any sense of rhythm) gave the best morning workout ever. After breakfast, the injury of our sweet Bob and the quick change of plans, we could finally go on with the schedule. The games that day were really fun, yet the best game (by far!) was the kick and slide. It was a baseball game on a huge plastic field covered with water and soap. The bases were small pools and the ball with which we played was a soccer ball. First you had to kick the ball with your foot as far as possible. Then you had to get as far as possible somewhere on the field without being called out while the other team was bringing back the ball to the centre of the

field. Everyone enjoyed it and at the end of the afternoon, everybody was playing the game or chilling in the sun.

After a nice barbecue the whole group went to a pub in a nearby town. Everybody enjoyed the music, the dancing and the beers (for me it was a nice cold ice tea). At midnight we had to go because of the COVID-19-measurements, but this did not stop us from enjoying the rest of the night at the accommodation. The fun fact of that evening is that, just before I went to bed, I reminded myself I had to hand in an exercise the next morning. Hence, surrounded by the last militants of the late night, I made and handed in the quiz at 05.00 hours in the morning.

The next morning, when everybody was enjoying their breakfast, we announced the winning team of the weekend: Beerpong-team! They could just chill until everybody was ready to bike back to our sweet Tilburg. The rest had to clean up the accommodation. When everything was clean and everybody was wrapped up, we all got on our bikes and had a nice ride. Some of us went to the swimming pool of Stappegoor to swim a bit and enjoy the September sun with an ice-cream.

Even though we did not take time to take a nice committee photo during the weekend, I had the best first AMW I could have asked for! I am really grateful for the people I organised it with and I truthfully think we did a great job. I am looking forward to the next old-AMW-committee-activity! ●



The Participant's View

During the weekend of September 3, 4 and 5, it was time for the event I was waiting for the whole summer: the Active Members Weekend (AMW). For some it was the first time, but for me it could be my last one since I aim to graduate this academic year. The committee was delighted to announce that the weekend could be on a secret location! We could stay there the whole weekend and make as much noise as we wanted. This resulted in a fantastic weekend with great stories.

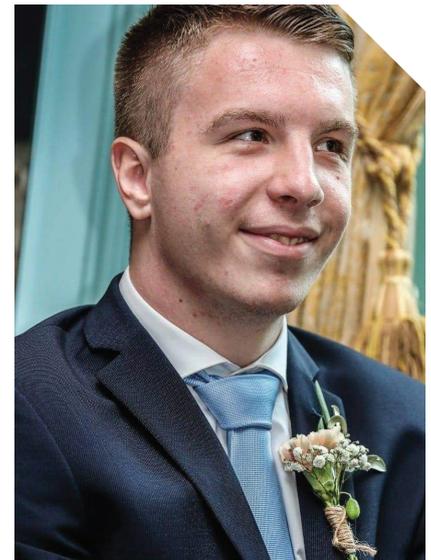
On Friday morning our group had gathered at Juliette's for the champagne breakfast. Because of a Centurion in my house the night before I had a big hang-over and I could not drink any champagne. At Koningsplein we met the rest of the groups and had to load our luggage in the car. The theme of the weekend was drinking games so everyone had a nice outfit representing drinking games like dices or beer pong. We were in orange clothes because we were the game kingsen. Together with Nathan, Marie, Mylene and Juliette, the kingsen team was ready to begin the crazy 88 composed of the weirdest assignments. On the hottest weekend of September we rode our bikes from village to village with sweat on our backs. Many groups were tired, but fortunately everyone arrived on time at the location. On location, we helped with various tasks. According to our traditions, we started with beer games. We enjoyed playing games with each other again for the first time in a long time.

A new and fun element that the committee introduced this year were colored coins. Everytime a team would win a game during the weekend, they could pick a coin of a color of their choice. Every color had a different value, but it was unknown what color represented what value. You could therefore choose to pick coins of one color hoping that would be the highest valued coin or to pick a mixed portfolio and choose coins of different colors to spread risk. This made the whole weekend extra exciting!

That morning we started with various outdoor games, but unfortunately Bob had to be picked up because his leg dislocated. This left our hero unable to attend the weekend properly. After a cold morning, more sun came out in the afternoon and playing softball with water, soap and the pools became everyone's favorite game. By the end of the afternoon, everyone was sitting on the field in the sun watching the game. When the evening came, the barbecue was turned on and everyone could grab a piece of meat. Before heading to the pub we enjoyed the campfire. To get to the pub, we had to cycle through an unknown part of Brabant. When we arrived at the pub, we could enjoy a beer and a soccer game on the TV. Back at the location there were hot snacks and the party went on until the early hours.

On the last morning it was mainly packing and cleaning up. The winner was announced, which was the 'beer pong team'. Our team came in third which was pretty good. After cleaning up, we went outside to reminisce about the weekend and discuss old memories. Jaron put on several songs like "Perry", "Hey word eens wakker" and "We've got Salah", which are classics from the previous AMW editions.

After this it was time to bike back to Tilburg and take a refreshing dip in the pool Stappegoor. I went home to watch Max Verstappen who would become



Bernard van den Broek

Master EME

Age: 23

first in Zandvoort with Formula 1. It was a great weekend, well organised by the committee. The weekend brought people together from different years, so they could get to know each other and laugh together. The atmosphere was nice and everyone was happy that we had the possibility to organise this event again. ●



Meet the Board

Board of Asset | Econometrics 2021-2022



Chairman

My name is Wout Temmink and at the moment I am 22 years old. I was born in Hengelo, which is in exotic Twente. In 2020 I started my pre-master Quantitative Finance and Actuarial Sciences. I immediately became active at Asset | Econometrics when I arrived in Tilburg, despite the strange year I have really enjoyed my time at the association so far. During the past year I have been active in the Connection Day committee and the EOR Business Dinner committee. I finished my pre-master this summer, and for this academic year I would like to be the Chairman of Asset | Econometrics. Within Asset General I will take over the role of Acquisition Coordinator. Furthermore, I am really happy to be able to coordinate the Freshmen committee.

