

NEKST

VOL. 25
NO. 4

SUMMER 2017
NEKST-ONLINE.NL

IT'S NOT ALL SMOKE AND MIRRORS SPECIAL OPTICAL ILLUSIONS

ALSO FEATURING

- ▶ SPECIAL: WIE IS DE MOL
- ▶ ACTIVE MEMBERS WEEKEND
- ▶ EXCHANGE REPORT: STEFAN TEN EIKELDER

ASSET



Econometrics



Together, we unlock potential.

Willis Towers Watson is a leading global advisory, broking and solutions company that helps clients around the world turn risk into a path for growth. Our clients recognise the need for, and actively seek, the best ideas from the brightest minds in business, giving our consultants and brokers challenges and opportunities that are difficult to find anywhere else.

Willis Towers Watson is large enough to offer you the breadth of work to choose your own path, yet focused so you can make an impact on our clients' success – and ours.

Learn more at careers.willistowerswatson.com/students-and-graduates.

Connect with Willis Towers Watson



At the Finish Line



Come June, I am always caught off guard by the fact that yet another year has nearly passed; this year was no exception. Before I knew it, deadlines were just around the corner. The final Nekst meeting had taken place nice and early, and with an experienced team of editors, this issue was going to be smooth sailing. And boy, did they deliver.

This issue features two specials that take an in-depth look at phenomena you have most likely all seen before: the popular television show 'Wie is de Mol' is investigated from a game theoretical point of view, and we dive into the science behind a series of optical illusions. Prof. Fleuren shares his perspective on the design of one of his latest courses, and an interview with prof. Talman reveals a passion that may be surprising to some.

In other news (if by some miracle you have not heard): Tilburg University has finished second in the Econometric Game! TiU representative Oliver Wilchert tells us about his experiences in the competition. Furthermore, Stefan tells us about his experiences at Harvard Medical, and we ask our fellow econometricians what they are looking forward to most!

Finally, I would like to use this opportunity to thank the Nekst committee 2016-2017 for their efforts. Without you, it would not have been possible to make the magazine as packed full of content as it has been this past year. So Anouk, Aurel, Bas, Carolina, Claire, Floor, Julia, Steffi, Zoë and Charlotte: a huge thank you for being awesome! Next year, Guus Vlaskamp and Ridho Hidayat will take over as Editor-in-Chief and Lay-out editor, respectively; I wish you the best of luck. As for our readers, it is my pleasure to say this one last time: sit back, relax and enjoy Nekst!

Pepijn Wissing
Editor-in-Chief

COLOPHON

Nekst is the quarterly magazine of Asset | Econometrics ©2016
Insertion of an article does not mean that the opinion of the board of Asset | Econometrics or the editorial staff is verbalized.

Correspondence

Asset | Econometrics
Tilburg University
Room E 1.10
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

Anouk Claassen
Zoë Connell
Bas Dietzenbacher
Carolina M. Duarte
Floor van Helsdingen
Julia de Kogel
Aurel Macias Minambres
Charlotte Nijman
Claire Vink
Pepijn Wissing

Lay-out editor

Steffi van den Hanenberg

Contributions

Jasmijn Aartsen
Servaas van Bilsen
Jochem Bruijninx
Ramsy Dhifallah
Stefan ten Eikelder
Hein Fleuren
Max van der Lee
Denise Ligthart
Bas Lodewijks
Thomas van Manen
Luuk Meeuwis
Robbert van Oosten
Ennia Suijkerbuijk
Linda Torn
Lieke van Uden
Nienke van der Wal
Oliver Wichert
Frédérique Wissing

Printing

Gildeprint

Circulation

950

EPD

9

On March 22 the first Econometrics in Practice Day took place. Check out page 9 to read all about the opportunities that came with it.



Interested in how a student of Applied Mathematics experienced the ORC? Bas Lodewijks shares his view on the day.



17

Operations Research Conference



18

During the Active Members Weekend in April, the small village Orvelte was flooding with cartoon characters. Probably the most interesting thing that happened the entire year!

ADVERTISEMENTS

Cover	Willis Towers Watson
4	Aegon
Cover	Aegon

ARTICLES

1	Preface
5	From the Board
6	Special: Optical Illusions
9	Econometrics in Practicy Day
10	The Teacher
12	Make the Netherlands Game Again
13	Column Hein Fleuren
14	Triangle: Econometric Game
17	Operations Research Conference
18	Active Members Weekend
20	Practical Report

Table of Contents

Running all the way from Nijmegen to the biggest city in Twente? Thousands of students were up for it during the Batavierenrace.

23



Exchange Report

Stefan ten Eikelder and Koos van Amerongen accepted the challenge at Harvard Medical!

44



23	Batavierenrace
24	The Parents of: Steyn Oversteegen
28	Special: Wie is de Mol
31	Column: Servaas van Bilsen
32	Astrics Beer Cantus
33	25 Years of NEKST
34	Archived
36	Brothers & Sisters Evening
37	Freshmen Activity & Beer Race Drink
38	Let's Talk
40	Sports Tournament & Announcement Drink

41	Committee Profile
42	The Passion of: Rachel van der Velden
44	Exchange Report: Stefan ten Eikelder
48	KOALA Weekend
49	Graduates
50	Quatsch
51	Puzzle
52	Agenda
53	Summer Photo Contest

“Wil je net als ik data analyseren om klanten betere keuzes te bieden?”

Celine Brouwers
Customer Intelligence Analyst

lees het blog van Celine op
werkenbijaegon.nl

[Lees het blog](#)



Aandacht voor je toekomst

Dear Members,

Finally! Summer! You probably already noticed it in a previous issue of Nekst, I really like to talk about the weather. The weather is something that really influences my mood, and therefore the ice cold winters in the Netherlands do not make me very happy. But we finally reached the summer, so my mood increased significantly in the past months. With a cocktail in the sun, we can experience again what 'enjoying life' means.

We (Charlotte, Tim, Anne, Anouk and me) have reached the final weeks of our board year, and for us it is also time to evaluate our past year. We learned a lot, had a lot of activities, a lot of discussions and a lot of fun, and now it is time to go on with our 'normal' lives. After more than a year spending so much time on one association with the same people, it is weird to realize this period is coming to an end. However, we are also looking forward to the new challenges we will face next year.

The new board, being Max, Loes, Jochem, Anne and Rachel currently do not have time to lie in the sun with a cocktail. They are busy with the handover, the new policy, the new budget and all the other things they have to do to start their board year. Although it is weird for us to leave the board, we are very happy with our successors and we are sure they will make Asset I Econometrics even better.

The fact that the exams are over is another reason to love the summer. After weeks of living in the library, reading boring books, using up dozens of markers and pens, eating simple meals, making lots of difficult exercises, cursing at slow computers, not sleeping properly, not being able to see friends, not having time to watch series and having tons of stress, we finally have our freedom back. Freedom and time we can use to see friends again and to do what we like to do, but also freedom and time to travel to the most beautiful places in the world.

Traveling is another thing that I really like. Well, it is something a lot of people like. Last year, I visited Sri Lanka with the International Experience of Asset. It was a great experience to be in Sri Lanka for three weeks with people I had not met before. This

year, the International Experience will go to Panama, which is also a great destination. I will not join this year, but my successor Max found some time besides the policy making and handover and he will join. If you want to know more about his experiences (or meet the other new board members), you are of course always welcome to have a cup of coffee with them in E1.10.

For now, these were my last words on this famous page 5. The next time, you may enjoy Max' words. I hope you will enjoy the summer as much as I am going to and that the weather will be as nice as I expect while writing this piece. Oh, and for the new board: we wish you all the best, we are sure you will do great.

On behalf of Charlotte, Tim, Anne and Anouk,

Linda Torn
*Chairman Asset I Econometrics
2016-2017*





Incredible Optical Illusions

Most people consider our ability to see as something self-evident. With normal eyesight we move fast and efficiently through a visually rich three-dimensional world of light, shadow, structure and color – a complex dynamic world with objects of different sizes at varying distances. However, our perception is not always perfect. Often these mistakes are referred to as illusions and are regarded as deficiencies of the visual system. They are actually due to a significant difference between our perception and our conception. Scientists do not exactly understand the process which establishes our view and our observations. We are going to show you some examples that can be perceived without any scientific knowledge.

Text by: Bas Dietzenbacher

Brightness and Contrast

Observing brightness does not seem so difficult at first sight. You only need to move a light gauge over a surface and measure the energy level at each point. The more light comes from a certain point of the surface, the higher the measured level. Most photoreceptors in the retina react in a similar way. The more light they receive, the larger the electrical pulses in the ganglion

cells to which they are connected. However, perception is much more complicated than the unambiguous mapping of the outside world based on images we retrieve on the retina. With respect to brightness, our perception is certainly not a pixel-to-pixel representation of fluctuating light intensities on the retina, but it varies subjectively depending on several factors, including the context of what we are seeing.

If we measure the brightness of a white surface in dim light, it can yield the same value as a black surface in bright light. However, if there is sufficient visibility of the surrounding environment, we can usually distinguish those two. The observed brightness of real objects in a natural environment is actually hardly influenced by the degree of illumination, but it does not always match the physical brightness. Two



Figure 1: an illusion of simultaneous contrast.

surfaces that reflect the same amount of light can still look remarkably different.

Have a look at Figure 1. The gray value of the horizontal bar is the same along its entire length. However, the surrounding gray tints influence the observation of the gray of the bar. The bar seems lighter when surrounded by darker gray. This is called an illusion of simultaneous contrast.

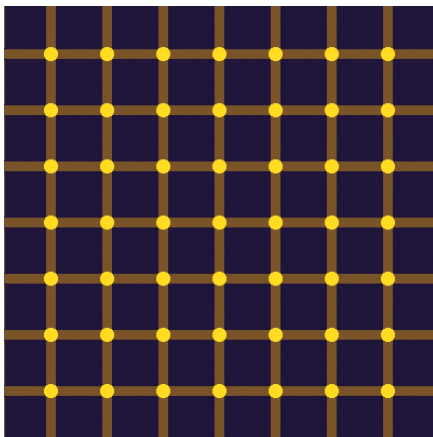


Figure 2: a colored sparkling grid.

Images that seem to sparkle or shine when you move your eyes over them form a subclass of the illusions of simultaneous contrast. Have a look at Figure 2. This is a variation on the classical Hermann-grid, named after the German physiologist. Due to mechanisms for color contrasts, some sparkling colored imaginary spots appear on intersections, which disappear when you look straight at them. The commonly accepted explanation for this effect is the so-called lateral inhibition: activating a retinal ganglion cell leads to suppression of adjacent cells.

Twisted cords

These are some of the most powerful illusions we know. There are several variants known, each with its own distinctive effect. Illusions of twisted cords were discovered at the end of the nineteenth century by Mat Braiders, who noticed a distortion in the patterns with which they worked. For a long time there has been a considerable theoretical interest in this category of illusions and a lot of empirical research is being done.

Have a look at Figure 3. The lines are vertical and completely parallel to

each other. The illusion is probably due to orientation-sensitive cells in the primary visual cerebral cortex, which react with each other to combine curved lines that are closely aligned to one single curved line.

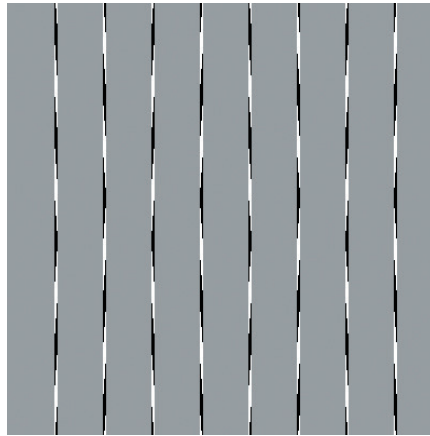


Figure 3: a twisted cord illusion.

The British psychologist James Fraser claimed that a base unit consisting of a line with a triangle on both sides is very effective to mislead the direction of the visual system. He used this

base unit for both straight and curved pictures, including his famous spiral illusion. Have a look at Figure 4. This is not a spiral, but in fact a series of concentric circles with decreasing radius. Each circle consists of a series of overlapping arch segments. The strength of this illusion makes it even hard to follow the pattern with a finger. Knowing the construction of the illusion hardly influences its effect. Fraser's spiral is related to other illusions of twisted cords and belongs to the most complicated illusions of this category.

Estimations

This is the oldest category of illusions that we know. It consists of simple geometric figures of which the size or area has to be estimated. Most of these figures were discovered in the second half of the nineteenth century. Several scientific studies were devoted to them. However, no single theory has yet succeeded in explaining these simple illusions, despite the fact that their effects →

‘We move fast and efficiently through a visually rich three-dimensional world of light, shadow, structure and color’

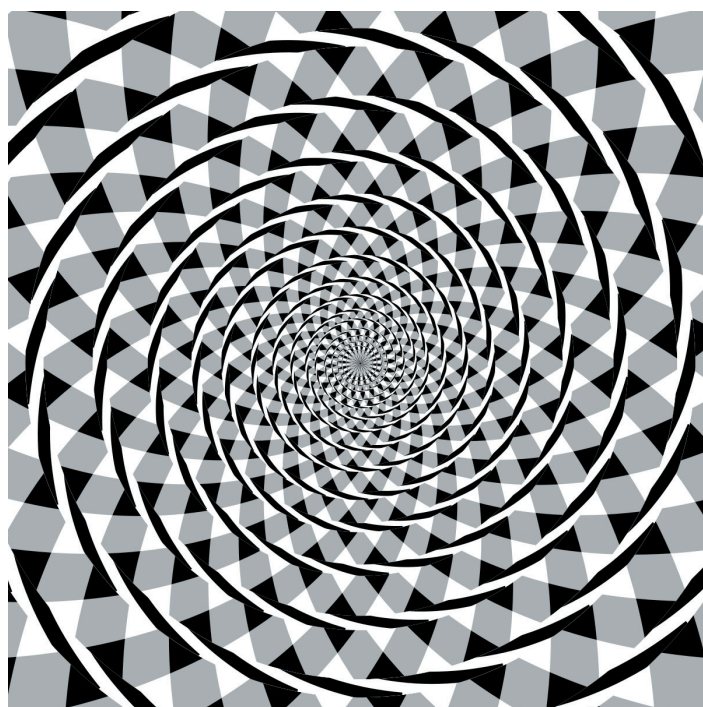


Figure 4: Fraser's spiral illusion.

are unchangeable between almost all observers.

Have a look at Figure 5. The red dot is located halfway down the triangle, although it appears to be much higher. This is a variation on the classical illusion of the upturned T, where vertical lines are estimated to be longer than horizontal lines.

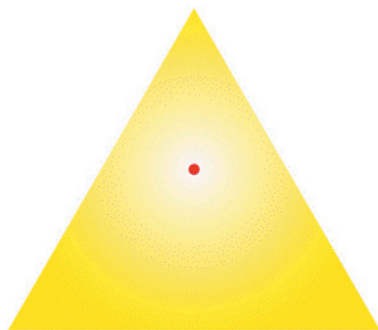


Figure 5: a variant on the upturned T illusion.

That illusion is attributed to Johann Oppel. Oppel himself made some original patterns and he initiated the interest for studying simple optical illusions. The illusion of the upturned T actually comes from physiologist A. Fick, who described it in his dissertation in 1851. It may be the first geometric optical illusion ever discovered.

The cause of the effect is not entirely clear. The illusion still exists when you turn the figure 90 degrees, so it cannot be caused by asymmetry of the retina, as was stated by an unthinking psychologist.

vision is very reliable and important in our daily lives. The above examples only make you aware of some sensory paradoxes that can take place. In addition, there exist illusions of relative movement, impossible or

‘The illusion is caused by the wrong estimation of areas. Our visual system often estimates the size of an object by comparing it with other objects within our field of view’

Have a look at Figure 6. The two surrounded circles are of the exact same size, even though the one surrounded by larger circles looks smaller than the one surrounded by smaller circles. The effect diminishes when the distance between the large and small circles increases. The illusion is caused by the wrong estimation of areas. Our visual system often estimates the size of an object by comparing it with other objects within our field of view.

ambiguous figures, hidden objects and color illusions. All those illusions are designed to let you discover the way we perceive things, to test and improve the power of observation, and to increase visual thinking. They let you look further than the length of your nose! ●

Should we then better not believe what we see? Of course not. Our

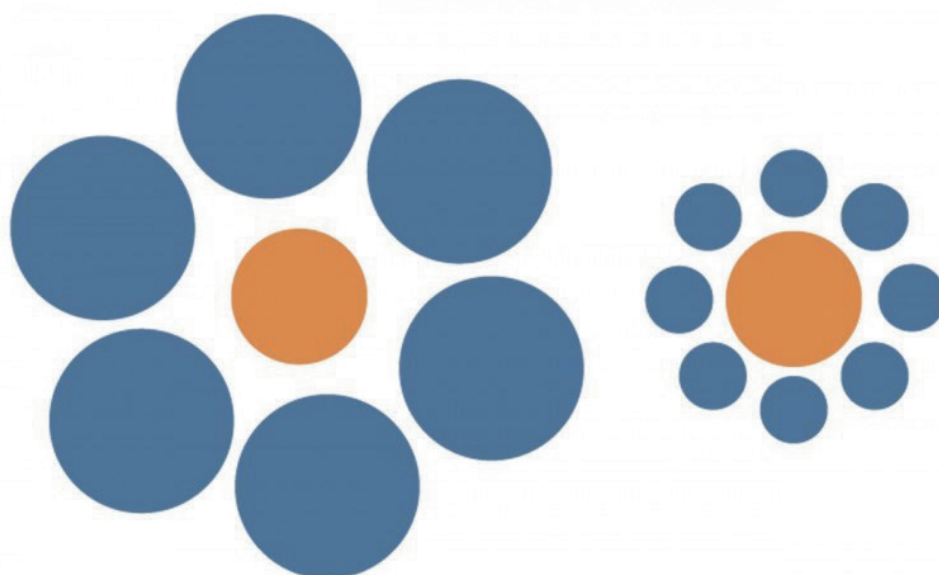


Figure 6: the Ebbinghaus illusion.



A New Concept, a New Event

This year, Asset | Econometrics has replaced their annual symposium with the Econometrics in Practice Day: a day that creates opportunities for both Bachelor students as well as Master students to come into contact with companies and to see what might be possible after their studies.

