

NEKST

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SPECIAL MACHINE LEARNING FOR DUMMIES


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The First Finish Line of Many



At time of printing, the first snow of the winter has already fallen. For us students, the start of winter usually also means the first semester final exams. For which I wish your hopes did not melt away like the snow will have by the time you will be reading this. Through all trials and tribulations you are always able to count on one thing; our very own Nekst Committee providing you with some quality read material. My advice is therefore as follows: endure the harsh weather, seek a comfortable chair and try not to finish the entire issue at once.

Without a basic income guarantee, it is important for students to orient themselves in the future job market. Knowing what you have to offer, as well as knowing what you are truly looking for in a job is paramount in deciding your future. Luckily several committees provide you with a helping hand in this process, through events like the Orientation and Connection Day, and the International Business Trip. Hopefully I have been able to spark your interest in these events, gladly you are able to read more about them in this issue.

The basic income guarantee mentioned before is a quite heavily debated topic in society and, as can be read in the Mirror Piece, this is not a new topic in any way, shape or form. Already in 1993 Nekst featured a piece on this topic, an interview with prof. G. Zalm. Stepping in these humongous boots is our Nekst editor Dominique, looking back on the evolution of the debate that has ensued on this topic ever since.

Of course there is also room in this issue for the somewhat less official, but in no way less amusing, side of Asset | Econometrics. From the St. Nicholas Drink to the (Aspirant) Former Active Members Dinner, all kind of events are covered in this Nekst.

Altogether, another jam-packed issue of Nekst is here. On behalf of the entire Nekst editorial staff I wish you an enjoyable read, and a marvelous 2018!

Guus Vlaskamp
Editor-in-Chief

COLOPHON

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Dynamic Credit

10

One of the fastest growing asset management companies in Europe sat down with our editors to give some insight into their success.



International Business

Tour 28

A group of econometricians embarked on a journey to Hong Kong. An exclusive look into their newly found perspectives.

The Parents of 18

Everything from raising an econometrician to leading a sermon, just daily chores for the amazing parents of Jaron Kappers.

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The Education Committee can help you!

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We are always looking for students willing to write a new guideline. For every decent self-written guideline that is published, you will be financially compensated. This compensation is between € 50,- and € 100,- depending on the demand for the specific guideline. Do you want to publish a guideline? Contact us via:

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www.Asset-Econometrics.nl/Study

You can also find old exams on our website!

Contribute to your study program!

The Education Committee tries to contribute to the quality of the education within the econometrics department in several ways. For example, we take part in soundboard meetings with the Academic Director(s) and the Program coordinator. You can contact us if you have feedback on the Bachelor program of EOR or one of the Master Programs. This can be done by contacting one of the committee members, but you can also fill in the Course Evaluation form on our website. In this way, your feedback can contribute to a better EOR program!

You can also e-mail us via Education@Asset-Econometrics.nl.

Dear Members,

Thank you for being part of our association this past year, full of memorable moments to cherish. Without a doubt the first semester flew by, and the opening of the academic year still feels like yesterday. Without the help from all of our active members it would not have been possible to organize all of our events. Due to their help we have such a broad range of different events, serving students from every study phase. A special thank you to them and we wish all of you a successful and prosperous 2018.

At the time of writing this piece the Christmas tree fills our rooms with warmth and Christmas spirit. Students are busy studying for their upcoming exams. Hopefully our crash course in Statistics for EOR helped a lot of you at passing one of the most difficult courses in the program! Be on the lookout for more of these crash courses at the end of the second semester. We also offer numerous guidelines to help you in mastering the course material. These can be ordered on our website, where we also provide you with a lot of old exams to practice with.

We have had an incredible first semester. The highlight was definitely the International Business Tour to Hong Kong, make sure to read the article about their experiences in one of the most fascinating cities in the world. Another successful event was the Finance Expedition in collaboration with Asset I Accounting & Finance, where 24 high-potential students visited four finance companies. The participants had an intensive two days with a tight schedule, but enjoyed themselves meeting new companies from all different fields within finance. Furthermore, the first- and second-year students were busy with other activities. They had the time of their lives at informal activities like the Freshmen Cantus, our monthly afternoons or at one of our drinks.

We would like to hear from our members whether they have enjoyed the first semester as much as we have at the upcoming Department Members Meeting and Active Members Meeting on January 16. This evening is perfect to express your thoughts on the association and its activities. All feedback is welcome! Furthermore we are very happy to announce our collaboration with our fellow econometricians from Maastricht, SCOPE I Vectum. We will team up on March 1 - 2 to visit four of the best strategy

consultancy companies. This will be a very unique opportunity for students from Tilburg, so be sure to subscribe as soon as possible.

Exciting weeks are ahead for the National Econometricians Day (LED) committee, preparing for their big day. This year's LED will take place at the NBC Nieuwegein, and will be without a doubt the best career event you will have ever seen. You will be able to meet several companies from the 50 companies which are joining the biggest career event around the world revolving around econometrics students. More information about the day can be found on the website: www.leditbeyourday.nl.

Becoming an active member of Asset I Econometrics comes with a lot of benefits. Not only do you get to know a lot of your fellow enthusiastic econometricians. You also get the opportunity to develop yourself by organizing one of the many events, with only a few of them mentioned above. Are you up for the challenge? Please do not hesitate to approach our Internal Affairs officer Rachel to discuss which committee fits you best.

The board would like to thank you personally for last year's efforts at the New Year's Drink on January 16. We hope to see all of you at Café de Nachtwacht!

On behalf of the board,

Max van der Lee
Chairman Asset I Econometrics
2017-2018



Hit the Ground running

During my studies Econometrics at Groningen University I was a research assistant during my last year. From that moment on I wanted to become a scientific researcher. After having finished my Master's I became a PhD student in Operations Research in August 1976 at the Vrije Universiteit (VU) in Amsterdam.

In those days a PhD student also had to lecture every semester. For the first semester of my second year, Gerard van der Laan (a PhD student in Mathematical Economics, who had started one year before me) and I were asked by our supervisors to develop a new doctoral course. This course was focused on the intersection (not the union) of operations research (from my side) and mathematical economics (from his side). We decided to teach half a course on game theory and half a course on the computation of equilibria. This choice would determine the rest of our (academic) life!

During the course, for fifth year doctoral students in Econometrics, we thought we could improve the algorithm in the book on the computation of economic equilibria we were using. With trial and error we developed a new algorithm. During the first trials the method did not converge properly, but we were sure we would be able to make it work. Meanwhile, our supervisors became worried, because we were neglecting the research for our PhD, which was already successful. After the course they gave us two more months to succeed. If not successful, we had to continue with our original research. Luckily, we succeeded within these two months to develop what we had in mind. We wrote a paper that later got a lot of attention and was published already within one year

in Mathematical Programming, a highly regarded journal. Our supervisors were convinced and we still had one year to continue our joint research to generalize our new method. We also found a supervisor from Northwestern University, because our supervisors were not very familiar with the topic.

‘During the first trials the method did not converge properly, but we were sure we would be able to make it work’

During that summer we presented our work at several places, even at a conference where we were not registered as speakers, and at the Econometric Society European Meeting in Geneva. Our presentations were in the last session of the last day of the meeting and the two other talks were in French, so there was almost nobody present, except for the speakers, the chairman and a few other people. Herbert Scarf however was present, the author of the book we had been using, and also Pieter Ruys, from Tilburg University. Both later became my bosses. Within one year we completed seven other papers and split these eight papers to write two PhD theses. This division, which was not completely arbitrary, was after all a fair

division, because both theses contained exactly the same number of pages. At that time writing a thesis took one year, because the secretaries had to type it on an IBM electronic typing machine and making corrections was almost impossible. We defended our PhD theses in a single joint academic session on February 29, 1980.

Our cooperation continued after our PhD defenses, although I first went one year to Yale University in New Haven (see my previous column) as visiting lecturer under Herbert Scarf and then became assistant

professor under Pieter Ruys at Tilburg University. Over the years we wrote dozens and dozens of papers together both on the computation and existence of equilibria and, later on, on cooperative game theory. We supervised PhD students, also several jointly, visited many universities, from Stanford to Tokyo, and attended lots of conferences all over the world to present our research. ●



Dolf Talman

Dolf Talman is professor of Game Theory and Equilibrium Programming at Tilburg University (TISEM) and CentER. His expertise is the development, to prove existence and the computation of equilibria in economic and game theoretic models.

Machine Learning FOR DUMMIES

Text by: Ennia Suijkerbuijk

Thanks to this centuries' big data hype, machine learning has quickly become one of the most upcoming academic disciplines in today's society. The sheer amount of papers, books and articles concerning machine learning algorithms that are now being published every year indicate that the field plays a very significant role in a vast number of industries. But what exactly is machine learning? Where does it originate from? And which specific algorithms should you definitely be familiar with? It is time to take a walk down machine learning lane!

As often happens when a topic becomes such a hype, there exist tons of definitions for machine learning which all differ from another. The Oxford dictionary describes it as the capacity of a computer to learn from experience: 'to modify the computer's processing on the basis of newly acquired information.' Wikipedia prefers to phrase it as 'a field of computer science that gives computers the ability to learn without being explicitly programmed.' Nevertheless, (almost) all definitions agree on one thing: machine learning requires a computer, data and a self-learning algorithm.

From checkers to deep learning

The term machine learning was first used in 1959, when Arthur Samuel (a pioneer in the field of artificial intelligence and computer gaming) published a paper regarding his self-learning checkers program (Samuel, 1959). Samuel believed that teaching computers to play games was very fruitful for developing

tactics appropriate to general problems, and he thought checkers would make a good example (as it requires some strategy, but still remains quite simple). However, one could argue that the basics of machine learning had already been laid down even before 1959. Already in 1950, the scientist Alan Turing created the so-called Turing Test: an experiment to find out whether a machine is intelligent, where the computer passes the test if a human judge believes he is not conversing digitally with a machine but with a person.

Nonetheless, it is certain that the foundation of machine learning was made in the 1950s, after which many new algorithms and methods started to follow each other in rapid succession. In 1967 the next big step was made when the nearest neighbor algorithm was invented, which can be seen as the start of pattern recognition. For those of you who are not familiar with it, the goal of

pattern recognition is to classify objects into a number of classes/categories, which is done based on shapes, forms or patterns in the data. There are numerous pattern recognition techniques, systems and applications that cover a broad scope of activities; examples can be found in speech recognition, stock exchange forecasts, classification of rocks and many more.

In the next decade, the 1970s, many more techniques for learning from data became available. However, due to computation limitations, almost all of these methods concerned linear relationships between the input and the output. It was only in the mid-1980s that regression and classification trees were first introduced (for more information about decision trees, check out the glossary!) and soon after also a non-linear extension to generalized linear models was brought to life, including a practical software implementation. →

This truly marked the start of statistical learning, which comprises supervised (with an output variable y) and unsupervised (without an output variable y) learning as well as prediction. As a result, many well-known machine learning techniques were discovered in the end of the previous millennium, such as random forests (see the glossary) and support vector machines.

As of today, machine learning is definitely an integral part of the statistical and programming fields. Who has not heard of buzz terms as big data, data mining and business analytics? Perhaps the hottest method amongst all current machine learning methods is deep learning: a specialization within machine learning that is based on artificial neural networks. Neural networks were already discovered in 1957 and are inspired by the composition of biological brains, and especially the immense large amount of interconnection between neurons. Unlike actual brains though, these artificial neural networks have underlying layers, connection and directions. Deep learning combines these special types of neural networks with advanced computing power, and the result is a state-of-the-art method for identifying objects, images, words, sounds and so on.

Business hype

While machine learning started as an academic discipline, it has gained huge momentum in the corporate world as well. This can partially be explained by the massive growth of the total amount of available data: Arizona State University estimates show that the

volume of business data worldwide, across all companies, doubles every 1.2 years. Thanks to this exponential rate, and the fact that much more powerful and user-friendly software systems have become available (just consider Python or R), machine learning has become very popular for most industries that work with large amounts of data. Machine learning gives organizations the possibility to model faster, to analyze bigger and more complex data, and to learn additional insights besides the basics, and as a result, they can work more efficiently and gain a possible advantage over competitors who are not yet that advanced.

What's next?

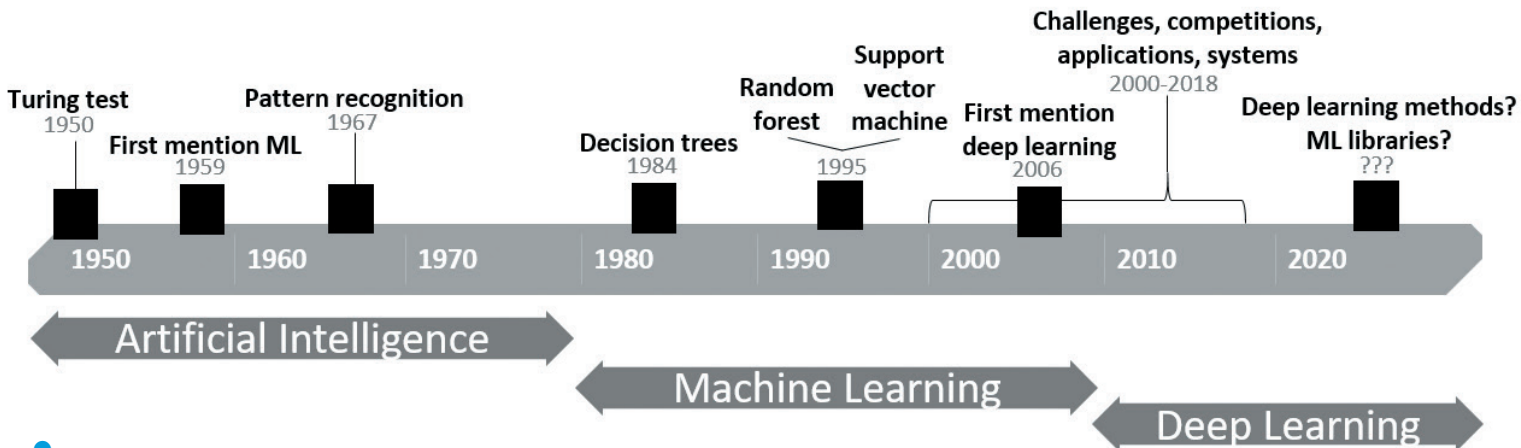
While there are already numerous techniques and algorithms in various aspects, it does not seem very plausible that machine learning will die out soon. On the contrary, many believe that we are only at the very humble beginning of the machine learning era. As more and more research teams from companies shift from traditional data techniques towards machine learning and even deep learning techniques, it is clear that data scientists will not have to be afraid of being unemployed any time soon. However, there is still much to discover in the theoretical aspect as well.

One of the fields in which we have only uncovered a tip of the iceberg is deep learning. There have only been a few years of research and studies in this field, but there is already a vast amount of promising network structures and algorithms. While deep neural networks have already outperformed plenty

of other machine learning methods (especially in problems related to vision and speech), there is not yet that much theoretical understanding for why these networks actually perform so well.

Besides more theoretical knowledge on newly-introduced methods, we can probably expect quite some development in machine learning libraries. Not only is there an increase in algorithm-specific libraries/packages, but they are also becoming more user friendly, thereby making machine learning more accessible to the public. Clearly not everyone will be able to program gradient boosting machines or neural networks, but such tools can enable data scientists to help automate tasks such as hyperparameter tuning, and can also help non-programmers to implement (basic) machine learning methods more easily.