Secretary

My name is Patrick Floor and I am 22 years old. Originally, I was born in Wageningen and raised in Veenendaal. I started studying Econometrics in 2017, and I immediately moved to Tilburg because of the travelling time. In my first year I started with a small committee, namely the Introduction Activity. This was a great start in my active members career at Asset | Econometrics. Since then I have become more involved with the association and have done the committees Education, IBT and Hackathon. Beside Asset | Econometrics I also love to play volleyball at Gepidae. Furthermore, I love solving difficult puzzles or riddles. For this academic year, I would like to fulfill the role of Secretary of Asset | Econometrics and make sure that everyone feels home at our association. Beside the Secretary tasks I am also the IT-guy this academic year! If you have any questions regarding IT-matters you can always ask me!



Treasurer

My name is Joris te Booij and I am 22 years old. I was raised in Vught, near Den Bosch. I started with the Bachelor Econometrics in 2017, and finished this summer. I became active at the association in my second year by joining the Sports Committee. After an exchange, I decided to once again become active in the IBT Committee. Besides that I have been to many activities, and have gotten to know the association as a very fun place where you can also develop yourself. When I am not busy with Asset | Econometrics I like to do sports; mostly swimming and fitness. This year I hope to guarantee the financial health of our association as your treasurer.





External Affairs

Hello everyone, my name is Floris Somers and I am 21 years old. I am the External Affairs of Asset | Econometrics for this academic year. I was born in Eindhoven and raised in Best. In my hometown I have been active in joining my musical association, working at the Albert Heijn and going to Stratum with friends. Three years ago I left Best and went for a new challenge: the Bachelor Econometrics. The last three years have thought me a lot of different things; from living on my own, studying in the UB and organizing cool events with Asset | Econometrics. At Asset | Econometrics I have been active in countless informal committees like Freshman weekend, Events, Promotion, Drinks and Activities and a bit more serious one the Education committee. After discovering the informal side of our association, I am now going to dedicate my time to further improve our formal side of the association. My vision is for every Asset | Econometrics student to pair them with their ideal future employee.

External Affairs

My name is Constantijn Wessel and I will be one of the External Affairs of Asset | Econometrics from February 2021 till February 2022. I was born in Hong Kong 23 years ago, raised in Arnhem, and happily moved to Tilburg four and a half years ago. As some of you may already know, I did not start studying the Bachelor Econometrics and Operations Research (EOR) but I actually did a Bachelor in Economics. However, I found out quickly that I missed the mathematics that I loved in high school. So, I decided to make the switch to EOR by doing a pre-Master. Currently, I am finishing my Master Quantitative Finance and Actuarial Science. Being this close to finishing my studies, I was not yet done studying and decided to do a board year. As External Affairs, I am responsible for multiple things, among others the acquisition of Asset | Econometrics and managing company relations. Before doing this board year, I was a member of the Econometrics Business Dinner committee, the Quantitative Investment Group, and of course, the Nekst committee. Besides, being active at Asset | Econometrics, I have always been an eager sports player. Currently, I enjoy jogging and leading my field hockey team as captain at Studenten Hockeyvereniging Tilburg (SHOT) during the week and weekend days. In my free time, I take pleasure in learning about historical battles. I would even go as far as calling myself somewhat of a history buff.



Internal Affairs

My name is Bram Marsman and I am the Internal Affairs of Asset | Econometrics. I was born and raised in Tilburg and I am proud to call myself a 'Tilburger' for 23 years now. I started studying Econometrics and Operations Research in 2017, and finished my bachelor's degree last January. I have been active at Asset | Econometrics ever since joining the Ski Trip committee in my first year. Now, I am very grateful to be the Internal Affairs of Asset | Econometrics for more than 10 months already. As the Internal Affairs, I am responsible for the Active Members Policy and all education-related matters. I also take part in the Public Relations meeting and I will be the coordinator of many informal committees. When I am not busy with Asset | Econometrics, I like to watch Netflix, play soccer, tennis, and squash. In addition, I like hanging out with friends and attending all of our great events! At most of these events, I like to drink a beer or two. I am especially quite fond of the 'cantus'. Next to this, I also like to go to festivals. In 2019, I attended Sziget, Paaspop and Awakenings. Finally, I love to go on holidays, both in the summer as in the winter. I hope to enjoy my last months as a boardie with all of you at our rooms and at all of our events!



ASSET



Econometrics





BOARD AND THE CITY

Last year was a really dynamic year. It was the first board year that was completely during the lockdown because of COVID-19. As the brand-new boardies we, the forty-third board of Asset | Econometrics, were very curious about their experiences in such a situation and what the ups and downs of such a board year could be. Fortunately, we had the chance to get in touch with our predecessors and interviewed them about their experiences. Below you can find an in detail interview of Juul, Michelle, Stephan, Juliëtte and Tjum!

WRITTEN BY **PATRICK FLOOR**

COVID-19 played a big role during your board year. How has it influenced the year and your experience?

Juul: "Looking at a 'normal' board year, I think it influenced everything. We had to work from home, have meetings online and organize online events. Nonetheless, we were proud of what we created in the end."

Tjum: "I think it had influence, as it was a completely different year. If you would compare it to your board year it influenced in a negative way, but compared to my life during corona, in a positive way."

Stephan: "It influenced everthing, we have had way less social activities. However, I found it very interesting looking from a management perspective. I think I learned way more than in a normal board year."

Michelle: "It was a pity that we could not organize event physically like we used to. Sometimes I had the feeling that our events were just one of the many online events, while we usually offer a wide scala of events and activities."

Juliëtte: "I do not entirely agree with that. I was very proud of some of particular events. I do think that it mainly influenced my expectations. I did cool things during my board year, but I just expected it to be different. I did not expect corona to be a thing."

Tjum: "I went into the board year with a positive view because the infections were only 300 per day. I expected to be doing more things by October."