The Econometrics in Practice Day is a new and fresh event organized by young and familiar faces within the association. In the morning, we started the day off with two rounds of company presentations. I joined the presentations of Northpool I trading and of BigData Republic. The other two presentations

market leaders in this sector, but is only a fairly small firm in Leiden. They brought along one of their interns, who is currently doing his Master in Quantitative Finance at the Erasmus University of Rotterdam. He had some useful information for Master students concerning internships, thesis and careers.



were held by Inergy and Anago, as you can see all small and medium-sized enterprises.

Inefficient market

Northpool is a company trading in energy, a market which is not yet efficient. The energy market goes through many changes, looking at supply and demand, for example many people are interested in buying sustainable energy nowadays. Predicting future weather, however, is extremely difficult. Northpool has multiple employees who have excellent understanding of these uncertainties and have extensive experience in participating in these markets after a beta-study, such as econometrics, physics, etc. It is one of the European

Data-driven solutions

The second presentation by BigData Republic was very different. The presentation was very enthusiastic. It was delivered by an engaging employee from a team of experienced big data scientists, engineers, architects and strategists. They all work together helping companies to translate business goals into the design, implementation and utilization by means of data-driven solution. The presentation was maybe a little too in-depth on the machine-learning topic, and most of the Bachelor students found it sometimes difficult to follow what was being said. On the positive side: it did give a better idea of what was really done at the company, without spending many hours on a case.

Networking lunch

After the presentations we had a short break with a lunch, which gave us the chance to network with the companies of the presentations and ask all the question we had. It was especially nice to speak to the interns and employees who were honestly giving you a good idea of what the company was like, and their way of managing.

How precise will you estimate the case?

The afternoon was warm, but we did manage to have it fully packed with a case from Triple-A Risk Finance. A company based in Amsterdam with many of its employees coming from Volendam, which they obviously make lots of jokes about. They had a very interesting case which was about one of the tools they actively use for (car) insurances and such. The case was presented by three econometricians, with one of them, Fang Qi Wu, having studied in Tilburg. After a short presentation about the company and the theory needed for the case we worked in pairs to estimate the value of the insurance of a specific case.

The day came to an end with a drink with Triple-A Risk Finance, and the committee. The committee has done a great deal to innovate the old symposium, by giving it a fresh look. If you were not there this year, we hope to see all of you next year for the second edition of this event, which has received much positive feedback. ●

THE TEACHER



Cycling Through Life

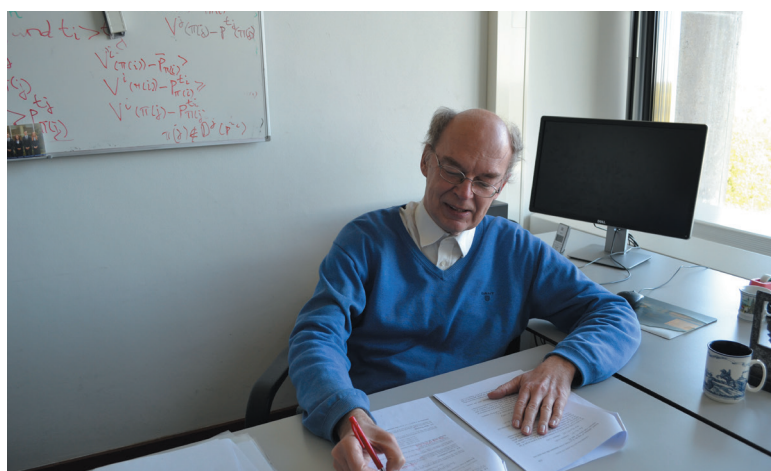
On May 1, Bas Dietzenbacher and I had the opportunity to interview prof. dr. Dolf Talman. Talman is specialized in cooperative game theory and auction theory. We first asked him whether he had something to share before the interview started; we soon learned that this happy, chatty professor does not like to sit still.

Text by: Zoë Connell

"Last week, I traveled to York, (England) to conduct research and provide a lecture together with two co-authors. In York, I was working on the question: what are the auction results if the bidders are limited in their budget and how can you connect these results to the equilibriums?" One co-author is currently professor at the VU Amsterdam (Vrije Universiteit van Amsterdam) and the other was a former PhD-student of Talman, who is currently professor at the University of York. Dolf wanted the students to read that that sort of business trips occasionally are part of an academic career.

Professor Talman was one of the few people that always knew that mathematics really was his passion and he wanted to pursue a career in this field. When he went to the University of Groningen, people that wanted to study mathematics also had to do courses in physics. This meant that three times a week you had to be in the lab the whole afternoon to do tests. He did not want to do this and switched to econometrics after only one week. He nevertheless has the feeling that he studied mathematics in a way, because during his PhD he

mostly did mathematics courses and not a single economics course. He did his PhD at the VU Amsterdam. To outrun the military service obligation, he worked a year at the University of Yale. At that time, prof. Koopmans was working at that university, which is one of the only two Dutch economics professors to receive a Nobel Prize. In addition, this is the professor the main building of Tilburg University is named after. "American culture was not my thing, so I applied to Tilburg University." He never considered leaving, because the ambiance is so good. Besides, he did not want to work abroad, because he is a bit patriotic.



During Talman's student life, he was quite the einzelgänger and never had the urge to become active at a student/study association. At some point, he started working as a student assistant for a professor and this is when he really knew that an academic career would suit him perfectly. "During summer, I would work at a flower bulbs firm (bloembollen) or in a nursing home. At the nursing home, I would work in the kitchen during the morning and in the afternoon I would help in the garden, for about 1.10 guilders an hour."

When we asked him what his dream job was when he was a child, the answer was easy: mathematics was fun, so something with that. He did not enjoy the (foreign) languages as much and mentioned that for his admissions exam for high school he had to take a resit for Dutch, while he made zero mistakes in the mathematics part.

A regular week of work consists of 40 hours a week, of which he conducts research 20 hours and the other half is filled with teaching. He enjoys both conducting research and teaching a lot. He mentioned that he received multiple awards for his teaching skills and being

the 'most passionate' lecturer. Probably many of you will acknowledge him that. Dolf: "I enjoy teaching students that are a bit further in their academic career, because I can tell them about up-to-date research. I also really enjoy tutoring students, especially when they end up having a great job at a university around the world."

Besides teaching and conducting research, professor Talman has a couple of other tasks. First, he is the coordinator of the Master program Econometrics

and Mathematical Economics (EME) here at Tilburg University. This means that he selects foreign students and tests the admission requirements. "Often, when students are rejected, their statistical knowledge is not sufficient." In addition, he coaches graduates and he assigns internships to students. Secondly, this year is a jubilee year for him: he has been secretary of the Vereniging Afgestudeerde Econometristen Tilburg (VAET) for forty years. The association was founded in 1969 and has since had two secretaries. When he will retire, he will step down from this position as well as quitting his job at Tilburg University.

When we asked him what his favorite subject to teach was, he very firmly replied Microeconomics for the first-year students. "This course is my favorite to teach, because it consists of an interesting combination of mathematical techniques and econometrical applications." He has been teaching this course since 1977, almost every year.

'This course is my favorite to teach, because it consists of an interesting combination of mathematical techniques and econometrical applications'

Fun fact: during the first lecture Talman gave in 1976 at the VU Amsterdam, Theo Nijman (Charlotte Nijman's father) was attending it. Currently, prof. dr. Theo Nijman is a professor here at Tilburg University; he is specialized in pension management and risk management.

Dolf would not recommend a PhD and academic career to everyone, merely because he thinks one should just orientate a lot and find what he or she really likes to do. They should find their own passion. "Only the students that are dreaming of an academic career should pursue a PhD. A PhD demands a lot of discipline to finish and not everybody has that."

Professor Talman's biggest hobby is riding a bicycle. When he was ten years old he already rode his bike from his house to a nearby village, which was



16 kilometers; his parents were worried where he was, but he just wanted to ride his bicycle. Ever since, he has been cycling through the Netherlands, making tours from hotel to hotel with his luggage tied onto his luggage carrier. At one point, he decided to cycle through each municipality of the Netherlands. After he had finished this goal, he decided to broaden his goal by including cycling

in Zuid-Holland and counts about 2000 inhabitants. He showed us some Google images during the interview, and I can see why he enjoyed this city so much. Perhaps this is a nice location for the next AMW?

Next academic year, 2017-2018, will be Dolfs last year as a professor at Tilburg University. He is planning on moving to Heerenveen afterwards, because this is a practical location concerning public transportation and the surrounding villages are nice to ride his bicycle. He will also keep his house in Tilburg, because he will be attending lectures from other professors. He says that he feels like a Frisian (Fries) more than a Brabantine (Brabander). "In all my years here, I have read the Leeuwarder Courant every day." Retiring is just a given fact for Dolf, he thinks that it is important to make place for younger academics.

The main advice he wants to give to students is: just do what you like, that is the most important thing. ●

Bert & Ernie Questions

<input checked="" type="checkbox"/> Bert	<input type="checkbox"/> Ernie
<input type="checkbox"/> Research	<input checked="" type="checkbox"/> Education
<input type="checkbox"/> Tilburg	<input checked="" type="checkbox"/> Heerenveen
<input type="checkbox"/> Willem II	<input checked="" type="checkbox"/> S.C. Heerenveen
<input checked="" type="checkbox"/> Pancakes	<input type="checkbox"/> Fries
<input checked="" type="checkbox"/> Beer	<input type="checkbox"/> Wine

through each village. He has seen a lot of municipalities and villages by cycling from Tilburg to Leeuwarden, because his family lives there he travels there regularly. After 45 years he reached his goal: he rode his bicycle through each municipality and village of the Netherlands. The last four villages left on the list were the four villages on Texel.

Looking back at that time, he says that perhaps sometimes he should have taken some more time to really see the village and its surroundings. Some days he would just cycle around to make sure he had been through another 20 villages, but he could not enjoy them as much. Now he has reached his goal, he takes more time for each village and pays much more attention to the natural reserves around them. His all-time favorite city in the Netherlands was Goedereede. This is a small city located

**Lieke van Uden****AGE: 22****Began studies in 2013**

The evening started with an indoor BBQ at Smikken & Smullen. We started the dinner with a courgette-cucumber soup, which I thought was a remarkable combination for a soup. However, it turned out that it was a very good combination and the soup tasted great. After that, the fun part of the dinner started: we had to shake our own salad. Shake? Yes indeed, we have shaken our own salad. At the salad bar you could put some different kind of vegetables, salad and pasta in your mason jar, add the sauce you like and then: shake! Also, we put some meat and a jacket potato on the barbeque, while we were chatting about all kind of things. As dessert, we all got a little pan filled with some apples and cinnamon. We heated the apples, took some ice cream and 'stroopwafel' liqueur, and ended up with a delicious dessert. All in all, we have deliciously "gesmikkeld & gesmuld" at the indoor BBQ.

After dinner, the pub quiz started at Café de Nachtwacht. A lot of people attended and we were divided into six groups. Each group existed of around ten persons. We did all kind of games inspired by the television shows "Ik Hou van Holland" and "De Jongens tegen de Meisjes", like the gossip game and the letter game. Although it was a little bit noisy and chaotic, we had a good time. After some games, we were first and we had to battle with the team who stood second for the final first place. We had to play the "steal or split" game (A.K.A. the prisoner's dilemma).

Make the Netherlands Game Again

On Tuesday April 18, it was time for the activity 'Make the Netherlands Game Again' organized by the Drinks & Activities (D&A) Committee. The D&A committee had the mission to prove that they are able to organize a great activity. So, we found out whether or not that was really the case!

Both the two groups had to choose separately whether they chose to steal or split. If both the two groups chose split, the price would be divided into two. If one of the two teams chose split and the other team chose steal, the one who chose steal would be the winner. And lastly, if both the teams chose steal, the team at the fourth place won the competition.

However, after some communication with the other team the following idea was suggested: both teams would choose split and held a beer race to determine the final winner of the pub quiz. Eventually, our friendship mind won it from our econometrics mind, because both the teams trusted each other, chose split, and a beer race followed. Unfortunately for our team,



'We have deliciously "gesmikkeld & gesmuld" at the indoor BBQ'

With all these econometricians together, I thought it would be really clear what the outcome would be: both the teams would choose steal. After all, did we not all learn that that is the Nash equilibrium of the prisoner's dilemma?

we lost the game. The other team was faster and became the winner of the pub quiz. Even though we lost in the end, I had a really great time. You can definitely say that the D&A committee is able to organize great activities! ●

Knowledge, Skills and Character

Students who followed the class Professional Business Analytics Skills (PBAS) just had their final presentation, and I was proud, really proud! The presenters and the teams behind them lived up to expectations, probably giving the best presentation of their lives so far. They tried to integrate many of the aspects around a real case we - Goos Kant, Kuno Huisman, several invited speakers and myself - taught them. The teams had appealing and very clear slides. We have seen many good future BAOR consultants!

Perhaps I should explain why we do this and why it is important. The new education vision of our university is "knowledge, skills and character." In many courses you follow, knowledge is central. These courses will always be needed, although I personally think the way that knowledge will come to you will drastically change in the coming 5 to 10 years. Why have a lot of lectures when there are so many excellent lectures online? And what to think of online courses, where you have a good mix of explanation, visuals, practice and further explanation where needed? When I started to work for WFP I had to take an online course on safety. It was a good course: well designed with lots of repetition, visuals of mines, illustrations of dangerous situations and how to act in particular situations. I could completely do it in my own time.

In our PBAS course we still use the traditional lectures to gain knowledge on personality types with whom you have to work, about law around data usage, visualization techniques, change management and decision technology. In the future we will look for other opportunities here.

With skills you start to apply your knowledge in various situations. Your knowledge gets deepened, you consider different angles and your

creativity is needed to solve particular problems. In a typical tutorial, we solve equations, build small models and ask questions to our teacher. In my opinion, we need more teaching here. Small misunderstandings of theory as well as really becoming fluent in the application of new knowledge requires personal contact and interaction with an expert - although even the expert is wrong from time to time!

In PBAS we had regular possibilities for teams to meet one of the teachers and discuss, for example, their acquisition interview or their project plan. I personally liked these moments very much because you work with 4-5 people and in 20 to 30 minutes you can do a lot (if it is well prepared by the team...). From the course evaluation, we learned that the students wanted even more personal feedback - and I wholeheartedly agree! Accomplishing that is difficult in our educational system but we are going to think about it.

The final pillar of the before-mentioned vision is character. This is harder to define, but I am a big fan of this university initiative. In one's education, one should learn to find out what one wants to do in life with the obtained knowledge and skills. You can be knowledgeable and awfully skilled but what do you really want to contribute?

Of course, this will be different for most of you, but it is important to find your passion, and as a consequence your contribution to society.

In PBAS we, for example, worked on ethics. For some groups in our role-plays we introduced some unethical things. It is important to find out for yourself what you do or do not tolerate. Additionally, we stimulated every team to think of the consequences of the proposed solutions (for managers, personnel, etc.).

Even though many participants were enthusiastic, we realize it is only the beginning. I would like to thank all the PBAS students for their enthusiasm, their effort and their feedback! I would also like to thank all readers of my column of the last year and I wish you all a very good summer! ●



Hein Fleuren

Hein Fleuren is part-time full professor at the department of Econometrics and OR, as well as partner and founder of BlueRock Logistics in Den Bosch. Since September 1, 2016, he has a special chair on Data Science for Humanitarian Innovation together with Prof. Conny Rijken from the Law School.



Shutterization Contagion

On Tuesday April 4, a team of four Tilburg University students headed towards Amsterdam, ready for two or three days of intense econometrics. We were taking part in the Econometric Games; a competition between 30 universities from all over the world. Each team consists of two PhD and two Research Master students. The competition lasts three days; two days of qualifiers after which the top ten teams get a second case on the third day. I had already participated last year but we did not make it to the final then, so we were not too optimistic for this year either.

The cases usually concern applied econometrics in the narrower sense, i.e. the kind of case that involves using Stata or similar software to answer economic questions with data. This year, we investigated why people install window shutters, which refer to a form of strong blinds for windows in people's homes. They are not only meant to provide privacy but also to prevent burglaries. However, our Portuguese teammate insisted they are mostly used against the sun. We proceeded to ignore this suggestion and view them as a crime-prevention device. During the first two days, we were supposed to investigate how the adoption of window shutters is spreading throughout the Netherlands. We observed a lot of clustering in the rate of 'shutterization'; the share of houses with window shutters looks like a 'contagious disease' originating in Belgium. But is it contagious because if all your neighbors have shutters you will be burglarized if you do not? Or is it contagious because it becomes 'trendy' to have them when enough people in the neighborhood do?

After two lengthy sponsor presentations and being introduced to

the case by the professors who came up with it (including Ben Vollaard from our economics department), we started to discuss how we would disentangle these effects based on the data we had. We had two short panels (one in the 1990s, one in the 2000s) of household level data on essentially everything except the exact location (we only knew in which municipality the house was).

considerations. Thus if 'trendiness' is what leads to the contagion, the interaction term between sociability and neighborhood shutter use would be significantly positive, which is indeed what we found. Similarly, the 'left out' channel would be expected to be stronger for households who assess their own risk as higher and we had various proxies for this.

'We observed a lot of clustering in the rate of 'shutterization'; the share of houses with window shutters looks like a 'contagious disease' originating in Belgium'

After brainstorming, we had a lot of ideas on how to model everything, but keeping in mind our previous failures, we wanted things to be as simple as possible. Therefore, we estimated simple binary choice models on the decision of adopting window shutters. We had various measures of sociability for each household and our idea was that more sociable households would be more susceptible to 'trendiness'

Every day, we had until 18.00 hours to discuss these questions, some of us writing and thinking, others already programming. Each evening, a dinner at a different restaurant was organized, where the teams were mixed up so that we got to know some colleagues from other universities, while enjoying nice food and drinks. Although the clock was running, the atmosphere was quite relaxed and

‘Thus if ‘trendiness’ is what leads to the contagion, the interaction term between sociability and neighborhood shutter use would be significantly positive, which is indeed what we found’



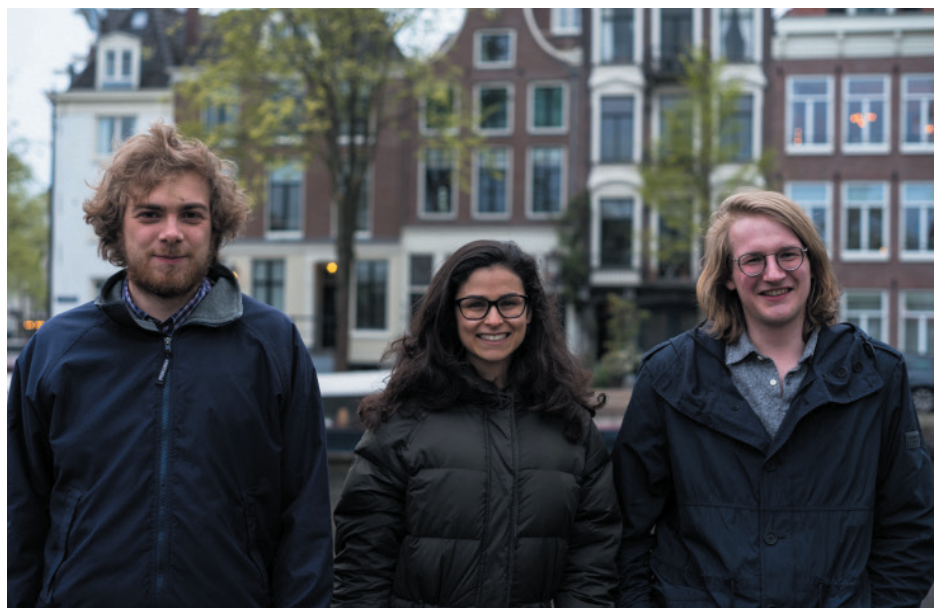
most people did not leave early. Trying to balance relaxation with work, our team decided to head to a bar to discuss a few more things, so that we could start programming again early the next morning. We actually made some good progress there (or so we thought) although I felt like I was going to fall asleep any second.