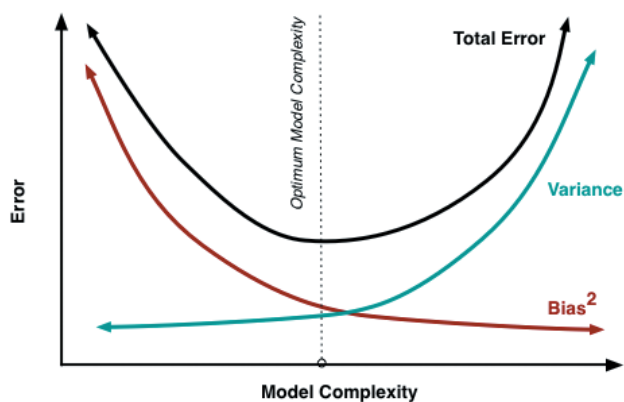
In conclusion, there are many speculations about the future of machine learning, varying from optimistic views (e.g. perfectly operating self-driving cars) to rather depressing views (e.g. evil machines taking over the world). While both of these examples seem to be quite a long way down the road, only time can tell! ●



GLOSSARY

Bias variance tradeoff

A prediction model involves a reducible and an irreducible error, where the first type consists of the model's bias and variance. A very complex model often has low bias but high variance (as the underlying structure is very flexible and follows the noise too closely), whereas a very simple model often has low variance but high bias (as the underlying structure is not flexible enough to capture all relevant relations). As a result, there exists a tradeoff between a model's ability to minimize bias and variance. A decent machine learning method takes this tradeoff into account. It is therefore common to split the observations into two different subsets: a training set (also called in-sample observations) upon which the model is fit and a test set (also called out-of-sample observations) upon which the model is evaluated upon. As a result, models that are unnecessarily complex or inaccurately simple will have a higher total error when tested on the out-of-sample observations. A visualization of the tradeoff can be found in the figure below.

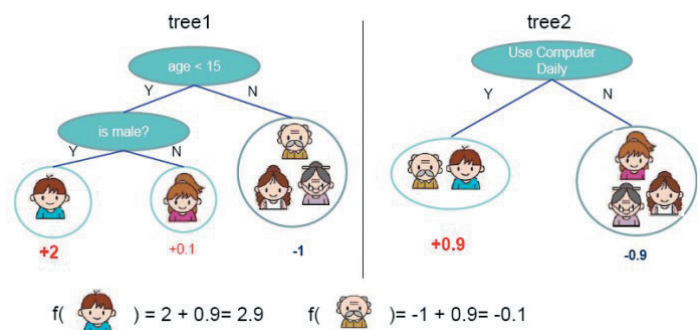


Decision trees

Decision tree algorithms use a decision tree to predict the outcome of target variables by learning splitting rules from the dependent variables in prior data; they can be used for both classification and regression purposes (i.e. for discrete and continuous cases). In the tree, splits are created by identifying the most significant variable that results in homogeneous data subsets (i.e. the observations within a subset have the same/most similar response):

1. Place the most significant variable at the top (the so-called root) of the tree;
2. Split the data into two subsets such that each subset contains data with the same value for an attribute;
3. Repeat steps 1 and 2 until you end up in a terminal node and can no longer make any splits.

However, if there are many predictors (independent variables), the tree will become very complex and might very well overfit the data. In order to avoid overfitting, one could 'prune' the tree (i.e. cutting away the lower leaves). A visual representation of two simple decision trees can be found in the figure below.



Random forest

A random forest combines multiple decision trees, where the outcome is the most-frequent occurring label (in classification) or the average of outputs by different trees (in regression). There are two main differences compared with the traditional decision tree algorithm: first of all, the observations are taken with replacement (resulting in a so-called Bootstrap sample). Secondly, the traditional algorithm is improved by decorrelating trees: whenever a split should be made in a tree, only a part of the total predictors (i.e. variables) is considered. While this might not seem to be an improvement over the traditional algorithm, as clearly a single tree will not be able to predict as it did before, decorrelating trees ensures that the trees are not so similar to each other and, as a result, the total variation is lower. Therefore, the total collection of trees (the so-called random forest) is more reliable.

(k-fold) cross validation

When we for instance consider combining decision trees, the number of trees that we work with is important: a too small number of trees usually implies a less accurate prediction rule (as there have not been enough rules/trees to learn from), while a too high number of trees can result in overfitting. This number is therefore often selected using k-fold cross-validation: k-fold cross-validation involves partitioning the data into k folds, where k - 1 folds are used as training set and the remaining one is used as validation set for which the Mean Squared Error (MSE) is calculated. This procedure is repeated k times, where each time a different group of observations is treated as validation set. Finally, the k-fold cross validation estimate equals the average of all k validation MSEs. This procedure is not only applied for decision trees, but also for other machine learning methods.

Regularization

Regularization, which is also known as shrinkage, aims to decrease the number of predictors/variables in a regression model, thereby reducing the model's variance and the probability of overfitting. Regularization fits a model on all the possible predictors, but imposes a penalty on the variables such that the less relevant coefficients are shrunken towards zero. Depending on the type of shrinkage, the coefficients may even be estimated to be exactly zero, such that variable selection is performed. The two best-known techniques for shrinking the regression coefficients towards zero are called ridge regression and the lasso.

Principal component analysis

Principal component analysis (PCA) is one of the most popular dimension reduction techniques, where correlated variables are combined in order to reduce the total amount of features. One can imagine that modeling a data set that contains a large amount of variables is very computationally inefficient, and hence PCA can be used to reduce the number of variables without losing too much valuable information. This is done by combining possibly correlated variables into a set of linearly uncorrelated variables (called principal components) and selecting only the ones that explain most of the data's variance.

Dynamic Credit: an Insight in One of Europe's Fastest Growing Businesses

Dynamic Credit is currently one of the fastest growing asset management companies in Europe. They are specialized in alternative fixed income. On November 3, Floor and I traveled to Dynamic Credit's headquarters in Amsterdam to get to know this interesting and impressive company. We spoke with Jasper Koops, Portfolio Manager, and Koen Heijnert, Analyst, resulting in different perspectives and insights into the firm.

Text by: Guus Vlaskamp

Dynamic Credit

Dynamic Credit is booming. They achieve this feat by focussing amongst others on alternative investments for institutional investors such as pension funds. The expert teams at Dynamic Credit are involved with asset management of less liquid forms of credit, such as mortgage loans. Where the traditional view on mortgage loans involves a consumer and a bank, Dynamic Credit argues this is not necessarily a logical train of thought, since a bank generally attracts short-term funding such as deposits which can be withdrawn at any time. Therefore, engaging in a long-term contract with a fixed rate, like a mortgage loan, would pose a risk if interest rates rise. A mortgage loan however is a lot like a pension, with a steady stream of cash flows over a long period of time. Mortgage loans are thus a very suitable investment for investors with long-term liabilities. These investors are however not always willing or able to engage with the consumers themselves, as there are many aspects to be taken care of, such as servicing of the mortgage loans,

marketing and selecting suitable customers. These investors usually want a straightforward investment product; it is then up to Dynamic Credit to transform those mortgage loans into such a investment. With this, Dynamic Credit provides a transparent and clear bridge between investors and borrowers.

Paths to Dynamic Credit

We got to interview two employees of Dynamic Credit, Jasper Koops and Koen Heijnert. This provided us with two quite different perspectives on the company and working there.

Jasper has worked at Dynamic Credit since 2013, after finishing both his master's Quantitative Finance and Actuarial Sciences and his bachelor's Econometrics and Operational Research at Tilburg University. Long-stay Nekt readers might be familiar with Jasper as he also did a board year at Asset I Econometrics in 2012. During his time at secondary school and the beginning of his time at university he ran his own venture in

designing and managing websites. During his master's Jasper wrote his thesis at EY. When entering the job market he chose to first take a look around before joining a company. After encountering Dynamic Credit he had a conversation with the founder and got enthusiastic about joining. Since the company had just chosen a new direction Jasper had the chance to truly impact the way Dynamic Credit evolved to the company it is now.

Koen has only just joined Dynamic Credit in 2017, after writing his master's thesis last semester. He started with the bachelor Econometrics in Rotterdam in 2011. During his studies he did several internships in the M&A direction in Amsterdam and London, as well as going on an exchange Vienna. The decision for a place to write his thesis was a tough one, but Dynamic Credit stood out in several ways. First of all, the way in which it is one of the leading businesses in their market really sparked the interest of Koen. Secondly, the size of the company and the culture meant his input even as a starting employee is valued



'Own initiative is not only appreciated, but encouraged as well'



Jasper Koops

Age:

28

Job Title:

Portfolio Manager

Education:

Quantitative Finance
& Actuarial Science



Koen Heijnert

Age:

25

Job Title:

Analyst

Education:

Quantitative Finance

highly. In addition to this he was also allowed to really focus on his thesis during his internship. After finishing his master's he knew he wanted to stay at Dynamic Credit, and as such he now works as analyst in Jasper's team.

Why Dynamic Credit

Walking into the Dynamic Credit offices we were immediately struck by the openness. The employees operate mostly in a single open workspace, with the desks organized in small groups. The direct result of this organization of workspace is that it becomes very easy for employees to approach other teams and cooperate across divisions. Koen elaborated on the advantages of this mindset. When he encounters processes which he uses on a daily basis and thinks he can improve on that, he is always given the freedom to try and improve the efficiency of these processes. Own initiative is not only appreciated but encouraged as well. These ideas usually also involve some kind of cross-division interaction, when he encounters a problem with the way data is provided to him, he needs to alter this data and communicate this not only to his direct co-workers, but to the IT-team responsible for the data as well. The way the office is organized helps with lowering the threshold for cooperation, since all you have to do is walk over to someone else's desk; no need for memos or bureaucracy.

We were also able to interview Iram Shah, responsible for Talent Management. She elaborated more on the working environment. At Dynamic Credit they try to really engage in the professional development of the employees, through having conversation with them on their career paths as well as through trainings and seminars. The open culture

in the offices helps on this as well, since it is easy for employees to recommend certain trainings as well as it is for their supervisors to do so. Employees need to be able to take responsibility, to which Koen replies that this also gives a feeling of freedom since you get to make your own decisions. A helping hand in this process is of course always available, you do not need to do everything on your own, as support is always around you. A lack of a strict hierarchical structure means that input becomes very visible and it also becomes quite straightforward to promote employees. Jasper for instance did not start in his current position, however the minute he demonstrated that he was able to take on more responsibility he was put forward for promotion.

Dynamic Credit into the future

The fact that Dynamic Credit is such a fast growing company means that not only the number of employees is increasing quite rapidly, but also opportunities within the company. The company is expanding with teams that specialize in other areas of lending: small-medium enterprise loans, buy-to-let mortgage loans, consumer loans and commercial real estate. Additionally working at Dynamic Credit exposes you to a very international environment with offices abroad in New York and Jakarta and over 15 different nationalities. This of course opens possibilities for current and future employees.

When Jasper started working, there were only around 15 employees working in the Amsterdam office, right now this is over 53. This increase also results in more and more specialisation, for instance a *Product Manager* has just been hired. A *Reporting team* has been established as well, which means that

Jasper's team now has more room to really focus on the quantitative part. In stark contrast with larger firms, this specialisation does not mean that these tasks become invisible for his team since teams work very close together.

Who are we looking for

When it comes to the ideal future employee it was quite hard for our interviewees to give an exact description. According to Iram it of course all starts with some hard skills, however this is far from the most important facet of the profile. More important than what you know is how fast you are able to learn new skills, and your willingness to do so. It is important that you are able to work hard, and even more so that this not only follows from what is required from you but also what you yourself want to contribute. According to Jasper a team works best when everyone works like they work for their own company, a certain degree of entrepreneurship is definitely required.

Koen quickly tells us that you do not need to be afraid of these statements, it should not be seen as some very high expectations but much more as freedom to define your own path and take your own responsibility. From this follows also Jasper's biggest advice to us as current students. Look beyond your studies! When you graduate you of course have quite a lot of hard skills and knowledge you have worked hard for during the endless stream of lectures and exams. However, it is also very important to expand your skillset as a person and explore your talents and possibilities. Go on an exchange, do a board year, join some committees. There is so much more beyond your studies. ●

THE TEACHER



Creativity and Econometrics

On September 28, Loes van der Linden and I were given the opportunity to interview Dr. Otilia Boldea. This interesting and at times surprising talk resulted in the following interview.

Text by: Zoë Connell

Otilia is 38 years old and lives in Tilburg very close to the university together with her husband and her son of 2 years old. Her husband is also a professor at Tilburg University at the Marketing Department and she mentioned that they had only met after working the same building for four years. Otilia was born and raised in Romania and has been living in The Netherlands for ten years now, and her husband is from Philadelphia, in the USA. They speak English, Dutch and Romanian with their son Damian. She notes that it is challenging to combine being a mother with a fulltime job at the university.

From art to econometrics

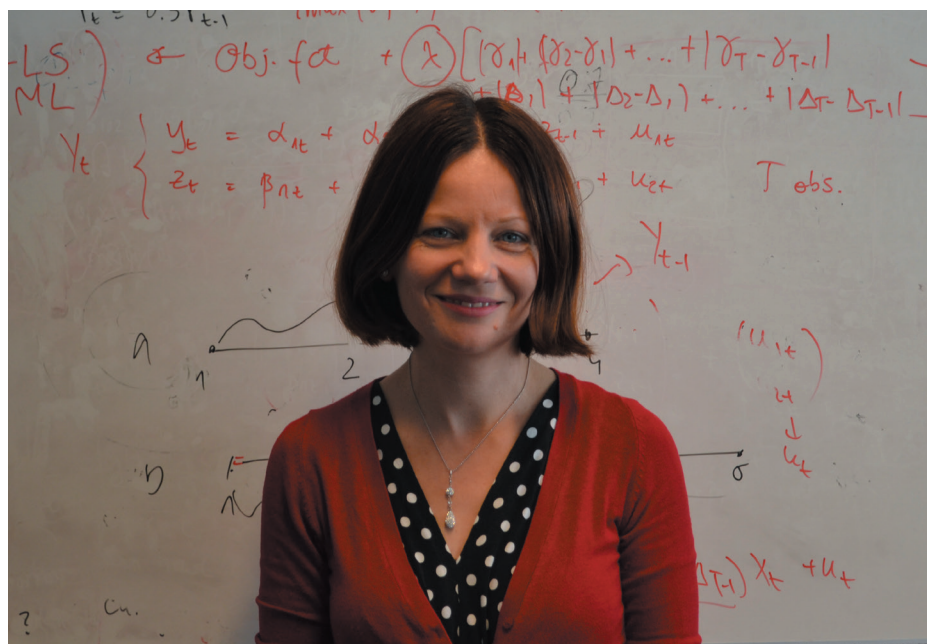
When Otilia was a young girl, she dreamed about becoming a singer later in life. After that, she thought about becoming a fashion designer or an artist. She wanted to attend an art high school, but her parents decided she could not. Otilia does not only have a creative side,

she was very good at mathematics and used to participate in maths contests. However, in Romania studying maths meant a low living standard, because getting a job was not easy and usually the jobs were not well paid. So, she started studying business in Romania for four years. She continued her studies with a study in Business Administration in Germany, which included more mathematical courses. Thereafter, she moved to the United States to pursue a PhD at North Carolina State University. After finishing her studies, she applied to several universities around the world for an academic appointment and was accepted in Tilburg. Fun fact: now she is 38 and she has lived as many years in Romania as she has been living abroad, both 19 years.

