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Broadening Your World



Though the exams are creeping closer, they are not yet upon us and so I think this is a good opportunity to look further than just our regular courses or side jobs. Let us look at some places where we as econometricians might end up in the future! For instance, in this Nekst issue you can find a business interview with the former CEO of KPN, who has also studied Econometrics at Tilburg University. Furthermore, PwC has written a scientific article, Fang Qi Wu wrote a practical report as a graduate intern at EY and we have also interviewed professors from every MSc track about the research projects they are working on.

For those of you who are not yet focused on companies, internships or PhD positions, we have also come up with other interesting articles. Broadening your experience and knowledge can be done in numerous ways and hence we have explored some of these options for you. What about doing a board year, for example for the EBT? Or perhaps you are wondering about going on exchange, as Koos van Amerongen is currently doing in Moscow.

In addition we also have some less formal articles, for instance about Asset I Econometrics' famous Après-Ski Drink, the Hitchhiking Trip to Frankfurt and plenty more activities. Moreover, Nicole Verbeek's parents were visited in Tiel and Yannick Mariman offers us insights in the fascinating world of sailing. Of course, all these stories could not have been told without the wonderful Nekst committee, so do not forget to read the Committee Introduction about our newest members. Have a pleasant read!



Ennia Suijkerbuijk Editor-in-chief

COLOPHON

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National Econometricians

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Once again, hundreds of econometricians subscribed for both the formal and informal activities of the National Econometricians Day (LED).

Research Special

Professors Goos Kant, Peter Kort and Bas Werker explain about the research they are currently working on. **30**



18 Interview EBT

The Economic Business weeks Tilburg are nearly upon us, which gives us the perfect opportunity to interview its board members about their experiences and expectations.

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Russia has been on the news quite often lately, but what impact of the political crisis do Russians observe? A student who is currently on exchange in Moscow shares his insights.

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Je grenzen opzoeken en verleggen

Ook dat is #werkenbijpwc

De beste plek om je carrière te starten? Dat moet je vooral zelf bepalen. Wél vertellen we je graag wat werken bij PwC volgens ons zo bijzonder maakt. Dat is vooral de ambitieuze omgeving, die je uitdaagt én waarin we je coachen. Met oprechte aandacht voor wie jij bent en wat jij wilt bereiken. Zo kun je ineens meer dan je ooit voor mogelijk hield.

Kom verder op werkenbijpwc.nl



The opportunity of a lifetime

Dear Members,

As a famous man once said, spring is nature's way of saying "Let's party!". We have survived the cold winter, overcome the exams and have made a great start of the new semester. I have seized this opportunity to dust off my selection of shorts and sandals and I highly recommend that you do the same.

Overly optimistic attire is not the only way to celebrate spring. Asset I Econometrics likes to celebrate by organizing many activities. We have missed you during the winter holidays and exams, and are determined to make the most of the time we have left before the exam monster attacks again in May.

So what does Asset I Econometrics have in store for you? First of all, I just have to mention the Actuary Day of Tilburg. By the time this Nekst reaches you, you might have missed it without knowing, but the Actuary Day of Tilburg is one of Asset I Econometrics' most prestigious events and gives you inside information on the #1 profession in the Netherlands (source: Elsevier). Have you missed it? Stop pouting, because you can still find your actuarial student job or internship at www.Asset-Econometrics.nl/CareerPortal.

Are you more interested in Operations Research? Good for you, because that is the topic of this year's Symposium that takes place on April 30! At the Symposium with the title 'Saving Lives: Discover the Heroic Role of Operations Research', speakers and companies will show you how OR makes the world a better and safer place. The highlight is an exciting speech from Professor Eva Lee, director of the Center for Operations Research in Medicine and HealthCare at Georgia Institute of Technology in the USA.

Then again, you might just not be the formal type. In that case, you are most probably a great fan of this year's Astrics Cantus. We cannot think of a better idea than drinking beer and singing songs with a large group of econometricians... or can we? Be sure to test this hypothesis with us during the Beer Race Drink on May 19. If you are in the lucky position of being an active member, you may even get to experience another cantus with econometricians during the Active Members Weekend. That is, unless the Active Members

Weekend committee has something entirely different in stock for us. Only time will tell.

Now, I can imagine that you are starting to get tired of seeing the same old face on page five of Nekst. Worry not, because we are currently interviewing your peers to compose the ideal Asset I Econometrics board for academic year 2015-2016. Will the next Internal Affairs be just as cute? And will the Treasurer be just as nerdy? Find out during the Announcement Drink on June 11 or in Nekst 4.

Would you like to know more about the current board? Keep an eye on www.Nekst-Online.nl, because each board member writes about his or her (board) life throughout this year.

I hope you will enjoy the spring with Asset I Econometrics!

On behalf of the board,

Cleo Mauritsz
Chairman Asset | Econometrics
2014-2015



Guess Who? Text by: Mike Weltevrede



Stefan ten Eikelder

We all had a childhood hero and I think that most of us especially the boys - shared the same one: Ash Ketchum. Even though Ash was not actually a Pokémon master in the end, Stefan is a master himself, namely at playing the guitar. Not quite a god at it though, Stefan is rather interested in how to become one. Therefore, were he to meet God, he would ask Him how He became God. If becoming a god would not succeed, Stefan would just audition for the role of Jack Sparrow, one of his favorite movie characters. All of this sort of implies that Stefan is eager to try out a lot of new and exciting things, which matches his personal motto: "Anyone who has never made a mistake has never tried anything new," a quote by Albert Einstein. Well, whatever works for you, just be sure to release that one autobiography: "Simplex the best!"



Jesson Einmahl

Quite some people get kind of aggravated when that one phrase pops up after a somewhat sexual remark has been made. Yes, I am talking about "That's what she said!" Actually, Jesson loves that quote, so expect to hear it often when you are meeting him in the cinema or playing a game of pool billiards with him. It is also said that beauty is in the eye of the beholder. Well, if I have to believe Jesson, then the beholder is none other than himself. Jesson expresses that he finds beauty very interesting and does not only look for it in the obvious way. No, Jesson finds beauty in movies, books, landscapes and last but not least in the ideas and beliefs of people. I say we should change the saying to "Beauty is in Jesson's eye". Now let us just hope that there will not be swarms of girls surrounding him, trying to get a glimpse of said beauty.



Tom van Ool

The one and only Tom van Ool is an energetic, social, yet insecure Pre-Master student aiming to start his the QFAS master program. Something that Tom would like to change before that happens though, is that he would like to have smaller feet. He has made several life-changing decisions lately (unfortunately not including surgery to shrink his feet) that have made him curious about how these decisions turned out to influence his life. That is why Tom would ask his future self whether he is satisfied with his personal development throughout the past few years. If this information would disappoint Tom, then he can always fall back on his strange habit of solving Sudoku's whenever he is sad. Something that is also odd, in my opinion, is that on a freezing day, Tom loves to get into a cold bed instead of a warm one. Well, everyone has got their guirks I guess.

Measure for Measure

Measuring things is part and parcel of scientific endeavor. Measuring is an integral part of an academic's genetic makeup. Hence, it should not come as a surprise that one of academia's favorite hobbies is measuring... itself.

That the world at large has an incentive to measure the relative performance of universities is clear. Prospective students want to investigate where best to study. Financiers (in most countries, taxpayers) want to ascertain whether they get value for money. Regulators want to know whether appropriate standards are kept. There are many stakeholders and it is only proper that these stakeholders receive the information they need.

More problematic are recent attempts to somehow impose yardsticks of (allegedly) absolute performance. Measures like quota of students graduating within a given period of time sound like useful information for the stakeholders involved. But when imposed by the Ministry of Education, Culture and Science as an indiscriminate hurdle for all programs, not a very extensive knowledge of moral hazard is needed to conclude that this creates perverse incentives. Does anyone remember InHolland?

It is not only outside stakeholders that measure academic performance, but also

academia itself, as stated in the introduction. This might be regarded as a hobby (if measuring is your forte, why not apply it to an environment you are familiar with?), but there are also other forces at work.

Let us start with education. At Tilburg University, education is almost completely measured by the students. First and foremost, there are the formal evaluation forms. Nowadays they are only available online, which leads to a worryingly low response rate. In addition to these forms, there are sounding boards and other committees involving students that keep a check on teaching performance. In the Econometrics and OR program, we teachers are lucky to have additional feedback from the students via Asset I Econometrics, which is usually much more informative than the bare numbers resulting from the official forms.

Research output is also measured. The challenge in measuring the quality of a research paper is obvious: in order to judge whether a paper on, say, finance is better than a paper on macroeconomics, you have to be an expert in both fields. Since the variety of fields within economics and business is very large, our faculty uses a proxy to measure the quality of a paper, namely the quality of the scientific journal in which it is published. Again, we have the same problem of comparing a journal in finance with a journal in macro. It just boils

down to comparing apples and oranges. A few years and a couple of name changes ago, our faculty (before we were relegated to a 'school' – yuk) very fittingly used pictures of various types of fruit on its website. I never understood then what the fruit was doing there, but now I see that they were a symbol for the various strands of research areas that the faculty pretends to be able to compare and translate into lists and rankings. Unfortunately, I still do not know whether I fall within the category of apples or oranges.

Whatever your view on the merit of rankings, I reckon you agree that a deluge of different rankings serves no purpose whatsoever. A constant stream of messages with variations on the theme "Wow! We found another ranking in which we do well!" is not only pathetic, but after a while it blunts its own message. How much more convincing is it to leave the measuring to outside stakeholders and

subsequently let the results speak for themselves. But, hey, probably the fruit of marketing is not part of my daily diet.

Ruud Hendrickx

Ruud Hendrickx is Lecturer at the Department of Management and Department of Econometrics and OR. His fields of research are: cooperative and non-cooperative game theory, games of skill and games of chance, and operations research.

The Impact of Multiple S Mortality

Text by: PwC

Mortality models are calibrated using historical mortality data and mortality projections are obtained by projecting mortality trends into the future. In most of the recent literature the observed mortality trends are linear. However, if we calibrate the mortality rate on a longer period, the linearity assumption may no longer hold. This article illustrates a method to identify changes in the historical mortality trends. Using this method, projections of mortality rates can be based on the most recent mortality trend. We show that this leads to robust projections that connect better with recent mortality observations.