If ... were a city, what city would they be?

| Juliette | Stephan | Juul | Michelle | Tjum |
|----------|---------|-------------|-----------|-----------|
| Paris | Berlijn | Den Haag | Venice | Amsterdam |
| Almere | | Bloemendaal | Dubai | Rotterdam |
| New York | | Nijmegen | Volendam | New York |
| | | Appingedam | Pyongyang | Venice |

You cannot predict anything during a board year, as it will be full of ups and downs. What part of a board year did you find the most challenging and what was your best moment during the board year?

Juul: “The best thing was that you were never alone, there was always something to do. The most challenging part was coping with the COVID-19 crisis. And the biggest shame was that the International Business Trip was canceled.”

Juliëtte: “I thought the handover in January was quite intense, because you also semi had your Christmas break and I had to do Statistics for Econometrics as well. In January I had to do a handover for Constantijn and Tjum for Bram. It was pure chaos, and we were in the middle of strict measures.”

Michelle: “I had a hard time when we had to decide if the constitution drink could take place and having to take responsibility for this.”

Tjum: “Tuesday was the press conference and after that the constitution drink would take place. We had to decide if, knowing that from tomorrow on measures would not allow it anymore, we were going to let seventy people come to a drink that same night. At the last moment we decided that we would cancel it.”

Michelle: “I thought it was especially hard because you could not look it with your own perspective, but from that of the association and decide to what extent members were responsible themselves.”

Stephan: “I thought cancelling the Actuary Day Tilburg a week before was hard as well, especially since the committee had to organize an online event instead. That took a lot of willpower.”

Juliëtte: “The best moments were the evenings with the board, where we could let go of all the stress for a moment.”

Michelle: “I really enjoyed the board evenings as well. One time we went to Stephan for dinner and we all sat cosy together and spontaneously, we started sharing a lot of personal stuff with each other. This was spontaneous and sweet.”

Tjum: “Also, I appreciated simply having a reason and a place to go.”

What do you prefer?

| | Modern architecture | Classical architecture |
|----------|---------------------|------------------------|
| Tjum | - | - |
| Michelle | X | |
| Juliette | | X |
| Stephan | | X |
| Juul | X | |

What is one lesson that you learned that you will cherish forever?

Michelle: "I am still very structural, but I can let go more easily. It is not useful to stress so much."

Tjum: "It will all be fine. Not just the board year, but everything."

Stephan: "That having to compromise is not bad and you will get the best result when working together."

Juul: "Your team decides how you experience something. Some things go as they go and you have to just accept that."

Tell us something we do not know about another former board member.

Juliëtte: "Tjum throws everything on the gourmet plate and just expects everyone to pick it from there."

Tjum: "Stephan is a walking Asset | Econometrics encyclopedia, he knows the entire drive by heart."

Juliëtte: "Juul's plants all die, he never has a clean dishcloth and if his bike breaks down, he just buys a new one."

Stephan: "Michelle is a very big fan of K3!"

Who was the craziest board member?

All: "Tjum"

Tjum: "Juliëtte"

What do you prefer?

| | Central apartment | Suburb house |
|----------|-------------------|--------------|
| Tjum | | X |
| Michelle | | X |
| Juliette | | X |
| Stephan | Now | Later |
| Juul | Now | Later |

What was the craziest moment?

Tjum: "During the internal announcement, we had a good party and Juliëtte fell asleep in the middle of the party."

Juliëtte: "My internal announcement was not my best moment."

Stephan: "For me the Asset Welcome Back Party, seeing all our members together in one place after almost a year was very unreal. Having met so many people online and bonded with them through zoom, this was one of the first opportunities to see them in real life."

Who did you grow closer towards?

Stephan: "Everyone! I really made friends for life. We have had a very hard year, but always kept personal life and 'work' separated. Therefore I dare to say I have made friends with all of my fellow boardies the last year."

Who was the parent of the group?

All: "Juul!!!"

What do you prefer?

| | City by day | City by night |
|----------|-------------|---------------|
| Tjum | | X |
| Michelle | | X |
| Juliette | X | |
| Stephan | | X |
| Juul | X | |

Relations in Paris

written by **Sara Darwinkel** and **Timo van Oorschot**

When we asked Jop Schouten whether he was interested in us taking an interview about him, he replied enthusiastically! Especially, because this is the first time he is interviewed for Nekst. While we were conducting the interview, we discovered that Jop is quite an interesting teacher. We asked him several questions about his career path, teaching in the current situation and with COVID-19-measures and what he likes to do in his spare time, finishing off with the well-known “Bert and Ernie” questions, which he was very curious about. However, this time we put a little twist to them!

From Nijmegen to Tilburg

Jop Schouten entered his student life in Nijmegen where he began with a Bachelor in Mathematics. He told us (with a big smile) that the moments he remembers the best were the hours he spent with his, at first fellow students who rapidly became good friends, around a table doing homework. They had weekly assignments to hand in and our rebellious Jop revealed that, sometimes, he took over some exercises from his friends in order to get it all done in time. The other thing that he loved from his student time was chalkboards. He claimed that you had time to write everything down and listen to the lesson at the same time, because the teacher also had to write instead of showing a PowerPoint. After these three years, it was only logical for him to extend his student time by two years with a Master in Mathematics. The further he got in his studies, the more he discovered his interest for Game Theory. Therefore, he decided to do his Master thesis around this subject in Tilburg. Here at Tilburg University, he was teacher assistant in Mathematics 1 and Introduction Data-Analysis and wrote his thesis

under supervision of Peter Borm and Bas Dietzenbacher.