Comparing her own student life to the view she has of our student life here in Tilburg, she comments that there is

not too much difference. The classes are organized in the same way with lectures, computer labs and tutorials for most courses. She says that in Romania there usually is less graded homework. However, she is in favor of graded homework, because this stimulates remembering the material over the long term. Students tend to do their final exams on short-term memory and not on long-term memory. Therefore not only the final results are improved by increasing the number of homeworks, but also the overall knowledge of the students. She is not fully satisfied with the examination procedure at Tilburg University, as performance is partly based on speed. She hears complaints from students that they did not have enough time to finish the exam. If an exam is a lot of work relative to the time a student is given, this implies that fast thinkers can more easily perform well. However, it is not necessarily true that fast thinkers are better at a given subject than slow thinkers.

During her student life, she participated in a study association in Romania. She thinks that the association she was part of was less serious than Asset I Econometrics, as they mostly organized parties for the students. Also, a conversation like we had between students and a professor would not have been possible in Romania, because Romania is very hierarchical. In Germany the system is very hierarchical too and the secretary acts like a bodyguard to protect all professors from the students. In the United States the professors were more approachable, and she learned that this is more useful for students, so she is always open for conversations with students.





Otilia Boldea

Age:

38

At Tilburg University since:

2007

Specialization:

Time series analysis
in big data



To compensate for her insufficient study grant, she found time to work as a bartender in Germany. Her German was not great when she was living there, so she had difficulties to find a better job. Subsequently, she started working in a research center, first in the library and later she got a spot in the research center. This research center was specialized in Artificial Intelligence and at the time, the researchers were working on robots that could translate language.

Perhaps that Otilia's creative side makes her so good at what she does, her creative thinking enables her to come up with new solutions to mathematical problems. In her free time, she loves to paint. The painting on the photo in her office is hers and she says that she is most proud of how that one turned out. She takes painting lessons and usually it takes one semester to finish a painting. She likes painting so much, because there is no right or wrong, there is not one way to do it. However, you need a lot of patience to make one.

Research versus business

She mentions that she thinks that it is surprising how few of our own bachelor students choose to pursue a research master and PhD in economics with a specialization in econometrics at Tilburg University. She often comes across students that come up with creative ideas to solve problems and she always thinks that they should apply, but not many actually do. Perhaps most students want a job in the business world, whereas Otilia firmly stated that with the knowledge she has today, she would never trade her job for a job in business. Very briefly Otilia thought about a

financial career, but she quickly lost sight of the underlying assets and their meaning (something that happened to many others during the financial crisis). She thought about working at the Central Bank or to become a professor and she just decided to do the latter. An important reason for this choice was that she has the feeling that some businesses force people to take a less ethical attitude towards their clients.

A regular day at Tilburg University

When asked what a regular day at university looks like, she replied immediately with saying that there is no such thing as a regular day, which is great about life as an academic. She tries to schedule meetings and lectures after lunch, so she has all morning to work on her research every day. That way she makes sure that her other tasks do not stand in the way of her research. Since Otilia is the academic director of the Econometrics and Mathematical Economics program, she has many meetings. In addition, she advises students on their Master thesis for all three econometrics master programs. Her current research is in time series analysis in big data, where you have an estimator model and approximately fifty years of data and the parameters are continuously changing. She allows the parameters to change a few times in some points of time that you do not know. Since the data contains much noise, it is difficult to find where the breaking point is, but the fact that it is so challenging appeals to her. Students may know Otilia from the courses Data Science Methods, Time Series Econometrics or Econometrics 3. She most enjoys teaching Data Science Methods, since it is very applicable to

economic problems and there is a lot of new research every year. She tries to teach different subjects every few years to keep things interesting for herself.

Next to working at university, Otilia likes to play tennis. Her dad taught her how to play tennis. In addition, she loves nature and really enjoys hiking through the mountains. Also, reading books related to economics and big data is something you can find her doing in her spare time. She reads Nekst and likes the combination of different problems and interviews. However, she would love to see more English jokes, especially jokes made by teachers during lectures... ●

Bert & Ernie Questions

<input type="checkbox"/> Bert	<input type="checkbox"/> Ernie
<input type="checkbox"/> Teaching	<input checked="" type="checkbox"/> Research
<input checked="" type="checkbox"/> Tilburg	<input type="checkbox"/> Romania
<input type="checkbox"/> Beer	<input checked="" type="checkbox"/> Wine
<input checked="" type="checkbox"/> Fries	<input type="checkbox"/> Pancakes
<input type="checkbox"/> Mental calculation	<input checked="" type="checkbox"/> Using a calculator
<input checked="" type="checkbox"/> America	<input type="checkbox"/> Asia



**Dennis
Jaheruddin**

AGE: 29

Began studies in 2007

Memories over Dinner

Early December is a great time for an old Dutch tradition of happiness, calories and the fierce debates that go with it... I am of course referring to the (Aspirant) Former Active Members Dinner!

This year I was invited to Utrecht and would meet up with other veterans at Humphrey's. As I had not visited the city for a while, I decided to arrive a few hours early, and this proved that the old are not always wise. First, I was somewhat underdressed given that winter had come. My visit was furthermore limited by the fact that my phone was nearly empty so I knew nothing of my surroundings. Fortunately, I proved to be more optimistic than lost, so, after randomly walking through the city until I arrived, I declared my past ignorance to be bliss and entered the bar fully refreshed.

With this resolved, the waitress quickly ran across the restaurant to change our menu and thought we were almost ready to order. Oh, poor thing, how little did she know. The first of our group asked which dishes contained gluten, a reasonable query for which she just quickly needed to get the gluten menu. Upon her return the next person appeared to be allergic to shell fish... so after asking sequentially about allergies, cheese, beer and wine we had an impressive amount of menus on the table and the waitress had ran a small marathon.

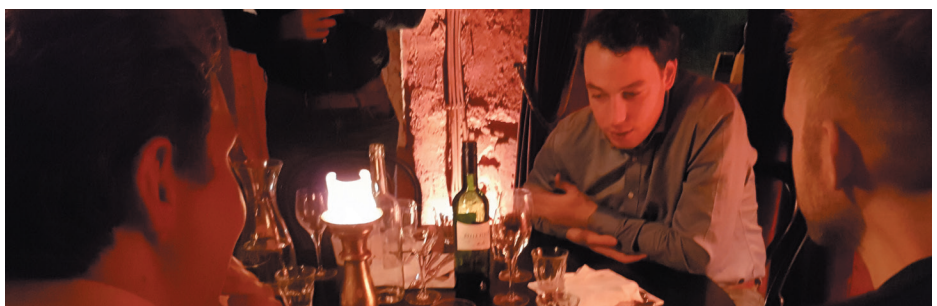
It is great to hear first-hand stories, as the life of an econometrician never needs to be boring. From the difficulties around planning flights a year in advance, to the chaotic regulatory landscapes that the financial industry must deal with, all kind of challenges are brought to the table. I will not disclose what was discussed during the second half of the dinner, but shall we just say that starting work does not stop people from gossiping. As the evening progressed the level of social stories describing what is happening now or has occurred in the past years easily surpassed anything that somewhat related to business.

'It is great to hear first-hand stories, as the life of an econometrician never needs to be boring'

Once everyone had arrived a waitress came to take our orders and soon it became apparent that though we left our study years behind, we had not neglected our minds. Within 42 seconds the group managed to reach consensus on upgrading our menu options by approaching the situation from all relevant angles. Mathematically it was only right to increase the budget per person because some people did not attend and we would not want to disturb the balance. Managerially we were good, because we had fiercely intimidated the treasurer. Ethically... I could go on, but I suppose the arguments based on game theory and utilitarianism speak for themselves.

With our dishes ordered and served we could now focus on the main event: chatting and exchanging experiences. I would not want to advertize, but as a data scientist I can highly recommend the former members' activities as a way to keep up to date on what people are doing and what is happening in general.

After a great evening, I rolled out of the bar with a satisfied body and spirit, and responsibly took the second-to-last train home. With everyone coming from different cities there was no wild after-party, but using public transport is always an adventure and I enjoyed reflecting upon a successful alumni event. ●



Looking for Free Data?

In my previous column I introduced myself and referred to the enormous potential of Econometrics. There is a huge variety of applications in which econometric techniques help to find optimal solutions or answers to (scientific) questions. However, in many applied research projects econometric tools are not the only requirement to find the answers. Something else is needed as well: data.

There are many different kind of data sources used by econometricians: sales data, data from the stock market, data from surveys, data from experiments, register data, etc. The term big data in particular is very popular nowadays. The more traditional researcher has to get used to this new phenomenon. The standard set-up of a research project is to first come up with research questions and hypotheses, followed by a search for suitable data. Once a model is developed and estimated on the basis of the data, conclusions can be drawn and the initial questions can be answered. With big data this process seems to be entirely reversed. One starts with (big) data and from this data the research questions are formulated. Although I really see the potential of big and unstructured data I have to get used to this idea.

Back to the more traditional types of data. You may have learned that it is important to first look at the quality of the dataset, before you start using it to estimate your econometric model. Take this seriously. Make sure the data are useful for your particular project, and in case the dataset has some imperfections try to correct or deal with it. And do not underestimate the efforts that have been taken to collect (new) data. Data collection is not a straightforward activity.

There are numerous things that need careful attention, like the way in which the questions are formulated, presented or asked. And when setting up an experiment it may be a good idea to first run a pilot study to make sure all elements of the experiment are optimized.

'High quality data come with a high price'

In your search for high quality data you may be confronted with a less pleasant surprise: high quality data come with a high price. In particular, when you want to collect new data with a survey or experiment using 'real' respondents you need a budget which is unreasonably high for a student. Even using data from administrative data sources such as Statistics Netherlands, with a much lower price, is unaffordable for a student. However, there is (at least) one rich data source that is available for the academic community free of charge, including for you as a student: data from the LISS panel.

The LISS panel is administered by CentERdata (Tilburg University) and runs since 2007. The panel consists of 5,000 households, comprising 7,500 individuals. It is based on a true probability sample of

households drawn from the population register by Statistics Netherlands. Households that could not otherwise participate are provided with a computer and internet connection. Panel members complete an online questionnaire every month, lasting about fifteen to thirty minutes in total. They are paid for each completed questionnaire. Part of the interview time available in the LISS panel is reserved for the LISS Core Study. This longitudinal study is repeated yearly and is designed to follow changes in the life course and living conditions of the panel members. It includes data from the following topics: health, politics and values, religion and ethnicity, social integration and leisure, family and household, work and schooling, personality, and the economic situation (assets, income, and housing). Next to the core study many other projects were (and are) run in the LISS panel, with a huge variety of topics. All data ever collected are available to you. Again: free of charge.

Looking for data for any scientific project, bachelor or master's thesis? Have a look at what's available in the LISS Data Archive: <https://www.dataarchive.liissdata.nl/> and be positively surprised. ●

Marcel Das

Marcel Das is the director of CentERdata and professor of Econometrics and Data Collection at the department of Econometrics and OR.



Sentiment Analysis using Natural Language Processing in R

Social media is used more and more for customer service. At the same time, there is more data available from these platforms. As customers express their opinions online, a company like Aegon is interested in the sentiment of these messages. Therefore a study is conducted which aims to find a way to convert the online messages to a measurement that can be used to monitor online sentiment. Also, we create a model that can categorize the messages in different sentiment categories. With the classification model, very negative tweets can easily be tracked and problems can be tackled. The study focuses on the social platform Twitter. However, the method can be applied to any platform with short messages and therefore this Practical Report will mainly focus on the used method rather than the results.

Text by: Ashley Beringer

Theory

For this research it was necessary to combine two research fields, natural language processing to convert text to usable data and machine learning to analyse the data and create a model.

In natural language processing, texts are often translated to a document term matrix: a matrix that *explains* n -terms. The GloVe algorithm projects texts on word vectors, instead of on n -terms, to reduce the dimension of features [1], as the number of n -grams can increase rapidly as the dataset gets larger. GloVe vectors are created by use of the GloVe algorithm. The GloVe algorithm collects the co-occurrence statistics of terms or words in the form of a $V \times V$ term-term or word co-occurrence matrix X . Each element X_{ij} of a co-occurrence matrix represents the measure of the occurrence of term i in context of term j . A term i is in the context of term j when it is in within the window of j . The window is determined by a parameter called window size. One can choose to give less weight to more distant words.

After the creation of the word co-occurrence matrix, soft constraints are created for each word pair. The soft constraint is defined as (1) where w_i is the word vector for the main word, w_j is the word vector for the context word, b_i and b_j are scalar biases for the main and context words.

$$w_i^T w_j + b_i + b_j = \log(X_{ij}) \quad (1)$$

Lastly, a cost function is defined as (2). Here, the function $f(X_{ij})$ is a weighting function which prevents learning only from extreme common word pairs. The weighting function should obey three properties as listed by [1]. Though, a large number of functions satisfy these properties, they found a class of functions that works well and can be parameterized as (3). Here x_{max} is an integer maximum number of co-occurrences to use in the weighting function and α is a constant. At experiments, $\alpha = 0.75$ gives a modest improvement over the linear version with $\alpha = 1$.

$$J = \sum_{i=1}^V \sum_{j=1}^V f(X_{ij}) (w_i^T w_j + b_i + b_j - \log X_{ij})^2 \quad (2)$$

$$f(X_{ij}) = \begin{cases} \left(\frac{X_{ij}}{x_{max}}\right)^\alpha & \text{if } X_{ij} < x_{max} \\ 1 & \text{otherwise} \end{cases} \quad (3)$$

There is previous research on machine learning on texts, but often these are based on n -grams or on very long texts. Hence, for this research five different machine learning methods are evaluated to see which performs best for tweets and global vectors. The considered models are Naive Bayes (NB), Support Vector Machines with radial kernel (SVMR) and with linear kernel (SVML), classification tree (CT) and random forest (RF).

NB is used because it is easy to implement and a good benchmark to compare to previous research as many papers on NLP include NB. The same holds for the CT.

The naive Bayes classifier assigns the class k which has the maximum posterior probability $\arg\max_k P(k | x_i)$.

The conditional probability that that observation i belongs to class k , given the features of the tweet, is denoted $P(y_i = k | x_i) = P(k | x_i)$. By use of the Bayes theorem, this conditional probability can be rewritten en substituted in the maximum posterior probability to get $\hat{y}_i = \arg\max_k \frac{P(x_i | k)P(k)}{P(x_i)}$. The denominator can be dropped, for $P(x_i)$ is independent of the class k , resulting in $\hat{y}_i = \arg\max_k P(x_i | k)P(k)$.

The likelihood $P(x_i | k)$ is defined as (4). Without simplifying assumptions, (4) is still hard to compute directly and therefore the naive Bayes assumption is made. This is, the conditional independence assumption that probabilities $P(x_j | k)$ are independent given class k and hence (5) is assumed to be equal to (4). This results in the naive Bayes classifier (6).

$$P(x_i | k) = P(x_{i1}, x_{i2}, \dots, x_{ip} | k) \quad (4)$$

$$= P(x_{i1} | k) \cdot \dots \cdot P(x_{ip} | k) \quad (5)$$

$$\hat{y}_i = P(k) \prod_{j=1}^p P(x_{ip} | k) \quad (6)$$

Random forest is evaluated because it reduces the risk of overfitting and it creates less variance than a classification tree.

Lastly, SVM and SVMR are used because previous research shows both theoretical and empirical evidence that these models work well on categorical texts. Both random forest and support vector machines are well explained by [2]. The methods can easily be programmed by using different R packages, among which tree, e1707 and randomForest.