Having finished this part the next morning, we turned to the prediction question: by when will every municipality be saturated in terms of shutter adoption? To answer this question, we estimated an AR(1) model with a constant depending on time-invariant municipality characteristics. This was the simplest model we could think of that gave rise to some steady state while allowing for heterogeneous saturation rates. According to this toy model in about 40 years most municipalities will have reached their saturation points and the ‘disease’ will stop spreading. To add more to this contagion story we also added some spatial effects (like the saturation rates of the neighbors etc.) to our intercept

term but this did not change anything. The second day, the dinner seemed to be taking longer and longer: we knew that the finalists would be announced thereafter. Even though we were not sure whether we would make it to the final, this year at least we were content with what we had handed in; we had not been too ambitious and what we tried to implement actually (mostly) worked out. We had to walk to a different place, where the winners were finally announced, but luckily that place had more free drinks to pass the time. When we finally heard ‘Tilburg University’ we were extremely happy, even though that meant getting up early again the next day.

Probably shortly after the non-finalists returned to the hotel, we headed back to the Zuiderkerk, the church where the entire competition had been taking place. As we did not really expect to make it to the final, one of our teammates had to leave due to a previous commitment, so we competed during the finals with three team members instead of four. This meant even more pressure for the three of us! →

‘According to this toy model in about 40 years most municipalities will have reached their saturation points and the ‘disease’ will stop spreading’



During the last day, we were supposed to estimate the causal effect of window shutters on burglary, i.e. do these shutters really prevent crime? Of course, there are problems of reverse causality to be addressed: if shutters really do help, those people in areas with more crime will install more shutters. The idea was to use regional variation to somehow control for this, in particular, a discontinuity in shutterization at the rivers. However, we only had data for shutterization on a municipality level, so using a few municipalities above and below the rivers would already create some rather large areas. It was essentially simply matching a few municipalities above the river to those below, so we thought we might just create a number of municipality pairs throughout the Netherlands, chosen based on the criteria of being geographically close while having significant differences in shutterization. This geographical proximity we interpreted as making sure that the risk to fall victim to crime was similar in both municipalities, so that our reverse causality was alleviated.

too much honesty does not always win you prizes. But writing things so quickly is really also a lot of fun, as one feels super productive, especially compared to 'real research'. Of course,

the scientific standards are not quite the same either: as surely no policy-maker would ever read our report, we considered it acceptable to produce only the most reasonable looking

'We considered it acceptable to produce only the most reasonable looking results'



'Luckily, the risk we took paid off: we were tied for second place with the University of Copenhagen, with Harvard University winning first place'

Our approach actually worked well, and we thought it might be good to take an approach that was expected to differ from most other teams. We had taken into account that with the three of us it would be hard to deliver the most polished treatment of a standard approach, and only the top three teams would be named anyways. Luckily, the risk we took paid off: we were tied for second with the University of Copenhagen, with Harvard University winning first place.

I have to admit that, in the end, perhaps none of the approaches really made sense, as it was difficult to do something useful with the data we had. This is precisely what one group wrote; this got them an honorable mention, but of course,

results, picking models based on their outcome and sometimes finding rather ridiculous excuses to prefer one method over another simply because we did not manage to program (or solve) something immediately... Do not try this when writing your thesis! ●



Oliver Wichert
Age: 25
PhD Student
Tilburg University

**Bas Lodewijks****AGE: 23****Began studies Applied Mathematics in 2012**

Exploring the Future of Operations Research and Data Science

The day prior to King's Day: what time would be better to explore the endless possibilities of applying operations research and data science within industry? For the second time, the Operations Research Conference (ORC) was held for students from Tilburg and Eindhoven.

The neutral grounds of 's-Hertogenbosch from last year were exchanged with the beautiful Evoluon, a true landmark within Eindhoven with a professional touch. With its neat look and welcoming ambiance, it was the perfect place for a conference.

The organizing committee took it a step further this year, going from 'Outsmarting Competition' to 'Beat the Limit' as the theme of the day. How companies put the advances of operations research and data science to use, in order to be smarter, faster and better than imaginable, was the outline of the day. There was a nice trade-off in companies that mostly focused on operations research, and others which were more in line with using data science to their advantage, keeping the conference well balanced and interesting.

The first plenary speaker of the day came from a slightly unexpected field of expertise: philosophy. Well-known Dutch philosopher Bas Haring came to the ORC to speak about his newest book 'Why coke is more expensive than milk'. In his book, he addresses the fact that he actually never used to understand economics at all, which got him to start studying it. He answers some basic economic questions he posed himself, too. During his speech at the ORC, he shared with us some of his 'stories', as he liked to call them, regarding various topics he hoped to be both informative and in line with the conference as a whole.

Since Bas' agenda turned out to be quite saturated, he had to leave very quickly after finishing his speech. This allowed for a small coffee break before moving on to the first company lectures. Vanderlande and LIME were the first of many to come, to present themselves as a company, their interest in the conference, the topic and, of course, our students. Vanderlande's presentation, which I was present at, focused on the company as a whole and the challenges they see within their respective branches regarding all kinds of optimization problems.



Before we would be served a truly delightful lunch, it was up to Argusi and Building Blocks to show what they are capable of when it comes to beating limits. Argusi, a company with not only an outstanding team, also proved to

have a large moral compass, relating why they do what they do to improving the environment and climate. Their talk was quite unique and led to many new insights, not just only in a mathematical way. If their approach to delivery truck scheduling turns out to be successful and implementable, their small team may see an exponential rise in number, facing them with the option to rename their company to Arguswe.

In the afternoon, the well-known cases were scheduled. In small groups, we all worked hard on creating insight and value from data in order to present the best findings to the respective companies and sometimes to even win the competition a company had set out. Being a mathematics student from Eindhoven, it was a sad moment to see a group of Asset | Econometrics win our Pointlogic case, but I am delighted for you guys!

Of course, a conference for students would not be complete with a few small beers afterwards, especially being on the verge of King's Night. Not before OR Group KLM held the closing speech, though, showing how important operations research and data science are for staying the top brand KLM has been for decades.

Altogether, it was a great conference, and on behalf of the ORC 2016 committee I hereby want to wholeheartedly thank the committee for so justly continuing our legacy. ●

Battle of the Cartoons

A long weekend with fifty econometricians, a huge competition, making Westerborkers feel boring, dressing up as cartoon characters and getting flags from gardens: I think Westerbork was happy with our visit during the Active Members Weekend (AMW)! Looking back at a lot of fun, many new people and craziness, we had a lot of fun to say the least.



Nienke van der Wal

AGE: 19

Began studies in 2016

I had only been active for half a month before I signed up for the weekend, so I was going on a trip with people I had never seen before. We had a great time together with a lot of fun preparing for the weekend. Well at least, that was the plan. We actually only made a flag, drank a lot of beer and went out. Thanks to Thijs, we had a team song, which he made at 6.00 hours in the morning. The only problem was to find clothing to fit our Rocket Power theme. So we went to the Cool Cat, where I discovered what the Cool Cat was invented for: Hawaii shirts and army pants for AMW. Thanks to this discovery, we finally found what we were looking for and we were ready for an amazing weekend.

We were the first to arrive at the station, and when the others were arriving, we came with an amazing surprise: water balloons. Even though they were not really appreciated, at least we had had a lot of fun. Especially the Pokémon were hit badly, and with their thick suits, they would be wet for the rest of the day. Mission accomplished. It was an amazing view, all the groups all dressed up in their theme. We had Pokémon, SpongeBob, Fairly Odd Parents, Phineas and Ferb, Totally Spies and Dora. Many teams went to the AH to Go before we left, because what is an AMW without beer, right?

In the train we received some assignments: we found the best look alike ever (we even got extra points) and thanks to Pepijn we solved most

of our mathematical questions. Unfortunately, we had me, and I caused a big slow down (oops). We just wanted to give the others a head start.

Although everybody thought we would go to Groningen, we suddenly went to Zwolle City. We ran through the entire city for the most awful exercises. Rachel experienced the feeling of licking

could earn credits. With the numbers, we had to play the game 'Mastermind' to find the right combinations for three different locks. The credits could be used as turns to guess. Finally, we found the right combination and we ran to the café to unlock the locks. We were on time, unlike Phineas and Ferb, who simply gave up. From this moment forward, it was sure they were not going to win this weekend.



the hand of an elderly man, I asked a guy (standing next to his girlfriend) to marry me (fortunately he said yes) and Thijs had the honor to run around a light pole forty times and then to jump over all of us. Because we completed these exercises, we received numbers. Furthermore, by finding places in Zwolle based on pictures we got, we

After the trip through Zwolle, a train ride and a full bus with singing people, we finally arrived at the location in Orvelte. That night, we started with a new round: beer, beer and beer. We began with a relay race. At one side of the volleyball field were tables with all kinds of drinks: beer, lemonade, vinegar and vodka. The teams had to get to the tables as fast as

possible, and drink all the drinks one by one. Luckily Thijs and Pepijn sacrificed themselves to drink everything. Sadly, the jury had a hard time assessing honestly (the system was obviously corrupt :-), because somehow Totally

the numbers three of the teams had to run to the dishcloth and try to get it over their line. Everything was allowed. This caused a kind of American football idea: everybody was pulling, pushing and screaming. It was a great game.



Spies beat us. They even agreed with our statement. (Later after a lot of angry talks with Tim, we finally got our points too). After that, we played a lot of different games. They had everything to do with beer and the teams were able to earn points by winning those games. We were quite good at drinking quickly, guessing songs and playing race cage. And while everybody was filling their stomachs with beer, the Golden Bucket was already awarded to the first person to have had quite enough. After all the beer games, there was a cantus. The cantus did not take so long because it is quite difficult to have a cantus with bottles and everybody had already drunk a bit. After singing a few numbers passionately, the evening turned into a party where people were dancing, laughing, drinking and talking.

The next morning, we had to be up quite early. Most people enjoyed a lovely hangover. Because we started breakfast at 10.00 hours, the program started early with sports. There were four kinds of sports: you had to bring a dishcloth over your team's line, shoot with an airgun, play dodge ball and a game with a broom and a bucket invented by Vera. Especially the first game was hard. You had to stay with your team behind the line of your group and we all got a number. For example, when the number three was called, all

After all the sports games, it was finally time for the end game. It was a relay race again. The first person had to go over and under the picnic tables, the honor was Thijs'. After that, I had to go through a car tyre and go with Pepijn to the volleyball net in a 'wheelbarrow'-way. Well, it is fair to say, it was not really our thing. I fell a few times

That night, we would go to a bar in Westerbork, but before that, we had to create a carb-load with a delicious BBQ thanks to team Dora. After dinner, it was time for the greatest game of AMW 2017: race cage. There were two tables, one for the people that had difficulties with getting the ball into the cup, and one table for them who got it in without trouble. Pepijn as well as Nina tried the last table without any luck. That was the end of the night for Pepijn.

Due to the low budget, we had to share a bike to go to Westerbork. Once there, it seemed to be a pub for old people. Luckily we were there with fifty students who do like a few beers. So, with YouTube connected to the boxes, some great stories to tell were created: someone took a free ride home by Tim, someone else had nap behind the utility box and later the night, a group came home with a flag of a bank. Altogether, it was a great night.

The next day, Jelle came into our rooms way too early with delightful music. We had to be downstairs, fully packed in a half hour. While everybody was eating slowly with a hangover, we had the awards ceremony, congratulated team Totally Spies with their victory and the



with my face in the grass. Next it was Melissa's turn, she had to throw the ball into the basket and run back to Rachel who had to roll under the volleyball net to Masum. He had to run back to Thijs again and break the balloon between them. Unfortunately, it was not our best achievement, but we did the best we could.

tasks for cleaning were divided. True to tradition, it was Linda's pleasure to clean the toilets.

After a full weekend, it was time to leave for Apeldoorn's swimming pool. Due to the great weather we could lie outside. It was the perfect way to end an amazing weekend. ●

Determining and Decomposing the Sales Promotion Bump

In the fast-moving consumer goods industry, making correct sales predictions for the future is of utmost importance when it comes to cost minimization. Manufacturers want to predict their sales to retailers as accurately as possible, where they deal with not only regular, baseline sales, but also additional sales in weeks where products are promoted through temporary price discounts. In order to enhance the quality of PlanCaster, a sales planning and forecasting tool created by Anago, I developed a model that is able to determine the size of the increase in sales caused by a price promotion, and to break up this promotional sales bump into different components.

Problem description

We consider the increase in sales that is observed when a temporary price discount on some product is offered by a manufacturer to a retailer. We want to know the size of such a bump in sales as well as its decomposition into different components. Namely, a price promotion typically leads to not only an increase in sales for the promoted product in the promotion week, but also results in two side effects. Stealing effects occur when a price promotion on some product in some week has a negative effect on the sales of that product in the weeks prior to and after the promotion, and we speak of cannibalization effects when a price promotion on some product eats in on the sales of substitute products in the promotion week. The intuition behind this decomposition is that only a part of the extra sales from a price promotion comes simply from increased consumption of the product. The other part of the extra sales is actually stolen away from sales of comparable products, which we call cannibalization, or stolen away from sales of the promoted product in the weeks prior to and after the promotion, which is also known as stealing.

We distinguish between two research goals. Firstly we want to break apart sales into baseline sales and extra sales caused by

price promotions. The improved estimate of the baseline sales may in turn be used to improve future sales planning. Secondly, we want to quantify cannibalization and stealing effects. Using manufacturer data, I developed a model to answer these research questions. Whereas the fundamentals of the model are based on existing literature, the majority of the methodology is new for this type of problem.

A visualization of the problem is found in the picture on the right, which depicts the sales of two substitutable products over time. In week seven, there is a price promotion on the red product, and we see a sales peak in the promotion week. However, we also see that in week six and week eight, sales are a bit lower than usual (stealing), and that sales are lower for the green substitute product in the promotion week (cannibalization). Hence, we want to quantify the sizes of these stealing and cannibalization effects, and we want to determine a baseline estimate for sales. Here, baseline sales are sales that would have occurred in absence of any promotional activity. They are indicated in the figure by dotted lines.

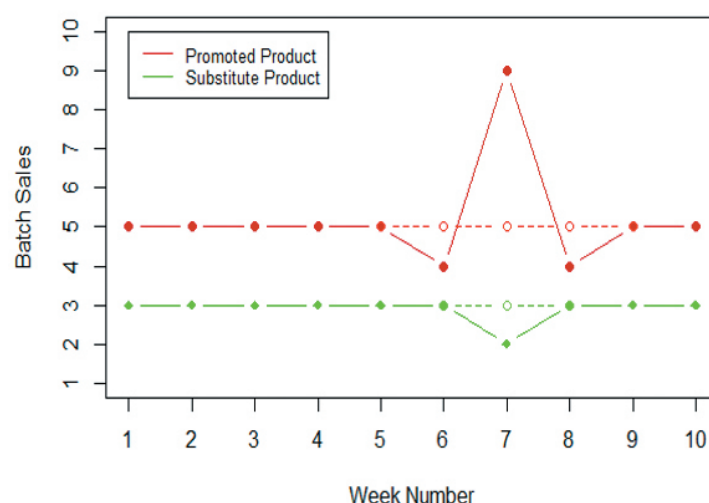
Dataset

We use weekly data from an international consumer food

manufacturer concerning the sales of its line of products over time to one of the major retailers in the Dutch market, and price promotions on these products. We consider products in a total of six different product categories, such as cereals, drinks, and fruits. Whereas the data is initially split up into separate files containing various variables, we merge and modify the different datasets in such a way that we end up with one large dataset in which all necessary information is captured.

preferred. We use the log transformations of variables in order to be able to interpret the coefficients as elasticities, and we decide on the lengths of the lag and lead periods based on the joint significance of these variables in different scenarios.

Having done the analysis described above for the entire dataset, we are interested in doing the same analysis separately per product category. Namely, we assume in the general



The dataset is a panel with products as individuals and weeks as the time unit. For each product in each week, we know the product category, the number of batches sold and the price index. The price index, which we use as a measure of the size of a promotion, is the ratio of promotional price to regular price. Hence, for instance, when a 20% price discount is offered on some product, the price index of the product in that week is 0.8. All necessary data transformations are performed in R, after which the data is exported to Stata in order to do the calculations as explained in the next section.

Methodology

In order to answer the research questions that are formulated, we use three different panel data regression models. In each model, batch sales per product per week are regressed on a number of different variables accounting for promotional sales peaks, stealing effects, cannibalization effects and ordering patterns. The log price index of a product measures the direct change in batch sales from a price promotion. Lagged and lead log price indices of a product estimate stealing effects, and the log price indices of products that are in the same product category estimate cannibalization effects. Hence, we assume that a price promotion on some product only eats in on the sales of products that are in the same category. Lastly, as it appears from the data that products show fluctuating sales patterns, we include several lagged batch sales terms to account for these patterns.

We start off using a linear model, trying both a fixed effects approach and a random effects approach. Secondly, we use a Tobit model to account for the fact that batch sales data is naturally bounded from below at zero. The third and last model is a Poisson model, which treats the nonnegative integer batch sales data as count data. In this last model, batch sales are assumed to be Poisson distributed. For each model, we make use of a Hausman test to decide whether a fixed effects or a random effects specification is

model that the effects are equal for each product category. However, it is likely that some types of products are more sensitive to promotions than others, implying varying price index effects. Also, stealing effects, cannibalization effects and ordering patterns may vary over product categories. Hence, in total, we estimate six models: three models for the dataset as a whole, and three models separately per product category. After estimation, we can pick the model that is preferred for answering our research question. We will make this choice based on intuition, comparison of mean squared errors, and the manual assessing of the results through some produced tables and graphs.