Introduction

Life insurance companies and pension funds need to monitor and predict mortality improvements for proper pricing and reserving. The last few decades mortality improved substantially, but these improvements were not stable over time. If we calibrate our model on a longer time span, it becomes more likely that there have been one or multiple structural changes in mortality trends (trends). In this article we describe a method that allows us to identify structural changes in mortality trends. We illustrate this method by calibrating the Lee-Carter model to Dutch male mortality data and by checking for structural changes in the estimated mortality trend.

Definitions and mortality models

Before we can estimate a mortality model and use that to make mortality projections, we need to define some variables. Let $D_{t,x}$ be the number of deaths aged x in calendar year t and the average population aged x during calendar year t be $E_{t,x}$ (the exposure), with $x \in \{x_1,\ldots,x_N\}$ and $t \in \{1,\ldots,T\}$. Further, define the death rate $m_{t,x} = D_{t,x}/E_{t,x}$.

Lee and Carter [1992] introduced the first stochastic mortality model. The death rates are assumed to be a function of two age effects (β_x^i) and one period effect (κ_t^2) :

(1)
$$\log m_{t,x} = \beta_x^1 + \beta_x^2 \kappa_t^2 + \epsilon_{t,x}, \qquad \epsilon_{t,x} \sim N\left(0, \sigma_{\epsilon}^2\right)$$

Lee and Carter estimate the parameters β_x^1 , β_x^2 and κ_t^2 using Singular Value Decomposition (SVD). Two parameter restrictions are imposed to uniquely identify the model, namely $\sum_x \beta_x^2 = 1$ and $\sum_t \kappa_t^2 = 0$. Given these restrictions, β_x^1 equals the average (log)mortality rate for age x. The product of β_x^2 and κ_t^2 denotes the age-dependent change in mortality. Lee and Carter use a random walk with drift process (RWD) to project the time series κ_t^2 . Projections of κ_t are used to construct mortality rate projections. The

process is specified by:

(2)
$$\Delta \kappa_t = \kappa_t - \kappa_{t-1} = \delta + \eta_t, \quad \eta_t \sim N(0, \sigma_\eta^2).$$

Given a time series κ_t , we can estimate the drift parameter δ as follows

(3)
$$\hat{\delta} = (\kappa_T - \kappa_1)/(T - 1).$$

The expected change in mortality for age x from year t-1 to year t equals

(4)
$$E\left[\Delta \log m_{t,x}\right] = E\left[\log m_{t,x} - \log m_{t-1,x}\right] \\ = \beta_x^2 \hat{\delta}.$$

In the Lee-Carter model, the variance of the mortality rate depends on the parameter β_x^2 . However, there is no dependency between the variance of the mortality rate on one hand, and the level of the mortality rate or exposure of a particular age on the other. To loosen this restriction, Brouhns et al. [2002] assume the observed mortality counts $D_{t,x}$ are Poisson distributed: $D_{t,x} \sim Pois(E_{t,x}m_{t,x})$. In this specification, the variance in the death counts is proportional to the exposure and the mortality rate. The parameters can be obtained using numerical optimization methods such as Newton-Raphson.

In the Lee-Carter model mortality rates at all ages are perfectly correlated as there is only one time-dependent variable that influences the mortality rates. There are several extensions of the Lee-Carter model that produce a nontrivial correlation structure in mortality rates. Examples are the introduction of multiple period effects (Cairns et al. [2006], Plat [2009]), the introduction of a cohort effect (γ_{t-x}) (Renshaw and Haberman [2006]), and the introduction of period effects for specific age groups. (Plat [2009], O'Hare and Li [2011]). This article covers only the projection of period effects; the illustrations provided are

Structural Changes on

obtained using the Lee-Carter model with Poisson distributed death counts.

Projection of period effects

The random walk with drift model defined in (2) is the model that is most commonly used to project period effects in mortality models. From (3) it is clear that $\hat{\delta}$ and the resulting projections of κ_t for t>T can strongly depend on the calibration period. Therefore, projected mortality changes can also strongly depend on the calibration period. Figure 1 shows the estimated time series κ_t for different calibration methods as well as projections based on a range of periods using the RWD model. This figure indicates that it is not likely that the drift parameter is constant over time.

It is desirable that the projections of the time series are less dependent on the calibration period and that the projections better connect with recent observations. To achieve this goal, we need to introduce a *random walk with time-dependent drift* process.

Structural changes in period effects

In the standard RWD model the drift parameter δ is constant over time. In our model this parameter is constant during a certain period of time, but may differ from period to period. This can be shown as follows:

$$\Delta \kappa_t = \begin{cases} \delta_1 + \epsilon_t & t \le t_1 \\ \dots \\ \delta_i + \epsilon_t & t_{i-1} < t \le t_i \\ \dots \\ \delta_{m+1} + \epsilon_t & t_m < t \end{cases}$$

The δ_i are time-dependent drift parameters and the t_i are points in time at which a structural change occurs (hereafter: break points). We limit the possible break points with the restriction $t_i-t_{i-1}\geq 5$, which means that a trend continues for at least five years. In the random walk with time-dependent drift process we estimate three types of parameters: the number of structural changes (m), the break points (t_i) , and the drift parameters in the periods between two consecutive break points.

We cannot estimate these parameters simultaneously. Therefore, we estimate one parameter at a time while keeping all others fixed.

Given the number of structural changes (m) and the break

points (t_i) , we can estimate the drift parameters δ_i by minimizing the sum of squared residuals (SSR):

(6)
$$\min SSR = \min_{\delta_1, \dots, \delta_{m+1}} \sum_{i=1}^{m+1} \sum_{t=t_{i-1}+1}^{t_i} \left[\Delta \kappa_t - \delta_i \right]^2$$

Since we do not know the break points in advance we have to estimate these. Given m, we can calculate the SSR for all combinations (t_1,\ldots,t_m) . The combination of break points that lead to the smallest SSR is considered optimal

To determine the optimal number of structural changes, we use the Bayesian Information Criterion (BIC). The BIC provides a way to determine the quality of a model in terms of fit and the number of parameters needed to obtain the fit:

(7)
$$BIC = \log L - \frac{1}{2}k \cdot \log n ,$$

in which $\log L$ the log-likelihood of the model, k is the number of parameters in the model and n is the number of observations. The higher the BIC, the better the quality of the fit given the number of parameters (the second term in the right-hand side of (7) is a penalty for the number of parameters used).

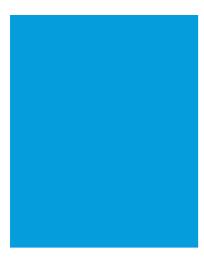
In this article we estimate the time-dependent RWD for $m \in \{0,\dots,5\}$ and compute the corresponding BIC(m). The optimal number of structural changes (m^*) , is then determined as

(8)
$$m^* = \arg\min_{m} BIC(m)$$

Given the framework above, we can estimate the RWD model with a time-dependent drift parameter. Using the latest drift $\hat{\delta}_{m+1}$ and the last observation κ_T we can simulate the period effect and project mortality rates. In the following paragraph we illustrate this using the Lee-Carter model.

Structural changes in the Lee-Carter model

In this example we look at Dutch males aged 60-89. For the calibration period 1960-2008, the estimated period effect is shown in the top left graph in Figure 1. For this dataset it seems unlikely that the drift parameter is constant over the entire period; there seem to be structural changes around the years 1970 and 2000. Figure 2 \longrightarrow



shows the first differences of the time series ($\Delta\kappa_t = \kappa_t - \kappa_{t-1}$) and the average appears to be non-constant which indicates a time-dependent drift. The bottom left graph in Figure 1 shows the projected time series. The black lines show the projection when structural changes are not taken into account. This projection does not connect well with the historical observations.

Figure 2 shows the optimal δ_i 's, given (m) or (m+1) structural changes for $m \in \{0,1,2\}$. The green and blue lines represent the estimated δ using (m) respectively (m+1) structural changes. In general we observe that when we allow more structural changes, the fit of the model increases. The improvement in fit from two to three structural changes is limited and based on the BIC the model with two structural changes is optimal as shown in Table 1.

Table 1: BIC for different m in the Lee-Carter model calibrated on Dutch male mortality data



The bottom left graph of Figure 1 shows projections of the period effect calibrated in the period 1960-2008 for different numbers of structural changes. The projections are considerably better when structural changes in the past are taken into account. Further, the graphs on the right in Figure 1 show that projections are less dependent on the calibration period when structural changes are allowed. Moreover, the results show that it is necessary to allow for not one, but multiple structural changes. Figure 3 shows the projections of mortality rates while allowing for different numbers of structural changes. The black surfaces show projections without structural changes and these do not connect well with the latest observations. The blue and red surfaces connect better with recent observations. Based on BIC, two structural changes (in red) are optimal, and therefore we have to allow for multiple structural changes when projecting mortality using the Lee-Carter model on this dataset¹. If we would not allow for structural changes, we would underestimate mortality improvements.

Summary

When a model is estimated on a historical dataset in order to make projections, it is of great importance to investigate whether the parameters are constant over time. This article describes a way in which structural changes can be identified within a dataset. We illustrate this method using the Lee-Carter model, and we show that mortality projections based on the latest mortality trend connect better with recent observations than when structural changes are not allowed. Not allowing for structural changes would in this case lead to an underestimation of mortality improvements.²³

Frank van Berkum is a senior consultant at PwC and a PhD student at the University of Amsterdam. In case you have any questions regarding this article, or regarding working at PwC, you can contact him via frank.van.berkum@nl.pwc. com or +31 6 5395 8614.

¹See our online article for back testing results; these confirm the necessity of allowing for multiple structural changes.

²This article is based on the paper "The impact of multiple structural changes on mortality predictions" (http://dx.doi.org/10.1080/03461238.2014.987807, forthcoming in Scandinavian Actuarial Journal) by Frank van Berkum, Katrien Antonio and Michel Vellekoop, all affiliated with the University of Amsterdam. Antonio is also affiliated with the KU Leuven and Van Berkum and Vellekoop are also affiliated with Netspar.