Data

The data used for this research are three months of Dutch tweets that contain the term "Aegon" (3019 tweets), which are given a sentiment score manually. The intended purpose of the research is to monitor the online sentiment and compare the sentiment between two periods, hence the classes in which the 3019 tweets are scored are such that these applications are possible. In order to determine how the scoring should be, various combinations of classes are considered and benchmarked against the applications. The scoring with the classes {"very negative", "negative", "neutral", "positive", "very positive", "irrelevant/unknown"} is chosen as this is the only one that

satisfies the required qualities without downside on that matter. This scoring can provide a distribution between positive and negative tweets, the classes are such that a general sentiment score can be formulated and the classes distinguish weak and strong sentiment. Lastly, by either comparing the distribution or the general score, sentiment between two periods can be determined.

The data is processed in R to apply the techniques of natural language processing. From the GloVe package we select the `text2vec` function is used to apply the GloVe algorithm, resulting in 50 global vectors. The resulting cleaned dataset is split to a training set and test set twice. First, a random test set is considered where test observations are randomly scattered over time. Also an out of sample test set is created, consisting of the last 20% most recent tweets. An out of sample test set suits the possible applications best.

Results and conclusion

In order to compare the models that resulted from the different methods, several classification errors are formulated. One of the errors is the common misclassification error, hence the fraction of wrong classified tweets. The second is a misclassification error adjusted such that an extra penalty is given to misclassifying in classes that stand further away from the true class. Lastly, an error is formed by the difference in the true and predicted general sentiment score, denoted as TPS (Twitter Promoter Score).

$$TPS = \frac{\#very\ positive + \#very\ negative, \text{ negative \& neutral}}{\#total}$$

The results of the research shows however, that one does not have to take all three errors into account as the model that has the lowest error rate (performs best), also performs best or at least very well in the other errors.

From the results it followed that the random forest and support vector machine with radial kernel classifier is most promising for short messages online. Furthermore, all models performed did not perform well on the out of sample test set, especially on the smaller sentiment categories: very negative/positive. Possible solution can be extending the data set, resulting in global vectors that are less sensitive to terms from a specific period and more data in the smallest categories. ●

References

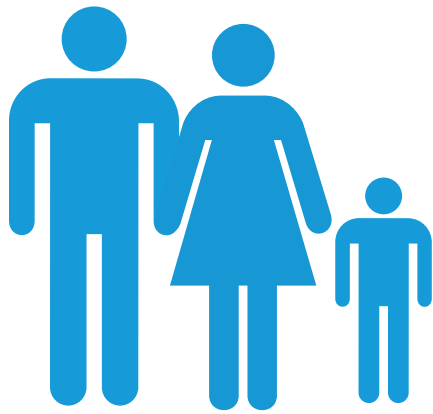
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- [2] James, Gareth and Witten, Daniela and Hastie, Trevor and Tibshirani, Robert, 2014, *An Introduction to Statistical Learning: With Applications in R*



Ashley Beringer

Age: 24

Began studies in 2011



Spirituality and Happiness

Another recurring Nekst topic is 'The Parents Of..', in which we meet the parents of one of our members who have a special story, profession, or anything else about which our editorial staff can write an article. In order to meet such parents, Ridho Hidayat and I traveled to the picturesque municipality of Apeldoorn. This city is known for among others *Paleis Het Loo*, the *Apenheul*, a huge playground named after former queen *Juliana* and – of course – for being the hometown of **Jaron Kappers and his parents: Jaap Kappers and Corma Baas.**

Text by:
Dominique Bavelaar

I assume the reader is already flabbergasted by reading those amazing characteristics of our countries' tenth largest conglomeration, but you could still be wondering what is so special about Jaron's parents. I realize that my last statement is not a good appetizer for the rest of this article, so I will summarize in one sentence what they do for a living, which you can read more about in the rest of this written piece. Both Jaap and Corma are preachers for the protestant community in Apeldoorn.

Becoming a preacher

Jaap and Corma attended the Theologische Universiteit Kampen (Kampen University of Theology), where they also met each other. Jaap already knew that he wanted to become a preacher since he was a kid. His dad was a preacher too and the profession appealed to him very much, especially the

part during the reception where they ate cake. On the picture on the side, you see little Jaap back then.



Corma first decided to study Theology and during her studies, when she was around 22 years of age, she discovered she wanted to become a preacher too. During their studies, they followed their courses together with future clergymen from all branches of Christianity (so Lutherans, Catholics, Calvinists et cetera), since the backbone of the studies is quite theoretical and similar whether you want to become either a preacher, a priest or a monk. For example, Jaap and Corma had to study ancient Greek in order to read and analyze the New Testament, Latin in order to do so for texts written around the birth of Christ, and Hebrew, since the Old Testament is written in this language.

Student life

Of course, there was also room for – only slightly – less serious activities, such as sports. Jaap was, and still is, a gifted soccer player. This year is his 50th year as KNVB-member ('Royal Dutch Soccer Association') and for this reason, he expects a decoration soon. When I asked whether he ever won a prize using his talents, he leaps up from the sofa and disappears upstairs for a few minutes. Then he comes back with an impressive cup

in his hands, leaving the lay-outer and me silently impressed for a moment. The story behind the cup is a bit unusual, so I will share it with you. Every year, the Theology school of Kampen organized a football tournament. Jaap's team managed to win one of these tournaments, and they won a cup, which you can see on the picture below. Jaap did not get to keep the cup at first. Later on, one last tournament was organized at the faculty. Jaap's team managed to win, and as a prize, permanently borrowed all trophies that were still present. However, he mistook the cup he took for himself for the cup he once won. Therefore, he ended up with a different cup, the one which we saw.

Corma remarks that a large part of theologians is sporty: "Theologians are either unworldly or good at sports." Especially the women's football team of Kampen has always been of exceptional quality. When you look at the (current European champion) squad of the Dutch Lionesses, always three or four members have studied theology. Corma was also a football player in her student days and she met Jaap at the football pitch: he was once the trainer of her team.



Jaron as a kid

Of course we also asked about Jaron and his childhood, hoping we could acquire some information to share with you. Jaap and Corma agree on stating that he was a very nice and good kid. He was a perfectionist and liked to make jokes all the time. Jaap: "That

is why I always thought that Jaron would become a comedian or writer as a grown up. Besides, in the Netherlands, a lot of famous comedians are sons of preachers; just think of Freek de Jonge or Seth Gaaikema." The choice for a program in Econometrics was, to say the least, something quite different, but Jaap and Corma supported it immediately.

Jaron did not have to obey to strict rules, even though this is something that is often thought when people think of being the son of a preacher, let alone of two preachers. They did take him along to church each Sunday until he was sixteen though, and during his upbringing, certain Christian values were given much attention. Speaking of those values, imagine every human has an intrinsic value, whatever they do and whatever society thinks of him or her. "Or that you," which Corma stresses is typical Protestant, "always ask yourself why you do certain things and at the same time think of what impact you make on people around you and society in general."

Besides Jaron, Corma and Jaap also have another son and daughter (which are Jaron's brother and sister indeed). They all started cooking since they were five years old, Jaron's specialty being spaghetti. He always made it the way he was told to by the Donald Duck's Cooking Book (Dutch: Donald Duck Kookboek). Jaron and his family moved to Apeldoorn nine years ago, after having lived in Zaltbommel for thirteen years. At first, Jaron did not like that at all, since he had to leave all his friends, and since he was already in fifth grade (groep 7), it was hard to make new ones in Apeldoorn. However, he started to enjoy Apeldoorn much more when he started going to high school.

Daily life of a preacher

It is nice to note that Corma and Jaap both serve in the same community which constitutes for both a 0.5 FTE job. Working activities differ from day to day: from funerals



to marriages to mass on Sunday. Also, Jaap and Corma do pastoral work (Dutch: pastoraal werk). They visit people across the community who are going through tough times (e.g. becoming unemployed or sick). They do their work, literally, pro deo: it is not accounted how much time is spent on which part of the job and their salary is paid for by the community. They can determine themselves how they arrange their working week.

For the pastoral work they also have a team of volunteers doing the same. These volunteers come together in weekly meetings which are chaired by either Jaap or Corma. The teams are quite large and consist of lots of different people: from school president to tax officer to nurse. Jaap and Corma give them workshops on how to help people with disabilities or psychical problems.

When asked what it is like to lead a funeral, Corma remarks that she actually likes this more than a marriage in general, since she can really help the family to deal with the loss of a dear one. Of course, sometimes this is really tough, especially when she needs to lead a funeral of someone of Jaron's or his brother's / sister's age. It is, however, really satisfying to see and feel that people feel supported by the preacher. When she or Jaap gets home after a funeral, they have a little drink on life; to celebrate what you have instead of worrying about what you do not.

We would very much like to thank Jaron, Jaap and Corma for this refreshing interview! ●





Mirror Piece

Last edition's Mirror Piece was received very warmly by our readers and we are happy to announce yet another episode of one of our most successful concepts. In case you have not heard of the Mirror Piece yet – for whatever reason: a NEKST editor digs deep into the Esplanade building's archives in order to find an interesting "old" NEKST article. Old means in this season's edition March 1993. The piece that is published in the upper half of the following pages consists of parts* of the old article, the writing below compares the situation back then to what is happening right now. You can imagine a hypothetical mirror in the middle which connects the past and the present, which explains the name of the concept. We try to find parallels and differences between historical and current day situations, which is both interesting to read and useful to understand public sphere dynamics, happening right now, better.

Text by: Dominique Bavelaar

Last season's edition, Thomas shared his interesting analysis on a very well-known phenomenon: the governmental study grants (Dutch: "stufi"). Back in the nineties there was huge turmoil about potential cash flow cuts and/or extra pressure for students in the Netherlands and he guided us through the variety of public debate drivers back then. In case you did not yet have a chance to read it: you definitely should. It provides a nice insight in how the point of view with regard to study grants has completely changed over time, whereas the topics about which is argued, are much more static than it seems...

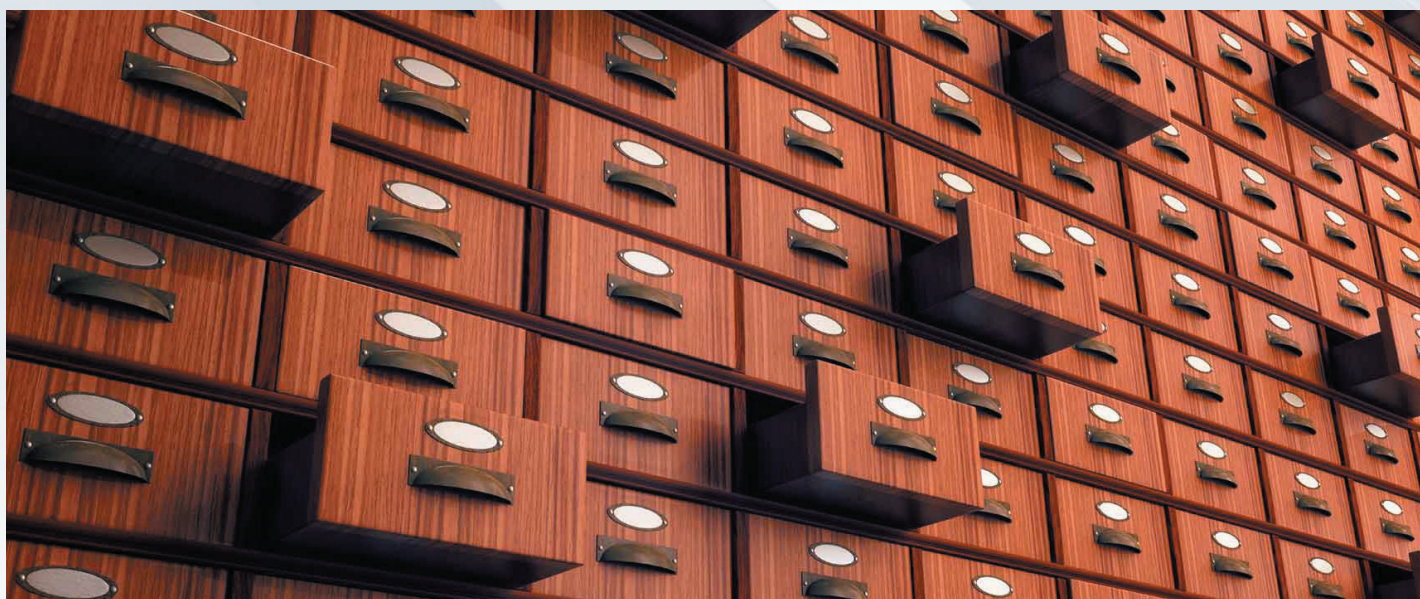
The last few sentences treated mostly the recent past, regarding last season's edition. Now I will take the reader further into the past, to an era in which the editor, responsible the article you are reading now, was not even born. We are in 1993, March 1993. A quick look at Wikipedia teaches us that this was the year in which Czechoslovakia was split up, Bill Clinton became president of the United States, VVV-Venlo won the Eerste Divisie and dr. Gerrit Zalm was chief of

the Central Planbureau (CPB; Central office for government policy analysis). Geert-Jan de Haan and Hubert-Jan van de Laar, editors back then, travelled to Den Haag (The Hague) in order to have an interview with dr. Gerrit Zalm. Since the Centraal Planbureau makes use of mathematical and-more specifically- econometric models in order to analyze and forecast economic consequences of governmental policies, this institute ought to be interesting for econometricians.

The latter statement proved to be the case: one quarter of all employees is an econometrician and the rest are other academics, who have a more economic background.

The Centraal Planbureau really has an impact in The Netherlands, since it also sometimes advises the government about policies. However, the most important thing is that they really are an authority concerning policy analysis: if a plan is approved by the Centraal Planbureau and its models, it has a much higher chance of getting implemented than if this would not be the case. Join us on our journey to 1993 and stay with us till we get back to the future...

*** For the full original article, visit www.Nekst-Online.nl**



De Overheid Anno 2000: Kafka versus Darwin

Prof. Zalm is directeur van het Centraal Planbureau, dat gevestigd is in Den Haag. Het Centraal Planbureau houdt zich vooral bezig met het voorspellen van de Nederlandse economie, afhankelijk van een bepaald politiek beleid. Hieronder volgt een interview met prof. Zalm over het Centraal Planbureau, het basisinkomen en mogelijke toekomstige internationale ontwikkelingen.

Text by: Geert-Jan de Haan en Hubert-Jan van de Laar

- Fact 1
- Fact 2
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1993

Het Centraal Planbureau heeft drie lange termijn scenario's opgesteld over de ontwikkeling van de Nederlandse economie in de komende vijftig jaar. Deze scenario's lopen uiteen van een stagnatie van het Europese eenwordingsproces tot mondiale samenwerking op vele gebieden. In één van de scenario's gaat u uit van de invoering van een basis inkomen. Kunt uitleggen wat u daarmee bedoelt?

Dat is een voorziening die de volwassen Nederlander kan krijgen ongeacht zijn omstandigheden en waar tegenover staat dat de bestaande sociale regelingen goeddeels komen te vervallen. Voordeel is natuurlijk dat al die regelingen vervallen en dat er daarom geen controle meer op uitgeoefend hoeft te worden. Het is volledig geïndividualiseerd en men hoeft dus niet te kijken hoe iemand woont, of iemand wel echt arbeidsongeschikt is, of iemand wel echt wil werken etcetera. Nadeel is dat het systeem potentieel heel duur is omdat iedere Nederlander er aanspraak op kan maken, dus ook mensen die nu geen uitkeringsrecht hebben. →

Government Anno 2017: Kafka versus Darwin

De Haan and Van de Laar's title refers to the role people adopt towards our countries' government. I only adapted it slightly for two reasons: first of all lack of creativity, but also because it already covers the central topic amazingly well. And why would you alter something that is already good? Change just for the sake of change is not necessarily an improvement.