Half researcher, half lecturer

Jop really liked to do research on game theory situations, so he decided to continue studying and did a Research Master in Operations Research, with a focus on Game Theory. Then, he followed through as PhD student and was given the opportunity to do it in five years instead of three. This made it possible to share his time as half teacher and half researcher. He is now in his fifth year and is making his PhD-portfolio about game theory and, more precisely, about cooperation, allocations and operations research problems. We were curious about how, in the first year, he planned the upcoming five years. But as he said: “it is just a matter of beginning something and seeing where it goes”. With this state of mind, he began with rewriting his master theses in order to publish them as papers. Then, when his supervisor came with a new idea, he would do more research about it and try to publish a new paper. Doing this for four years, he now has a portfolio with 3 published papers. These will be modalized in a book under five different chapters. This book will be his PhD-thesis. The feeling of publishing is satisfactory, “the review process is long which makes it just more enjoyable”.

The eyeopeners

As for most of us econometricians, Jop discovered his devotion for mathematics in high school. In, for example physics and chemistry, the mathematical part was the one that he was most interested in.

Further in his studies, he found out he wanted a future in the academic world. This happened in Paris. In the second year of his Bachelor, he participated in

the organisation of a mathematics tournament for high school students. The prize for the winner was a trip to Paris together with the organizers, therefore including Jop. When they were on a boat on the Seine, he talked with a fellow organizer who was a PhD-student at that time for the whole cruise and questioned him about being professor and how to get there, “this was for me the moment I realised I really wanted to become lecturer, researcher and stay in the academic world”.

Tutorial vs. Lecture

The majority of the econometricians in Tilburg will recognize Jop from the tutorials he leads in Linear Algebra, for example. That is not very surprising, as he does not give any lectures in the Econometrics program. However, these are not the only ones he gives on campus. He also gives Mathematics lectures in the Economics program in Tilburg, which he also coordinates. When asked about whether he likes giving lectures or leading tutorials more, it turned out to be a tough decision for him. “Both of them have their advantages. I like the interaction you have with students in tutorials when explaining things or helping them with certain exercises. But in lectures, I am able to tell the students a story about a certain subject or how a certain theory is discovered”. If he had to choose one of them, he prefers giving lectures. A reason for this is that he likes to give information or explain a theory, which becomes applicable in tutorial exercises. “That is what I think is a beautiful aspect of mathematics. The fact that the theory explained in lectures can be applied in practice during the tutorials”. Therefore, the question about his preferences for the EOR program or the Economics program was pretty simple to answer. “As I studied mathematics, this has to be the EOR program!”.

Teaching with COVID-measures

We also asked Jop about his experiences with teaching when the strictest measures were applied during the pandemic. He gave live lectures and tutorials on Zoom and sometimes used an empty lecture room for online teaching using a livestream. "Teaching in an empty lecture room was a bizarre experience, but the students were able to see more, giving them the feeling of being in a classroom a bit more". He never used recordings instead of a live lecture. "I always preferred giving live lectures, because I think it is better for the students to be 'in the moment' of it". As most of us probably did, he missed quite a lot of things. Especially the body language and face expressions of the students during tutorials when explaining something. Then, it was easily recognizable whether the student understood something or not. Luckily, the contents of lectures, tutorials and courses did not make that much of a difference. There were also some switches that were hard. "The switch from taking exams on campus to taking exams at home especially. Allowing students to hand in mathematical expressions in an online environment is hard to realize, so finding a solution for this was very challenging". Furthermore, he said that some tutorials changed into instruction lectures, which made some first-year students think that

the concept of a tutorial was exactly the same as that of an instruction lecture. Although the situation was difficult, the situation right now without measures on campus is a cut above it and we hope that this stays the same for a long time!

His spare time

When we asked Jop what he liked to do in his spare time, he laughed and told us he became father in April and that all his spare time goes into his little boy Milan. Nonetheless he still loves puzzling, reading a good book or going for a ride on his racing bike. Also keen on board games, he and his fellow PhD-students often had game evenings after work in the Mensa (Restaurant building). Someone from the office then brought some games and they would spend the evening there.

The follow up

This summer Jop Schouten will (and we have no doubt about it) finalize his PhD-thesis, defend it and will then, by definition, be a Doctor of Philosophy! He wants to stay in the academic world and is looking for a new University in the Netherlands to share his knowledge. Well, "new"? If the Radboud University of Nijmegen needs a mathematical professor, we will know where to find Jop! ●



Jop Schouten

Bert & Ernie Questions

Keep 1.5 meters distance with all the Christmas treats or each time you hear the word "corona" in the Christmas break you have to sing a Christmas song

"Keep 1.5 meters distance with all the Christmas treats, there are other treats around this period."

Being able to read minds or being able to see in the future

"Being able to read minds, if controlled."

Singing everything you say or moving in slow motion (but you speak at normal speed)

"Moving in slow motion, that is better for my students."

Always walking on high heels or always walking with a stone in your shoe

"Always walking with a stone in your shoe, I think it is a really bad idea to put me on high heels."

Bytes for Bites

As Zero Hunger Lab (ZHL), we are very proud to write one of this year's series of columns in *Nekst*. The Lab is an exciting place where we work together on research to make this world a better place for all. So it is not only about science but also about impact (not always easy)! In this edition's column we will give an overview of the why and the how of the Lab.

Hunger remains one of the world's most challenging problems. According to the United Nations (UN, 2020), as many as 811 million people will go to bed hungry tonight and every ten seconds a child dies somewhere in the world due to hunger and malnutrition. In our Lab, we want to use data science (in the broadest sense) to help ensure global food and nutrition security. We call this bytes for bites.

In 2015 countries worldwide have agreed upon 17 Sustainable Development Goals (SDGs). The second goal, SDG-2, is about Zero Hunger. Several targets are specified by 2030. For example, ensure safe, nutritious and sufficient food for all people and end all forms of malnutrition. Of course, this is a huge task that cannot be solved by a small group of researchers. And to perform this research we need a lot of knowledge and data from the field. Therefore, we work closely together with the UN and with NGO's and local governments. Thereby helping them to provide better aid.

And that is how the Zero Hunger Lab came into place. Some ten years ago we started to work together with the UN-World Food Programme (WFP) in Rome. WFP is the largest humanitarian aid organization in the world and one of the biggest transporters in the world (in tonnages). They do an almost unbelievable job of feeding the one hundred million poorest people on this planet. This happens at very remote places,

under dangerous conditions and difficult political circumstances.