³References are available upon request by the author (f.vanberkum@uva.nl)

• SCIENTIFIC ARTICLE NEKST SPRING 2015

Figure 1 Estimation of structural changes in the period effect in the Lee-Caster model, calibrated on Dutch males aged 60-89 in in the years 1960-2008

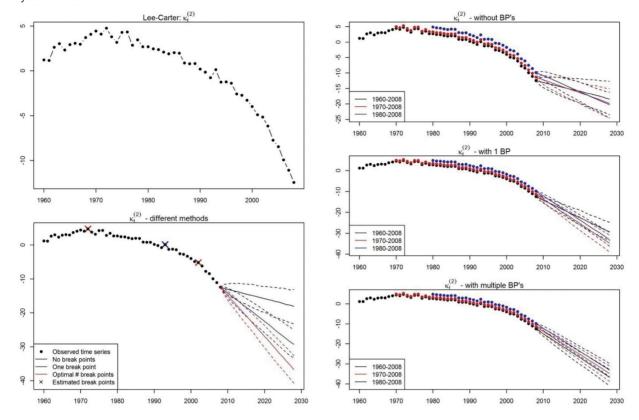


Figure 2 Estimated δ_i parameters for different numbers of structural changes (or break points: BP)

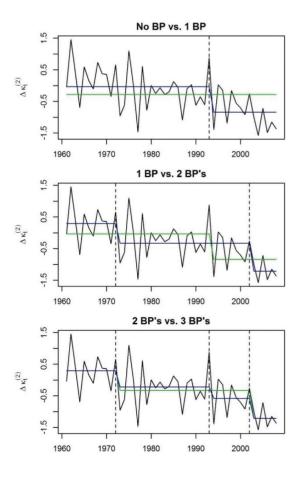
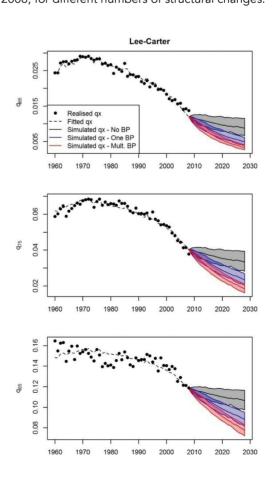


Figure 3 Mortality projections from the Lee-Carter model for Dutch males (x=65,75,85), calibrated on the years 1960-2008, for different numbers of structural changes.



Big Booming Business Tout by Miles Wolfeywoods

Who has not heard of KPN, one of the biggest Dutch providers in internet, television, telephone and ICT-solution services, and more. The world of telecommunications is ever expanding. It all started in the 19th century (yes, you read that correctly) with the provision of mailing, telephone, and telegram services and has now reached the level of which we might even say that it is one of the most important industries in the world. Anouk and I spoke with Frank Vuijsters, who is the former Chief Financial Officer of KPN in Belgium and who now works as Manager of Strategic Value Management at the headquarters of KPN in The Hague. Frank also studied Econometrics in our beloved Tilburg, making it even more interesting to fire some questions at him.

As said before, KPN started out as a company providing mailing, telephone, and telegram services. It was erected under the name 'Koninklijke PTT Nederland', with PTT standing for the Dutch names of mail, telephone, and telegram. After a while, the mailing branch spun off and KPN evolved to become a huge provider of not only telephone services, but also internet, television, and more. Big data is becoming extremely important in current days, so KPN has also been focusing on making the so-called 'Cloud' accessible to its clients. As I am writing this article, KPN is not only active in the Netherlands and Belgium, but they are also operating in international voice traffic solutions under the name iBasis (US). It is extremely hard for us to imagine a society without

KPN employs around 14,000 people. It is unknown to Frank how many of these employees are econometricians, since people do not necessarily share that explicitly. However, he estimates the

number of econometricians working at KPN at forty. Econometricians working at KPN are mainly employed in a field called "Client Profiling." This means that they are trying to see what the client is all about and when they might leave, so that they can intervene and make interesting offers to the client. This field makes heavy use of statistics to predict the moment when clients may leave. Moreover, statistics is used to try and profile the client, i.e. what are the interests of the client, what products may they be interested in, what will be the expected next customeraction etcetera. Frank believes that econometricians are extremely valuable to any company due to their ability to bring structure into complex problems within the company and their projects. Whereas business economists work mechanically with given figures, econometricians can provide an anchor for projects with their statistical analyses and prediction methodologies. This is also the reason why Frank is trying to attract more econometricians to work at KPN. Frank: "One thing that I want to stress, however, is that it is key to be able to communicate and to work in teams. Econometricians are powerful on their own, but when they are able to work together with others and when they dare to pursue and express their own fact-based opinion they can be an even more essential asset."

For those who want to grow more while working at KPN, there is the KPN Academy. At this academy, several courses and studies are offered. These can be subjects that match your field of study and complement that well, but you can also opt to choose a subject that you find interesting, for example psychology, and that is completely different from, in our case, econometrics. You can expand your knowledge, but it is the persons themselves that have become even more important than knowledge they have gathered. Frank: "You should be able to believe in yourself, follow your instincts and develop your communication skills. Know where you want to go and give yourself the freedom that you need to reach that goal and to develop yourself alongside



Frank Vuijsters



the company. This is a tricky part for most econometricians because they are having so much fun in their work that they might underestimate this key aspect." Frank thinks that seeing people grow is one of the most beautiful aspects of his job. He wants to teach econometricians to stay away from calculators as long as possible. Understand first precisely what questions are asked, why they are asked and try to follow the line of thought and the environment people are in. Be part of that journey first with the involved and responsible people before using fancy methods on your own. Something that he has been told and that is quite inspirational, in my opinion, is that numbers are non-existent in the real world. They are defined by humans, such that their meaning can be interpreted by us. Frank: "What I want to say is that numbers are an aim for communication. Besides numbers, communication is as important which must not be forgotten." He is still trying to mostly think about what is going on behind those numbers. The number 2 is just a number, but what does it actually mean? As he said: "An econometrician is able to provide beautiful graphs and equations, but on their own they mean nothing. When you are able to look beyond the numbers, you can genuinely be effective and grow substantially."

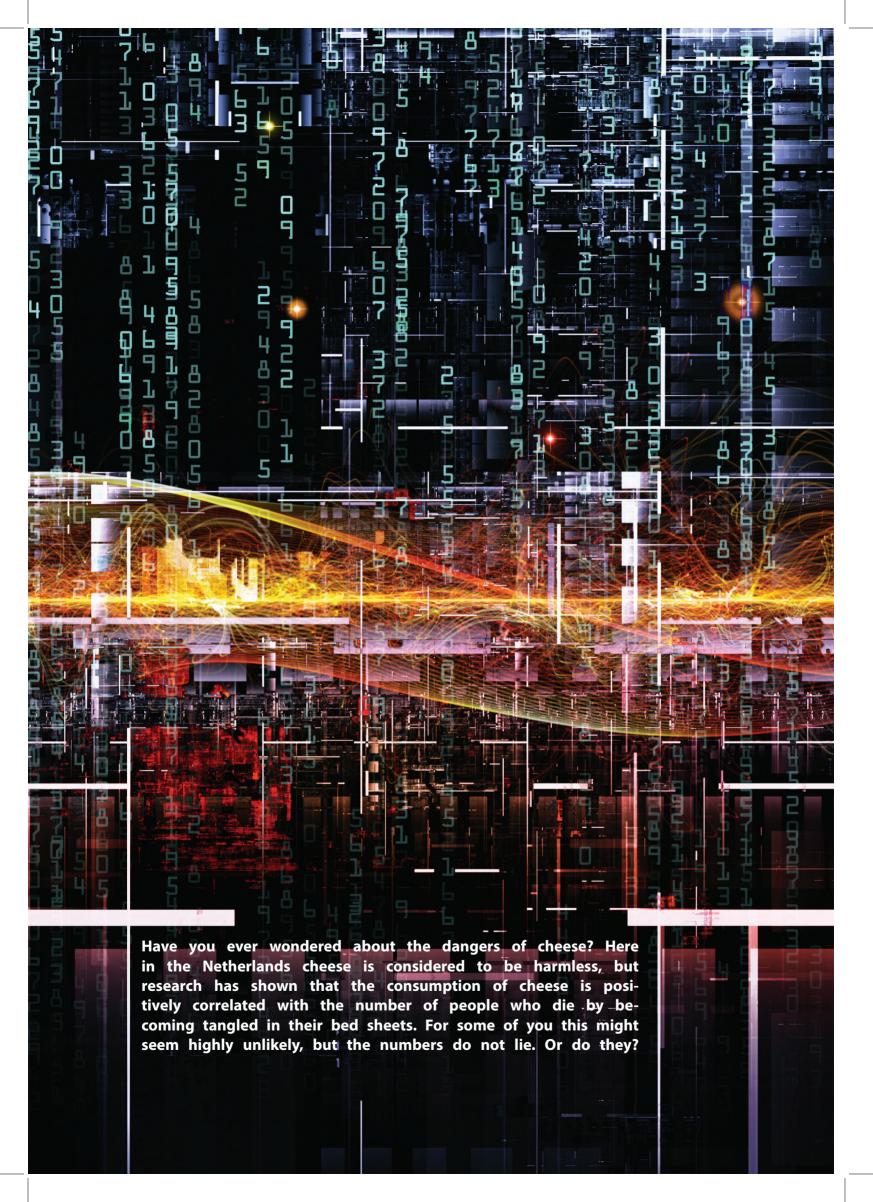
Even though Frank did not participate in many extracurricular activities, his time as an Econometrics student at Tilburg University was quite interesting. Actually, it appears that he is one of the founders of Tarantula (treasurer), the student sport association for rugby in Tilburg. The way that Frank played the sport illustrates him extremely well, according to himself. Both on the field back in these day and on the work floor nowadays he gives it his all, team- and fair play, and does that with a lot of joy. Moreover, working together stays important ('all for one and one for all'), as well as being able to think with simplicity - something that can be quite difficult, especially for econometricians. Besides his rough life as a rugby player, Frank still cherished an old love for medicine. Hence, he decided to write his thesis at this as I have also been thinking about studying medicine before I settled my mind on econometrics. The interest still lurks in my mind, always tempting me to buy the latest issue of one or another science magazine.

Either way, Frank makes an excellent example of how econometricians can work without all of the statistics and numbers but still are able to apply a great deal of their analytical skills in a creative problem-solving and unordinary way. Given his own experiences, Frank gives us one last advice, namely that you should stay close to your own thoughts. There are quite some people out there who may drive you crazy, but you should not let this happen. "Choose your future according to your own interests and capacities." Of course, it is of the utmost

'Numbers are non-existent in the real world'

the Elizabeth hospital. It regarded the decay of information of the clinical and chemical decay of samples dependent on the (status of) patients and the costs to gather the information using different methods. Frank especially enjoyed the combination of technology and econometrics. Personally, I can relate to

importance that your field of work should be one that you are enjoying immensely. Moreover, it is generally good to just follow your gut feeling, Frank says. "Even if it does not work out that well, at least you have listened to yourself."