Text by: Dominique Bavelaar

- Fact 1
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2017

Anyway, the title, which I secretly made the main topic of this section, is used in the context of a debate about whether or not everybody should be entitled to a fixed basic income. With this we mean, a secured fixed income for every citizen of the Netherlands, so that if one fails to find a job for whatever reason, you still get money from the government. In order to get to know more about this and many more interesting topics, the editors met prof. Gerrit Zalm, who was in chief of the Centraal Planbureau in 1993.

Most of you will know prof. Zalm as a key politician, public administrator and ABN Amro bank's former board chairman. More recently, he played an important role during the formation of a new Dutch government – he was the so called informateur. Hence it is interesting to see to what extent the views and predictions of 1993 have been implemented in contemporary public sector policies. →

Het basisinkomen moet zo hoog zijn dat iemand er rond van moet kunnen komen in Nederland. Wordt dat dan niet te duur?

Dat is dan ook het grote probleem. Als het te hoog wordt gemaakt dan wordt het ongelofelijk duur en werkt het economisch ook negatief uit, maak je het te laag dan zegt iedereen dat hij daar niet van kan leven. In ons scenario hebben we het huidige bijstandsniveau voor alleenstaanden als uitgangspunt genomen. De koopkracht die aan die uitkering zit, zit er over 25 jaar nog aan, terwijl de gemiddelde werknemer zijn inkomen met 70% heeft zien stijgen. Er is dus geen absolute teruggang ten opzichte van het huidige niveau van de bijstandsgerechtigde, maar wel een relatieve achteruitgang. Aan de andere kant geldt dat als je met zijn tweeën bent, je twee uitkeringen krijgt en dat is meer dan de huidige bijstand voor een gezin. Bovendien zijn er mogelijkheden volop om bij te verdienen, wat bij de huidige sociale wetgeving niet het geval is. Het is nu zo dat je meer inkomen moet verwerven dan de huidige bijstand, anders kan je beter niets doen of zwart gaan werken.

Hoe was u van plan om het basisinkomen uit te keren?

Het geheel kan in principe worden uitgevoerd door de belastingdienst. Het basisinkomen wordt gewoon verrekend met de loonbelasting in de vorm van een taxcredit, een aftrekbaar bedrag van de loonbelasting. Diegenen waarvan de schuld aan de belastingen kleiner is dan het basisinkomen of de negatieve inkomstenbelasting, zoals we dat ook wel noemen, worden uitbetaald.

U wilt het basisinkomen geleidelijk invoeren. Hoe wilt u dat doen?

Daar hebben wij een soort stappenplan voor uitgewerkt. De eerste stap is het doorvoeren van een ministelsel in de sociale zekerheid. Dan bestaan er alleen nog maar minimumuitkeringen. Vervolgens moet de belastingvrije voet geïndividualiseerd worden, nu bestaat er nog de mogelijkheid de belastingvrije voet van je partner over te hevelen. Vervolgens wordt de belastingvrije voet omgezet in een taxcredit. Daarna wordt die taxcredit

steeds verder opgetrokken zodat een steeds groter deel van de uitkering uit een taxcredit gaat bestaan. Op een gegeven moment zijn deze aan elkaar gelijk en dan is de uitkering de betaalde taxcredit en is er sprake van een basisinkomen. Op weg hiernaar toe worden geleidelijk steeds meer voordelen geboekt. Doordat de bijstand voor een steeds groter deel wordt vervangen door een taxcredit wordt het steeds sneller interessant om een baan te nemen.

Hoe staan de politieke partijen tegen over uw plan, heeft u daar al reacties op gehad?

Je ziet dat de neiging ontstaat om in plaats van de uitkeringen steeds maar bruto te verhogen, het belastingvoordeel steeds meer op de onderkant te concentreren. De SER heeft gezegd dat het bevorderen van de koopkracht van de minima door lastenverlaging in plaats van verhoging van de uitkeringen beter is voor het functioneren van de arbeidsmarkt. Dit past natuurlijk in een scenario waarin de uitkering langzaam door een belastingvoordeel wordt vervangen. →

Now that the field of play has been sketched, allow me to explain what is meant by the Darwinist and Kafka approach. Prof. Zalm states that in 1993, the situation in the Netherlands was as follows: in order to get unemployment benefits or other social security payments, the government needed to know a lot about your personal situation. Also, you get some obligations concerning the duty to apply for jobs and it is not allowed to create yourself some extra (informal) cash flows (Dutch: bijklussen). All this is expressed by prof. Zalm by a Kafkaic approach, since this of course involves quite some bureaucratic measures and this encroaches on the citizens' freedom.

In case of a fixed basic income, the government does not need to impose such obligations anymore, prof. Zalm states. This is because the fixed basic income is the same for everybody and people individually try to benefit as much from the government, which is

seen as counterparty, as possible in order to secure their income. This is described by prof. Zalm as the Darwinist approach. There are a lot of different ways in which one can implement this idea of a fixed basic income, but the core concept is that everyone has a fixed secure lower bound on their income, where it is allowed to earn more in case one is able to.



Prof. Zalm mainly advocates to implement this via the tax system, in which the fixed basic income threshold is a common tax credit for everyone

(say €20000 for the sake of simplicity), which should be subtracted from the amount you earned that year, when filling in in your tax reports. If you earned less than €20000, the government pays 'negative labour tax' to you. He suggests to first individualize the tax-free income threshold, before translating this threshold into a tax credit.

What is the situation right now? Fixed basic income is still a term one can find in the book of ideas of some political parties. This is, though, more in the sense that the government should increase social security payments to people who are sick or grants to artists. However, prof. Zalm's proposal concerning implementation in the tax system is carried out to some extent: there exists a higher tax-free threshold (Dutch: belastingvrije voet), which basically means that the first x thousand euro's you earn are exempted from labour tax. Prof. Zalm also advocated to only have a lower bound →

Als politieke partij hoef je niet meteen te kiezen voor de invoering van een basisinkomen. Wat je wel in het oog moet houden is dat je de weg er naar toe openhoudt, dat je geen beleid voert dat hiermee in strijd is. Ik heb met enkele individuele kamerleden gesproken, met name van de PvdA die erg enthousiast over de plannen waren. Het voordeel voor de liberaal, zeg maar de rechtse econoom natuurlijk dat de rol van de overheid sterk wordt teruggedrongen en versimpeld. Aan de andere kant zitten er ook voor de linkse econoom aantrekkelijke aspecten aan zoals emancipatie en individualisering.

Als iedereen bij mag verdienen zullen dan de lonen niet gaan dalen aan de onderkant van de arbeidsmarkt?

Door dat extra aanbod krijg je een gematigde loonontwikkeling. Aan de andere kant wordt het draagvlak voor de collectieve voorzieningen erg verbreed en daarmee wordt de koopkrachtontwikkeling sterk gestimuleerd omdat de lasten omlaag kunnen. Per saldo zien wij dan ook geen probleem om het arbeidsaanbod

te absorberen en we verwachten dat de arbeidsmarkt beter gaat functioneren. (...) De lager gekwalificeerde mensen die nu buiten de arbeidsmarkt blijven vanwege de hoge loonkosten, zullen meer kansen hebben. Dit komt omdat je iedere gulden die je kan verdienen ook mag houden (afgezien van de normale belastingheffing) en hierdoor worden juist voor die groep de kansen sterk vergroot. Dit geldt niet voor de hoger gekwalificeerden want daar verandert het systeem weinig voor.

In een ander scenario gaat u er vanuit dat de overheid wel in staat is de naleving van de sociale wetgeving te controleren. Waarop is dat vertrouwen in de overheid gebaseerd?

In dat scenario gaan we er vanuit dat er meer is dan alleen het eigen belang. Er wordt meer discipline ingestampt en er wordt wat harder opgetreden, wat zakelijker. Als we zo'n stelsel hebben, moet je als je een uitkering aanvraagt niet zeuren over privacy. Dan wordt er gekeken wat voor een auto je rijdt, worden bestanden gekoppeld en wordt thuis gekeken wat er

gebeurt. Mensen op een uitkering worden allerlei verplichtingen opgelegd, zoals verplicht omscholen en een verplichte banenpool.

Dus als je je privacy wilt behouden, moet je niet om een uitkering aan komen kloppen, doe je dat wel, dan weet je dat er bij je gecontroleerd gaat worden. Ik heb weleens gezegd dat dat associaties met Kafka oproept, de teugels worden behoorlijk aangetrokken. Het scenario van het basisinkomen heb ik wel eens Darwinistisch genoemd. De overheid wordt daar als tegenspeler gezien. Iedereen probeert zo weinig mogelijk te betalen en zo veel mogelijk te profiteren van de overheid. Iedereen gedraagt zich dus als een homo-economicus zonder veel ethiek. Dit zijn de twee hoofdlijnen waarlangs je afhankelijk van verdere omgevingsfactoren een verbetering kan aanbrengen. ●

for people's fixed income securities, but this is in theory still not there: if people do not abide by the rules. Set by the government, they may face payment cuts. Also the fixed tax credit for everybody is not there, and there are also no signs that the government will implement it in the near future.

Instead of the fixed basic income approach, governments decided to simply increase social security payments for several years, until the credit crisis. The main argument for increasing these payments instead of creating a tax credit is that the latter is relatively expensive if one wants to maintain welfare levels (Dutch: koopkrachtplaatjes) of people who are entitled to social security payments. However, people who have a job

usually experience an increase in welfare level over the years and to a lot of people that feels unfair.

So all in all, it still holds that unemployment benefits also come with obligations towards the government, but people with a low income also encounter relatively less labour tax pressure and it is tried to increase social securities accordingly to guarantee an annual purchasing power increase. These attempts have, however, not always been successful. Especially during the post-crisis years until 2013, but of course also working people did in general not experience welfare increases back then.

Also, we still have debates about environmental tax measures, but prof.

Zalm states that these corresponding tax revenues were mainly used to cover expenses on non-environment policies. This is to some extent still the case, but there is nowadays invested much more in so called 'renewable energy' by the public sector, such as solar energy (in fact every form of energy is to some extent solar energy in an indirect way, but I hope the reader understands what I mean). Nowadays, an often heard argument in favour of environmental taxes is that it would change people's behavior. It has, however, since 1993 not proved that this is the case.

So all in all, we can say that that a lot of the Centraal Planbureau's forecasts have actually come true. Also the underlying dynamics that drive the public debate on a macro level are still caused by similar ideas, but the policy-wise implementation differs from time to time. ●

'Everyone has a fixed secure lower bound on their income, where it is allowed to earn more'

ASSET



Econometrics



International Business Tour 2017: Hong Kong



Bringing the Best Together

The National Econometricians Day, abbreviated as LED, is the largest career event for econometrics students in the Netherlands. Each year it is organized by a different study association, and this year Asset | Econometrics has the honor to organize the LED 2018. As we only have a few months left until the LED 2018 takes place, this seems like the right time to introduce you to our committee.

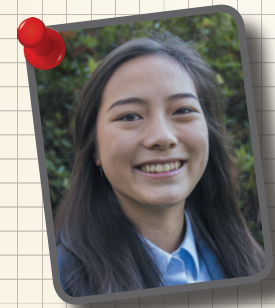
It all began in December 2016, when six excited students received the message that they were going to be part of the LED 2018 committee. We soon got together for our first unofficial (cantus) meeting in January, where we quickly discovered our shared enthusiasm for a lot of things including the LED, stuffed animals, and cantus songs. Changing "TEV is vet!" - the well-known phrase at the end of every cantus song - to "LED is vet!" was going to be our committee's first goal.

Then, we got word of the first challenge we were going to face for the LED 2018: changing the branding theme of the LED. It was quickly determined that the theme color of the LED was going to be purple. Our chairman Quirien was so happy to hear this, that he has not left his purple sweater at home ever since!

During the first meetings we brainstormed a lot about what we wanted to change and

improve for our edition. Our main objective was to increase the capacity of the LED in 2018, since the LED 2017 sold out in only three minutes. In addition, we thought that there would be better locations than the Jaarbeurs in Utrecht, since there are not enough case rooms for the amount of companies we need to acquire to increase the LED's capacity. So, we had to look around for other locations that could host the LED 2018.

After discovering that a lot of locations were either too small to hold 600 students, or were already booked for the possible dates in 2018, the hope to book another location than the Jaarbeurs was almost lost. Fortunately, we got very lucky with the NBC Congress Centre in Nieuwegein. At first, they were already booked as well, but luckily they were willing to ask one of the parties to move their event to another date. The other party agreed and suddenly we had found a new location for the LED 2018!



Wenxin Lin

AGE: 19

Began studies in 2015

In the following months we were searching for a design company, speakers, party location, hostels, and for most: companies. Fortunately, our committee consists of very smart and hard-working students, and all of this went very well.

New Challenges

With the acquisition of companies going smooth and summer on its way, we were surprised when we found ourselves suddenly facing a whole new problem: we were going to lose half of our committee! Our treasurer Anne and marketing officer Loes were going to fulfill two roles in the board of Asset | Econometrics, and on top of that our board supervisors Björn and Linda were going to quit the LED as well. How were we ever going to find replacements who are just as awesome?

During the summer treasurer John, marketing officer Joris, and board supervisors Max and Jochem joined us and made our committee whole again, and just as awesome as before. However, now the committee suddenly consisted of 5 men versus 3 women, instead of the peaceful 2 men versus 6 women which was the case beforehand. I am sure you can all imagine the frustrations of this female secretary. At the moment I am writing this, the registrations are almost taking place, which is a very exciting thing for us. Hopefully everything will turn out fine!

As I have already exceeded the word count by now (Sorry Guus), I hope I have told you everything you wanted to know about our committee and hopefully we will see you on February 7! ●

**Harm Tanis****AGE: 18****Began studies in 2017**

A Nearly Formal Activity

On a cold evening on Thursday November 23, the Asset Gala took place. With the theme Casino Royale, this evening could not become anything less than a success. It was a great opportunity to meet up with friends, dance a little and also to meet new people from all different Asset departments.

Before we went to the Asset Gala, we ate together with a group of friends. When we were done eating we prepared ourselves. Everybody put in some effort to dress themselves up the best they could, and in my opinion this succeeded pretty well. When everyone was dressed we were ready to go, so we hopped on our bicycle and went to the Klasse Theater.

Once we got inside, we adjusted this prejudgement. The location was great and there was way more space than we expected. At the room next to the entry, some casino games were set up, at the end of the building there was a theatre room and in between you could get your picture taken.

of a gala serious, since everybody looked really good and clearly put effort into their outfits. The theatre room was nicely crowded and everyone was enjoying themselves.

At a certain point we decided to take a little break from dancing and we started playing some blackjack. Luckily, at the beginning of the evening, we got enough chips to last us a while, or that is what we thought. It turned out we overestimated our capabilities and it did not take us long to lose all of our chips. Therefore, we went back inside and talked to a few other people. After a while the band stopped playing and they were replaced by a DJ. Even though it does not fit the style of a gala like a band does, I thought it was a nice change and a little variation is always welcome.

Since we began our evening early, at 00.30 hours our group was tired and we not that thirsty anymore. So we decided that it was time to go home, after a pleasant evening. I met some people from the other departments of Asset which was quite nice. All in all, I really enjoyed myself and I am looking forward to the next one! ●



'Everybody looked really good and clearly put effort into their outfits'

Since it was my first time on an Asset Gala, I had no idea what to expect. After we bravely challenged the cold, we finally arrived. Here we found out that it is clearly not normal to arrive on time at this event. As we were one of the first groups to arrive, there was no queue yet and we could immediately enter. At first, we were a bit pessimistic about the location, because from outside it looked really small.