Results

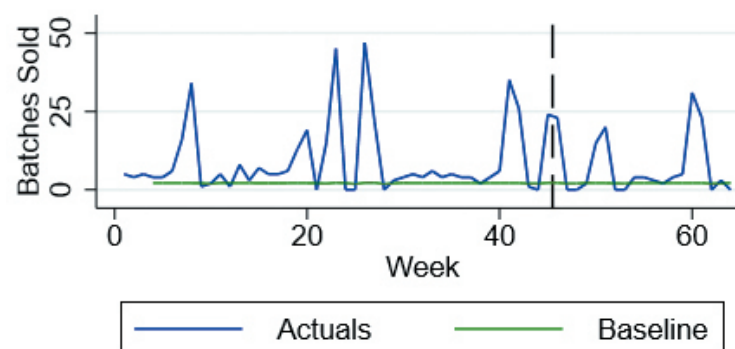
Carrying out the procedures described above, we obtain several results for each of the six models. First of all, we acquire for each model a table with the regression output, consisting of coefficients, significance indications and additional model details. More interesting, however, are the two graphs we report for each estimated model. The first graph contains actual batch sales versus batch sales predicted from the model, which gives an indication for the goodness-of-fit of each model. The second graph, of which an example is included, depicts the actual batch sales versus the predicted baseline sales. Ideally, this baseline should filter out the peaks in demand from price promotions. Hence, we prefer a flat baseline estimate which does not give away when price promotions took place.

Intuitively, out of the six models, we hypothesize that the Poisson model applied separately per product category is most suited for assessing the effects of price promotions on batch sales using manufacturer data. Namely, it is intuitive to treat batch sales data as count data, and moreover the Poisson model offers some substantial advantages over the other models in terms of interpretation.

We expect that narrowing down the analysis to product categories is more precise and therefore in this case better than a general analysis.

A more quantitative means of comparison is the mean squared error of each model, which provides a good measure for the quality and fit of an estimator. As the same dependent variable and the same dataset are used in each model, we can directly compare their MSE's. Confirmatively with our hypothesis, the Poisson model performs better than the linear model and the Tobit model in terms of mean squared error. Thirdly and finally, we look into the graphs we produced for each model in order to decide which model we find preferable. Again, the

that a Poisson regression model applied separately per product category is the most suited model to answer the formulated research questions. The most important use of the outcomes of my thesis for Anago lies not in the actual quantitative results from the test dataset, but rather in the implementation of the estimation procedures into PlanCaster. The main use of PlanCaster is the forecasting of future product demand based on historical data. This is currently done by first separating baseline sales from promotional sales in a simple, unsophisticated manner, and then forecasting a sales baseline and additionally extra sales from promotion. The quality of the application will benefit from the input of a better estimate of historical baseline sales.



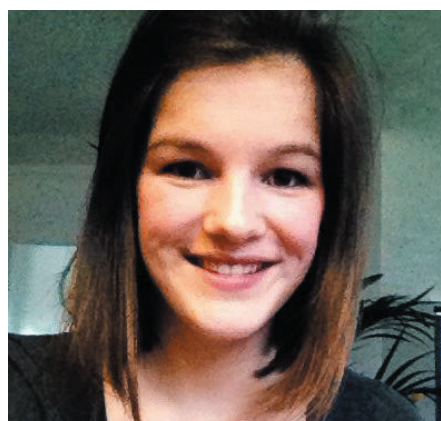
Poisson model turns out best. Its predictions are closest to the real values, and more importantly, the batch sales baseline predicted by the Poisson model looks better than those of the other models. The estimated baselines are flat as we expect them to be, and do not show any peaks at points where promotions took place.

Conclusions and recommendations

We developed several models that are able to determine and decompose the sales bump that is observed upon temporary price promotions that are offered by manufacturers to retailers. Here, we took into account that price promotions not only result in direct increased sales, but that they also cause side effects. Based on several criteria, we eventually concluded

Internship experience

I wrote my master thesis in the fall semester of the past academic year at Anago, a software company in 's-Hertogenbosch where I had been working as a working student for some time. The ambiance at the office is great, making it pleasant to be there, however writing a thesis is still something you have to do on your own. For me, the first few months of the internship where the least enjoyable, as I had a hard time defining my problem, cleaning my data and working myself through endless papers on the topic. However, as the weather turned colder, the process became a lot smoother and things eventually turned out not to be as dreadful as expected. The road to a Master's degree may be long and winding, but once finished you can look back satisfied and proud! ●



Denise Ligthart

Age: 22

Began studies in 2012



**Thomas van
Manen**

AGE: 22

Began studies in 2012

Since running two-hundred kilometers on your own is virtually impossible for us mortals, the total distance is divided into twenty-five stages of varying length and difficulty. As Asset I Econometrics has never been an association to shy away from a challenge, an elite delegation of runners was fired up and ready to go. This year, in corporation with our friends from Asset I IB&M, consisting of twenty-five of the best runners Asset has to offer. The next twenty hours would decide whether this great team would bring the first prize back to Tilburg. Spoiler alert: we did not bring home the prize, but more on that later.

Before we arrived at the finish, there was still some running to do. It all started with a beautiful stage through the center of Tilburg, where Anouk managed to keep up with all the men. This stage was followed up by a gentle stroll through the hills close to Nijmegen. However, Floris did not turn it into a stroll, as he flew over the hills and managed to finish among the fastest for his stage.

As the rest of the night gently flew by in a haze of taillights and energy drink, the moment I personally dreaded was approaching rapidly. Initially when signing up, I had the luminous plan to train multiple times a week. Not surprisingly, this plan was not put into action, and hence my goal of running my stage as fast as possible, had changed to just finishing the stage. As it turned out, I had had just enough training to reach this target. Luckily, the rest of the night

crew managed to make up for my (lack of) speed, since Thomas, Jasmijn and others ran their hearts out.

While the night crew was busy with their top performance, the morning and afternoon crew were busy with theirs. They made it their mission to be the last men and women standing in the Vestingbar. A noble mission, with great results. Not one without its consequences though, given that the morning crew would have to leave a mere two hours later.



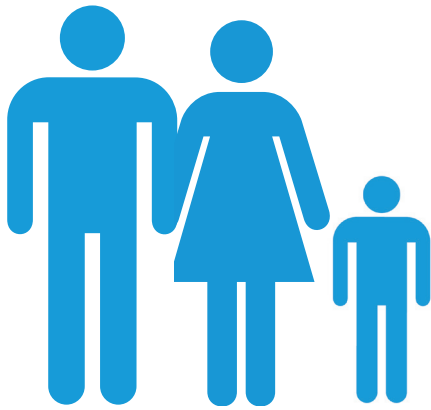
With two hours of sleep and many beers under their belt, they managed to exceed all expectations by keeping up the high level that the night crew had laid down. This was maintained by the afternoon crew, who managed to run so fast that even the van was not able to keep up. On second thought, this might

also have to do with a navigational error from the designated driver.

In the end, even with some minor time penalties, we managed to secure the 159th place in the overall standing. While this may sound rather pathetic, out of the more than three-hundred participating teams, this is definitely an achievement to be proud of. Obviously, such a result called for celebration, and luckily, the Batavierenfeesten are just the place for that. The trend that was set the previous night was continued

successfully there; everyone partied until their legs gave out.

All in all, it was once again an amazing edition of the Batavierenrace, and only the future will tell if the results set by this team will ever be trumped. I look forward to next year! ●



The Wonders of Aruba

Steyn Oversteegen is a freshman of the EOR Bachelor and an active member of Asset | Econometrics. As the eldest of three siblings, Steyn's idyllic childhood on the island of Aruba was not exactly planned. When informing their friends and family about their upcoming move from the Netherlands to Aruba in 1995, his parents, Michiel and Jacoline, said that they would stay there for perhaps a couple of years. As a couple of years turned into a couple of decades, and saw the birth of three children, a home, a business and what they describe as "a small zoo", today they firmly stand by their decision.

Text by: Carolina M. Duarte

A passion for pictures

Michiel was born in Blaricum, south east of Amsterdam, into a tight-knit family of eight. After completing high school he moved to Enschede to study Management Science and Mechanical Engineering. This is where he met Steyn's mother, Jacoline. And despite ending up in the same university and city, it would soon become apparent that their backgrounds were nothing short of contrasting. Jacoline was born in Rotterdam where she lived until the age of three, at which point her Engineer father started working for the government of Aruba. The family moved there in the 1970s and has thus remained,

with the exception of Jacoline's decade-long move back to the Netherlands to complete her education. "When you go to the VWO in Aruba, you are pushed to the last year – you know you are leaving the island," she says, reflecting both on her experience as a young student in the 1980s and her son's experience this preceding year.

Upon their move to Aruba in '95, Michiel worked as a general manager and later on started a company with some associates, selling tiles and bathrooms for the private market and for hotels. But along the way he developed a passion for wildlife photography, focusing on birds. Around a year ago, he sold all of his company shares and what was once a hobby became the central feature of his life. "Aruba is so small; we do not have many mammals in here. Some rabbits, some snakes maybe, but everything that moves that you can see with your bare eyes here are birds. And I love to be outside. Of course the climate in Aruba makes it nice to be outside here every day. I love to be outside and I started with this hobby four or five years ago, and it has just developed into something obsessive I think".

As we ask whether it is that bad, Jacoline quickly interjects with a "sometimes....", and Michiel confesses: "You can ask Steyn."

Growing up outside

According to his parents' testimony,

Steyn might very well be in agreement with them regarding the wonders of Aruba. As an infant he was so eager to explore the island that he started walking at the tender age of seven months: "He was always outside, always. I love gardening and he was also outside with me helping with the mud and the pots," says Jacoline. At this young age, he forcibly learned about the perils of the many cacti inhabiting his garden. While maneuvering this obstacle course on a daily basis, his parents urged him to take notice of the cacti, so much so that his first words were "Oww cac!" But despite these prickly dangers, Michiel asserts that growing up in Aruba has many advantages.

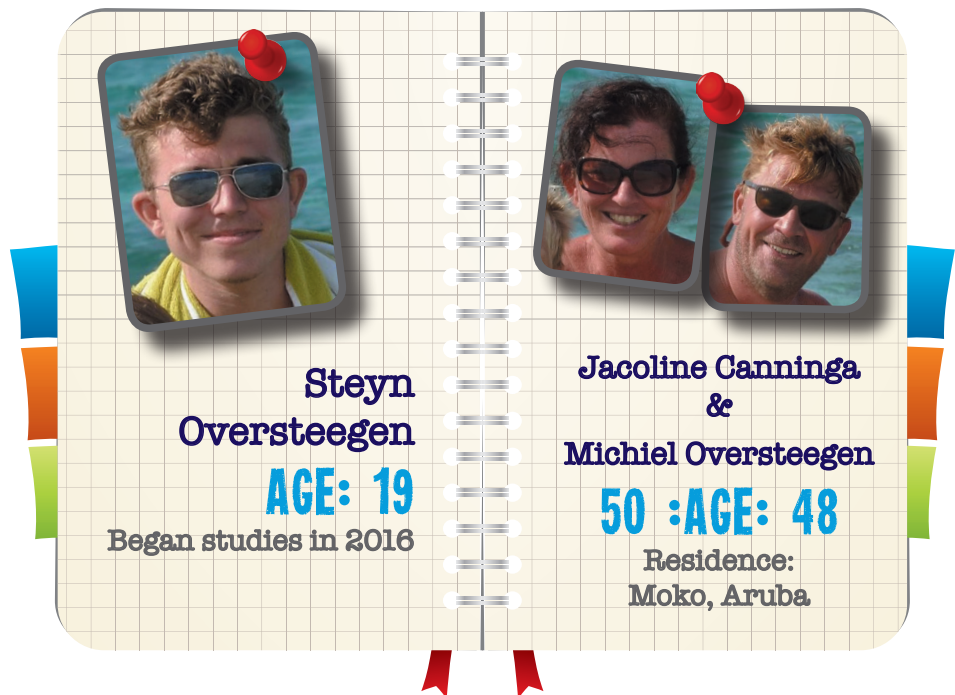
The good weather enabled Steyn (18) Sophie (16) and Sven (13) to enjoy an easy lifestyle playing outside, going swimming, doing water sports,



meanwhile rejecting gadgets: "None of the three kids have ever had the urge to play Playstation or Xbox. We do not even have it. They were always playing outside." Steyn spent his childhood and teenage years involved in several sports, namely teaching tennis in Aruba, but this did not mean that he sacrificed his dedication to his academic work at all. In fact, his parents state that his dedication to what he is doing at the moment is a defining characteristic of his personality, "He could read from a very young age and he developed very quickly in everything; that was quite surprising to me. Not only with education, but with sports as well. Whatever he was doing he wanted to be the best. He is a special guy," says Michiel. Or, as his mother says, he was "always very eager to learn" and "always very serious with what he did."

To the motherland

This dedication is what motivated Steyn to apply for universities in the Netherlands and leave the "safe haven" of his home in Aruba. Having initially thought of going to the United States for his university education, Michiel then did some research and concluded that the quality of education in the US does not quite measure up to what is available in Holland in this field. Once a decision was made, Steyn and his father embarked on his first ever trip to the Netherlands in 2015. "We rented a car and went around Holland and to the universities in Enschede and Tilburg, and of course we went to see family so he could feel a bit more comfortable. I think he fell in love with Holland at that time." When the time came to say goodbye, the years of preparation for Steyn's departure softened the blow: "The departure was of course very emotional, but the whole family was prepared so it was not a shock. The day itself was very emotional as well as the week afterwards. But now we are used to it, and we have this easy way of communication." Jacoline, who had the same experience by moving on her own as a teenager, notes the advances in technology have made this process much more bearable, in comparison to her time. "Nowadays we have Skype and WhatsApp; in my time we could only send a letter and sometimes make a call. So when you send a letter and you are not feeling well, my parents would see



it and be worried sick and by that time I would be ok. It would take about three weeks for the letter to arrive to Aruba!"

Nonetheless, the distance and drastic change in Steyn's life were something his parents had reservations about. Having been freshmen themselves, they were aware of the students who come out of their parents' very protected world and "explode" in the city, both neglecting their responsibilities/studies and engaging in excessive drinking and such. Their fears were unfounded, however, as Steyn is thriving at university and his parents emphasize their pride at his achievements so far. They are happy that he has pursued the chance to go out and see the world. "I think it is important that young adults explore and see what else there is in the world. Steyn feels that very much too, and it was just in time that he went out." Having learned from his mother's similar experiences helped him with this transition, and as Michiel notes, Steyn has a very strong bond with his mother.

Steyn's involvement in Asset I Econometrics is another thing his parents are supportive of. There was the concern that coming from a different place, and essentially a different culture, would make communication difficult with his fellow students and peers at Asset. Jacoline: "But

since he just jumped into the student life and was accepted and was very excited about everything he saw with the rowing and student life - he just grabbed everything with both hands and I really enjoy it."

And where do they see their son in ten years? Michiel would not be surprised if he were working at a big multinational somewhere in the world. His mother simply says: "I wish he is as happy as he is now; doing what he loves. That is what is important. Living his dream. But I hope he will be happy". ●



Committees 2016-2017



Faculty Wide

International Business Tour



Nekst



Drinks & Activities



Landelijke Econometristen Dag



Finance Expedition



Promotion



Active Members Weekend

Orientation & Connection Day



ASSET



Econometrics



Freshmen



Introduction Activity



Yearbook



Strategy Tour



Econometrics in Practice Day



Education



Operations Research Conference



Quantitative Investment Group



Active Members Day





An Unexpected Game of Chance

'Wie is the Mol' (Who is the Mole) is one of the most popular shows on Dutch television. An approximated one fifth of the Dutch population watches the program that originated from Belgium. The concept is very simple. There are nine candidates who want to make money in different game missions and one mole, who wants to sabotage the others so that they do not make money. One of the candidates wins in the end and takes all the prize money home.

Text by: Aurel Macias Minambres

Show concept

For the casual viewer, this concept is simple enough, but from the point of view of game theory, their concept seems a little flawed. In the entity of the series, game theory is all-important; within some of the missions, but also in the core concept. So how do concepts of game theory influence the game and its outcome?

does not win and some prize money X for the winner.

To illustrate the main influence of game theory on the series, first look at a simple example. Suppose there are two players and one mole. There is already 1000 euro in the bank, but the players can add 500 to that if they succeed in their mission. However, if

player. Note that this does not hold if the expected payoff when both players help to win the game is high enough, but in 'Wie is de Mol' the amount of expected payoff when everyone tries to succeed in the task is usually lower than the payoff when you are the only one failing. Now this is just a simple two-player example, but with nine players it makes no difference. If player A fails the mission, everyone will direct their attention at the test at player A, making sure that player A stays in the game. So for every player, it is in their best interest to try and fail any mission. The mole has a different role: he wants to sabotage as well, but he also wants to do this unscathed, unseen by the other candidates.

'So how do concepts of game theory influence the game and its outcome?'

The most important part is how it is decided who wins the game. Every episode, every candidate makes a test with twenty questions about the mole, and the one having the least correct answers leaves the game. This continues up until only two candidates and the mole are left; then the one who makes the final test best wins the game and takes the prize money. The payoff is therefore easy to define: the payoff is 0 for every candidate who

either of the players deliberately fails the mission, the other player will think that that player is the mole. The crux is that failing the mission therefore will certainly win you the game. This is a clear form of the prisoner's dilemma with the matrix shown on the next page.

Strategy

Clearly, failing the mission ('confess') is the dominant strategy for either

In other words: without the information on how the mole should behave, it was in the best interest of the candidates to make no money at all. A strange situation, which makes the point of the game show a little bit moot, considering the behavior of the candidates is as bad as the behavior of the mole. Now the mole does also want to sabotage unseen by

others, so others should adapt to this strategy. Sabotaging too openly all of the times is not behavior a mole shows and hence, the optimal strategy for candidates changes from 'making no money at all' to 'behaving as mole-like as possible'. Still, this is not a money-making strategy at all, leaving all candidates with making little money. In the end, this means all contestants will behave roughly the same, with different purposes but the same result nonetheless. The only difference will be that candidates who can pick up money 'unseen by others' will do this, whilst the mole would reject picking up money 'unseen by others'.