Mathematics & Suspicious Statistics

Statistics play a significant role in the Econometrics & Operations Research program, as most of us have painfully realized after some resits. It makes you wonder whether we need such indepth knowledge, especially as the field of statistics does not have the best reputation. The famous writer Mark Twain once wrote: "There are three kinds of lies: lies, damned lies, and statistics." Regardless of whether we as econometricians agree with this saying or not, many people around us do question the true power of statistics and whether we can manipulate it. Darrel Huff even wrote a book on this topic ('How to Lie with Statistics') and John Ionnadis wrote an essay called 'Why Most Published Research Findings Are False'. So what is this all about? Is it genuinely that easy to manipulate statistics in order to find significant and more interesting results?

As it turns out, there are multiple methods in which a person can alter their

conclusion with respect to the dataset. In this article, I will discuss three of the most common made 'mistakes' and explain why we can indeed find such a suspicious correlation between the consumption of cheese and the number of people who die by getting strangled in their bed sheets

Samples with built-in bias

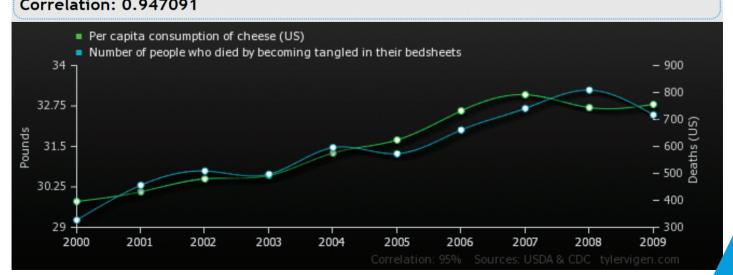
Let us start with an easy to understand mistake: a sample that is not representative due to a built-in bias. Almost any questionnaire will not be answered to by the entire sample and will hence have a probability of not giving the complete correct results. The perfect example for this situation is the questionnaire with only one question: 'Do you like to answer questionnaires?' No need to explain why this will very likely result in a biased conclusion.

This is, of course, a very clear example of which most are capable of seeing its

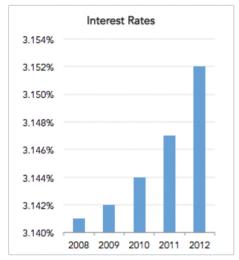
incorrectness, but other samples can bias themselves in such a way in real life as well. Another example comes from an old news report which stated that 'the average Yale man, Class of '24, makes \$25,111 a year' (which was quite the amount back then). Irrespective of how great this seems for those Yale students, we should be critical of this rather impressive figure. First of all, it seems somewhat strange that the number is precise, as even exactly knowing your own income is not so probable. This probability even decreases for larger incomes, as they are often not solely generated by salary, but also for instance by scattered investments.

But even when we disregard this factor and assume that everybody knows his precise income, the news report has only received the numbers of what people said they earned. As we all know, quite some people overestimate their earnings (for instance due to optimism) whereas

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Per capita consumption of cheese (US) Pounds (USDA)	29.8	30.1	30.5	30.6	31.3	31.7	32.6	33.1	32.7	32.8
Number of people who died by becoming tangled in their bedsheets Deaths (US) (CDC)	327	456	509	497	596	573	661	741	809	717



Same Data, Different Y-Axis



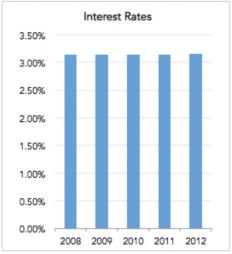


Figure 1 Misleading bar charts

others underestimate it (for instance due to income-tax). Since we do not know the sizes of these groups, nor what percentage of their income they add/subtract, we cannot make a sophisticated guess about the actual Yale incomes given the reported Yale incomes.

Besides these disturbing factors, we should also take a look at the sample of respondents. Obviously not all Yale men of '24 could be reached after twentyfive years and those who did receive the survey did not always respond. Logically thinking, it seems likely that those who could not be found are the less wealthy alumni; the addresses of the big-income earners are less hard to come by. Furthermore, the people with higher incomes are more likely to respond as they are more proud of their accomplishments. Therefore this sample has omitted two groups who were more likely to depress the average of \$25,111.

Hence also for this survey, which seems much more reliable than the 'Do you like to answer questionnaires?'-survey, it seems that the outcome is not representative either. In fact, the outcome gives the average income of the very specific group of Yale men whose addresses were known and who were willing to participate, when we assume that they knew their precise income and did not lie about it. So much for a non-biased sample.

Misleading visualizations

Whenever there are too many variables, functions or data points, and we can no longer see the forest for the trees, there

is an alternative. Especially students who follow(ed) the course Games and Economic Behavior should be very aware of this alternative, as prof. dr. Peter Borm puts it: "What do we do? We make a picture!" Indeed, visual representations can be very useful when searching for trends and correlations, but they can be misleading as well.

There are numerous ways in which visualizations can be manipulated. One of the easiest examples is the truncated graph (also known as the torn graph), where the y-axis does not start at zero. Figure 1 consists of two graphs with precisely the same data for different y-axes. It is clear from the right chart that the seemingly major differences in interest rates in the left chart are not so significant at all.

Another example of creating a distorted graph is by using improper scaling. For this, let us divide the EOR students in Tilburg in two groups: all the students who passed the course Statistics on their first trial (group A) and all the students who did not pass the course Statistics on their first trial (group B). In this completely fictive case, it turns out that group B includes precisely three times as many students as group A. A visual representation can be found in Figure 2. Obviously, the middle image is the correct way of picturing this situation, but the left image is more commonly used. Even though we can see that the size of the group B visual is indeed three times as tall as group A's visual, this does give

a distorted view on reality. The right image shows that the area of group B's visual is in fact nine times as big as the area of group A's visual, hereby dramatizing the results and hence manipulating the reader.

There are quite some other methods in which graphs can be misleading, such as omitting data points, using improper intervals, unnecessary use of 3D-plots, etc. In order to determine whether graphs are distorted and to measure the size of this distortion, several methods have been developed. One example of this is the so-called lie factor, which is calculated in the following way:

lie factor = $\frac{\text{size of effect shown in graphic}}{\text{size of effect shown in data}}$

The mentioned size of effect can be calculated by

size of effect =
$$\left| \frac{\text{second value - first value}}{\text{second value}} \right|$$

A graph with a lie factor bigger than zero exaggerates the differences in the data, whereas a lie factor which is smaller than zero obscures the changes in the data. A lie factor of one indicates a perfectly accurate and non-distorted graph.

Another method for quantifying the distortion is by use of the graph discrepancy index (GDI):

$$GDI = 100(\frac{a}{b} - 1)$$

Here a represents the percentage of change depicted in the graph and b represents the percentage of change in the data. The GDI ranges from -100% to ∞%, where 0% indicates a perfectly accurate graph and anything outside of a ±5% margin is considered to be distorted. There are other methods besides the lie factor and the GDI that seek for the optimal approach of determining the size of distortion, such as the data-ink ratio and the data density. However, we do not yet know the best way of quantifying the misleadingness of graphs and hence we should always be aware of the possible incorrect representation of visuals.

Causation or correlation?

When we look at the number of storks' nest on the roofs of houses in the Netherlands, we can make an estimate for the number of children born in Dutch families. In fact this would be a better estimate than chance would produce and not because of the old myth about storks bringing babies. This is a perfect example

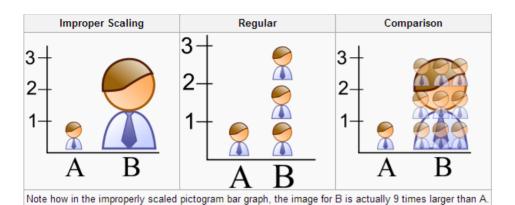


Figure 2 Distorted graph by improper scaling

of confusion between correlation and causation; there is a third factor involved that causes a change in both the number of children and the number of storks' nest. The missing link here could very well be that bigger houses attract families with more children and also have more chimneys for storks to nest on.

In this example the incorrect causation is easy to spot, but this is not always the case. A study that shows that cigarette smokers have lower college grades than non-smokers, for instance, is rather difficult to analyze. Is it really true that smoking causes lower grades, or is it the other way around: does scoring low grades result in (starting to) smoke? Or is there a third option?

To avoid such post hoc fallacies, one must be critical of the given statement, as indeed multiple mix-ups can be made.

- First of all, it might be possible that the correlation is merely produced by chance. This can rather easily happen when working with small samples, but might also be looked for by a researcher. A toothpaste producer who seeks nice results to publish for an advertisement can repeat his 'study' multiple times and choose to publish only that one that comes in handy.
- Another type of fallacy takes place when there is indeed a cause and effect, but it is not clear which is which. A correlation between income and ownership of stocks might be of that kind. The more stocks you buy, the more money you make, and the more money you make, the more stocks you buy; there is not one clear cause and effect.
- A third type of misconstruction concerns common causes: neither of the variables has any effect on the other, yet there is a real correlation. An example of

this is that there appears to be a close relationship between the salaries of Presbyterian ministers in Massachusetts and the price of rum in Havana. This idea is so farfetched that we can easily find the common cause: the increase in price level of practically everything. The example mentioned in the introduction concerning the correlation of cheese consumption and the number of people getting strangled in their bed sheets is a less obvious and trickier form of post hoc fallacies by deleting common causes.

Dealing with suspicious statistics

There are quite some other manners besides biased samples, misleading visuals and incorrect causations, that can lead to suspicious statistics. For instance, often there is confusion about what type of average is stated in an article; is it the median, the mean or the mode? Or just think about the company who published that their juice extractor 'extract 26% more juice'. This sounds convincing, until you realize that it is not stated what they are comparing their extractor to. As it turned out, the comparison was made between their extractor and an old-fashioned hand reamer, making it profoundly less spectacular. The same holds for an advertisement that stated 'Buy your Christmas presents now and save 100%'. Obviously this does not mean that they are giving their products away for free, as the actual reduction is only 50%.