We talked a little, took a picture and drank our champagne. After this we decided to go into the theatre room, which was still quite empty. After half an hour and a few drinks the theatre room slowly got crowded, and there was a band that started to play live music. At 22.30 hours, most people were inside and the party really got started. It was clear that most people took the concept

A Little Western Place in the East

Together with 23 other students, I went on the International Business Tour to Hong Kong! First of all, I want to thank the committee: Guus Boonstra, Jochem Bruijninx, Jon Daal, Lennart Dekker, Bas Dietzenbacher, Robert Poos and, not to forget, Rachel van der Velden for their hard work! We had an amazing ten days, seeing almost everything the city has to offer (at least, from the top twenty on TripAdvisor, what to do in Hong Kong, we skipped only one!).

We went to Schiphol to fly with Swiss Air (they provided us with nice chocolates, even for someone like me, who does not like chocolate) to Zurich and after a short stop we continued to Hong Kong. We arrived in Hong Kong at around 17.00 hours local time and had to hurry to make it to the Hong Kong lightshow, which started at 20.00 hours. The first thing I immediately noticed is that buildings like Talent Square and Westpoint are ordinary in Hong Kong. The city is very densely populated and we noticed that also in our hostel. On the 15th floor, Daan Marechal, Tom Scholtze, Mattijs Veneman and I shared a room. Since this was the smallest room in the hostel, there was no space for opening your suitcase and as one can imagine, the beds were made for small Chinese people. However, after some complaints about the sizes, probably mostly by

me (I am not very jubilant if I sleep poorly), I had great roommates and we had a nice stay!

The first day in the East

The next day, remarkably few people had a jetlag when we went to the Hong Kong Stock Exchange, and after a presentation and a quick tour (time is money), we had some free time. With some mates I went to the second-largest building of Hong Kong to get some info on the monetary units of Hong Kong, and most of all, to enjoy the amazing view! Then we went with the longest escalators in the world to visit a nice place for lunch after which we met the whole group again to use the peak tram to go to Victoria Peak. After, again, some nice views, we went to Happy Valley, for Oktoberfest horse racing. Unfortunately, I lost all my bets (one should really bet on Mr. Win Win).

After a night's sleep we had a somewhat more formal day. At the legislative council of Hong Kong, we got an extensive tour and learned about the way their government acts and what the connections are between Hong Kong and the United Kingdom, in addition to some insight on the relation between Hong Kong and China, from the Hong Kong perspective. After the council, we went to The Open University of Hong Kong, to have a great lunch, meet with other students and attend a lecture given by one of their honorary professors about the differences in culture between China and the West. After the lecture, we were given a tour around the campus by a Russian lecturer, whom I asked for a good place to eat! I am still glad that I asked her that, since with some people I got lots of Dim Sum for barely any money and it tasted

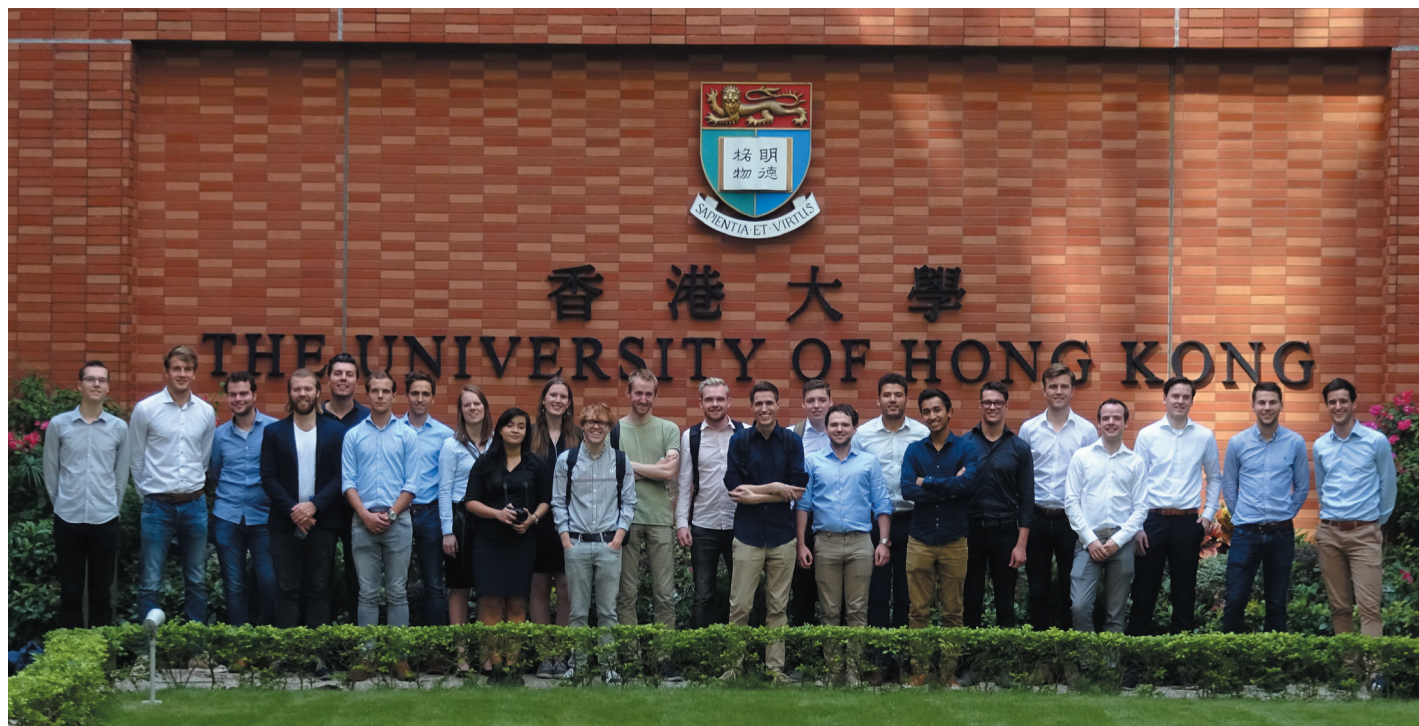


Pepijn
van den Brink

AGE: 22

Began studies in 2013





wonderful! If you go to Hong Kong, you should definitely visit One Dim Sum. After One Dim Sum, we went to the Temple and Ladies Market, to see AliExpress in real life. We finished the day with some mojitos in the Eye Bar (a nice bar nearby our hostel).

The academic side of Hong Kong

The next day we went to a company called Flexport, which is also located in Amsterdam. In the afternoon we visited the Hong Kong University (where one has to take the elevator, since it was really built in the sky), afterwards we visited some typical markets in the neighborhood and went back by boat (especially the chairman enjoyed this) to our hostel. After some preparations, we went with a large group to a restaurant (for the first time), ran by a man calling himself Mr. Wong. For only 6 euros (which is really

'If you go to Hong Kong, you should definitely visit One Dim Sum'

cheap, since a reasonable dinner in Hong Kong is more expensive than in the Netherlands), he provides us unlimited food and unlimited beer! After Mr. Wong, I went with a group to the largest building of Hong Kong and to highest bar in the world, on top of the ICC building! As you can expect, this was a really chic bar and shorts are not allowed. Luckily the staff was really nice and provide some guys decent pants to borrow!

Truly touristic

Surprisingly, the next day was a day off! Some of us had a hangover, some went to Dragonsback, but I wanted to go to Cheung Chau Island. After the chairman, Bas "Emilio" Dietzenbacher, persuaded me (which

I am really glad he did!), I went with a small group first to Lamma and afterwards to Cheung Chau Island. On Lamma Island, which is only accessible by boat, we did a really nice hiking trail. Lamma island is a small fishing island, which is really beautiful, nice, quiet and peaceful (in other words, away from the crowded Hong Kong). However, close to Hong Kong is still Hong Kong. So after a wonderful walk taking close to an hour, you could slowly see a big power plant coming closer. They built a powerplant on the wonderful Island of Lamma.

After the trail, we took the boat back to Hong Kong Island, to get another boat to Cheung Chau Island. →



On Cheung Chau no cars are allowed! So we rented a bike and discovered the beauty of Cheung Chau. Ridho and I saw the most delicious fish during the trip through the islands, so we had to eat fish that evening. For dinner we shared a lobster and a nice meal of shrimps!

The following day was Jon-day (Jon was in charge of the organization of that day). We first went to the largest temple called Man Mo. Afterwards we went to beautiful Chi Lin Nunnery, which was Buddhistic and in my opinion more impressive than Man Mo. In the free time we replayed "Wie is de Mol" by visiting the ten thousand buddhas. To reach the monastery you have to climb a lot of stairs. The path was wonderful and again the view was great. In the afternoon it was possible to hike to the Lion's Rock, which was a hike for the experienced (which of course I was not). After some startup problems, Tim Laurensse and I eventually managed to reach the top without delay!

A trip to Macau

The next day was a trip to the other special region of China and the gambling capital of Asia: Macao. Macao was a Portuguesa colony and the city center was really nice! Of course, we ended the day by visiting the biggest casinos of Asia. Here it can really seem like you find yourself lost in Venetia, Paris and the city of dreams! Of course I could not handle myself and had to gamble. This is a little bit different than Holland Casino, as the minimum bet in Macao, for just an ordinary Black Jack game, is about 25 euros. But at the end, after some losses, I left Macao with profit by playing an obscure Chinese dice game.

'We ended the day by visiting the biggest casinos of Asia. (...) Of course I could not handle myself and had to gamle'





Tuesday was the last day of company visits and Halloween. First we went to the dock of Shell in Hong Kong and in the afternoon we went to SAS. But, as one can imagine, the nicest thing of the day was the Halloween party! Alcohol in Hong Kong is quite expensive, so we went to a familiar place to get our drinks for a very reasonable price (yes, this is again Mr. Wong). After some

'But as one can imagine, the nicest thing of the day was the Halloween party!'



beers we went by subway to Long Kwai Fong (LKF). Halloween is a big thing in Hong Kong and there was a large queue to enter the area of LKF. We visited a nice bar and had some drinks.

The next day we visited the consulate general of the Netherlands at her home. She gave us a nice presentation about her and the Dutch government's view of Hong Kong, which is of course different than the one of the legislative council. We ended the day by some drinks at her place in her wonderful garden!

The finishing touches

It was already time for the last day. We packed our suitcases and went to Lantau Island. We visited the Po Lin Monastery, a great fishing village called Tai-O and ended at the wonderful Big Buddha, Tian Tan.

At the end of the day it was time to go home, again with a flight by Swiss Air. I could not sleep during the flight, so I chilled with the stewardesses and got a tour through the plane. After returning to the Netherlands, I started a powernap (which became a powernap of 14 hours) and most likely dreamed about the wonderful trip! ●



THE PASSION OF... LUUK VAN LIESHOUT

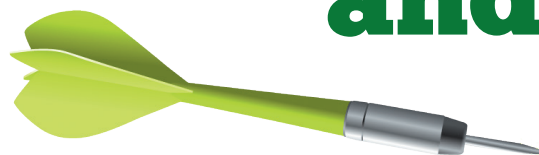


Luuk van Lieshout is an eighteen-year-old freshman, who was born and raised in Oss. He has an interesting hobby: he plays darts at such a high level that he even missed a midterm for a darts tournament in the United Kingdom.

Text by: Zoë Connell



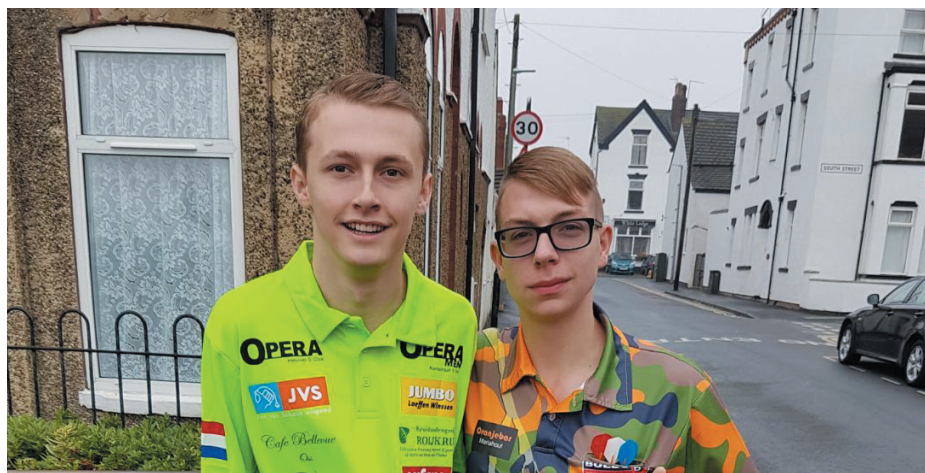
Lucky Luke and Darts



How it all began

It all started when he was about fourteen years old. His dad played darts tournaments and hence they had a board at home. He started throwing some darts for fun and soon realized that he enjoyed this sport. Of course, he also found that he was quite good at the game. Not much later, he became a member of the RDB (Rivierenland Dart Bond) in Nijmegen, where he played youth tournaments in the Netherlands. Luuk: "I could play well enough, but I never reached high rankings in those competitions."

you are on the path to becoming a professional dart player, that is just the way it works." Luuk does not train on fixed times and days every week, but mostly he trains during the evenings and in the weekends. His goal is to train an hour a day, but if he cannot manage for whatever reason, that is not a big deal: "I mainly train because I really enjoy darts, not because I have to do it every day. Often I train together with my dad, brother or friends, whenever they want to. I would advise people to start playing, because it is a lot of fun!"



'If Luuk would have to choose between his studies or his passion, he would choose his passion'

When we asked Luuk what his usual training routine is, he immediately states that he always plays while/after enjoying some beers. Luuk: "When I was younger, I thought it was too early for beer at 9.00 hours, but when

Tournaments

Luuk is now eighteen years old, so he cannot compete in youth tournaments anymore. Instead, he has to play with the adults. Everyone is allowed to subscribe to a competition; there are

competitions for all levels. Luuk has been playing with the grown-ups for three months now and his world ranking is +/- 1000. Not every competition is taken into account for this ranking, so often the competitions he plays in the Netherlands are just for fun and for practice. The two tournaments he went to in England were tournaments that are taken into account for his world ranking, where you could earn points in every round.

Luuk just wants to focus on studying and he wants to make sure that darts stays a hobby, instead of an obligation with pressure to achieve higher world (or Dutch) rankings.

Combining darts and econometrics

In the Netherlands there are quite a number of different darts associations. Luuk: "I think that we have approximately 25 of them in total. I myself play for the RDB in Nijmegen."

Famous darters

When people think of darts, probably people such as Michael van Gerwen, Raymond van Barneveld, Peter Wright and Phil Taylor come to mind. All of these people have different habits, walk-on songs and clothing, so of course we asked Lucky Luuk about his (strange) habits! He has two sets of three-dart arrows and always has green flights and shafts, but he does not have a walk-on song yet.



In one of these, he managed to obtain a 32nd place out of 700 contestants. The other tournament in the UK he competed in, the Winmau World Masters, was less successful; he lost the first round and had to leave. However, he is very proud of his accomplishments, given the high level of people that participated.

The Winmau World Masters tournament in England was in fact also a televised tournament. Luuk: "Regardless of not making it through the first round, the experience was incredible! I had to qualify myself in April during a qualification tournament in Breda, and I won, but then I had to compete in four games in one week." He says that his dad went to England with him and the games took place in a small town called Bridlington.

He was not too sad that he missed the midterm, as England was more fun... Luuk: "I do not have any plans for new TV tournaments yet, but this can change any minute." At the moment

Being a member of the RDB enables him to play national competitions. In addition, there are monthly tournaments that count for the Dutch ranking. Luuk: "I do not participate in these monthly tournaments often, because it costs a lot of time. I did participate in these tournaments when I was part of the youth group, though, and we won the competition as a team of 21 people a couple of years in a row!" Now, Luuk needs to spend more time on his studies and so he cannot compete so often anymore.