In the end, this means that there is no difference between behavior of the

bias, as the TV spectator is not given complete information for the sake of the program, but this cannot be helped. In the end, considering game theory, the concept of 'Wie is de Mol' is not rock-solid.

Comparison

Does this hold for all type of games where one uninformed large alliance is sabotaged by one informed small alliance? One cannot help but compare the game to 'Werewolf' ('Weerwolven van Wakkerdam', sometimes called 'Mafia'), in which a minority who know each other have to eliminate a majority who do not know each other by a secret 'nocturnal' elimination round in which only the minority can choose who to eliminate

game in 'Werewolf'; the equality in behavior makes the game interesting. But for 'Wie is de Mol' this would not work out at all. Suppose there would be a public voting for who sabotages the most (not considering the conceptual problems of this voting), then the mole would not sabotage at all anymore; sabotaging would be unwise for anyone and there is still linearity. In the end, it is very hard to make concepts with an uninformed large alliance and an informed small alliance rock-solid from a game theoretical point of view. In these types of games the alliance that is at an information disadvantage do not have a prisoners dilemma-like problem – this dilemma now is transferred to the informed alliance.

		Player 2	
		Success	Failure
Player 1	Success	50% chance on €1500,- 50% chance on €1500,-	€0,- €1000,-
	Failure	€1000,- €0,-	50% chance on €1000,- 50% chance on €1000,-

mole and candidates, and therefore the point of the series to guess the identity of the mole is just a question of dumb luck. It is just personal bias and what one wants to see, because everyone 'behaves the same'. Obviously, this is all given a theoretical

and a 'daytime' public voting round in which everyone can vote on anyone to eliminate. This voting system means that anyone who is considered guilty of sabotage will be eliminated. Therefore, it will not pay off for the players to behave like the saboteur.

Bounded rationality

However, people are not rational, and the 'Wie is de Mol' contestants are no exception. This is more easily seen than someone might think. This season there was an auction for three so-called 'jokers'. These jokers can be used to make one wrong answer right in the test and are very important, especially early on: in the early stage of the game having one joker almost surely lets one through one more round.

'So for every player, it is in their best interest to try and fail any mission'

standpoint. In reality, people do not always behave rational. Some people just want to fit into their role more. In the end, however, sabotaging usually pays off for the candidates. There is also the case of production

Does this solve the problem, however? No, a new problem arises in this way. Now the saboteurs have to blend in with the others and by exposing themselves, gain no payoff at all. This is the concept of the

In the most recent edition this auction for three of those 'jokers' was carried out and beforehand every candidate was asked what they would like to pay for three of those important jokers. After this, an open ascending →

prize auction was carried out. As well known, in this auction one should only bid the prize they think the item is worth. However, as was seen in the episode of 'Wie is de Mol' the candidates would bid far more than the prize they thought the item was worth (as much as three times the prize they announced earlier on, logically), which lost them a large amount of money in the bank (from which they paid the auctioned items), as they only were refunded the part which they thought the items were worth. There were some information problems for the candidates: some of the candidates thought they were prizing individual jokers rather than three of them together, and in the series candidates are inclined to think these type of questions are trick questions. Therefore, they could have said a lower amount than the amount they think the jokers are actually worth.

In the following discussion, we denote stop as 'S' and continue as 'C'. The candidates could not discuss their choice out in the open – each candidate had the opportunity to discuss with two other candidates, albeit only with one at a time. Clearly, there is no dominant

the issue at hand and was therefore inclined to play C. He did persuade the first person whom he talked to and hoped to persuade the second as well. However, he failed to do so and thus, the candidates played CCSS, obviously a far from rational choice as

'The candidates probably have made crucial mistakes in either considering their own worth or the bidding, not behaving rationally'

strategy for either of the candidates: playing four times 'S' is best if the mole plays 'S' and playing three times 'C' and one time 'S' (or two times 'C' and two times 'S') is best if the mole plays 'C' (note that CCCS is superior

CCCS is dominant over this strategy. It is clearly seen from this example that the candidates in the series can be far from rational.

Finally, take note of the feelings of solidarity of the candidates. Candidates are socially always inclined to behave in their 'role' rather than in the way they should rationally behave. It differs per person to determine if it is easy or hard to behave more rational rather than 'socially accepted'. Considering this is a game situation rather than a total real life situation, people are more inclined to try to behave rational, however.

So in the end, the series are flawed from a game theoretical point of view, because spotting the mole given the game circumstances is a game of luck rather than a game of skill, given that the candidates behave rationally. The two aforementioned examples give the idea that candidates do not always behave rationally; rather, candidates will still behave differently than the mole even though rationally, their behavior should be the same. In the end, the game has a somewhat more 'random' touch than some people might think it has, but it is still interesting enough because of all the rationality problems in there. ●

'Therefore the point of the series to guess the identity of the mole is just a question of dumb luck'

Also, while bidding for a second item, after knowing what happened at the first item, candidates got slightly more eager and bid higher, maybe even more than they thought the item was worth. In the end, it is clear that the rationality is bounded here because of the way the show works, but also because the candidates probably have made crucial mistakes in either considering their own worth or the bidding, not behaving rationally.

To stop or not to stop

One more famous example of candidates who do not behave rational was in one mission in an earlier season of 'Wie is de Mol'. Five candidates (including the mole) had to discuss whether the elimination round would take place or not. There were also costs associated to this decision:

- Stopping the elimination (Unanimous): +3000 euro
- Continuing the elimination (Unanimous): -3000 euro
- Stopping the elimination (Not unanimous): Lose all money
- Continuing the elimination (Not unanimous): Nothing happens

to CCSS if the mole plays S). The mole should play S if CSSS or CCSS is played, C if SSSS or CCCC is played and is indifferent for CSSS.

So, what should the candidates do? Maximizing the payoff would be playing SSSS while the mole plays S. But then the mole will always try to play C in this scenario, so this scenario is nigh-impossible. Then it would be better to play CCCS, which does not yield the 3000 but minimizes the loss. This is likely the best answer to the problem: even though it is not a dominant strategy, it is the riskfree strategy. What the candidates did not know was that the mole could move last, and hence the game was in fact a sequential move game. This means that CCCS is actually dominant, albeit not totally known to the candidates. The mole can observe and choose next, but hopes to persuade the candidates to play at least twice the 'S'.

So what happened in actuality? The candidates were tempted by the +3000 initially, and were inclined to choose to play SSSS. However, there was one candidate who saw

People's (Bad) Investment Behavior

Pension funds invest billions of Euros in risky stocks every year. Individual participants have little or no influence on the investment strategies of their pension funds. A discussion is currently taking place about whether participants should be given more freedom of choice with regard to how their pension contributions are being invested. I am not in support of this. Research based on data from the United States has shown that people are bad investors. In particular, many people fall into one of the following four traps.

People are bad at market timing

People's investment strategy strongly depends on current market conditions. This means that people are usually willing to invest a large part of their pension contributions in risky stocks if stock prices are high. After all, many of them would like to benefit from the stock market boom. In bad times (like the period following the 2008 financial crisis), the willingness to invest in risky stocks is very low. As a result, people buy and sell stocks at precisely the wrong time. They usually make poor returns. A simple buy-and-hold strategy would often produce better results. It might, therefore, be better to leave investment decisions to professional asset managers. However, empirical evidence is mixed whether asset managers are actually able to beat the market.

People are lazy

In the United States people are not obliged to save for their pension. To urge more employees to save for their retirement, many employers have introduced automatic enrolment. This means that people do not need to do anything to participate in the pension scheme. This is in contrast to opt-in, which involves making an active decision. Research has shown that automatic enrolment does indeed lead to a higher participation rate, which is good news. One drawback of automatic enrolment, however, is that it is often accompanied by a low default

savings rate and a conservative default investment strategy. People are free to adjust this default setting but few actually do this: people do not like to make active choices when it comes to their old-age pension. In summary: people often choose the default investment strategy, which is usually very conservative.

People use simple rules of thumb

People apply simple rules of thumb when making the asset allocation decision. One of the most often applied rules of thumb is the so-called one-over-n rule. When faced with n investment options, people divide their assets evenly across the options. Even Nobel Laureate Harry Markowitz, one of the founders of modern portfolio theory, confessed: "I should have computed the historic covariances of the asset classes and drawn an efficient frontier. Instead, I split my contributions fifty-fifty between bonds and equities." One potential disadvantage of using simple rules (such as the one-over-n rule) is that a (very) risk-averse person might end up investing more in risky stocks than a person who is willing to bear a lot of investment risks.

People are poor statisticians

Economic theory tells us that a person should estimate expectations, variances and correlations of stock returns in order to determine the optimal investment strategy. This finding is based on two critical assumptions: people are well

educated in statistics and they behave rationally. Both assumptions are clearly contradicted by empirical evidence. How, then, do people decide on an investment strategy? They are usually led by information that is easily available, such as past performance, for example. In addition, people have a tendency to see patterns in a series of random numbers. Many think that a certain pattern from the past will repeat itself in the future. This can lead to people becoming overconfident and, ultimately, it can even cause bubbles.

The above discussion shows that people are generally bad investors. It is, therefore, unwise to leave investment decisions entirely to the people themselves. The future will reveal whether 'American circumstances' also arise here. ●



Servaas van Bilsen

Servaas van Bilsen is assistant professor of actuarial science and mathematical finance at Tilburg University (NETSPAR) and the University of Amsterdam. His research interests include pension economics and behavioral finance.

A Memorable Evening

A well-known café, good beer tables, all famous cantus songs, an enthusiastic cantus band, a great committee, unlimited beer and more than 60 econometricians. Put it all together and you get the Astrics Beer Cantus!

Great stories about the Astrics beer cantus from earlier years were circulating in our study association, so I was already looking forward to it. On Tuesday May 2, we were all welcome to sing along in the Heuvel Gallery, next to our regular Café the Nachtwacht for the monthly drinks. Before we started with the activity, Floor, Melissa and I decided to eat together so we had a good meal before the evening started. During dinner, we were already wondering who would be part of the cantus band, since we had heard it would not be the Drinks & Activities committee...

... nice table, which ended up being of first-year students. Notable was that there were also a lot of non-active members present, so it was also a nice way to meet new people. We were with more than 60 people and all sat cosily together in the lower part of the room. After we warmed our voices and waked up our livers, the introduction song of the cantus singers was put on. Curious we all looked around to see who that would be.

Under a loud applause our own members Björn, Tom, Masum and Pepijn came on stage as our cantus



On our way to the cantus, we already saw some other econometricians and once inside some members of the Drinks & Activities committee welcomed us. We arrived quite early so we had plenty of time to choose a

band for the evening. We started off with some good songs: from "Sweet Caroline" to "Jan Klaassen de trompetter", we walked in reverse the polonaise through the evening. On the way we also found our best friend of

the Active Members Weekend: Perry the platypus. The cantus band was great!

Surprising was the guest performance by the owner of the Heuvel Gallery Patricia, who sang "I will survive", which was most supportive. After "Het regent Zonnestrallen", we continued and some people got to chug a few beers in acrobatic fashion. Thereafter, all popular cantus songs came along and were sung enthusiastically at the top of our lungs. Then it was time for the last songs of the cantus, after which we were free to go wherever we wanted to. A lot of people stayed at the Heuvel Gallery to talk, dance and catch up with the other econometricians. Afterwards some people enjoyed themselves in the city center until early in the morning.

There are many beer canti here in Tilburg, so in the past year I have been to quite a lot of them. I noticed that a beer cantus is not only about singing and drinking. It is also about feeling united with the group. It is about putting an arm around someone during a song no matter whether you know that person well; you are one group singing together, so everyone is involved.

The Astrics Beer Cantus accomplished his goal, bringing people together and creating a feeling of unity. I think we all can conclude that the Drinks & Activities committee has done a great job organizing this cantus, and I hope to see you all there next year! ●



Jasmijn Aartsen

AGE: 18

Began studies in 2016



Text by: Steffi van den Hanenberg

Over the past 25 years, not only NEKST's content but also its lay-out has evolved; each year working more and more towards the goal being the full-color glossy magazine that it is today.

About 25 different layout editors have invested their time and creativity, leading to gradual layout changes over the years. Mainly due to big overhauls in 2003, 2007, 2010 and 2013, Nekst has improved its looks to keep up with the times. Nowadays, it is more vibrant and 'trendy', simply yielding a more appealing magazine. Which is, by the way, no frivolous luxury in this digital age.

Still, I think each layout has its charmes, though. For example, the oldest Nekst volumes end each article with the nine stripes that were part of the TEV logo. A nice little touch, if you ask me. No wonder we decided to copy it in the newly introduced theme 'Archived'. In later designs, the ending signs were omitted, but it was reinvented a few years ago by the nowadays well known colored dot.

Especially the design of volumes 15 up to 18 (the third one from above) caught my eye. Although the covers do not draw too much attention, there is no getting around the petrol blue and bright lime color theme. Bold, but sophisticated, and the rounded edges giving it a softer feel. Also, the mix of two- and three-column articles is quite refreshing.

The softer blue and purple used in volumes 19 up to 21, together with the switch from rounded corners to sharper edges, made the magazine more office-appropriate. As some of you may know, the blue and purple lines have been an Asset I Econometrics trademark for years now. Take a look at some of the door stickers at the Asset I Econometrics rooms, or at some board member's business cards - you will be surprised how often they pop up!

The last four years we have engaged with red, green and, you guessed it, blue.

However, the wider color range did mean fewer colored backgrounds, yielding a somewhat cleaner appearance.

My layout experiences

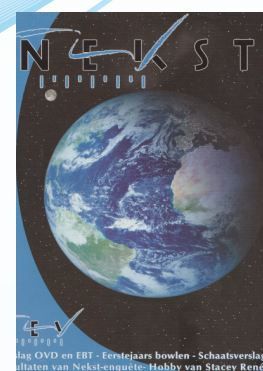
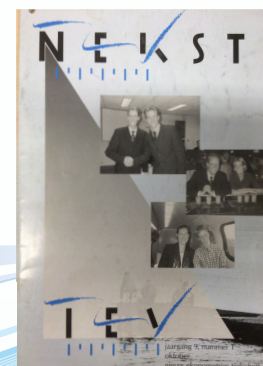
Being asked to commit myself to this volume's lay-out I demanded to be allowed to make at least some changes to its appearance. What else would be the fun in becoming the new lay-out editor? After a critical look through older editions, my first instincts were telling me to go rogue on the colorscheme. Next to the standard light and dark blue, and light and dark green and red I longed for some extra 'oomph'. The Quatsch, being informal anyway, perfectly lent itself for this experiment. Spending part of my summer holiday on different versions of Quatsch layouts and some back-and-forth talk with last year's coordinator Ennia Suijkerbuijk and this year's Editor-in-Chief Pepijn Wissing, we ended up with the colorful comic bubbles.

So, I got my thing going on and soon afterwards also the layout of the Puzzle and Committee Introduction got a makeover, along with some minor additional layout changes. Also, the 'Board to Board' in this volume's Autumn edition was a way to fully exploit my creativity, which turns out to be the best layout experience I have had. Together with the birth of Let's Talk of course - which admittedly did not come about without some frustration - for which Pepijn and I decided to get going with the colorful bubbles from Quatsch.

To make a long story short, I guess it is safe to say that over the years NEKST has proven the dull econometric image to be wrong. ●

2003

NEKST SUMMER 2017



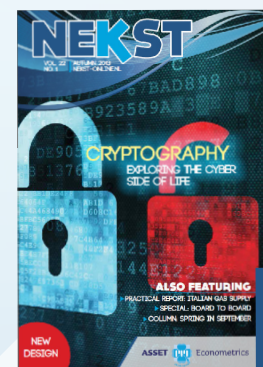
2007



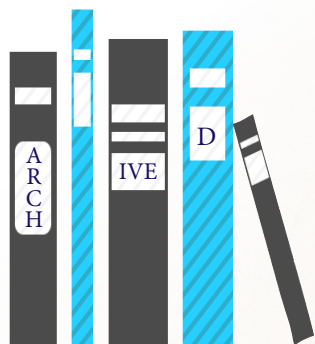
2010



2013



NEKST year's NEKST lay-out editor will be Ridho Hidayat!



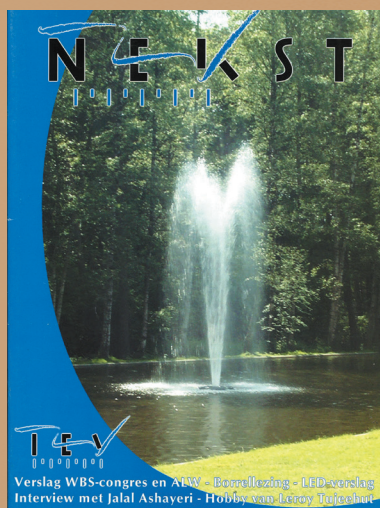
WBS-congres 2003

Over pensioenen, stereo-installaties en de Limburgse levensstijl

Na een jaar voorbereiden was het maandag 12 mei 2003 de dag van het twaalfde congres van de Wim Bogers Stichting 'Toekomst verzekerd'. Een verslag van de voorzitter.



Ook Johan Segers heeft voor de redactie een verslag van deze dag geschreven.



Nekst Jaargang 11, nummer 4



Koen Verhees, Voorzitter WBS-congres-commissie

Het is 12 mei, vroeg in de ochtend. De laatste voorbereidingen worden nog getroffen terwijl we weten dat een dag later alles weer voorbij zal zijn. De dag waar we met z'n zessen bijna een jaar aan gewerkt hebben. Maar daar staan wij op dat moment niet bij stil. Druk bezig met van alles en nog wat, kunnen wij maar aan één ding denken: over anderhalf uur zal het beginnen.

Het is klokslag half 10 en de deur van de aula gaat dicht. Als alle aanwezigen naar voren staren en met een speld kan horen vallen, begin ik mijn openingswoordje. Wat vooral een enge klus lijkt, blijkt enorm mee te vallen en na een paar minuten geef ik het woord aan dagvoorzitter Marc Salomon. Na een kort praatje kondigt hij de eerste spreker van het congres aan.

Het is de spreker waar we best een beetje trots op zijn: de directievoorzitter van de Tilburgse verzekeraar Interpolis. Van der Pol vertelt over de nieuwe activiteiten die verzekeraars ontplooiën en over het upgraden van de stereo-installaties. De tweede ochtendspreker, Van den Brink, is voorzitter van het Actuarieel Genootschap. Wie na zijn lezing nog denkt dat Actuarissen maar een saaie en "grijze" mensen zijn, heeft niet goed naar de kleurenfoto's gekeken.