So how can we handle such misapprehensions? Is there a way in which we can avoid statistical fallacies? As it happens, Darrel Huff (author of the book 'How to Lie with Statistics') devised five different questions as to find out how correct a study is.

1. Who says so? First things first: search

for signs of bias. Are there special reasons for the researcher to wish to find the produced results? Also look sharply for unconscious bias.

- 2. **How does (s)he know?** Is the sample large enough and non-biased? Are the results significant?
- 3. **What is missing?** Is all the information available and are no factors omitted? Think about the sample size, standard errors, a sensitivity analysis, etc.
- 4. **Did somebody change the subject?**Does the conclusion match with the raw figure? Are there no changes made to definitions corresponding to the subject?
 5. **Does it make sense?** Is the research based on a proved assumption? Is there no sign of too precise figures or perhaps uncontrolled extrapolations?

With the help of these questions, we can figure out how accurate statistical results actually are. They might not always be completely incorrect, as writer Ron DeLegge stated: "99% of all statistics only tell 49% of the story" and it is our job to find out the truth behind them. So indeed, your first instincts were probably right when you figured that the consumption of cheese is not dependent on the number of people dying by getting tangled in their bed sheets, nor the other way around. Be aware of suspicious statistics!

Literature

Darrel, H. (1991), How to lie with statistics, England: Penguin Books Ionnadis, J. (2005), Why Most Published Research Findings Are False, PLoS Medicine

EBT Interview

Two weeks, 45 companies and 915 participating students. This can only mean one thing: the Economic Business weeks in Tilburg! But who are the persons behind the biggest career event of our city? For this special we have taken a closer look at the board of the EBT by interviewing two of their members: Chairman Jelle van 't Ooster and Treasurer & Operations Manager Nikki Suijkerbuijk. Text by: Ennia Suijkerbuijk

Can you explain in further detail what the Economic Business weeks are about?

Jelle: The EBT consists of numerous activities, ranging from personal development days to speed dates with companies. Every student from the Tilburg School of Economics and Management is allowed to participate, but also students from other faculties are allowed, as well as students from other universities.

Nikki: The EBT is interesting for students from all years of the BSc and MSc tracks, but usually first-year students do not apply. For those who are nearing the end of their studies, the Economic Business weeks are a great opportunity to meet firms and recruiters, for example by visiting company presentations, workshops, business lunches and individual conversations. However, we also focus on personal development. For instance, we have arranged CV checks, an assessment day and interactive training programs concerning developing alternative knowledge and skills.

Our study association Asset | Econometrics on the other hand also offers interesting career events, such as the Asset In-House Days and the LED. What does the EBT offer econometricians that the other events do not?

Jelle: We have noticed that the amount of participating students from Econometrics or Information Management is relatively low, which

we find rather regrettable. This has to do with the well-known fact that EOR students have a high job-certainty, which often makes them less interested in developing themselves on a different level. However, we do highly recommend participation, as it offers new insights in the professional world.

Nikki: As a matter of fact, almost all participating companies have shown an interest in econometricians. This seems obvious for firms such as Anago, Accenture or Gupta Strategists, but also corporations such as Ahold, Nike and Philips interested Econometrics students. Besides that, the personal development days are very useful, as EOR students do tend to live in some sort of bubble. Both the BSc and MSc focus almost solely on analytical and quantitative skills, which is obviously what makes companies so very interested in the students, but this sometimes interferes with other highly valued competences. Being able to sell yourself, giving understandable presentations and clear communication are important factors on which we also focus during the FBT.

Sounds interesting! Organizing such an event sounds intensive though. How many people are actually working on this event?

Nikki: Our board consists of five people: Jelle (Chairman), Léanne (Vice-Chairman & Secretary), Nikki (Treasurer & Operations Manager), Marthijn (External Affairs) and Tuur (Public Relations). Of these, Tuur is the only one who started part-time, the rest of us work full-time during the entire year.

Jelle: Yes, but Tuur is currently working more than full-time weeks, as he is chief of promotion and we find promotion a very important factor. It is almost impossible for students to have missed our flyers, photo booth and snacks.

Nikki: Do not forget to mention the stilt walkers or our famous 'poffertjesstand'!

Why did the two of you choose to do a board year? And why did you choose to do this for the EBT and not, for instance, for an Asset department?

Jelle: When I came back to Tilburg after going on an exchange, I realized that I did not want to start my MSc right after finishing my BSc and so I started searching for other options. I had been an active member of Asset for quite some time, but I also already had quite some experience with the EBT. When the idea formed that I wanted to do a board year, I took both Asset and the EBT in consideration. In the end, I chose for the EBT as that meant working together with your team towards a climax. We do not work with committees, which you can either consider a positive or a negative thing, but that does give you more time to really accomplish your set goals.



From left to right: Jelle, Léanne, Nikki, Marthijn and Tuur

Are you still content with your choice?

Jelle: Oh yes, very much! Over the past few months, we have achieved an incredible amount of things. Did you know that this year we have more participating companies and students than the last couple of years?

Congratulations! So what about you, Nikki? Why did you choose to do a board year?

Nikki: My story is somewhat the same as Jelle's. I think it is very valuable to do something extra besides your studies, such that you also gain real-life experience and broaden your world. I have learned so many things this year, which I would not have learned from my regular courses. I now know how to negotiate with firms, I have been in contact with almost all recruiters, and I have found out exactly what my position within a team is.

Jelle: As it happens, none of our board members knew any of the others before we started this summer. Therefore, communication is key. Luckily we get along really well and we spent not only our days together, but also our evenings (voluntarily!). However, we can also be critical towards one another and have thorough discussions. Then again, voicing your opinion is a very valuable thing to learn.

Nikki: You also learn the opposite! For instance, when all your fellow board members do not agree with you, you have to be able to let it go and move on

What more have you learned the past few months?

Jelle: For me, the most important thing I have learned is how to be a responsible leader. As chairman, I am the only EBT board member who does not have a specific task, but that does not mean that I have less obligations. It is my job to direct our team, to make them enthusiastic and to keep them on track.

Nikki: My biggest personal gain comes from my expanded social network. As Treasurer and Operations Manager, I am often in contact with companies, students and business partners. I know what qualities recruiters look for in students, how to create the perfect CV and how to present myself to potential employees.

Were there also disadvantages you encountered?

Jelle & Nikki: Uhm (Silence)
Nikki: I really hated getting up so early during the promotion period.
Jelle, can you think of any other downsides?

Jelle: The possible disadvantage of doing a board year at the EBT is that you work in a somewhat closed environment. As already mentioned, we do not have any active members, nor are we a department of Asset. Therefore it is really important that you take time to get to know other boards and students, for instance by going to drinks and activities.

Nikki: In my opinion, we succeeded rather well! Even though we are not a part of Asset officially, I do feel like the Esplanade building, and especially our room E1.22, is where we belong.

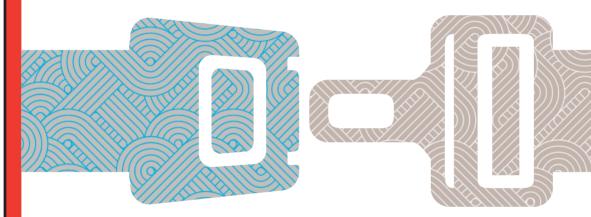
Thank you very much for the refreshing interview. We wish you the best of luck for the upcoming EBT!

Unfortunately, it is no longer possible to subscribe for the activities of the EBT 2015. However, for those of you interested in organizing the EBT next year, applications for a board year are open until May 1. The current board would very much like to invite you for a talk about a board year over a cup of coffee!

EBT Board

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• INTERVIEW NEKST SPRING 2015

"You Are Given a Text by: Netspar Unique Opportunity to Network"

Netspar

Gijs Vereijken just received his MSc of Economics, Netspar track, from Tilburg University. He completed his thesis project at the Dutch pension provider PGGM and Rabobank on the topic of 'Balance sheet alliances between Dutch banks and pension funds'. Gijs is currently traveling through China while he is deciding exactly what he wants to do next.

China is a very interesting country, especially given the ageing problem. Why did you choose it as a travel destination?

"It is true that it was not entirely coincidental," Gijs says with a smile. "As part of my Master's program, I wrote a paper on the Chinese pension system, which triggered my interest in the country. One of the major findings was that a tremendous number of people fall outside the scope of the pension coverage. Indeed, during my trip I saw many elderly people living in poverty or still working in their old age to make ends meet."

Gijs met many other backpackers (including economists) from around the world and discovered that it is with good reason that the pension system in the Netherlands is the third-best in the world. "This experience gives me a broader perspective and changed my opinion of the Dutch pension system," he admits, "but I still think we need to reform it."

How do you think the pension system will change over the next ten years?

"I think there is going to be a shift in the Dutch pension system from collective pension schemes to more individual plans," he says. "As the job market becomes more flexible, there is a growing need in Dutch society for more flexible, and more transparent, pension plans. So, as opposed to collective defined benefit pensions, which were

the most common type of scheme in the past, I think we are moving more toward individual defined contribution pensions."

Gijs adds another argument for this change: "There is an inherent transfer of wealth from young to old in the current system. You cannot justify that to my generation, in my opinion."

What do you think you learned with the Netspar track above and beyond what you would have gotten in a standard Master of Economics program?

It turns out it was not all about academics. "I learned a lot about pensions, both in theoretical and practical terms," he says. "With the company visits and possibility of writing your thesis while working at one of Netspar's partners, you see how things happen in real life, and of course, you are given a unique opportunity to network."

As part of his thesis project, Gijs researched а possible win-win collaboration between pension funds and the banking sector. The main conclusion of this was that, in today's market conditions, it is very attractive for pension funds to invest in the mortgages from banks. On the one hand, the banks maintain their customer relations, while achieving balance sheet reduction. On the other hand, the pension funds obtain a more optimal return on investment. "It could be very beneficial for pension funds, partnering with the banks, to gain

control of the liquidity premiums," he points out, "since pension funds could use the banks' screening expertise and thus gain access to a category of assets with very attractive risk and return characteristics. You are already seeing an increase in activity in terms of transactions between banks and pension funds. A good example of that is the transaction between the health workers pension fund Pfzw and Rabobank, in which Pfzw assumed a portion of the risk for one of Rabobank's loan portfolios."