If Luuk would have to choose between his studies or his passion, he would choose his passion. He wants to finish his Bachelor and pursue a Master's program in econometrics and thinks that it will be easier to make a living as an econometrician than as a darts player. Luuk: "You really have to have an extremely high ranking to be able to make a living with darts (the best twenty of the world)."

Does anyone have suggestions? He has not had walk-on girls yet, but perhaps those only come with great fame; be patient, Luuk...

Luuk is a big fan of Phil Taylor, however the reason behind this is not as you would think. When Lucky Luuk was a little boy, he went to a tournament in Nuland where professionals such as Michael van Gerwen had to play together with his dad.

After the game he asked some of the professionals if they wanted to be on a photo with him and only Phil Taylor wanted to do that. Luuk also follows a couple of professionals and tournaments on Facebook and he has his own fan page. One of his friends made this page and currently he has around 55 followers. If you want to know more about Luuk or his passion, follow him on Facebook! ●

Undercover in the Finance Expedition

November 14 I started my undercover story in the Finance Expedition (also known as the Finex). During this expedition 24 of the best students from Asset | Econometrics and Asset | Accounting & Finance set off to the Zuidas. Here, they were introduced to four companies operating in the finance sector and had the opportunity to learn about their daily operations.

Thanks to great effort of the committee we could conveniently travel with a bus to the Mövenpick hotel in Amsterdam. When we arrived at the hotel there was some time to have a drink at the "skybar". When the drinks arrived we received some practical information about the trip. Hardened with this recent success the committee decided they should use their confidence to bring us some bad news. They had decided that we should get used to the working hours of the financial sector. Without mercy it was announced that we would leave at 8.00 hours and should get our breakfast at 7.00 hours.

firm specialized in the field of treasury and has their main office in Bussum. We arrived a little early and started the day with a much needed cup of coffee. Then Sander from Zanders gave us an introduction to the history of Zanders. Afterwards there was some time to ask questions and a short break before we would start our first challenge of the Finex. We received a case built around restructuring the financial process of a large company. After a thorough look in the books of this company we came up with a restructuring plan that should help them save cost on the financial process.



The next morning everyone managed to be at the bus in time. The Finex would kicked off by a visit to the main office of Zanders. Zanders is a consultancy

We joined Zanders for lunch and had some more time to ask questions to employees.



After lunch we went back to the Zuidas to meet Deloitte. Deloitte is located at one of the most sustainable office of the Netherlands. Deloitte introduced us to a case in the corporate finance. This case was mainly aimed at the Merger & Acquisitions (M&A) side of Deloitte. Here, I could fall back on my training as undercover agent. After years of practicing finance cases, I was capable of masking the fact that I did not do a master finance. As the only non-finance master student I really felt as if going undercover in the finance sector once again. Luckily my years as an undercover agent in the finance world helped me to quickly become one of them again. In addition the group was very open and everyone connected quite easily. This made the cases more fun and helped the conversations with companies. After the case Deloitte introduced us to their newest worker, which was a huge artificial eye that learned from your input. At that moment he was capable of speaking three languages (despite we heard no word). We went for dinner and drinks with Deloitte and had an interesting chat with their employees and the group. After that we went back to the hotel where we finally took some rest. Unofficially we grabbed a drink at the bar where we discovered that their bar process was sub-optimal...



The committee remained quite productive. The next morning we would leave even earlier at 7.00 hours, hence we had breakfast at 6.00 hours, a good night's sleep is overrated anyways. Luckily, they arranged that the breakfast was also open at 6.00 hours so that we were well prepared when we left for a.s.r.

Once we were at the office of a.s.r. we quickly found ourselves a seat, as the CFO was coming for a speech. He told us about the nationalization of a.s.r. (when it was still part of Fortis) and how they balanced and restructured the company. This gave us some insight in how they managed to bring a company from bad health and trouble to a healthy and thriving company. The speech was followed by an interactive case which was aimed at optimizing the

The case was followed by a tour at their sustainable office, where we learned about their innovative ways to transform their old office into a new and modern sustainable office. Here you could see that even their janitor was 100% dedicated to the company. Although he was not involved in the financial processes he was completely convinced of the decision a.s.r. made for a sustainable future. Again we had some time for lunch and to discuss the insights we gained from the case.

After lunch at a.s.r. we quickly set off towards Kempen & Co. They introduced us to the active and quick world the traders of Kempen & Co live in. They gave a unique case to us in which we all owned a bicycle company. On the market there was a consolidation battle



early phase. However it all ended with some great surprises and a lot of laughter about the mergers and partnerships that had been closed. It was also at this case that I was in danger of being exposed as an undercover agent. Luckily my actions were recognized as complete logical financial decisions.

After the case we had a great dinner at Kempen & Co and many people still wanted to discuss the case. Many were not satisfied with the outcome of the case and wondered about the true optimal solution. All we should conclude on this is that also in the real world it can be hectic and decisions have to be made in a sub-optimal environment. After dinner we went back to Tilburg. In Tilburg there was some time left for drinks and everyone thanked the committee for their great effort. My undercover part ended here and I really felt at home in the financial sector again. The great group and fun cases allowed us to construct a comprehensive view of the job opportunities at these companies. Maybe we will be working for them in the coming years.

Altogether, we had a very nice group and visited great companies in these two full days. I would recommend everyone to sign up for the edition of next year. I hope that my undercover story also convinced you that even if you do not have a finance master you could still be working for these companies. At least I consider them as a future employer. ●



structure of the portfolio which included insurances. This was a very nice way to see how decisions would work out in the years that followed.

and we had to sell our company or buy one of the other parties. People were so eager to win the case that all the negotiations got stuck in an

Cycling through the City

When Patrick Floor invited me to participate in the Cycling Dinner, I had never heard about this activity. Apparently, the Cycling Dinner is an annual event organized by Asset | Econometrics, where duos are assigned to prepare either a starter, main course or dessert for two other groups. I certainly liked the concept; it is a very enjoyable manner to meet new people, which I absolutely did.



Job Hoven

AGE: 19

Began studies in 2017

Patrick and I had the responsibility to prepare the starter of the night in French style. We decided to prepare ragout, a typical French appetizer that does not contain snails. We spent the entire afternoon making this and we even made our own chicken bouillon. It was not easy at all, because neither of us had ever cooked ragout before, but with some good preparations, lots of patience and some fine wine, we had brought it to a successful conclusion. The ragout was very tasty and it was certainly appreciated by our guests. We even received a prize for it later.



After we had finished the appetizer and enjoyed our company we had to move to our next meal. Our main course was cooked by Emma and Chlöey. They had to prepare something in Japanese style, so they gave us sushi and actually also won a prize later that night. We were accompanied by Bernard and Linda with whom we shared beers and nice chats.

Sadly the time passed quickly and we had to move to the next house for our dessert prepared by Dominique and Jeffrey. Their dessert was ruined, so they had to improvise in making a new one. While they went to the supermarket to find a nice alternative for us, Patrick and I played some drinking games with Björn and Juul. We kept playing until they

came back with some Mona desserts. Lots of childhood memories came back because of this wonderful dessert; needless to say, they tasted very nice.

After chatting some more, we decided to go to the award ceremony and monthly drink at Café Qwibus, where also the announcement was made for the next Europe Trip, which will be in Prague. Unfortunately I was too late the next day to sign up. Nevertheless I amused myself very much during this event. It had everything I needed: friends, food and free beer. After the award ceremony, some people decided to go out into the city, but we decided to go back home because we were tired. It was a pleasant Cycling Dinner for me and I look forward to participate again next year. ●





Become Active!



Have you become enthusiastic after the last drinks or one of the activities? Asset | Econometrics has many possibilities to develop your 'soft skills' and to organize many different activities. For more information, you can always send an email to info@Asset-Econometrics.nl or visit us in room E1.10 (Esplanade Building) to discuss the possibilities!

Find the complete overview of our committees on our website: www.Asset-Econometrics.nl





Niels Jansen

AGE: 20

Began studies in 2015

Orientation Day

A First Look into the Real World

The Orientation Day is a nice switch in pace after long days of lectures. What am I learning to apply, where does my knowledge go? During this event students get a nice look into the daily practices of some companies and learn what academic path leads to what possible futures.



I first got word of the Orientation and Connection Day by my friend Joris Piree, who is part of the committee organizing this event. A few weeks before the event, the committee handed out flyers in advance of some lectures followed by a presentation. This presentation was to inform everyone about the purpose of the day, which made me immediately interested to participate. We could choose between two different days, the Orientation Day or the Connection Day. The Orientation Day was for students who did not know which Master to choose. While the Connection Day was to connect with different companies and participate in their cases to see which kind of companies they preferred. Since I did not know what master I want to do, I chose for the Orientation Day.

The day itself started at 11.00 hours with a panel session. There were four students who talked about some of the extracurricular activities they do or have done. We had a PhD-student, an ex-Chairman of the board of Asset I Econometrics, someone who worked at 'De Kleine Consultant' and someone who worked at Aorta Business Intelligence. All the talks were very interesting. Now I know who to consult if I want to do one of these extracurricular activities.

After this we got a short presentation about the master EME (Econometrics and Mathematical Economics) from the Academic Director. This presentation explained the courses and thesis subjects you could choose in that specific master.

After this presentation we got another presentation by the firm Y-Group. This is a consultancy company, which recently started to grow. Their policy is that they stay in contact with the company during the implementation of the new strategies which are given by Y-Group. I think this was a very interesting presentation, which showed exactly what you can do with the EME master.



After these presentations it was time for a nice lunch. There were sandwiches of all kinds including the Dutch delicacy 'worstenbroodjes' or sausage rolls. The second presentation was about the master QFAS (Quantitative Finance and Actuarial Science). Here the presentation explained what kind of subjects you can choose for this master as well. Optiver was the company that had a presentation that was related to the QFAS master.

This is a trading company, which has offices across the whole world for example in Amsterdam, Chicago, Shanghai and Sydney. They are located in these cities to always be active on the trading market. For their presentation they brought a test with simple algebra questions. We had the opportunity to make this test, for which we had 8 minutes for 80 questions. Every good answer was 1 point, every wrong answer was -2 points and everything you did not make was 0 points. You needed approximately 45-50 points to even be considered to get a job there. Although we did not have any preparation some of the students even succeeded!

The last presentation was for the master BAOR (Business Analytics and Operations Research). Like the other presentations the master was explained and a company presentation followed. Lastly, the company Argus-I had a presentation about what they do. Argus-I is a supply chain analyst, hence they help other companies with optimizing their supply chain.

After all the presentations, everyone from the Orientation Day and the Connection Day came together at the Campus Café for a drink to finish off the day. I believe this day was a great success, and I got more inside in what the companies do. This helps choosing between the masters. ●



Connection Day

Getting in Touch with the Future

Since this was the first time I went to a formal activity, I did not know what to expect from the day. Until now I was not thinking about internships or having a job at all. I am however already in the fourth year of my studies, so I decided that it was time to start orientating and went to the Connection Day.

The day started at 10.00 hours with the registration and a cup of coffee or tea. After which Marion, from TiSEM Career Services, kicked off the day with the first presentation. She told us about orienting ourselves on the job market, and the importance of already doing this during your studies. By starting to determine what you look for in a job now, you can avoid ending up with a job you do not like in the future. This is important since your job will be a big part of your life. Which made me think about my future, what do I want?

After the first presentation, the company presentation started. I went to the company presentation of Veneficus, a company that is specialized in data analytics, data science and factual decision making. The presentation was really interesting, and there also was a little case. We were divided in groups and had to think about what investments would be useful for 'Bakker Bart', since they want to implement a new business strategy. This was really nice since 'Bakker Bart' is a real client of Veneficus, so this gave us a good idea about what kind of problems are solved by Veneficus on a daily basis.

When Veneficus finished their presentation, we went to the 'Faculty Club' to have a business lunch. This was really nice, because now we were able to have a conversation with the people who actually work at Veneficus. It turned out that I already knew one of the employees, Lianne. She also studied

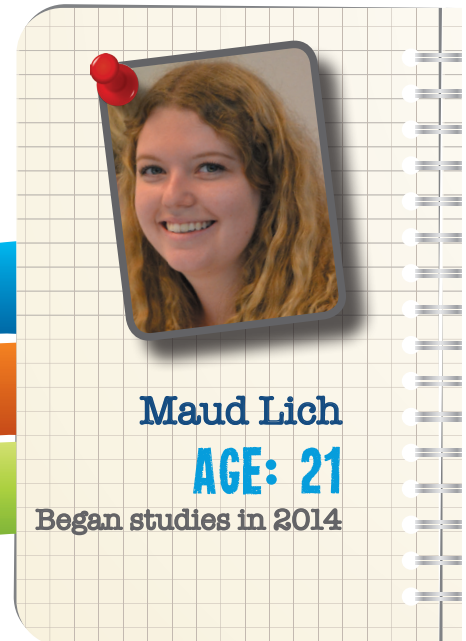


in Tilburg and a few years ago we had dinner together during Cycling Dinner. We asked them questions about their studies, working life, but we also had some informal conversations. The food during the lunch was delicious!

The day continued with a company case by a different company. The company I chose for the case was BearingPoint, which I never heard of before but it turned out to be a really interesting employer! They started with a presentation about their company, the clients they have and what a week at their offices looks like. After this introduction, the case started, we were divided into four groups. The case was about a client that wanted to invest in houses in the UK. Based on some criteria we had to decide on how to invest in the different areas of the UK. They provided us with some data with details about prices, location, crime, et cetera. The case took about 1.5 hours

and after that every group had to present their recommendations for the housing company. After the four presentations, the people of BearingPoint gave us some short feedback and they chose the winner of the case. The tips they gave were really helpful for the future and our group won the price, so we were happy!

The day was concluded with a drink. I talked with students that went to other company presentations and cases and we shared our experiences of the day. It was a really nice day, fun and useful at the same time! I know for sure I will visit more of these 'formal' activities from now on. ●



Let's Talk!

Text by: Zoë Connell

Bucket list

Almost exactly a year after the first installment of the Let's Talk our editors took to the field again to interview econometrics students in the wild. This "wild" happened to be the quite domesticated Monthly Afternoon. Here they asked students to forget the here and now, let go all the frustrations and fears of the upcoming exams, and focus on the future. They asked them to look at the broader picture: Where do you want to go? What do you want to achieve? What is on your bucket list?

GREENLAND

CANADA

UNITED STATES

MEXICO

BRAZIL

ARGENTINA

Nienke van der Wal:
"I would like to visit
Hawaii."

Charlotte Nijman:
"I would like to be one
of the princesses in
Disneyland. Especially
one of the princesses with
a very big pink dress."

Loes van der Linden:
"Travelling around in
Latin America."

Juul Kooijmans:
"Having an alpaca as a pet."

Jochem Bruijninx:
"Living on a boat with my
girlfriend."

Wenxin Lin:
"Living on a dairy farm."

Ridho Hidayat:

"I want to be interviewed in a TV talk show such as RTL Late Night or Jinek, and talk about my (future) life achievements."

Bas Dietzenbacher:

"Going on the International Business Tour of Asset | Econometrics for the fifth time."



Thijs Kramer and Thomas van Manen:

"Seeing Sven Kramer obtain a gold medal on the 10k in South Korea while sitting in the audience."

Dirk Cremers:

"I want to visit Australia."

Claire Vink:

"Travelling through New Zealand with a camper."

Polle Dankers:

"I do not have a bucket list, but I would like to visit New Zealand."

Melissa van Wingerden:

"I want to do a jeep safari in Africa."