From Tilburg University we have worked together with the Supply Chain Planning group of WFP from 2012 onwards via a series of five Master Thesis students. Imagine: you could have been one of them... They all did great and valuable work but one person, Koen Peters, realized what we had envisioned: an end-to-end supply chain model (called Optimus) that also optimizes the so-called food basket. The food baskets are the food components you bring to beneficiaries, and which together make up for a good and healthy meal. Maybe you have heard the story from Koen, who besides his job at WFP is also a member of ZHL, since he regularly gives lectures during classes and other events. Otherwise: try to attend it one time. It is really impressive!

But if you look at the world hunger numbers like the 811 million mentioned above and the 100 million WFP is serving, there still is a big gap. In our view the solution to help these people is to design resilient and sustainable food systems so that they can feed themselves. Together with Perry Heijne (ex-CEO of NGO CARE Netherlands) and based on discussions with prof Dick den Hertog, we have founded Zero Hunger Lab in 2019 with a subsidy of the Ministry of Foreign Affairs and a corresponding matching by our faculty TiSEM.

In the next three *Nekst* columns we will go deeper into what this entails by providing you with examples. Maybe good for you to know: the core of our Lab consists of our PhD students and we need quite some Master Thesis students to support the work of the PhD students and to explore new cooperations with NGOs. Furthermore, we need some volunteers from time to time. So, I hope you already think about this for the choices you make during your study! ●



Hein Fleuren

is full professor in the application of Operations Research and Business Analytics and director of the Zero Hunger Lab. His research interests comprise big transportation networks and data science applications to reduce hunger in de world.



Europe trip: an unexpected journey

written by **Matthijs Kroessen**

This article is written by the Europe Trip committee, who wanted to share their experience up to the actual Europe Trip. It is set one week before the departure to Prague and so the time references are not applicable to when you are reading this! Enjoy reading about their struggles and highlights.

“Just one more week of waiting and then the Europe Trip of 2021-2022 will finally commence! After two years of delay, the Covid-19 measures allow a Europe Trip at last. After a canceled trip in 2020 and a lot of uncertainties, the Europe Trip committee never lost hope and this faith is paying off now! But what is the Europe Trip itself exactly and how did the ETC organize such a trip? Allow me to explain.

The name Europe Trip is pretty self-explanatory. It is a trip to a city somewhere in Europe; like Prague, Athens or Valencia. Once every trip companion has arrived at this location, the real trip begins! Every city has its cultural hotspots and these places are naturally visited. Musea, remarkable castles and zoos are thoroughly toured. It

aims to really get away from studying and enjoy informal activities.

Organizing such a trip requires a lot of effort and planning. This is where we come in: The Europe Trip committee. To see where it all began, we need to travel back in time to October 9 2020: the first Europe Trip meeting. This year’s trip was special since at this time Covid-19 still reigned supreme in the world. Even one of our committee members was felled by it! No one could travel to a foreign location, let alone a group of students. Nevertheless, the committee decided to take the gamble that the trip would be possible in March and we hoped for some tolerant COVID-19 measures for February.

Since this year was the first year that not the board, but the committee could choose the location of the trip, the Europe Trip could be given more of a personal signature than ever before. After some brainstorming, it was decided that Köln and Dusseldorf would be the locations of Europe Trip 2020-2021. These locations are close to the Netherlands, to compensate for the continuous threat of

corona, but beautiful cities nonetheless. For example, there is a chocolate museum (including tastings!) and one of the biggest theme parks of Europe: Phantasialand. Bit by bit, Europe Trip 2020-2021 started to take shape and the committee was ready to announce the destination to Asset | Econometrics.

But then destiny struck. The corona infections were on an all-time high and the Netherlands and Germany went into a strict lockdown. Now the Europe Trip, for which the planning had almost been finished, could not possibly continue. The committee was very disappointed; all the effort that had been poured into this undertaking had been for nothing and our morale took a hit. There would not be a Europe Trip in the academic year 2020-2021. After this, there was a period of inactivity in the committee.

Things started to turn around when the COVID-19 vaccines were introduced. People could get together again if they were vaccinated and the corona passports were introduced; with this passport, everyone could travel to a foreign country again. The committee started to be active once more. Luckily, we were given the chance to organize a Europe Trip again. Fueled by enthusiasm and filled with crazy new ideas, we started to brainstorm about a new location and make this Europe Trip a better trip than ever before. Additionally, meetings could be in person again instead of online behind some screen. Everyone knows that face-to-face meetings with your committee are a lot more enjoyable than online meetings. After some brainstorming, it became clear that Prague was the perfect destination. Prague has a beautiful old city center, nice parks and (not unimportant) cheap beer. The Europe Trip committee can not wait to show you the trip we have organized!

Are you curious about what the trip was like? Next Nekst edition will involve a report about this. ●



Let's Talk!

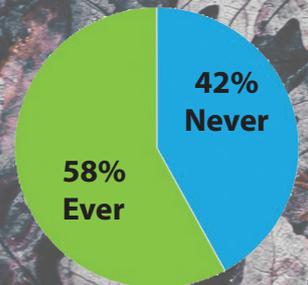
It was by far the most discussed item of the past one and a half years: the corona crisis. Fortunately, we can cautiously say that the crisis is almost over. I know this is a very dangerous thing to say but there are big improvements. Lots of people are vaccinated which gives many different branches the possibility to reopen their doors. For students this means that they can finally go to the pub, club or bar again. They can do their crazy dances, drink a lot of beer and do the most idiotic things in the middle of the night. Therefore, we investigated what kind of crazy and embarrassing stuff our fellow students did during the nights and what their nightlife is like at the moment. We let them play the well-known game 'Never have I ever' (but without drinking) and asked some questions about how they experience the nightlife at the moment.

written by **Stijn Craenen**

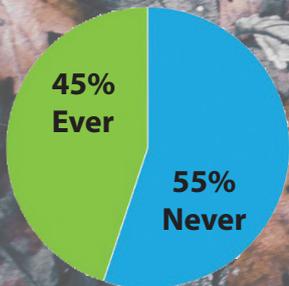
Never have I ever...