Your trip through China must certainly also be yielding new insights. What are you going to do once you are back in the Netherlands?

Gijs ponders this seriously for a moment. "It has definitely taught me a lot and expanded my horizon," he says. "I have put off looking for a job until after my trip, but I know that I want to work in the pension industry. Due to the fact that, in my opinion, the industry is going to experience tremendous change in the next few years, I think it would be a great challenge to be part of that. I believe the pension industry needs an influx of more young people to make the pension system in the Netherlands future-proof, generation-neutral and more flexible."



Taking the Right Decisions

Text by: Tom van Ool

On a Friday afternoon, Max and I visited Dr. Kuno Huisman at his office K707. You may not know this professor by name, as he does not teach any courses during the Bachelor program and only one MSc course at Tilburg University: Dynamic Real Investment. Beforehand, we probably knew as much about Huisman as most econometricians, but we left his office with impressive stories and ideas about life, study and work.



Kuno Huisman Associate Professor

On June 10 1972, Professor Huisman was born in Amstenrade, which is located in the south of Limburg. Already at an age of eighteen, Kuno moved to Tilburg and has never gone back to Limburg after this move. He has been living with his wife and three children (who are five, seven and ten years old) in Best for fifteen years now. During secondary school, his original plan was to become a register accountant. Luckily, one of his friends at secondary school advised him to take a look at the study Econometrics, as Kuno was really interested in both economics and mathematics. As a consequence, he started studying Econometrics and OR at Tilburg University in 1990. In order to avoid compulsory military services he decided to study for six years instead of five. This choice resulted in the fact that he got to know Prof. Dr. Kort, as

Dynamic Real Investment was taught for the first time in 1995 and Kuno was one of the first students of professor Kort. This ultimately resulted in his graduation in this field.

Research or practice

As Kuno has been combining work with research for years now, he has both a revealing and expertly idea about the difference between research and practice. This is perfectly shown through what he subsequently explained to us: "As a researcher you can determine your own problems and questions you want to investigate. If you succeed and you find significant results, you can spread the word and show what great research you did. If you fail, you can just sweep the whole matter under the carpet and leave it for what it is."

main activities at university are teaching Dynamic Real Investing, doing research and supervising several Bachelor, Master, and PhD students.

Econometrics applied to work

Regarding his work, Kuno started at CQM, a medium-sized company where specific, complicated processes of clients are analyzed. In 1999 prof. D. den Hertog, who was working for CQM, started at Tilburg University and he advised Kuno to approach CQM. He immediately noticed this was the sort of job he had been searching for and within a short time he was working for the firm. "At this company I was able to apply many things I had learnt during my study," Kuno said. Since Kuno has always been interested in both research and practice, he had

'As a researcher you can determine your own problems'

This straightforward idea about research confirmed that he did not only want to become a researcher but also wanted to work in practice. In this field, all kind of problems arise and you are not able to just ignore problems you cannot find a solution for, as clients expect reliable results from you as an expert. Not surprisingly, he currently works four days a week at ASML and on Fridays he is present at Tilburg University. His

continued doing research in the evenings and, more importantly, he kept in touch with professor Kort about their investigations. In 2004 this contact led to the fact that professor Kort approached him for a one-day job at Tilburg University. This seemed to be the perfect possibility to combine his work with his hobby and, after CQM granted permission, he did not hesitate to make this move.

• THE TEACHER NEKST SPRING 2015



Generally, Kuno perceives his weeks as balanced. Besides the fact that he wears less formal clothes on Fridays, he also clearly experiences less hectic situations at the university. This is particularly shown through the meaning of deadlines: when a paper is not published in a particular week it can wait till next week and not a problem has occurred. However, in practice his boss expects things to be done at deadlines that are set up. Moreover, he enjoys teaching students applying theory into practical problems.

Decision making

Despite his enjoyment at CQM with a group of tightly-knit employees he made a switch to ASML in 2010. One of his students, who was working at ASML, approached Kuno to do his graduation project about real option theory at ASML and made him aware of a vacancy at ASML. Despite of the fact that he was not that interested in the first place, he joined ASML after just a few interviews. Being part of ASML for five years now has showed Kuno several advantages in comparison to CQM. First of all, working for a company that actually manufactures machines that are critical to the production of integrated chips is more exciting than just providing software or strategic analyses to clients. Secondly, ASML is considered as a Dutch glory: a Dutch multinational that significantly contributes to the world in a technical wav.

Furthermore, at this company there is a greater chance of developing yourself and make steps in your career. Main reason is the fact that the organization of larger companies is less flat than smaller ones. Finally, there are more educational possibilities at a firm like ASML. Kuno has taken advantage of this with a training at Stanford University. The key of taking decisions is that you have to measure them at the moment they are taken and not at the moment the result is known. Perfectly applicable to students is the example he gave us: "If you have had a rough night and you are a little tipsy or worse, was it a good choice to drive home and actually safely arrive at home? Obviously, it was not a good choice, but the result was favorable. What if you would have taken a cab and the driver causes a fatal accident? It would have been a good choice, but the result is catastrophic." At Stanford University, methods for measuring decisions like these that are more applicable to business were taught and Kuno has successfully finished this training of 'Strategic Decision Making and Risk Management'.

Next to this busy working life, Kuno likes playing sports. As a student he played basketball and squash, but when his children were born spare time diminished and running became one of his favorite sport activities instead. The past five years, he has ran a semimarathon every year in Eindhoven. Furthermore, if time is available, Kuno likes to go cycling. For example,

together with 20 colleagues of ASML he has climbed the Mont Ventoux in order to raise money for the Ronald McDonald House in Veldhoven.

Politics in economics

Heading to the end of the interview, Kuno revealed his dream as a teacher. He strives for a more practical consciousness of students during their study. Professor Huisman: "In practice, it is mainly about making the right decisions. Nowadays, students are not fully aware of the politics that play around in a company. In making decisions, people with different concerns are involved and you have to deal with that. For example, bonuses could have a significant influence on the behavior of employees. So, the combination between social development and quantitative models should optimized in order to optimally prepare students to the problems they are going to face." Furthermore, he states that LinkedIn is crucial in business life. With only looking at one particular example like Kuno, it is already proven that LinkedIn could provide positive life changing opportunities. Last but not least, Kuno recommends that you have to enjoy what you are doing. As an econometrician you can work for almost any company, but what you are studying right now already has to feel right.

Bert & Ernie Questions

Bert or Ernie? Ernie

Tilburg or Eindhoven? Tilburg

America or Asia? America

Students or Colleagues?
Students

Theory or Practice? Theory into practice

Education or Research? Research

Longevity Risk in Solven and Internal Model Com

Western European populations have been growing older and older by the day over the past few decades, and financial institutions offering pensions are not very excited about this development. Why, you wonder? Because it is unknown how old people are likely to become, and this `uncertainty regarding the future development of mortality' (De Waegenaere, Meulenberg, & Stevens, 2010) called longevity risk can be a significant risk for the financial institutions mentioned above.

Why Solvency II?

For financial institutions offering pension products, mainly insurance companies, remaining solvent is of importance. An insurer is considered solvent when the company is able to meet its long-term financial obligations, while taking into account the risks such a company is exposed to. In order to ensure that insurance companies across Europe limit their risk of insolvency to a desired level, the European Insurance and Occupational Pensions Authority (EIOPA) has proposed the Solvency II Directive, both to harmonize EU insurance regulation, as well as introduce risk-based regulation more tailored to the risk profile of the respective insurance company. Longevity risk is one of the risks present in an insurer's risk profile. Insurers offering pension products have to take longevity risk into account when assessing the future liabilities of their portfolios, since longevity risk cannot be diversified by pooling (a form of risk management) and is hardly hedgeable because of a small and illiquid market to securitize this risk. Longevity risk is especially relevant for insurers because underestimation of future life expectancies are a worldwide phenomenon, and

Longevity risk in Solvency II

can be severe.

In Solvency II a distinction is made between two types of mortality risk: longevity risk being the risk of decreasing mortality rates, i.e., the odds of someone dying become lower in the future, and mortality risk being the risk of increasing mortality rates, i.e., the odds of someone dying become higher in the future. To account for these risks, Solvency II requires the insurance company to hold a so-called buffer in terms of capital: the Solvency Capital Requirement (SCR). If an insurer holds this SCR for all its risks, its chances of becoming insolvent within one year are reduced to 0.5%, according to Solvency II.

the consequences of underestimation for an insurer's solvency

Solvency II describes two ways for an insurer to calculate the SCR for longevity risk: the first is a standard formula decreed by Solvency II based on a one-off shock on all mortality rates; the second is a stochastic mortality model (referred to

in Solvency II as an internal model) which is able to estimate and forecast future mortality rates and the uncertainty in the forecasts. Multiple stochastic mortality models have been developed over the years, but the most well-known model was proposed by Lee and Carter in 1992 [2]. This model is a relatively simple model which extrapolates a time trend in mortality rates, and will be explained in more detail further on, as well as both methods to calculate the SCR described in Solvency II.

The goal of my thesis is to find out whether the results from both methods, the standard approach and using an internal model, give significantly different SCRs. If that is the case, it could be of interest for an insurer to either use the standard formula, or build an internal model, dependent on the insurer's interests. Insurance companies could wish to hold less buffer to be able to pay more dividend to their shareholders.

In order to do so, first the Lee-Carter mortality model is estimated and simulations of future mortality scenarios are generated. Afterwards, the SCR is calculated using some simplifications proposed in Solvency II for both the standard method and the internal Lee-Carter model. A sensitivity analysis is also salient to check whether the results are robust with respect to a number of input parameters.

Lee-Carter mortality model

In 1992 Lee and Carter came up with a stochastic mortality model, which has from then on been dubbed the Lee-Carter model [2]. To be able to understand this model, some notation is introduced:

- $p_{x,t}$ is the probability that at time t, a person born in year t-x will live up to year t+1;
- Conversely, $q_{x,t}=1-p_{x,t}$ is the probability that at time t, a person born in year t-x will pass away before year t+1;
- $\mu_{x,t}$ denotes the so-called force of mortality of a person with age x at time t, which is often referred to as the instantaneous rate of mortality;

ncy II: Standard Formula npared

• Assuming that the force of mortality is piecewise-constant, it follows that $p_{x,t} = \exp(-\mu_{x,t})$.