Na de koffie was het tijd voor de tweede ochtendsessie. Te beginnen met de

heer Steenkamp van het ABP, die zijn lezing meteen pakkend begint. Een opspeldbaar microfoonje was best handig geweest. Siegelaer van de Pensioen- en Verzekeringskamer begint ietsje later dan gepland aan de laatste lezing van de plenaire sessie. Hij hield een goed verhaal over het nieuwe Financieel Toetsingskader, waardoor de genodigden eindelijk doorkregen waar onze studie eigenlijk voor dient.

Het is 1 uur 's middags als Mijndert met zijn handen naar de bedrijfsbezoekers staat te zwaaien, terwijl zij echter netjes via de ingang de aula verlaten. Gelukkig vindt iedereen de weg naar de Tilbury en kan de lunch, die overigens "goed te doen was", beginnen.

Een uurtje later zijn alle magen weer gevuld en kan het middagprogramma van start gaan: twee rondes lezingen over levensverzekeringen, pensioenen, schadeverzekeringen en ziektekosten. Rond half 5 was het tijd voor discussie. Na een inleiding door de heer Donselaar en een korte voorstelronde was het woord aan de forumleden en aan de aanwezigen in de zaal. We hebben geleerd dat een aantal belangrijke kwesties rondom verzekeren niet zo één-twee-drie op te lossen zijn en dat Limburgs een levensstijl is.

Iets voor zessen wordt de Toekomst Verzekerd, Verleden Tijd. Er blijft over: een aantal bossen bloemen, een enorme bagage aan kennis, een stapel evaluaties over het

gebrek aan Limburgse vlaaien en de roep om logistiek. Voor ons als organisatie staat er die avond nog een heerlijk diner te wachten met een aantal sprekers. Met dank aan de vrijwilligers voor het opruimen. Gelukkig wordt mijn huissleutel per koerier nagebracht, zodat ik die nacht in mijn eigen bed kan nagenieten van deze geslaagde dag.

De Wim Bogers Stichting

De Wim Bogers Stichting is gelieerd aan de Tilburgse Econometristen Vereniging (TEV). De TEV heeft zich als doel gesteld haar leden inzicht te geven in de toepassingen van econometrie in het bedrijfsleven, aangezien econometrie vrij abstract is. Het organiseren van een jaarlijks congres is hiervoor een mooie gelegenheid. De theorie uit de collegebanken wordt hier verweven met de praktijk uit het bedrijfsleven. Dit alles rondom een actueel thema uit de econometrie en in gezelschap van tientallen studenten, wetenschappers en mensen uit het bedrijfsleven.

Vanwege de grote financiële risico's die aan dergelijke congressen kleven, heeft de TEV voor het organiseren van haar congressen een aparte stichting in het leven geroepen: de Wim Bogers Stichting. Deze stichting, waar inmiddels ook de Studiereis (tegenwoordig het "Business Research Program" genoemd) is ondergebracht, is vernoemd naar de wijlen drs. W.A.J. Bogers, die veel voor de econometrie in Tilburg heeft betekend. De heer Bogers was vanaf 1952 in dienst bij DSM waar hij in 1973 voorzitter van de Raad van Bestuur werd en na zijn pensionering in 1986 President Commissaris.

Het bestuur van de Wim Bogers Stichting bestaat uit een vertegenwoordiger uit de wetenschap, een vertegenwoordiger uit het bedrijfsleven en verder een aantal studenten van de TEV en de organiserende commissies. Het voorzitterschap is op dit moment in handen van Prof. Dr. Ir. den Hertog. Vanuit het bedrijfsleven neemt de heer Van Beek zitting in het bestuur. Verder bestaat het bestuur uit: Peter Hulshof (voorzitter congres 2002), René Schreurs (voorzitter studiereis 2002), Dirk Clauwens (voorzitter Business Research Program 2003), Koen Veltman (voorzitter TEV), Ilse Wilems (secretaris TEV/WBS), Thijs van der Heijden (vice-voorzitter TEV) en ondergetekende (voorzitter congres 2003). Het WBS bestuur vergadert ongeveer elke twee maanden en tijdens deze bijeenkomsten worden de voortgang

van de studiereis en het congres in hoofdlijnen besproken. Tevens wordt door het WBS-bestuur het beleid gemaakt welke de continuïteit van de stichting moet waarborgen.

Johan Segers, Docent UvT

Dat ze moet eeuwig jong blijven, beseffen onze studenten blijkbaar maar al te goed. Nu al bekommeren ze zich met hun pensioen, zo bleek immers op het twaalfde congres van de Wim Bogers Stichting. Actueel is het onderwerp alleszins wel. De schrik zit er immers in dat de gepensioneerde van de toekomst het met minder zal moeten stellen dan die van nu, sla er de kranten maar eens op na. Reden voor die ongerustheid is niet alleen de toenemende vergrijzing maar ook de opeenvolging van kwakkeljaren op de beurs. Hogere premies, langer werken en een kleiner pensioen, dat is het weinig rooskleurig plaatje dat voor ons geschilderd wordt.



Een probleem kan je ook een uitdaging noemen, en zo zijn er voor onze toekomstige studenten Quantitative Finance and Actuarial Sciences meer dan genoeg, zo luidde de boodschap van de werkelijk voortreffelijke selectie van sprekers. Hoe het kapitaal in een pensioenfonds te beleggen? Aandelen zijn dan wel winstgevender dan obligaties, er is ook een hoger risico aan verbonden, zoals vele pensioenfondsen momenteel jammerlijk ondervinden. Trouwens, Hoe erg is het eigenlijk wel (niet) gesteld met die pensioenfondsen? Hebben ze voldoende geld in kas om hun verplichtingen, ver in de toekomst en onderworpen aan inflatie, te voldoen? Om deze vraag te beantwoorden werkt de Pensioen- en Verzekeringskamer

ijverig aan het zogenaamde Financieel Toetsingskader. En het doet dit niet alleen: het bedrijfsleven, het Actuariële Genootschap en de universiteiten denken hard mee. Het onmiddellijke belang van dit alles wordt nog eens onderstreept door de nieuwe International Accounting Standards, die stipuleren dat in de balans van een onderneming ook de toestand van het pensioenfonds dient te worden gerapporteerd.

De actuarissen van de toekomst wachten nog andere uitdagingen. We vinden het bijvoorbeeld normaal dat wie op latere leeftijden een levensverzekering afsluit ook een hogere premie betaalt. Maar wat met iemand die rookt? Of iemand met een genetische afwijking? Gevoelinge onderwerpen waarover de talrijke deelnemers aan het discussieforum hun zegje konden doen. Om terug te komen op de pensioenen: misschien moeten mensen

met een lang-leven-gen ook maar een hogere pensioen betalen?

Heel wat werk aan de winkel dus, maar ik heb er vertrouwen in. De congrescommissie heeft werkelijk schitterend werk geleverd. Een dikke pluim voor hen en al wie hen geholpen heeft! Ik durf te hopen dat ze er later met evenveel energie tegenaan gaan. Maar nu eerst nog lekker jong zijn.



Getting Acquainted



Frédérique Wissing

AGE: 20

Sister of: Pepijn Wissing

My brother (Pepijn Wissing) and I got to the university around 17.00 hours. The evening started with nice little speeches by Anouk, Loes and Rachel, telling us about the activities of Asset I Econometrics, such as the different events and trips that were organized by their committees. We were shown a video that thanked each of our brothers and sisters for the work they did and showed us in which committees they were active, which I thought was a nice touch.

On May 12, Asset | Econometrics organized the Brothers & Sisters Evening. All of the attending brothers and sisters learned what our siblings were spending their time on through a couple of nice games, followed by some tasty barbecue food.

as being left handed (myself), listening to heavy metal (my brother) or having a bird for a pet (the lovely Floor). You would then try to find a person to satisfy each of the boxes in a row/column to get a bingo, by asking them a single question. Everybody got into little conversation, tried to guess which of the boxes the person you were talking to could possibly satisfy. It was a nice game to break the ice and learn a few things about the people that attended the activity.

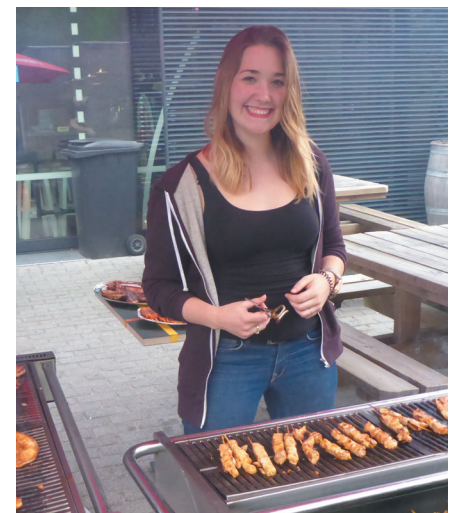
The second game was called: 'two rooms and a bomb'. There were two teams: blue and red. At the start of the game, you would get either a blue or a red card that indicated to which

at the end of three rounds the president was not in the same room as the bomb; for the red team to win they did have to get the bomb in the same room as the president. It took a while after everybody understood the game since it was pretty strategic and there were all kinds of rules. But once you got it, it was a fun game to play and to fool everyone else.



After the talks, the big group got divided into three smaller groups. Once everybody was in the right classroom with their group, the games began. The first game was a human bingo, in which everybody was given a sheet with a bingo sheet – but instead of numbers, the boxes contained some property that a person might have, such

team you belonged, and on top of that the blue team had the president and the red team the bomb. Of course there was a catch: your "identity" did not have to be disclosed to the other players. There were three rounds, after each of which a few of the players were moved to the other room. For the blue team to win they had to make sure that



Around 19.00 hours it was time for food! There was a very nice barbecue with salads and bread. After Floor tried to shake hands with some of the flames that erupted from the barbecue and the weather sent us a rain shower to help cool it, everyone moved inside for a cozy dinner with a diverse group of people.

Good food and good company makes for a good night, so I think it is easy to say that the Brothers and Sisters Day from 2017 was very successful. I would like to thank Asset I Econometrics for organizing this wonderful evening, it was really nice to meet some of you and I think you did a good job! ●

Blowing Off Steam



Ramsy Dhifallah

AGE: 19

Began studies in 2016

We gathered at Café Bolle around 16.00 hours. Of course we started a little later because there are always some people who come a little later, especially on such a hot day. First, we were told how the game worked and were placed into groups of five or six people. The concept of the game was pretty easy. There was a list of 80-ish items and every group got a bingo card with several numbers on: which all corresponded to an item. The goal was to get all the items on your groups' bingo card.

This did not sound that hard, except that on the list of items, they put a cryptic description of the item, and not the item itself. This made it a little harder because some of the descriptions were not that easy to understand. In addition to that you could only gather 5 items at a time, so you had to make several trips. Also there were some hard to find items on the list (a piece of Lego, for example). In the end, the group with the most items won the game and got a little prize.

Our last Freshmen Activity took place on Tuesday May 16. During this activity we played a game called Live-Bingo. For only €10,- we could participate in the game and have dinner at Polly Maggoo after that. The concept of the game really interested me and it is always nice to have a fun day with your fellow first-year econometricians. There was also the Beer-Race Drink afterwards which made it a good day to blow off some steam a couple of weeks before the exams!



After the game we went to the Polly Maggoo around 18.30 hours to eat a hamburger/ salad/ hotdog with a couple of drinks. This was a nice moment to rest out before the Beer Race Drink at Café Qwibus took place. In between we had some time to change our clothes or have a beer with your friends.

Then at 22.00 hours the Beer Race Drink started. There were also people who came to the drink but did not participate

in the beer races. They could just watch the race and have a drink themselves. There were 10 teams that participated in the race; every team started in the group stage and there were two groups of 5 teams. The best 2 of each group went on to the semi-finals. Then the two winners of the semi finals went to the final round and the other 2 teams battled for the 3rd and 4th spot. I also participated in the race and it was really fun. After the race we stayed in Café Qwibus for a while and after the drink ended a lot of people went to Café de Boekanier (of course).

Altogether it was a really fun afternoon and evening. I really enjoyed it with all the other freshmen and all the other Asset | Econometrics members. I would recommend everyone to participate in the freshmen activities and the Beer Race Drink is also something you do not want to miss! ●



Let's Talk!

Text by: Julia de Kogel

While this issue of the Nekst was in production, all students were sitting at home or in the library dreading their entire existence. Exam notifications and new deadlines never seem to stop coming in and on top of that, the lovely weather outside is calling them but they have to force themselves to ignore it and stay indoors to study. As I was cursing myself for ever, deciding to go to the university instead of just taking a job at a local supermarket for the rest of my life, I decided to finally take my mother's advice to stop complaining and focus on the good things in life. In that spirit, I asked a bunch of econometricians:

"What are you looking forward to the most right now?"

Aurel Macias Minambres

"The summer vacation of course! I do not have any big trips planned; besides a one-week trip to Mainz, Germany, my vacation will consist of impulsive last minute "Do you have plans tomorrow? No? Okay, now you do!" kind of plans. But that is what I like about the vacation: not having any obligations or things to worry about and being able to decide what you are going to do on the day itself. I know I will start to miss my "daily life" and the university after a month or so of doing nothing, but it is definitely something I look forward to during the agitated last weeks of studying."

Nadia Cissen

"What I look forward to the most is the day that the exams end, I have earned my BSA and my vacation starts! At the beginning of the vacation I am going on a road trip through Eastern Europe. I will visit Berlin, Prague, Kraków, Budapest, Bratislava, Vienna... I think it will be awesome!"

"The end-of-year cantus! I will finally be done with my exams and be able to throw beer in the sun!"

- Wenxin Lin



"After the holiday, I am going on exchange to Budapest! I look forward to exploring the city, discovering more about myself and meeting new people. I am sure I will encounter some difficult moments there as well, but overall I think it will be an amazing experience!"

- Anouk Claassen

Floor van Helsdingen

"This summer, I am going sailing in Greece for three weeks with my parents and sister! Pepijn will join us for one week as well. When he is around, I will definitely throw him off the boat, which is what I look forward to the most. I have also planned to go to three festivals!"

"I look forward to the World Music Contest which will take place this summer in Kerkrade. I will be playing with the only orchestra from the Benelux which is participating in the highest category. Besides that, I am looking forward to the International Business Tour of Asset I Econometrics next fall, when I will travel to Hong Kong with 23 other students!"

Bas Dietzenbacher

"There are so many things I am looking forward to, especially during the exams I can come up with a million things that I would love to do as soon as the vacation starts! After my last exam, my mother and I are going to London for a few days to go to the Adele concert in the Wembley Stadium, and in August, I am going to Solar Weekend with friends!"

Claire Vink

Linda Torn

"I am really looking forward to the summer, because I am going to do a road trip in America which I expect will be amazing! Besides that, I look forward to spending the rest of the summer at Asset | Econometrics with the new board. It is a very nice group and I am sure we are going to have a lot of fun together. I think it will be great to see the new board at work and to teach them all that I have learned over the past year."

"During the summer vacation, I will go hiking in Malaysia for three weeks!"

- Christel Opheij

"During these hard times spent in the library, I always look forward to drinking coffee and eating grapes with Anouk as a study break!"

- Rachel van der Velden

"After a relatively quiet semester, I am looking forward to taking my final few courses starting my Master's thesis. Spending the better part of the week in lectures has been fun, but I am looking forward to my next challenge."

Pepijn Wissing

"I look forward to going to bed right now. I am also going on exchange to Singapore next semester, for which I will be leaving in August, so I guess I look forward to that as well."

Nina Cuypers

"I am looking forward to the week after my last exams. I have many great parties planned that week and I will finally be able to do whatever I want again, like partying a lot and sleeping in the mornings after!"

Pierre Verhulst

"I look forward to when Vitesse will win the KNVB cup final!" (It turned out Pepijn was right that this would happen!)

- Pepijn van den Brink

Irmgard Oude Alink & Nikkie Damen

"We are going to Gran Canaria together for eight days in July! We are going to an all-inclusive resort, which means we will have unlimited food and cocktails to eat and drink at the beach and by the pool. Besides eating and drinking we are looking forward to sleeping a lot while we are there. To avoid getting fat, we will walk for 15 minutes to a nearby village each day."

Till NEKST Time!

Hearing about everyone's holiday (and other future) plans, it can only be concluded that good times are ahead! As you are reading this, it may only be days until you leave Tilburg to go on a road trip, to go hiking, or - like me - to do as little as possible at whatever beautiful destination you are visiting. And even if you will only be enjoying the sun from the Asset | Econometrics inflatable chair in your own back yard, that will undoubtedly be enough to make you forget about the horrors of the past exam period. Enjoy!

Do you have an interesting question or would you like to share your opinion with your fellow econometricians? Let us know via Nekst@Asset-Econometrics.nl



**Jochem
Bruijninx**

AGE: 20

Began studies in 2013

Among the last couple of activities held by Asset | Econometrics in the academic year, we find the Sport Tournament. All members can participate in this energetic day in which we head over to some sports club (this year we were kindly received by T.S.V. Longa) and spend the entire afternoon battling it out in teams to determine who is the best (or, in some cases, who is the least incompetent) at whatever sport the committee has decided for us to play. Football is nearly always present on the roster, but this year there were also promising plans for some rounds of competitive Frisbee and the classic beloved game of bottle football, where you basically play football while protecting a plastic bottle from falling over instead of a net. Both were excellent ideas that everyone was looking forward to and luckily there was only one thing which would make these games a bit less practical: lots and lots of rain. But anyone who has been to the Sport Tournament before will know that year in year out this day has never seen temperatures below a 100°C (this might be a slight exaggeration). So surely, rain would not be a problem? Well.. let us just say this was the first surprise of the day.

The weather seemed to be a bit conflicted about whether to be nice to us or not. At times, the sun would come through and it would feel like a great summer day. Only that 'day' would last for about five minutes and then we would be flooded with rain again. Given this, I feel that I can also call it a

surprise that we were still able to close off the day with a nice barbecue. So, a lot of thanks to the Drinks & Activities committee who were able to organize an enjoyable sports event on a day where we sometimes saw more rain than grass, and of course congratulations to FC Baltman on beating Team Theo in an exciting finale. While their victory might come as a bit less of a surprise, the evening's Announcement Drink left at least some people at a loss for words.