Bernard van den Broek:

"I want to swim with penguins in South Africa."

Till NEKST Time!

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!

St. Nicholas' Poem

Dear Econometricians,

*Each year when the days grow short,
Econometricians prepare their exams, being bored.
Luckily there was a place to take a break,
Since too much studying causes only headache.*

*Like every month, Patricia opened her door,
Unleashing us all on the pub's dance floor.
What happened next is as easy as $2+2=4$
Everyone enjoyed a small beer, or even one more.*

*So far, it was a drink like everyone knew,
People chatting, but the tension grew
Since this drink was not completely the same,
As also Saint Nicholas and Black Pete came.*

*Against all odds, the Petes were still just as black,
But it appeared they did forget their jute sack.
Poems and presents they did not forget,
Which made many attendants break a sweat.*

*Because everyone looked innocent and cute,
But nothing could be further from the truth.
It turned out that Sint had heard quite a lot,
And therefore some lessons had to be taught.*

*Because everyone should know there is a designated room to pee,
And a bachelor's can be attained in less than eight years, maybe even in three.
Throwing bottles at cyclists is definitely not smart,
And avoiding being punched in the face should not be that hard.
The Sint did not even spare his own Pete,
Because last drink he could not even stand on his own feet.*

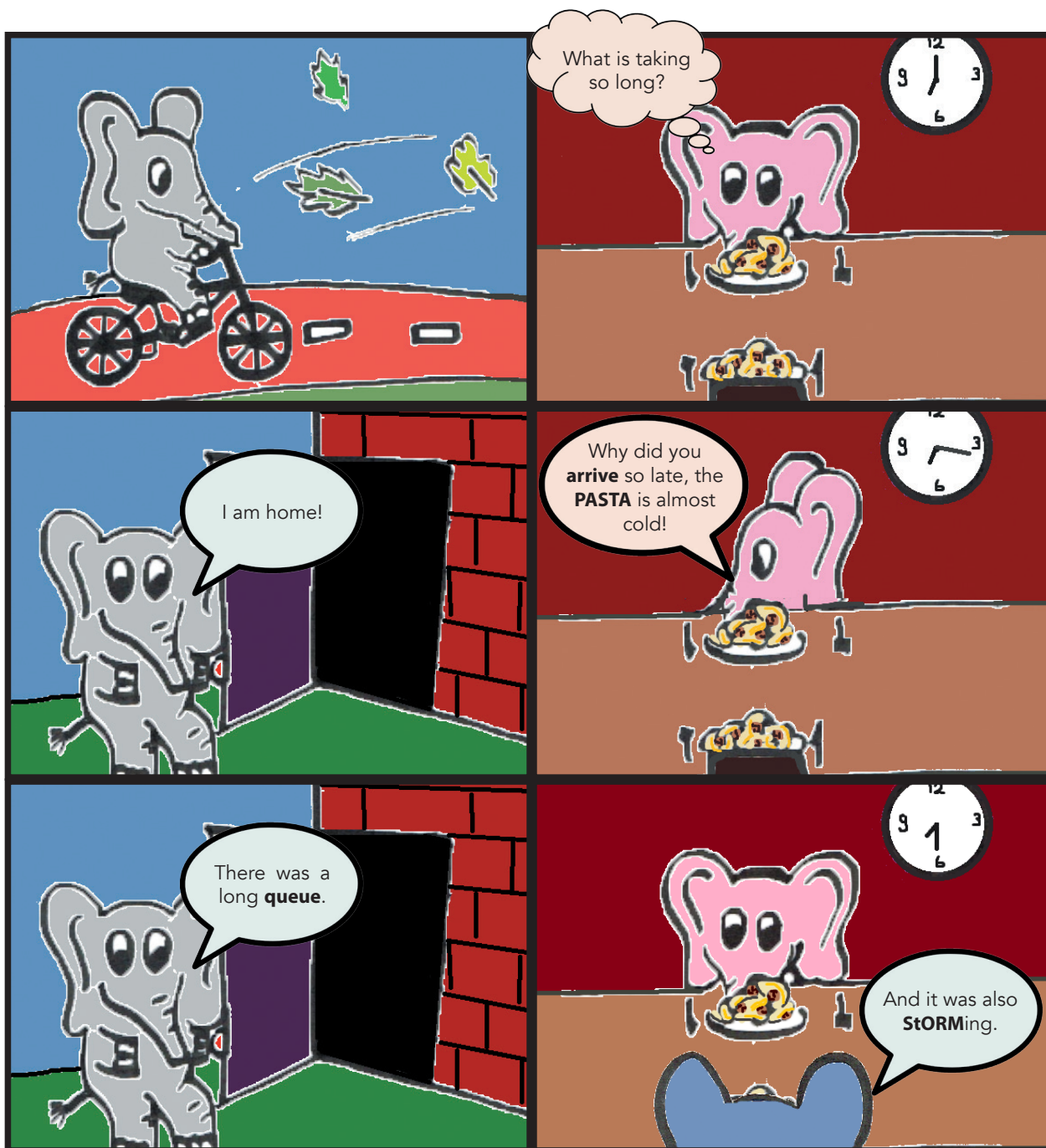
*Sint hoped no one would be this stupid ever again,
Gathered his Petes and went back to Spain.
However, the night grew so long, with so much beer,
He will have to visit us again next year.*

Best Regards, Thomas



A Cold Winter STORM

Made by:
Loes van der Linden



PUZZLE

The following three puzzles are truly mathematical poetry. For every question the aim is to fill all boxes with the numbers from 1 to 9, each number can only be used once. The beautiful and elegant result of every number being used exactly once should be enough reward for completing this puzzle! However the board of Asset | Econometrics has offered a crate of beer or a cake for the first respondent to finish the puzzle and send the correct result to Nekst@Asset-Econometrics.nl

There are 362880 possible ways to fill in each of these puzzles. Even if you were able to try one of these combinations every second, it would take you over four days to try them all! The logical step therefore is to find some strategies to limit the number of possible combinations.

1. Numeric Threesome:

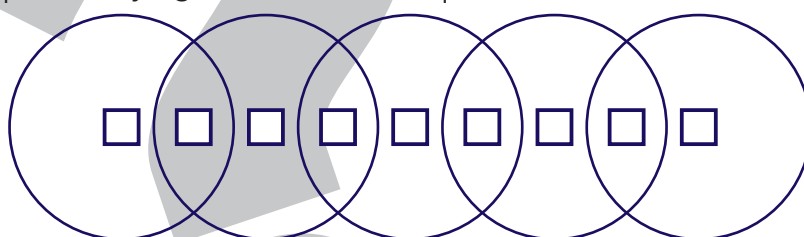
$$\begin{array}{r} \square - \square = \square \\ \square \div \square = \square \\ \square + \square = \square \end{array}$$

2. Unequal equations:

$$\begin{array}{r} \square \square \times \square = \square \square \\ \square \times \square = \square \square \end{array}$$

3. Circular sums:

This puzzle is a combination of three puzzles, try to fill the boxes in the following puzzle with the numbers from 1 to 9, using every number only once. The result should be that in every circle the sum of all the numbers is equal to 11. When you have finished this puzzle, try again for the subsequent sums of 13 and 14.



For elaboration visit
NEKST-ONLINE

Bernard van den Broek 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 solutions of the previous puzzle were:

1. Astrics

2. Nekst

3. Pulitzer prize

Quatsch!

Max Wilke:

"Twee ezels stoten zich niet aan dezelfde teen."

Bernard van den Broek:

"Ik heb dat seizoen van 'Wie is de Mol?' niet gezien, want ik mocht toen nog niet zo laat opblijven."

Jeannine Beker:

"Ik mis Matlab, ik doe er heel het semester niks mee."

Bas Dietzenbacher:

"Op mijn grafsteen staat in ieder geval held."

René Peeters after handling the blackboard a little too roughly:
"Oei... Peeters proof."

Charlotte Nijman:

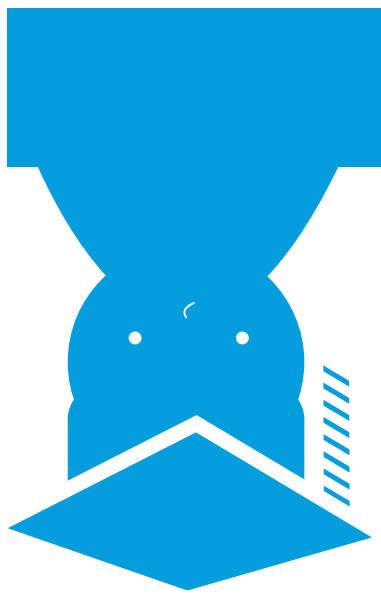
"Ik laat deze knuffel even naar Linda Torn kijken, dan kan hij vast aan haar gezicht wennen."

Dominique Bavelaar:
"Ben je sociaal of ben je gewoon vega?"



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 | 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!



Asset | Econometrics congratulates...

Name: Lotte van Bakel
Master's program: Business Analytics and Operations Research
Supervisors: Dr. B. Drepper, Dr. N.F.F. Schweizer

Name: Mustafa Kiling
Master's program: Quantitative Finance and Actuarial Science
Supervisors: Prof. dr. Th.E. Nijman, Dr. F.C. Drost

Name: Steffi van den Hanenberg
Master's program: Business Analytics and Operations Research
Supervisors: Dr. P. Cizek, Dr. B. Drepper

Name: Eva van Boxtel
Master's program: Quantitative Finance and Actuarial Science
Supervisors: Prof. dr. B.J.M. Werker, Dr. J.R. de Bresser

Name: Junpeng Min
Master's program: Econometrics and Mathematical Economics
Supervisors: Prof. dr. P.M. Kort, Prof. dr. K.J.M. Huisman

Name: Rogier Bresser
Master's program: Econometrics and Mathematical Economics
Supervisors: Dr. P. Cizek, Prof. dr. J.H.J. Einmahl

Name: Charlotte van Beijsterveld
Master's program: Business Analytics and Operations Research
Supervisors: Prof. dr. G. Kant,
Dr. Y. Merzifonluoglu Uzgoren

Name: Steven Debets
Master's program: Quantitative Finance and Actuarial Science
Supervisors: Prof. A.H.O. van Soest, Dr. J.R. de Bresser

...on obtaining their Master's degree.

Agenda

Winter 2017

Department Members Meeting & New Year's Drink

Tuesday January 16

During the Department Members Meeting the board will present everything that they did the past half year. The Active Members Meeting gives our active members the opportunity to give their opinion on different subjects within Asset | Econometrics. After this meeting we will close the evening with a New Year's Drink.

Asset Ski Trip

Wednesday January 17

– Tuesday January 23

This year, finally, the first Asset Ski Trip will take place. The Asset Ski Trip will be organized between the January 17 and January 23. With five days of skiing and of course après-skiing, this trip can not be less than awesome!

Freshmen Drink

Wednesday January 24

This drink is the moment for freshmen Econometrics students to connect after their busy lecture and exam schedule. Freshmen will get together and catch up while enjoying a nice cold beer.

Wie is de Mol Weekend

Friday January 26

– Sunday January 28

If you are a real "Wie Is De Mol" fan you probably subscribed for the Wie Is De Mol Weekend. The subscriptions already closed, but do not be sad. There will be a movie afterwards where you can still play the guessing game of who you think is the Mol!

Monthly Afternoon

Tuesday January 30

The fourth edition of the Monthly Afternoon, organized by the wonderful Promotion Committee, will again be completely in theme! Participate in a fantastic competition, have a drink and catch up with your fellow students!

Freshmen Information Day

Thursday February 1

Are you not sure what to expect of the second and third year of your Bachelor? Then do not forget to visit the Freshmen Information Day, where you will learn everything you need to know about the upcoming years of the Bachelor.

Landelijke Econometristen Dag

Wednesday February 7

The LED is the largest annual recruitment event for students in the fields of econometrics, operations research and actuarial sciences in the Netherlands. This year's edition will take place on Wednesday February 7 at the NBC Congress Center in Nieuwegein with the theme "Bringing the best together".

LaTeX Training

Wednesday February 21

Going to write your thesis? Do you want to learn the basics of making a professional document? Wednesday February 21, the LaTeX-Training will take place! Which is a free training, where you will learn the basics of LaTeX.

Board Information

Tuesday February 27

How are your experiences with communication, planning and organizing events? During the Board Information Session the current board and former board members of Asset | Econometrics will explain everything about doing a board year.

Strategy Tour

Thursday March 1

– Friday March 2

Are you interested in the field of Strategic Management? Then the Strategy Tour is perfect for you! You get to visit a number of fascinating companies during a two-day trip.

Econometrics in Practice Day

Thursday March 13

On this day you can get in touch with several different companies, among some SME's (small and medium-sized enterprises). The day will take place at Tilburg University, and will consist of two presentation rounds and one case round. Besides this, you can even get a speed date with your company of interest.

Volleyball Tournament & Pre-Carnaval Party

Thursday February 8

Do you want to dress up as crazy as possible, without being the only one? Then make sure you attend the Pre-Carnaval Party of Asset, where there will be 500 liters of free beer! Looking for a sporty challenge as well? Join in for the Volleyball Tournament beforehand and exhibit your talents.

Europe Trip

Thursday February 22

– Monday February 26

This year 30 econometrics students will visit Prague during the Europe Trip. With an early flight we will leave the Netherlands for this beautiful city.

Monthly Afternoon

Thursday March 1

On Thursday March 1 the Monthly Afternoon of March will take place. Drop by for a drink, a game or a chat with your fellow econometricians.

Après Ski Party

Wednesday March 7

Wednesday March 7, the infamous Après-Ski Drink of Asset | Econometrics will take place in Café Qwibus. Make sure you dress up in your best Tiroler-outfit, for the best-dressed Heidi and Anton will receive a prize!





COdE Beer Cantus

Thursday March 15

On Thursday March 15 the next COdE Beercantus will take place. Represent your Asset | Econometrics colors amidst the plethora of study associations and having a blast.

Members Day

Friday March 23

On March 23, the yearly Members Day will take place. The activity is still a secret, but previous editions have proven that it will be fun for sure, so save the date!

Parents Evening

Thursday March 29

Students, parents, and even an occasional grandparent join in for a shared activity. During this evening they can learn more about all our committees and the great activities we have. We will make sure that all parents know what it means to be active at Asset | Econometrics!

Active Members Weekend

Friday April 6

– Sunday April 8

Each year a weekend is organized for all the active members of Asset | Econometrics to make some awesome memories. Tradition prevents us from revealing anything about the activities or the location of this weekend, but we can assure you that it will be an unforgettable weekend!

AI Pub Quiz Activity

Monday March 19

On March 19, the Actuarieel Genootschap (AG/AI) will be present to join us for an interactive pubquiz. If you want to challenge your knowledge, win a great prize, or if you just want to have a good time with your fellow students, then make sure you are present!

Informal Activity PwC

Wednesday March 28

On Wednesday March 28, an informal activity with PwC will take place. We will laser game. This activity is the perfect opportunity to get to know every possibility for an econometrician at PwC!

(Fe)Male Activity

Tuesday April 3

On Tuesday April 3, the first (Fe)Male Activity will take place. Join your own gender group for a day of great fun with your fellow (fe)male econometricians.



Aandacht voor je toekomst

Begin je carrière goed bij Aegon

Bij Aegon zijn we altijd op zoek naar talent. Geef een boost aan je cv met een stage bij Aegon of ga aan de slag als werkstudent.

Studeer je binnenkort af en ben je benieuwd of een baan bij Aegon iets voor jou is? Laat het ons weten! We gaan graag met je in gesprek. Wie weet zien we je binnenkort bij ons op kantoor.

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