These mortality rates are used to calculate the so-called cohort life expectancy, i.e., the life expectancy using future mortality rates. To obtain these future mortality rates, a stochastic mortality model is needed.

The Lee-Carter model estimates the log force of mortality as follows:

$$\ln \mu_{x,t} = \alpha_x + \beta_x \kappa_t + \epsilon_{x,t}. \tag{1}$$

Defining the log mortality this way assumes there is a time trend in the log mortality rates, measured by κ_t , which affects individuals of different ages in its own way through β_x , in addition to the average level of mortality at a certain age, measured with α_x , and the error term being $\epsilon_{x,t}.$ Besides giving point estimates of future mortality rates, the model also allows for the computation of confidence intervals, a significant feature for the goal of this thesis. The literature finds that κ_t is usually linear, which implies that gains in life expectancy are relatively constant each year in most Western European populations.

The mortality data used to estimate the parameters of the Lee-Carter model is published and updated each year by Statistics Netherlands. The Dutch one-year death probabilities are given in the form of gender-specific life tables and available from the year 1950 up to 2013. In these tables the maximum attainable age is set at 99.

After estimating the parameters it becomes possible to forecast future mortality rates, namely by estimating the future development of the κ_t process via the Box-Jenkins methodology. In this way a large number of simulations for future mortality scenarios are generated, which can afterwards be used to determine the SCR for longevity risk. The best estimate of future mortality rates is also estimated by setting the error term in the κ_t process at 0 for all future years.

The internal model

With a set of future mortality scenarios at our disposal, it becomes possible to determine the SCR for longevity risk as posed in Solvency II using the internal model approach, although some simplifications are proposed to limit the computational load.

First, we calculate the liabilities that the insurance company has to hold for its portfolio¹ in case the best estimate mortality rates are the realized rates in the future. This boils down to determining how many people of which ages are alive at the end of each year, and determining what has to be paid to these people at the end of each year, discounted to the present value

in case participants have not reached the retirement age of 65 yet. The payment at the end of each year to each participant is set to 1 unit. Interest rate risk and investment risk are disregarded for this research, in order to focus on longevity risk specifically. The result is that for each year from 2014 onwards we have calculated the amount of money the insurer has to pay from that year on, discounted.

The second part consists of determining the 99.5% Value-at-Risk (VaR) of the future liabilities, i.e., using the set of future mortality scenarios, we calculate the so-called 1-in-200 years value of the liabilities: this scenario has the likelihood of occurring once in 200 years. To find it, the future liabilities for each mortality scenario are determined, and the 99.5% quantile of these liabilities is the 99.5% VaR asked for in Solvency II. This 99.5% VaR in excess of the best estimate value of the liabilities is the SCR that the insurer has to hold each year to mitigate its longevity risk.

The standard formula

The standard formula approach has been developed by Solvency II as an alternative to the internal model approach, so insurers can choose whether to use this standard formula or to develop their own model. The standard approach calculates the best estimate liabilities in the same way as the internal model. However, rather than determining the 99.5% VaR, a one-off shock of 20% is applied to all one-year best estimate death rates, i.e., all one-year best estimate mortality probabilities are decreased by 20%, and the insurer's liabilities are calculated using these shocked death probabilities. The value of these liabilities in excess of the best estimate value of the liabilities is the SCR in the standard formula, to be held by the insurer to mitigate longevity risk.

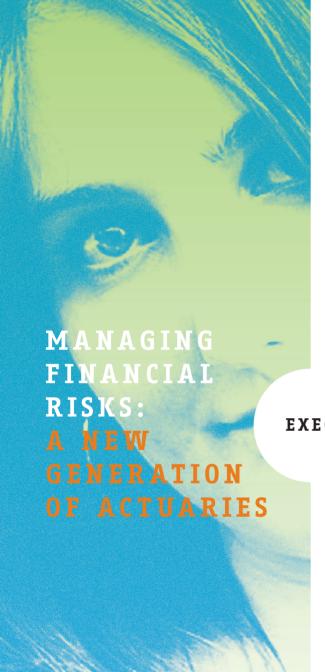
As one has probably realized by now, the above methods are quite different, and one may wonder how Solvency II decided to assume the 20% shock to represent a 99.5% Value-at-Risk. Many insurers have opposed the 20% shock, arguing it is too high to be realistic, even for a chance of 1 in 200. The results in the next section can give more insight in whether the insurers' concern is valid or if Solvency II's approximation for the 99.5% VaR makes sense.

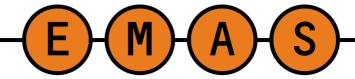
Results

The results of the stochastic mortality model have been summarized in Table 1, which displays the expected remaining lifetime for males and females aged 0 and 65, and the 99.5% Value-at-Risk and Solvency II shocked values of the remaining lifetime.

It is quickly observed that future life expectancies will increase according to the Lee-Carter model. Furthermore, the discrepancy between the 99.5% quantile of the life expectancy

 $^{^1\}mathrm{A}$ basic portfolio is used, of which the age composition is normally distributed with mean 45 and standard deviation 12. This portfolio composition somewhat resembles the Dutch population's.





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• PRACTICAL REPORT NEKST SPRING 2015

		0			65	
	BE	99.5%	SII	BE	99.5%	SII
2014	86.36	86.58	87.94	18.40	18.58	20.03
2034	87.94	88.17	89.32	20.13	20.42	21.64
2054	89.13	89.33	90.38	21.59	21.84	22.99

(a) Males.

	0			65			
	BE	99.5%	SII	BE	99.5%	SII	
2014	89.63	89.91	91.12	22.23	22.46	23.75	
2034	91.09	91.36	92.39	23.86	24.20	25.25	
2054	92.29	92.61	93.43	25.28	25.60	26.55	

(b) Females.

Table 1: Cohort expected remaining lifetimes for males (top) and females (bottom) of ages 0 and 65 for different calendar years for the best estimate (BE) forecast, the 99.5% quantile and the Solvency II standard approach.

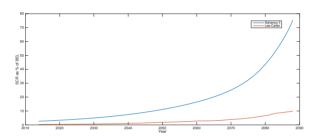


Figure 1: The SCR as a percentage of BEL_t for each year t for both the Solvency II standard approach (blue) and the Lee-Carter model (red), for the baseline portfolio.

and the Solvency II standard approach life expectancy is significant. This already seems to indicate that the Solvency II standard formula is perhaps relatively prudent with its 20% shock.

The baseline results of the SCR calculations are given in Figure 1, with the SCR given as a percentage of the best estimate value of the liabilities.

From the graph it is easily seen that the internal model approach gives a far lower SCR than the Solvency II standard approach. It seems reasonable to conclude that the 99.5% VaR approach gives lower buffers than the Solvency II standard approach and that perhaps the 20% shock is too strict, but there is a relevant discrepancy between these two methods: the internal model as described above does not account for the uncertainty in experience mortality. Experience mortality, also known as portfolio-specific mortality, is the phenomenon of adverse selection in insurance: insured people generally have lower mortality rates than the rest of the population. However, it is difficult to determine how much lower these mortality rates are, thus there is uncertainty in this level. The Solvency II standard formula does account for the uncertainty in the mortality level of an insurer's portfolio participants. Using a set of experience mortality factors published by a

Using a set of experience mortality factors published by a group of insurers based on these large insurers' data, it is possible to give an indication of the impact of experience mortality. The best estimate value of the mortality rates is multiplied by these experience mortality factors and the value of the best estimate liabilities is recalculated for each year using

these mortality rates. Now the experience mortality factors are decreased by 0.2 and the liabilities are recalculated using these shocked experience mortality factors. The resulting SCRs versus the original Solvency II SCRs are given in Figure 2

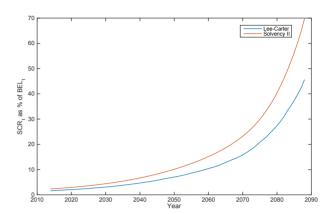


Figure 2: The SCRs for both the internal model (blue) and the Solvency II standard approach (red) for the baseline portfolio, after experience mortality factors have been applied to the forecasted one-year mortality rates and including the SCR for the experience portfolio level risk.

We see that the size of the SCR of the internal model has increased to a fraction smaller than the Solvency II SCRs. This indicates that the influence of experience mortality is significant and plays a relevant part in an insurer's risk assessment.

Conclusions

The results indicate that the 20% shock proposed in Solvency II might be too prudent, and that insurers seeking to decrease their buffers can do so by developing an internal model. However, the influence of experience mortality's uncertainty is sizable and should definitely be taken into account in any insurer's risk assessment. Other aspects which influence the SCR considerably include the age composition of the portfolio, amongst others. However, it would be relevant to research the impact of experience mortality's uncertainty more thoroughly and next to consider the results using a different mortality model.

References

- [1] De Waegenaere, A.M.B., Melenberg, B., & Stevens, R. (2010). Longevity Risk. *De Economist*, 158, 151-192.
- [2] Lee, R.D., & Carter, L.R. (1992). Modeling and Forecasting U.S. Mortality. *Journal of the American Statistical Association*, 87(419), 659-671.



Fang Qi Wu Age: 24 Began studies in 2009

















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A Glimpse of the Departments' Research

Text by: Stefan ten Eikelder

Next to being a lecturer, the professors of the Econometrics & Operations Research department have another important task in their job description: conducting research. For this article we have spoken with three of them and discussed their research. First we dived into research concerning finance and pensions with Bas Werker. Secondly, Goos Kant offers us some insights in his research on operations research and logistics. Lastly, Peter Kort tells us about his experiences as a researcher in mathematical economics and the investment of firms.



Goos Kant Full Professor

A combination of teaching and applied research is what Goos Kant likes most. He works at Tilburg University for one day a week and at ORTEC for the rest of the week. For his current research, he is the head of a DINALOG (Dutch Institute for Advanced Logistics) project on inner city distribution. In this project, Tilburg University is working together with the universities of Eindhoven and Delft, TNO and several companies. The goal of the project is to improve the inner city distribution of goods while taking several options into account, such as horizontal collaboration. It is useful for a company that is working on a national level to outsource the delivery of goods within a certain city to a specialized local company. A two-way collaboration is also possible, when for instance one company is specialized in the northern part of the Netherlands and the other in the southern part. The question that needs to be answered here is, given the price for outsourcing, when is it profitable to use this possibility? One can imagine that for example the amount of goods is also important. Together with René Peeters, Goos Kant is supervising a PhD student in his research in this area.