In the evening we went to Café Qwibus for perhaps the biggest surprise of the day, which would come in the form of the announcement of the members of the board of 2017-2018. The room was completely filled and naturally tensions were high for those who were curious about the identities of the candidates, but also for the candidates themselves as they (some less successfully than others) tried to keep their secrets for the

last couple of minutes. The air was finally cleared with one of the most memorable announcement videos yet, in which the current board goes on a 'Wie is de Mol'-typed hunt for the new candidates. After competently navigating their way through a series of challenges and correctly answering the test, they discovered the names: next year's board will consist of Max van der Lee, Loes van de Linden, Jochem Bruijninx, Anne Tacken and Rachel van der Velden.

Everyone went on to make it a great night, but as my name is on the above list I am sure you will understand why I do not really remember a lot of details on that. I hope you all enjoyed yourself and I am already looking forward to the great surprises next year will undoubtedly bring! ●



**Luuk
Meeuwis**

AGE: 21

**Began studies Applied
Mathematics in 2014**

The ORC is a collaboration between three study associations: Asset | Econometrics, GEWIS (Applied Mathematics) and Industria (Industrial Engineering), of which the latter two are study associations from Eindhoven University of Technology. The people that took place in this committee are Judith Brugman, Roxanne Beerkens (both from Asset | Econometrics), Simon Vijverberg, Thomas van Gaal (both from Industria), Luuk Meeuwis and Ralph van Ierland (both from GEWIS). As the event was a success last year, all associations wanted to continue this collaboration. This year's ORC was the second edition. The goal of the committee, consisting of six (full-time studying) members, was to set up a conference in seven months for 70-120 visitors, with a theme that can be related to Operations Research. Seems simple enough, right?

Well, simple is lightly stated: finding eight companies that have the time, the money and the interest to set up a 45-minute presentation or a 135-minute case is unfortunately not as easy as it seems to be; especially because this was only the second edition of the ORC. This meant that many companies that we contacted did not know about the ORC, which in turn meant that a lot of time was spent explaining what the ORC was, who the visitors would be and what would be the added value for the companies. Luckily, since Operations Research (and as an application, Data Science) is a hot topic for companies, we were able to find eight companies

that together wanted to give four presentations and four cases.

As you would probably expect, the collaboration between study associations of different cities is not only fun and exciting, but also leads to some difficulties regarding the set-up of meetings. In any case, someone (or multiple people) has/have to spend a lot of time traveling to the location of the meeting. Unfortunately, this led to only a few meetings where every member was present, as most members were busy with their final Bachelor thesis as well.

where we hoped for 120 subscriptions, the companies were happy with the result of their cases and presentations, as well as the participators! (Or at least, that was the impression we got...) However, I hope that I speak in the name of every committee member when I say that we were even happier than anybody else. The preparation was harder and more work than we expected, but together with the employees of the Evoluon (the location where the ORC took place), we had no problems during any of the breaks between presentations or cases, and we were able to enjoy the day as



As I am writing this text, the ORC took place about one month ago. After the conference, we could not be happier: save for a few very minor problems had to be solved, the rest of the day went better than any of us would have expected beforehand! Even though the number of subscriptions was about 85,

well. Due to some luck, we could even afford an extension of the network event (in other words, drinking more free beer)! I want to thank all participators of the ORC for their attendance, but most of all, I want to thank the members of this year's committee for the collaboration. I had a lot of fun; you were great! ●

THE PASSION OF... RACHEL VAN DER VELDEN



Playing matches in the sun, teammates who feel like real friends and organizing the biggest tournament in Europe, sounds like a lot of fun, does it not? That is also what Rachel thought. Therefore, she shared with us her experiences about handball and the handball association Camelot of which she is a board member this year.

Text by: Anouk Claassen



**Rachel
van der Velden**

AGE: 19

Began studies in 2015

Rachel started playing handball when she was a little girl. At the age of 6 she had her first handball training. That Rachel started this young with her passion did not come as a surprise in the family. Her mother also played handball for years, and before her granddad did too. "I was born with it,"

It's All in the Family!

she says. Nowadays Rachel, her three younger sisters and her mother still play handball. Rachel and her mother even play in the same team. When asking Rachel who her biggest fans probably are, she answers with saying that that are also her family members, especially her mom and grandma are always interested in her handball adventures. When Rachel moved for her

but she likes it a lot. Beach handball is way different from indoor handball. With beach handball you can score more points by making a spectacular goal, like flying around or making a pirouette. This makes it really great to watch. Camelot plays quite high in the beach handball competition. Previously, the Camelot beach handball team won several prizes. For example, they



study to Tilburg, she started practicing at "Tilburgse Studenten Handbalvereniging Camelot", but in the weekends she still plays at the club in her hometown. During the indoor competition the trainings are twice a week. On Tuesday they have strength training and on Thursday a condition training, each lasting for one and a half hour. Now the summer is coming, Rachel practices a little less due to the fact that the indoor competition is over, but for sure she does not lounge around! Spring and summer are full of practicing beach handball. Rachel never did this before she came to Tilburg,

played the European championship once and several times the national championship. Therefore people from different places in the Netherlands come to Tilburg to play with Camelot, which makes it even more fun.

Camelot is a really close group of friends. Many of the in total 50 members have already been members for several years, but this year some new girls joined as well. This made them start looking for a sponsor pub to organize some of their activities. But even without a sponsor pub, they have lots of great moments together, like celebrating

carnival, going on members weekend and having crazy karaoke nights. The association has some committees for organizing activities, but everything is very loose and it is just about having fun. It is simply asked whether someone wants to organize something and there are always enthusiastic people who are willing to do so.

A nice story about Camelot is that they were nominated this year for the

Rachel: "Every time we moved from one age category to another, we first lost everything, since the competitors were taller and stronger. The next year you already are little better and the year after you win everything. This cycle continues every three years."

Other great memories Rachel has are from the outdoor season. During the outdoor season you have a lot of tournaments. Those tournaments start

is something she has learned for sure. To quote Rachel: "Keep working and work hard, then everything will work out." But of course she sometimes also gets frustrated in the game: then Rachel can change totally. Handball is a rough game, so sometimes you are thrown on the ground and you find yourself wondering why that was necessary. In the end, winning is not the most important to Rachel; having a fun match is way more important.

When asking Rachel how long she will continue with her passion for handball, she answers enthusiastically that she will continue as long as her body allows her to. Within a few years, she hopes to play competition with the team of Camelot and stay with them for years, just like the others. She definitely will not give up her passion soon! If you ever doubt about whether handball can become your passion, Rachel definitely recommends you to just try it. It is a really dynamic game in which you have to learn multiple things, not just the defense or the offense. Furthermore, it

'Keep working and work hard, then everything will work out'

Tilburgse Sportgala as sport team of the year, because their women team won the national championship, which allowed them to play in Gran Canaria where they became fourth out of all participating teams from all over the world. This amazing result got them an invitation to the theater for the awards ceremony. However there were somewhat less members present than expected, resulting in many drinking coupons and bitterballen for those that were present. For sure, that was a fun evening!

This year Rachel became the treasurer of the board of Camelot. She decided to do this because she thought it was a lot of fun. It was a plus for her that it is a part-time board year, so that she can still combine it with her study. Within the board they have the rule: study goes before meetings. So if you have an important exam or deadline to pass, the meeting is simply rescheduled or you just skip it. In total she spends approximately ten hours a week on handball; six hours on playing handball and four hours a week on board-related activities. However, those four hours are most often not spent on keeping on track with the bookkeeping. Rachel told us very honestly that she is a little lazy with it, which makes her postponing it from the one break into the next break and so on.

The best feeling Rachel has about handball is the feeling of being part of a team. From when she was six till she was twelve, she played with the same team.

on Friday evening with a party, after which you have to play on Saturday, then a great party on Saturday evening and trying to be as fresh as possible to play on Sunday. Having a barbecue all together, enjoying the sun and meeting people from all over the world makes those weekends always a lot of fun.



Last year Rachel participated in three of these tournaments, but this year is even more fun since Rachel is going to Italy for a tournament.

When going back to daily business, Rachel thinks handball helps her dealing with stress for example for the exams. She knows that when you are not giving it your fullest it is a waste of your time, so determination

is a perfect way to bond with a team and a great feeling to accomplish something together.

Rachel, we would like to thank you for your time and the enthusiasm you shared with us about your passion. We wish that you can continue playing handball as long as you want to and can enjoy the last months as board member of Camelot to the fullest! ●



**Stefan ten
Eikelder**

AGE: 23

Began studies in 2012

'Sure, sounds great, looking forward to working with you!' When these words appeared in my email inbox, a smile appeared on my face. This was the confirmation that our fellow student Koos van Amerongen and I could write our Master's theses in Boston. This opportunity appeared not just out of the blue, but as a part of an ongoing collaboration between Tilburg University and Harvard Medical School in the field of cancer treatment optimization. The research group we worked with is situated at Massachusetts General Hospital (MGH), the largest teaching hospital of Harvard Medical School. MGH is one of the best hospitals in the US and has a research budget of almost four times the entire budget of Tilburg University, so we had high expectations.

Before any of the fun could start, we had to find a nice (and affordable) place to live. This turned out not to be so easy, especially when arranging this from the Netherlands. Many areas in Boston are notorious for having rent rates equal to those in Manhattan, New York, so we knew that putting some effort in this could save us some bucks. After almost getting scammed on Craigslist, we ended up in Cambridge, a smaller city on the other side of the river. It is mostly known for housing both Massachusetts Institute of Technology (MIT) and Harvard University, and as such, it is the main contributor to Boston's reputation of an academic and intellectual center. Our apartment was actually in a great location: we lived in a neighborhood

Bustling Boston

The iconic East Coast city Boston is not only one of the oldest cities in the United States, but also one of the smartest and most liberal, not least for being home to prestigious universities and many innovative companies and institutions. I was presented the opportunity to write my Master's thesis at Harvard Medical School, an offer I could not refuse.

full of the typical wooden triple decker houses, and our daily commute to MGH took only fifteen minutes by bike, a trip that passes amongst others the offices of Google and Microsoft, as well as the MIT campus.

An intern's experiences

Our research group at MGH consisted mostly of physicists, mathematicians and people from the medical field, and they certainly lived up to Boston's intellectual reputation. Everyone was super enthusiastic and motivated, and meetings and presentations always ended with interesting discussions. I must admit that these went over my head more often than not. Although I was only working on a small project, the field of radiation therapy itself is very large and important to society, and I found it very exciting to contribute

a little bit to this. My project was on optimization of radiation therapy treatments that use both photon therapy (a more conventional method) and proton therapy (an advanced and more expensive method), and required me to work with medical CT scan images. During my final presentation, I discussed how these different treatment methods damaged an organ called the duodenum in different ways, while pointing at these CT scans. As I was probably the person who knew least about these medical aspects in the entire room, this all felt a bit odd, and I decided not to tell them that I googled what a duodenum actually is ten minutes before the start of the presentation. Nevertheless, working with these people was very enjoyable, as was the experience of working in a large US hospital in general. I had a badge to access different buildings, got a tour in



one of the proton centers – MGH has two proton centers, whereas all hospitals in the Netherlands combined have four – and, weather permitting, we could walk to the Boston Common (the central public park) during our lunch break.

cities, and cycling is very popular. To American standards, that is. Once the first snowflakes appeared, all bikes vanished and we were given strange looks when cycling with little effort. Well, given that everyone wears helmets with built-in

Despite one of these machines ruining my Asset I Econometrics hoodie, this always was a relaxing time killer in some sense. What our building did have, was other apartments: we had neighbors. On one of the first weeks, we were invited to a house party by one of our neighbors. Indeed: beer, the red cups and lots of drunk Americans. At some point, the police showed up and the hosts were advised to turn down the volume, and after not too long the party ended. Still, it was an interesting experience. Other nice American experiences included walking among the dressed-up children who are trick-or-treating during Halloween, and being invited for a Thanksgiving dinner by our professor.

It was virtually impossible to not notice the much discussed controversial elections. With Boston being a democratic stronghold, mocking Trump was a popular topic for any conversation, and it was generally accepted that Hillary would win anyway. Therefore, they would have to keep up with 'the clown' for only a few weeks, as he would disappear quickly after November 8. We all know that things turned out slightly differently, and the morning of November 9 was

'I decided not to tell them that ten minutes before the start of the presentation I googled what a duodenum actually is'

The working atmosphere was very relaxed, and Koos and I were free to do whatever we wanted. Typically, we did make normal working hours, but there was no pressure to be present at certain times. Despite this, everyone in the office spends quite some time at work, which is very common in American work ethic. Long lunch breaks where people go to restaurants are standard, and on Wednesday our optimization group went to a sushi restaurant together with the professor (the chief of the department) during the lunch break. Another regular was the Friday afternoon drinks, in which we were happy to participate. I must mention that beer is extremely expensive in the US: in our regular Friday pub you could easily spend nine dollars on a single beer (that does include a tip). We did not let this spoil the fun: the entire city of Boston is very pricey, so you get used to that easily.

Introduction to America

I cannot refrain from talking about American prejudices and their accuracy. Spoiler: many of those are true. On one of the first days, there was a camera crew in front of the hospital's main entrance. It turned out that there had been a shooting somewhere, and two policemen were injured. Nobody seemed to make a big deal out of this, and I was explained the concept of a 'minor shooting incident'. Boston is a rather European city compared to many other American

lights and all sorts of other protection gear, this did not come as a surprise. Also, it is fun to notice that pedestrians are less used to cyclists. When you cycle near them they get all nervous, whereas Dutch people cannot be bothered by that at all.



Another part of the weekly routine was doing laundry. The thing was though, our building did not have a laundry machine. Therefore, every now and then, we took our laundry to one of those laundromats, where you pay per machine, and then simply sit and wait.

rather odd. Several people were sharing their disbelief at the coffee machine, but most people preferred not to talk about it. This was different the day after the inauguration in January, when massive anti-Trump protests broke out across the entire country, including Boston. →

Of course, Koos and I were there to spectate and document everything.

Scarfs, gloves and fire

Compared to the tranquility of Tilburg, Boston is a busy and fast-paced city, and there is always something going on. As we were working at a hospital, ambulances drove around non-stop, and a fire station a hundred meters away meant fire trucks passing by continuously as well. Adding that in the US the number of police cars is more than one can ever imagine to be necessary, you find that silence is nonexistent.



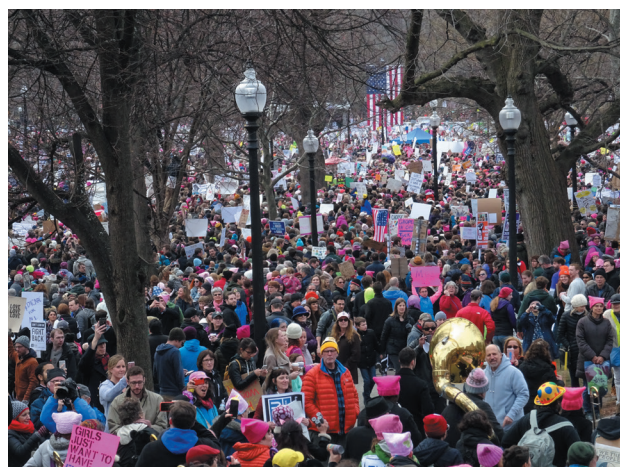
All these sirens did come in handy when on a Saturday afternoon an enormous fire started in our street. After some explosions and a large smoke cloud, several houses caught fire (who builds houses of wood anyway?) and in no time our entire street was filled with firefighters and police. Not much later, the fire had increased to the largest fire in Cambridge in 35 years, over a hundred firefighters from departments of all nearby towns were there, and the entire neighborhood was locked down. Our house was deemed safe enough for me to stay inside, but the street was

a no-go. The entire operation lasted about twelve hours, and I must say: I had a first row ticket, so it was pretty interesting (nobody got hurt badly).

Around the start of December the temperatures gradually dropped, and conversations ended with a 'stay warm': people feared a cold winter. Bikes quickly vanished from the streets as snow occupied the bike lanes, and people turned on their heaters. That is, if they worked; ours unfortunately did not. To make things worse, a few days after this discovery the temperature

Canada. The method of transportation for such trips are the very reasonable priced long-distance Greyhound busses. Although the trip to Canada took eight hours, they had Wi-Fi onboard so it was not that bad. In Canada we went to Ottawa (which looks very British), and Montreal (which is mostly French), resulting in a nice contrast.

During most weekends, we did not leave Boston, but did some sightseeing around the city itself. Boston is one of the oldest cities in the US, and they are certainly proud of this. They have the

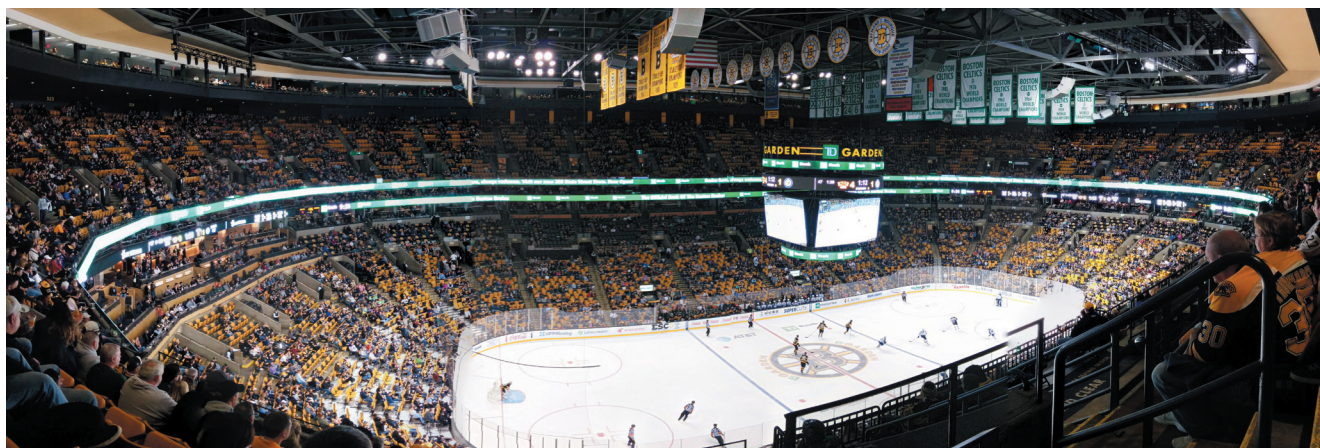


hit -16°C . Add wind to that, and we cycled to work in a comfortable feeling temperature of -28°C . Luckily, the heating was fixed shortly, and except for these few days the winter was actually rather mild, we were told.