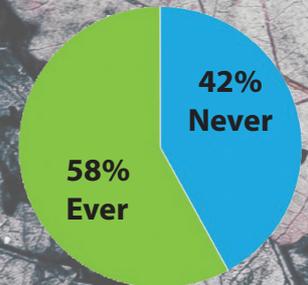
...slept outside while drunk.



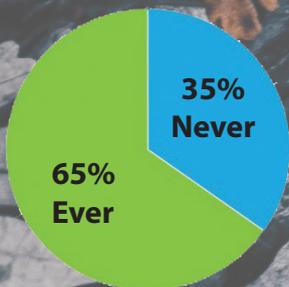
...danced on a bar.



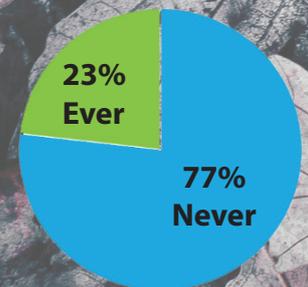
...kicked out of a club, bar or pub.



...song karaoke while drunk.



...kissed someone and regretted it the day after.



...so drunk I peed in my bed.

Does the ability to go to the pub again have a positive or negative (or neutral) influence on your studies?

"In the beginning I thought it would have a big negative effect, but it was not that bad." And 'why' I asked "Yeah, that is a good one, I have not had breakfast yet so I can not think very well at the moment. I think because the closing time is currently 00.00 hours and if you do not go to an 'after' then you are home early, which means that you can get enough sleep. This results in a not so bad hangover so you are able to study better."

Renske – 19 years old

How did you feel about being in a crowded pub for the first time again after such a long time?

"It felt quite weird to be in a crowded pub again after such a long time. It was very strange to see everybody standing close to each other and the QR-code scan when entering was also new. But of course it was a lot of fun and after half an hour it felt normal again."

Joost – 19 years old

Do you suffer more from FOMO than before everything was closed?

"I have absolutely no idea what FOMO is, but nevertheless I feel it a lot. The difference between life now and before everything was closed is so big. The impact of this makes me suffer a lot from FOMO. Now I have been told what FOMO is, I think it does not affect me. For me there is no difference in the life before and now in that aspect. I also want to mention that I had no choice about which question I had to answer."

Jeroen – 19 years old

What do you think of the new closing time (00.00 hours)?

On the one hand, it is chill, but on the other hand it is not. It is nice that you are home early, since it does not mess with your sleep and leaves you less tired the next day. On the other hand, 00.00 hours is very early and therefore everyone starts around 20.00 hours and the vibe is really different.

Elise – 20 years old

What did you miss least about going to the pub?

"The challenge of getting your full tray of beer through the packed pushing crowd where you lose half of your expensive beer." Anything else? "Coming home in the evening soaked in beer by the people who are incapable of doing the thing I just mentioned." Do you think you are capable of bringing your beer safely to your friends? "Yes of course! I have trained for that."

Jelte – 18 years old

Linking finance to global warming within a day

A couple weeks prior to the event it came to my attention that the Hackathon would return this year on Tuesday October 5. After last year's online Hackathon, the hackathon is offline again, taking place at Cinecitta. Being able to sit together working on a big business case convinced me to subscribe for this year's Hackathon

When we arrived at Cinecitta in the morning, we still had some time before the introduction would start. We decided to enjoy a cup of coffee or tea. As soon as everyone had arrived, we were able to go to the main auditorium for the introduction. During this introduction both attending companies, VVA and Mathworks, gave a short presentation about their companies. VVA explained how their company operated while Mathworks discussed all the functionalities of their main products MATLAB & Simulink.

After the introduction presentations had finished, everyone was sent to the auditorium X room. Before we entered the room, we all received a goodie bag from the Hackathon committee. After all participants entered, we started the work-

shop provided by Mathworks. This workshop would be really helpful during the Mathworks Hackathon case we would be given afterwards, but was also interesting for the group of the VVA case. During this workshop we were taught some methods using machine deep learning to train an algorithm to predict results based on the chosen input.

Directly after the workshop both Hackathon cases started. Being assigned to the Mathworks case, I stayed in the same room. We were handed the assignment we had to try to solve that day. The case challenged us to find a relationship between financial data and data related to climate change. In our group of four we had the immediate idea to try to predict future temperatures in the United States based on financial data as input. After discussing for a while, we decided to try adapting a deep machine learning model from the workshop to work for our plan. Here we stumbled on the first problem of turning the single-input model from the workshop into a multi-input model. After working on the case for two hours it was time to have lunch. During the lunch we had the perfect opportunity to discuss with the group of the VVA case about how both of our cases went.

After the lunch ended it was time to start again with the Hackathon case. In the afternoon we got our model to work and predict temperatures for the test data. Now we only needed to find financial data sets and the best timeframe for which we wanted to train and test our model. After searching on a data website and doing multiple tests, we decided to base the prediction on BNP, export and import data, since that data gave a quite good mean squared error on the test data. Now that we finished our model, we started on the presentation about our case that we



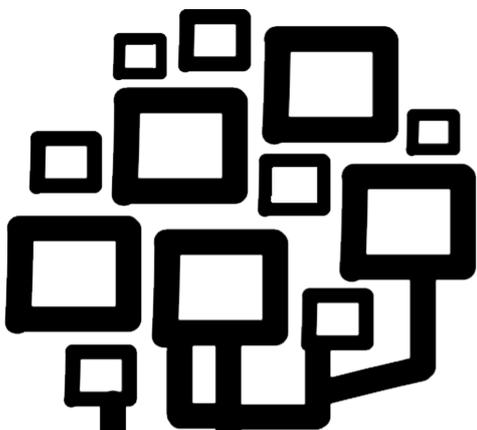
Jules van den Camp

Bachelor EOR

Age: 20

needed to give to the other groups and the employees of Mathworks.