A sports city

Despite us joining in the American work ethic, we had free time as well. In many weekends we put on our tourist suit and did some sightseeing. It was no problem at all to take some days off, and as such we went to Portland in Maine for a long weekend, and went on a five-day trip to

oldest bar in the US, the oldest hotel, the oldest still operating battleship, and the oldest stadium. This stadium happened to be the Harvard Stadium, where the Harvard Crimson football team played their games. Of course, we had to go to one of these college football matches, against Columbia University from New York. I understood little of the game at the beginning, but sort of got the grasp of it later on. What I found most remarkable was the immense number of players around the field. Although they only play eleven against eleven, it turns out that they can substitute at any time,



and therefore they have 46 players in their squad. This substitution rule leads to a game where at every pause eleven new players run onto the field, which looks quite strange.



Boston is a very sportive city, as it hosts the famous annual Boston Marathon and is home to, amongst others, the Boston Bruins (ice hockey) and the Boston Celtics (basketball). Seeing the professionals play seemed a better idea than making an attempt at these sports myself, so I went to games of these two teams. As these teams compete at the highest level, their games are an even bigger happening than college football, and the amount of commercial activity that surrounds these games is just crazy (just like the ticket prices).

Hit the road!

After Koos and I survived our final presentations at the start of February, work was over, so it was time to hit the road! We left Boston by bus to go to the Big Apple (New York). Both of us had been there before, but we had not seen the new One World Trade Center yet, so that was our main objective. Especially the experience when going up the tower is incredible, those New Yorkers know how to make a good presentation!

Secondly, during the days we were there, the Superbowl took place. The Superbowl is the season final of the football competition (NFL) and is one of the largest sports games in the world. We set our minds on watching this game in an authentic New York pub, and we ended up in a pub in Brooklyn. As a team from Boston (the New England Patriots) was competing, and we knew that they were certainly

not the favorite in New York, we pretended to be somewhat neutral at first. However, although everyone was crazy enthusiastic, this turned out not to matter very much, and we had a great

night, not in the least for the largest comeback in Superbowl history: go Tom Brady! After New York my brother joined our trip, and we continued to the city of Trump: Washington. Just a week after the inauguration we saw all highlights in real life, such as the heavily guarded White House, and managed to get tickets for the Senate to see the (controversial) election of the new minister of Justice.



Our next stop was the sunshine state: Florida. Upon arrival, not only the temperature changed to a comfortable 25 °C, but also the lifestyle of the people. Florida is the more typical conservative America – much more so than I expected – with the big pickup trucks, cowboy hats, huge Walmarts (where people indeed drive around on those mobility scooters), and every public TV switched to the conservative Fox News. We picked up our car and started our road trip on the sunny highways of Florida.

First stop: Universal Studios. Orlando is known for the many amusement parks, the four (!) Disney Parks being the most popular ones. Nevertheless, we heard that for people of our age the Universal Studios were more interesting; I agree, they even had an entire Harry Potter village. Other stops included Clearwater – a village with beaches as beautiful as the name implies – and the Everglades. This is a huge national park that is part land, part water and part swamp, and is crawling with all sorts of birds, alligators, crocodiles and even manatees (Dutch: zeekoe). We took a boat tour and went kayaking, and we were lucky to see all of these animals.

At the southernmost tip of Florida, you find the Key Islands, a sequence of islands connected by a very picturesque collection of bridges, known as the Highway 1. We drove the entire road to the westernmost tip: Key West, which is actually only fifty miles away from Cuba and looks more like a southern European party village than an American town. Our road trip ended in Miami, where we mostly just enjoyed the beaches at the famous Miami South Beach, which has a bit of a show-off atmosphere. My personal favorite: the Little Havana district, where they probably have the

best coffee I have ever tasted, and I got myself an authentic Cuban cigar (note: as a souvenir).

It was time to return the car and cross the big pond once more to return to the 'old world'. We said our goodbye's to Boston, thankful for the great time. For me, this internship was the perfect international experience, and I am happy that I did not hesitate for a second when presented with this opportunity. ●

Adventures at Farmer Jo's

Thanks to the heroes from this year's KOALA committee, many Asset | Econometrics veterans gathered together at Farmer Jo's ranch in Berkel-Enschot on Friday evening May 19. All prepared with sleeping gear, games and happy faces, old friends were reunited for the KOALA exp (edition 8). Still completely empty-headed about the surprises the organization had prepared, the econometricians dropped their bags in the dorm and got a bite of Italian pasta supplemented with a Dutch frikandel for those who were lucky.



Robbert van Oosten

AGE: 26

Began studies in 2008

This lovely meal provided the perfect basis for the kick-off KOALA activity: the beer cantus. Decorated with multiple brilliant advertisements (especially the one of the board of 2011-2012, unbelievable) the cantus booklets equipped the participants with some high-end literature. And before I knew it, for the first time in my life, I was enjoying a beer cantus where the first song that was sang was also the first one in the booklet. This might seem so straightforward, but mysteriously enough this is revolutionary.

After this perfect start of the KOALA weekend, the next morning was heavy for many of us. People were crawling out of their bunk beds to the breakfast tables where they were rewarded with fried eggs and bacon. This revived the crew and gave them energy to enjoy the weekend's second activity: the KOALA quiz. This quiz consisted of multiple rounds where teams competed against each other to get the most points. The final round probably got most young professionals on the top of their chairs. In this round, teams could for example bid (according to a first-price open-bid auction) on how many special beer brands or kissing econometrician couples they could list. If they managed to meet their own bid, they gained the same amount of points. However, if they failed, everyone else would get these points. My credits to team 4, who managed to list no less than 40 former Asset | Econometrics board members with first and last name within a minute.

After this rather relaxing morning activity, the time had come for us to get active. Where better to do so than at 'Landgoed de Biestheuvel', where truly adventurous activities are hosted, like tennis ball animal hunting, awkward but cozy tunnel crawling, birling,

to challenge their muscles some more on Farmer Jo's meadow. With four beer crates, a football, heroic music and nice sunshine, 10 YUPs stumbled around between the grass crops in their attempts to get the ball between the crates of their opponents. A great way



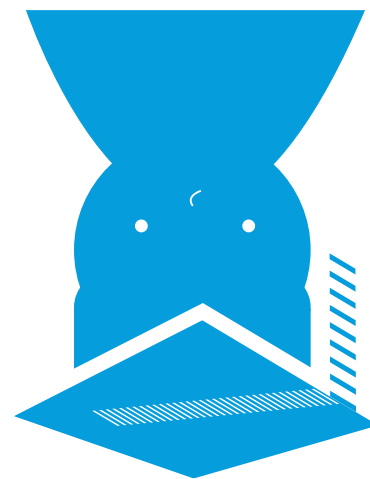
carrying forest rope, patience testing fire making, embarrassingly quickly puzzle solving and character compass navigation. All these adventurous activities got everyone warmed up for the final game. Four teams, one goal: hoist the flag first. However, in order to get the flag, teams needed to burn a rope, construct a cube, answer burning questions, find coordinates and run like crazy to get there first. As always, the teams showed to be very competitive, which made the challenge most interesting.

For some, the afternoon adventure was not enough. These guys decided

to burn some calories to compensate for the barbecue, race cage and party that kept them busy for the rest of the brilliant night. It always makes me very happy when Asset | Econometrics takes over a pub's dance floor, and happy I was.

Before we all knew it, it was Sunday morning and everyone gathered for the final activity: the auction, where the organization quickly discovered that getting people dirty with the weekend's leftovers brought in more money than selling it to eat. The perfect closure of a memorable weekend. Thank you KOALA committee 2017! ●

Asset | Econometrics congratulates...



Name: Ben Koevoet
Title: Sharing of Micro-Longevity Risk in Variable Life Annuities
Supervisors: Prof. dr. A.M.B. De Waegenaere, Dr. F.C. Drost

Name: Kristel van de Riet
Title: Managing Model Risk by Applying Robust Risk Measures
Supervisors: Prof. dr. B. Melenberg, Dr. N.F.F. Schweizer

Name: Tessa Stehouwer
Title: Selecting Traditional Methods for Demand Forecasting using Machine Learning
Supervisors: Dr. R.C.M. Brekelmans, Dr. J.C. Vera Lizcano

Name: Ferry Adriaansen
Title: Lapse Rate Modeling
Supervisors: Dr. O. Boldea, Prof. dr. J.H. Abbring

Name: Marijke Valk
Title: Analysis on Several Matching and Pricing Models for an Online Platform in the Trucking Industry
Supervisors: René Peeters, Prof. dr. A.J.J. Talman

Name: Stefanie Schouten
Title: Line Planning in (Near) Out-of-Control Situations
Supervisors: Dr. J.C. Vera Lizcano, Prof. dr. G. Kant

Name: Xuan Li
Title: Modeling Interdependence between Unsystematic Credit Default Risks by Bayesian Graphical Models and Implication to Credit Loss Distribution
Supervisors: Dr. ir. G.W.P. Charlier, Dr. A.G. Balter

Name: Boukje Schellens
Title: Microzoning: A Grid Based Zoning Approach to Facilitate Transport Planning
Supervisors: Dr. J.C. Vera Lizcano, Dr. R.C.M. Brekelmans

Name: Stefan ten Eikelder
Title: Optimal Fractionation for Combined Photon-Proton Treatments in Radiation Therapy
Supervisors: Prof. dr. ir. D. den Hertog, Dr. M. Balvert

Name: Tim Laurensse
Title: Longevity Risk in Dutch Pension Funds Management of Longevity Risk using q-Forwards
Supervisors: Prof. dr. A.M.B. De Waegenaere, Prof. dr. T.E. Nijman

Name: Nouschka Snijders
Title: An Exchange-Traded Fund and its Performance
Supervisors: Dr. P. Cizek, Dr. O. Boldea

Name: Laura Verloop
Title: Scheduling the Technicians of a Grid Operator: Optimization using a MILP Formulation
Supervisors: Prof. dr. M. Laurent, dr. ir. Ing. M.J.P. Peeters

...on obtaining their Master's degree.

Quatsch!

All-time favorite:
"Ik ben pas 32, plus
epsilon dan..."

- Prof. Einmahl

Juul Kooijmans nog
voor de cantus:
"Bijmaken is meezijn."

"Ik heb nog steeds
mozzarella in mijn
hoofd."
- Zoë Connell

"Als ik ooit word
ontslagen probeer ik
het op te lossen met
een dance-off."
- Masum Rahman

"Iedereen is een hoer,
maar sommige zijn
gewoon duurder dan
anderen."
- Masum Rahman

Thijs Kramer (tegen Max
Smedts): "Ja, dat is toch
met alles wat we doen?
Ik heb de ideeën en jij
voert ze gewoon uit!"

Anouk Verhagen: "De
computer is kapot."
Ennia Suijkerbuijk: "Geefst hij
een blue screen?"
Anouk: "Nee, alleen een
blauw scherm."

"Ik denk niet dat ik alweer
mag rijden, oh nee ik mag
überhaupt niet rijden, ik heb
nog geen rijbewijs."

- Judith Brugman

Floor van Helsdingen over het
kampioenschap van Feyenoord:
"Hadden ze nou een zwembad
midden in de stad?"

"Als ik iedereen gratis aan mijn enkels
zou laten likken, waren ze binnen 3
maanden uitgeërodeerd."

- Jochem Bruijninx

Quatsch?

Over the past few months, the editorial staff of **NEKST** received many quotes that relate to the study of Econometrics and to the activities organized by Asset I Econometrics. Therefore, we present to you a selection of some striking and funny quotes! Please mail all remarkable quotes you have heard to Nekst@Asset-Econometrics.nl!



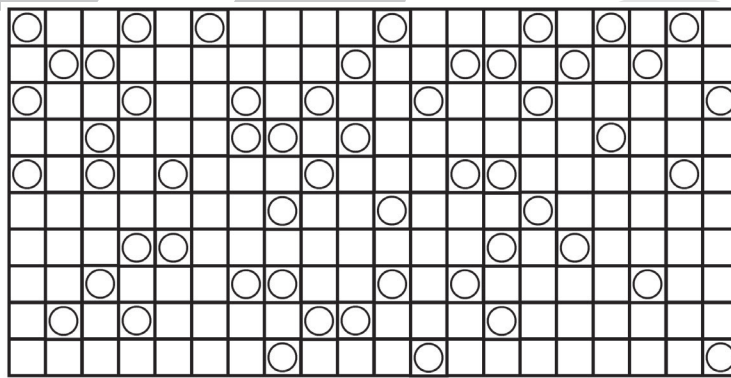
PUZZLE

With the exams in our rear-view mirrors, our minds could do with a little something to freshen up our reasoning and get the creativity flowing once again. Guess who have just that to offer you: of course it would be yours truly, the Nekst editorial staff!

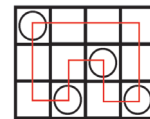
This time, we are going to test your road trip planning prowess. The 'map' below contains an array of squares, some of which hold a circle. Your challenge is simple. You are to find a route that hits each square exactly once, and satisfies the following conditions:

- In each non-circle square, the route can either go straight ahead, or make a 90 degree turn; in each circled square, the route must make a 90 degree turn.
- The turns in the route must alternate between a circled square and a non-circled square. A small example is shown below the puzzle.

Please send a photo of your solution to Nekst@Asset-Econometrics.nl before September 14. A crate of beer or a delicious pie, whichever the winner prefers, will be waiting for whoever has the best (partial) solution. Please note that, as before, every recipient of this magazine is eligible to send in their solution, so members of the department are invited to participate as well. Good luck!



Example:

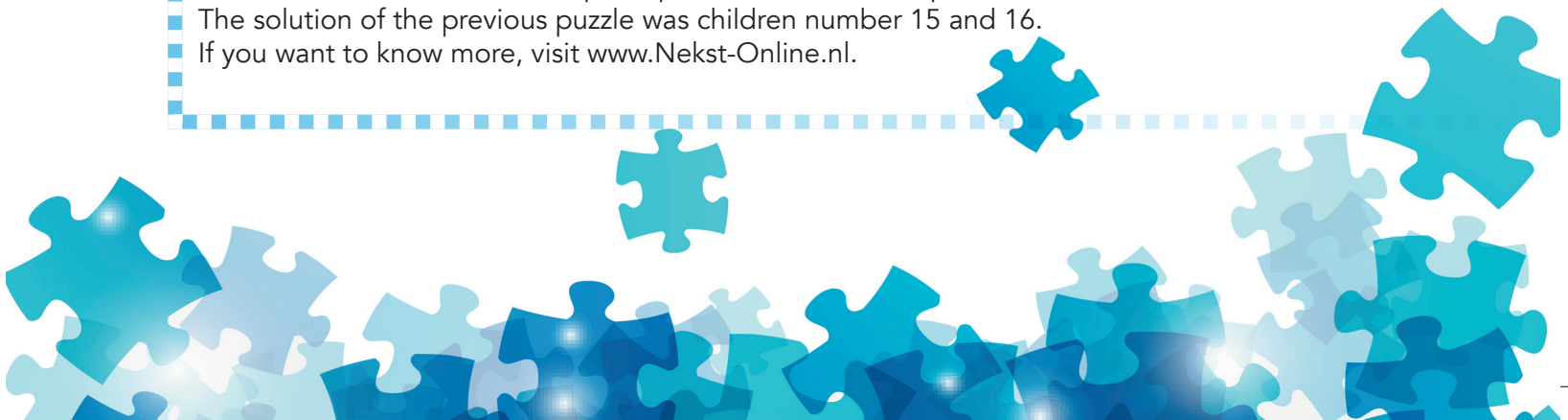


Tim Laurensse is the winner of the previous puzzle.

As a reward, he can come and pick up a crate of beer or a pie at room E1.10.

The solution of the previous puzzle was children number 15 and 16.

If you want to know more, visit www.Nekst-Online.nl.



Agenda

Summer 2017

Tilburg
University Cantus

Monday September 4

The very first cantus of 2017-2018 will be a good one for sure. Do you want to participate in this event with unlimited beer and thousands of other students? Then make sure to reserve your ticket in time!

Introduction Activity

Wednesday September 6

The freshmen students of next year will have the possibility to get to know each other better during the Introduction Activity. Do you want to be a volunteer? Then send an email to intro@Asset-Econometrics.nl.

Monthly Afternoon

Thursday September 7

Swing by from 16.00 hours onwards at the first Monthly Afternoon on September 7. You can catch up with your fellow students while having a drink or playing a game.

Department Members Meeting & Constitution Drink

Monday September 11

The new board of Asset | Econometrics will officially be installed during the Department Members Meeting (DMM), which takes place on September 11. Afterwards, our first drink of the new academic year will take place in Café Qwibus. We hope to see you there!

Landelijke Econometristen Sport Toernooi

Friday September 29

On September 29 the Landelijke Econometristen Sport Toernooi (National Econometricians Sport Tournament/LEST) will be organized. This year's LEST will include a Sport & Games Tournament and a Football Tournament. Furthermore, you can also take part in a barbecue, drink, party and even a sleep-over!

Training Day

Tuesday October 3

While EOR teaches you very valuable quantitative skills, non-quantitative skills can also come in handy. During the Training Day, several trainings will be given to Econometrics students, for instance regarding soft skills and data visualization.

Lecturer of the Year Award, Game Afternoon & Drink

Tuesday October 10

Who is the best professor of our department? On October 10, the Lecturer of the Year Award will take place, where you can thank your teachers. Afterwards, the annual – and very successful – Game Afternoon will take place, where you can play numerous games as well as eat a free pizza. See you there!

Summer Photo Contest

Would you rather show off your creativity than your brains to earn a crate of beer or a pie? Or do you simply want to have a shot at both the puzzle prize and the Summer Photo Contests'?

Then come and pick up the Asset | Econometrics inflatable chair for free at E1.10. We challenge you to snap the most original photograph of your interaction with the prop out of all econometricians!

Rules for entry

- Entries are to be sent to Nekst@Asset-Econometrics.nl before September 1, 2017.
- Entries should show both the person entering the contest and the inflatable chair.
- It is forbidden to edit your submission with Photoshop or any other photo-editing software.
- Entries will be assessed on originality by this year's and next year's Editor-in-Chief.
- Entering a submission to this competition constitutes acceptance of the rules.





Aandacht voor je toekomst

Eeuwige student... én data talent?

Wil jij de studieboeken achter je laten en de stap zetten naar een eerste baan? Óf blijf je liever verder leren? Misschien wil je nog niet kiezen. En dat snappen we bij Aegon heel goed! Daarom bieden wij analytisch talent een traineeship aan. Dan breng je kennis en kunde meteen in de praktijk. En leer je de fijne kneepjes van het vak met trainingen en opleidingen. Zo blijf je als analytisch talent – nog héél even – die eeuwige student.

Meer weten? Ga naar:

werkenbijaegon.nl