Before we had to present our results, we still had a nice three course dinner to enjoy. During this dinner we discussed how the day had gone together with other students and an employee of either VVA or Mathworks. The employees of the companies changed tables after each course giving us the chance to talk with most of them. Around 19.00 hours it was finally time to finish up the day with the presentations. Unfortunately, we did not win the case. However, our group still had a lot of fun and we got to end the day with a drink. All in all, it was a fun day where we got the experience of working on an interesting case. ●



HACKATHON TILBURG

Quatsch!



Quatsch?

Over the past few months, the editorial staff of Nekt received many quotes that relate to the study of Econometrics and to the activities organized by Asset | Econometrics. Hereby, we present to you a selection of some striking and funny quotes! Please send in your quotes at: www.Asset-Econometrics.nl/more/nekst/Quatsch

Dahli

"Dat is nog steeds wel veel, zelfs voor veel."

Juliëtte

"Wie is Merkel?"

Emma

"Ik denk niet dat ik mijn lach kan inhouden als ik een lelijk kind baar hoor."

Bram

"We hebben twee relaties, drie 'singles' en Patrick."

Rein

"Kunnen blinde mensen geiced worden?"

Constantijn (over Wout)

"Als jij's ochtends brak aankomt met die zwarte jas dan lijk je net de verwezenlijking van de dood."

Willem

"Ik stond in een gaybar die niet voor mannen was."

Puzzle Time

Last year Microsoft organised a hackathon. The attendees made puzzles to test AI's programming proficiency. Each puzzle takes the form of a Python function that takes an answer as an argument. The answer is an input which makes the function return True. This is called satisfying the puzzle, and that is why the puzzles are all named sat. Can you figure out a required input for the functions?

written by [Timo Klabbers](#)

Example

Here is an example with solution to show you how it works:

```
def sat(x: str):
    return 'Hello ' + x[::-1] == 'Hello world'
```

The solution:

```
def reverse(s):
    return s[::-1]
sat(reverse("world"))
```

Puzzle 1

```
def sat(x):
    try:
        x(123)
        return False
    except RandomException:
        return True
    except:
        return False
```

Puzzle 2

```
def sat(one, two, three):
    return one(two) == three
    and one(two(three)) == two
    and two != three
```

Puzzle 3

```
def sat(x):
    return x > x and x + 1 == x
```

Can you figure out the puzzle?

Please enter your solutions at www.Nekst-Online.nl/Puzzle. A goodiebag will be waiting for whoever has sent the best (partial) solutions. Please note that, as before, every recipient of this magazine is eligible to send in their solutions, so members of the department are invited to participate as well. Good luck!

[Dennis Jaheruddin](#) is the winner of the previous puzzle. The solution can be found at www.Nekst-Online.nl.

Agenda

THU St. Nicholas Drink

02 On December 2, St. Nicholas will join Asset | Econometrics at a drink in De Nachtwacht. He will give out some treats to all the students that have behaved. Do not miss this promising evening!
DEC

TUE Study Break

07 It is time to get your head out off the learning books and spend some time with your fellow students. This is the ideal event to relax a bit during the stressful exam weeks. This will take place at the rooms of Asset | Econometrics.
DEC

FRI Christmas Dinner

17 The last event of 2021 has arrived and takes place before everyone goes home to celebrate Christmas with their family. We will close the year with the association while having a wonderful dinner.
DEC

FRI Board Announcement

17 After the Christmas dinner we will have a drink at Brandpunt, where we will announce the successors of Bram and Constantijn. Come celebrate with us to congratulate the successors of both.
DEC

SUN Asset Ski Trip

16 During this year's Ski Trip, 50 members of Asset will visit Saalbach-Hinterglemm. Several activities are organized by the committee, but there is also plenty enough time to snowboard, ski and ofcourse, après-ski! This fourth edition will be an amazing experience, just like the previous editions.
JAN
SAT - 22
JAN

TUE Department Members' Meeting

01 On this day, the semi-annual Department Members' Meeting will take place. During the meeting the board will update you on the ins and outs of the past semester and discuss their plans for the upcoming semester.
FEB

TUE Constitution Drink

01 This will be the first event where Bram and Constantijn are no longer boardmembers of Asset | Econometrics. During the drink the successors will tell some funny story about them. Come celebrate this lovely moment with us!
FEB

MON LaTeX Training

07 LaTeX is often used to write scientific documents as it offers an easy way to write mathematical formulas and such. During this training, you will learn how to use LaTeX effectively. So, are you looking for a better way to write reports or even your thesis? Take your chance and come to this training!
FEB

TUE Monthly Afternoon

08 All of our members are invited to the Monthly Afternoon! Here you can catch up with your fellow econometricians, have some drinks and snacks together, and play some games. We will also order some food together. More information on this will be communicated later.
FEB

THU National Econometricians Day

10 On this day, commonly known as the LED (Landelijke Econometristen Dag), all students who study EOR in the Netherlands will come together for the largest annual career event. It is available for third years and higher and takes place in Nieuwegein.
FEB

Register and find more information about our events at
www.Asset-Econometrics.nl/events

Asset | Econometrics congratulates...

Name **Berkin Solak**

Title Hybrid Gold Price Forecasting Model based on EEMD

MSc QFAS

Supervisors Dr. P. Cizek, Dr. N.F.F. Schweizer

Name **Rinze Bloem**

Title Identifying a Fair Energy Benchmarking Strategy and the Tools to Improve Energy Efficiency through Load Profiling and Temporal Feature Extraction of non-Residential Smart Meter Data

MSc BAOR

Supervisors Dr. C. Dobre, Dr. J.C. Vera Lizcano

Name **Nina Cuypers**

Title Dynamic Slotting solved using a Reinforcement Learning Algorithm

MSc BAOR

Supervisors Dr. R.C.M. Brekelmans, Prof.dr.ir. H.A.M. Daniels

Name **Hami Efe Karadeniz**

Title Solving Portfolio Optimization Problems via Convex-Concave Procedure

MSc BAOR

Supervisors Prof.dr. E. de Klerk, Dr. J.C. Vera Lizcano

Name **Marijn Wolferink**

Title Taming the hybrid monster

MSc QFAS

Supervisors Prof.dr. B. Melenberg, Dr. A.G. Balter

Name **Daphne Eijk**

Title A Mean-MAD Approach measures and super-spreaders on the spread of SARS-CoV-2 in the Netherlands

MSc BAOR

Supervisors Dr. J.C. Wagenaar, Dr. M. Balvert

Name **Jesse van Sluis**

Title Linear Regression-based point estimates and prediction intervals for the percentage of overhead catenary system costs

MSc BAOR

Supervisors Prof.dr. K.J.M. Huisman, Dr. J.C. Wagenaar

Name **Daniël Kolenbrander**

Title A Beer Segment Popularity Prediction Model for Individual Retail Stores using Demographic Features: a Machine Learning Approach

MSc BAOR

Supervisors Prof.dr.ir. H.A.M. Daniels, Dr. C. Dobre

Name **Christian Tsang**

Title Development of a clinical-decision support model for treatment of acute myeloid leukemia patients

MSc BAOR

Supervisors Dr. K. van Deun (TSB), Dr. M. Balvert

Name **Anne Joosten**

Title Analysing the solidarity reserve accrue options and comparing the new Financial Assessment Framework with the New Pension Contract

MSc QFAS

Supervisors Prof.dr. B.J.M. Werker, Dr. F.C. Drost

Name **Michael Fotakis**

Title The validity of backtesting for evaluation of autoregressive time series predictions

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Name **Abdul Ahad**

Title Station Site Classification Model: An Econometric Analysis on Where Fastned Should Invest Next

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Name **Laura Cely Gomez**

Title Birth Intervals, Fertility and Stunting in Bangladesh

MSc EME

Supervisors Prof.dr. A.H.O. van Soest, Dr. M.Salm

Name **Luiz Hermida**

Title The effect of sexual minority discrimination on political participation

MSc EME

Supervisors Dr. O. Boldea, Dr. M.Salm

Name **Rick Verweij**

Title Strategic firm innovation behavior under uncertainty A real option approach

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Name **Sybrand Wiarda**

Title A meta-heuristic using clustering to solve the task scheduling problem

MSc BAOR

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Name **Guus Boonstra**

Title The Distribution Free Newsvendor Model: a Mean-MAD Approach

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Name **Joost Klabbers**

Title Using Machine Learning Techniques for Mortality Modeling

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Name **Nori van den Biggelaar**

Title Analyzing the influence of housing, urbanization and regional indicators on mental health, physical health and dementia

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Supervisors Dr. T. Kantarci, Dr. M. Salm

Name **Niek Timmermans**

Title An assessment of Stock Return Prediction using Machine Learning

MSc QFAS

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Name **Juul van Schijndel**

Title The Capacitated Vehicle Routing Problem and the Associated Cost Allocation Game

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Name **Bas Ramaekers**

Title Improving Railway Maintenance Planning by Optimizing Freight Train Paths

MSc BAOR

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Name **Annabel Boers**

Title Strategic Investment Decisions in an Innovation Driven Economy: a Real Options Approach

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Name **Peter Szolnoki**

Title Modelling mortgage prepayments in the United States - A comparison of different methods

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Title Neural Networks: A Comparison Of Index Price Simulation Using Generative Adversarial Networks And Variational Autoencoders

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Title The optimization of collective investment strategies for heterogenous individuals

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Title Model Selection for Local Projections Instrumental Variable Methods - Empirical Application to Government Spending Multipliers.

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Title Dynamic Asset Allocation using Simulation and Artificial Neural Networks

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Title Merton's portfolio problem with discrete trading and multiple risky assets.

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Name **Annelies van de Wetering**

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Title Enhancing packing efficiency Optimizing the parameters of an online pallet loading algorithm

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Name **Bernhard Toering**

Title Modeling the Demand for Foodbank Aid in The Netherlands

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Title Evaluation of the use of the Solvency II Standard Formula to calculate Solvency Capital Requirements (SCR)

MSc QFAS

Supervisors Dr. N.F.F. Schweizer, Dr. R. van den Akker

Name **Marijn Paijmans**

Title Using a Sequential Multi-Period Newsvendor Model to Plan Production in Albert Heijn's Bakery

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Supervisors Prof.dr. H.W. Nord, Dr. M. Quant

Name **Ece Özkahya**

Title Learning Variable Selection Rules via Reinforcement Learning

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Supervisors Dr. J.C. Vera-Lizcano, Dr. C. Dobre

Name **Dirk Boelen**

Title Promotional price matching behaviour in online retail

MSc EME

Supervisors PProf.dr. J.H. Abbring, Prof.dr. T.J. Klein

Name **Ankit Majhi**

Title Decision-making in refugee camps and IDP settlements for controlling the spread of an infectious disease

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Supervisors Dr. J.C. Wagenaar, Dr. M. Balvert

Name **Sevgican Sezginler**

Title An SDP Approximation for Quadratic Binary Problem with Arbitrary Weight Matrix

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Name **Britt Loeffen**

Title Thompson Sampling for Bid Optimization in Search Engine Advertising Balancing the explore-exploit trade-off and including long-tail keywords

MSc EME

Supervisors Prof.dr. T.J. Klein, Dr. C.B.T. Walsh

Name **Roméé Geelen**

Title Cost of the Diet Linear Program: Finding Distinct Solutions with close to Optimal Cost

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Supervisors Dr. M. Balvert-M. Koenen MSc., Dr. J.C. Wagenaar

...on obtaining their
Master's degree

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