Goos also supervises several students in their MSc thesis on topics related to logistics optimization. He prefers to work on and supervise more applied projects, because compared to fundamental research, applied research is easier to combine with his work outside the university.

Goos did not always conduct applied research though. For his PhD thesis, he investigated how to draw networks which can be represented by a graphs, while using a minimal number of crossing lines. This seems very theoretical, which it indeed was. However, sometime later it turned out to be very useful for designing electronic chips. In these chips crossing lines have to be avoided because this is more likely to succumb and so Goos' PhD thesis was certainly of value.

Undoubtedly the most famous research of Goos is the project with which he reached the finals of the Franz Edelman Award in 2007. This is a very prestigious award, which can be said to be the Oscar of operations research. Goos was involved in a project that redesigned the delivery schedule of Coca Cola from a

static schedule with fixed routes to a dynamic schedule. Next to optimization of the routes, a very important practical issue was that the new system should be easy to implement, as Coca Cola is a huge enterprise with an enormous amount of trucks, drivers and planning centers. They managed this very well and the same method was used by several other companies as well.

We would like to thank Goos Kant for providing us with many examples of applying operations research.



Peter Kort Full Professor

Known to many Bachelor students as the enthusiastic teacher of Introduction Mathematical Economics, you expect Peter Kort to do research in related areas, which is indeed true. Peter's research focusses on investments of • SPECIAL NEKST SPRING 2015

firms, but this description might be too general. The number of projects he is currently working on is unknown to him as well, but the pile of working projects on his desk measures approximately one meter. The projects generally consider certain aspects of investment decisions, in which three dimensions can be distinguished. The first is time, as your investment has influence during a certain period. The second dimension is uncertainty, as the demand today can be high, but that does not imply a high demand in the future. Thirdly, one has to consider competition when setting a price.

This is mostly theoretical research and Peter indeed does not work on applied research. However, this does not mean that his research results cannot be applied. Just before our interview took place, he had an extensive discussion with someone of the CPB (Centraal Plan Bureau) on one of their issues related to Peter's expertise and he advised them on how to continue. Indirect applications like these are the main connection between theory and practice.

Very soon Peter will publish a paper together with Kuno Huisman called 'Strategic capacity investment under uncertainty', which is an extension to real option theory. The current theory considers when to invest while incorporating uncertainty, but not considering that one has to decide how much to invest as well, a dimension they incorporated as well. The most important result is that a firm that enters the market first has two incentives to overinvest, compared to when alone in the market, as it will result in other firms investing both less and later. Both are beneficial for the first firm and Peter Kort and Kuno Huisman are the first to discover this double incentive. The paper will appear in the prestigious RAND journal of Economics, something they can be proud of. In the future, Peter would like to work on other projects in this area, but then focus on innovation, as he believes that this is important for future investment decisions for firms.

On many of these projects, Peter is working together with PhD students. Some of those are students from

Antwerp, where he is working one day per week. Peter really enjoys working with PhD students, because he can help them in their research when they are stuck, while the fresh views of the students also leads to different approaches and results than expected. More generally, he enjoys making people enthusiastic about what he is working on, as he tries to do in his lectures as well.

We would like to thank Peter Kort for investing some of his time to explain his research.



Bas Werker Full Professor

A professor who might be unknown to Bachelor students at our university, but who is certainly involved in interesting research, is Bas Werker. The main topics of his research concern the fields of finance and pensions. One of the research projects he is currently working on is the estimation of nonstationary time-series models. These are models where data may explode over time. This type of data can occur, for example, in cash flows of investment strategies and several macro-economic indicators such as the GDP. Therefore it is important to know how to model this in a sensible way.

Next to this fundamental research, he is also working on applied research projects. Currently Bas is mostly working on topics which focus on the current pension discussion. For example, he tries to answer questions such as: is it really true that young people receive less money from the pension funds than they invest, or is this only a misconception of the general

public? This is linked to his successful work for Netspar (Network for Studies on Pension, Aging and Retirement, founded by Tilburg University). As a member of Netspar, Bas created more structure and clarity in the pension discussion of recent years, a discussion that was previously mostly based on emotions and was lacking a rational component and scientific background.

The two mentioned topics are only examples of the many projects that professor Werker is working on, as Bas usually works on six to seven projects at the same time. He explains that during research, one is stuck around 90% of the time and working on multiple projects allows one to shift attention. Some of these projects will be applied research, while others are more fundamental. Bas enjoys this variety, but also thinks it is important to work in both fields to prevent becoming an 'ivory tower' researcher.

That inspiration for research can come from anywhere is evident in an example from his time in Brussels. Bas was working on the estimation of econometric models where the error term is not necessarily normally distributed, while a colleague was working on a seemingly unrelated topic. When his colleague wrote down a list of models in which his method worked. Bas noticed that this list coincided with the results from his own research. They then decided to research this further, and showed that indeed a relation existed. Do not think though that breakthroughs are always this smooth. Researchers need perseverance, which is shown by the fact that Bas recently published a paper about a project he started in 1998.

We would like to thank Bas Werker for elaborating on his diverse research.

Like a Fish in the Water



At 12:45 we were supposed to gather at the swimming pool. Since many of us had a lecture until 12:30, the first challenge of the activity was racing through the woods on our bikes to get to the Reeshof on time. Luckily I was not the only one who failed to do this and when everyone had finally arrived at the pool a few minutes late, the Sport committee explained what we were going to do. We were divided into four groups, all with fun names starting with A, B, C and D that everyone instantly forgot. I was in group D (something about Dalmatians?) with Anouk Verhagen, Anouk Casparie, Ernst Roos and Floris van Loo.

The first part of the activity consisted of water polo matches and swimming relays ('zwemestafettes' in Dutch). My dream team started with a relay race in which each team member had to swim to the other side of the pool and back with a small ball, which was passed on to the next swimmer when they returned. We lost our first and second race, so

It was a rainy Wednesday afternoon when the second sport activity of this year took place at the swimming pool in the Reeshof. We played water polo, swam relays and dove for sunken objects while simultaneously trying to drown one another. After we all managed to survive the activity, we ate some French fries.

we decided to change the rules for the third one. Instead of swimming in turns, we now had to push one of our team members who was sitting on a floating mat to the other side of the pool as fast as possible. We somehow managed to be even worse at this type of race and lost again.

Luckily, we performed a bit better at my favorite sport: water polo. After the rules were quickly explained, we started playing matches with four players per team. Although they were not as violent as actual water polo matches, it was still a lot of fun. We lost the first match, the second one ended in a draw and we gloriously won the third one.

own treasures while stealing those of the other groups and we struggled to stay above water while attempting to drown others.

We all felt sad, but I suppose also a bit relieved, that the exhausting final game was over when we had to leave the pool at 15:00. The winners of the activity were announced and not surprisingly, group D came in last, which meant that we would be the last group to get French fries. This in turn meant that we did not need to hurry at all to shower, get dressed and get to the cafeteria, so we – or I at least – did not feel too unhappy about our loss. In order to make sure that we had not burned more calories than we

'The game turned into real-life Hunger Games'

After all teams had played and raced against each other, it was time for the final game. The Sport committee told us a story about a dragon named Herbert who had stolen all kinds of treasures and had thrown them into the pool. Each team was assigned to one of the floating mats on which we could keep the treasures that we picked from the bottom of the pool. It was only a matter of seconds until this game turned into real-life Hunger Games in a swimming pool. We dove and fought for treasures at the bottom of the pool, trying to protect our

had gained that day, quite a large part of the group went to McDonald's after we finished our fries to end our meal with a McFlurry.

The activity was a lot of fun and I am already looking forward to the next one! •

• FRESHMEN ACTIVITY NEKST SPRING 2015

Baco de Jong AGE: 20 Began studies in 2013

Beer 'n' Balls

Bowling has never really been one of my greatest assets, or so I thought. Nevertheless I signed up for the Freshmen Activity on a whim, with no big expectations, but the evening explicitly exceeded them.

We were told to gather at Dolfijn Bowling Tilburg, Ringbaan Oost 2A Tilburg, at 17:30. The bowling greens were reserved until 20:00, so we had about two hours. My journey towards Dolfijn was not quite that smooth though, as I was delayed due to a train collision. Some guy had jumped in front of the train, leading to instant death, with as a result that hundreds of people got delayed. Well, you have all experienced the greatness of the NS, no need to illustrate. Anyhow, even though I was half an hour late (and hence missed my first two throws) that was not a problem, so after some administrative obligations I was able to join the group I had been assigned to. I do have to say it was my first time at Dolfijn Bowling, but my first impression was a positive one. It is a large center, welldesigned, with a fine atmosphere and so I would love to return again. Likewise it was

my first time to bowl with a line censor, which I now know is not really my thing.

My clumsiness started a bit sooner though, as after my first throw I realized I had not switched shoes yet, so when I got to the storing of the bowling shoes I instantly got a pair of size 44. However, only the right one fitted, so I ended up bowling with a left shoe of size 45.

As both first- and second-year econometricians could participate in the activity, I did not know everyone from the group I was assigned to. What I did know after five minutes was that they were really skilled. Especially Roxanne, with her smooth, slow throw. Deadly precision. To illustrate this better, let me discuss the first game. I threw no less than five strikes, yet still ended third. I must say that only I am

to blame for that, as the remaining throws were clumsy. Moreover, when you throw three strikes in a row, I think it is called 'a turkey' (Wii sports, what else), but when step on the line, all advantages of having thrown the two previous strikes are kind of canceled out. Typically me.

During the two hours of bowling you could drink as much as you wanted for free, as it was all included in the participation fee of €7.50, so naturally we drank several times the fee. I did not have a clue to whether there was a limitation in the sort of drinks you were allowed to order, maybe I should have asked. Not that there was to have any complains though, as I was very satisfied with the pints.

Despite the bowling, I really enjoyed the evening. Asset I Econometrics organized it well, since I have spoken lots of friends and met quite a lot of new people. Of course the unlimited drinking contributed to that. All in all it was a fun and successful night, though it ended a bit soon for me, since I did not join the drinks afterwards. The newspapers were waiting for me in the morning.

At the time of writing this, the next activity has already been organized: the Astrics beer cantus. I have been told that it will outdo the bowling. I am curious to see whether they can realize that promise, so naturally I will be there. I hope you will too!

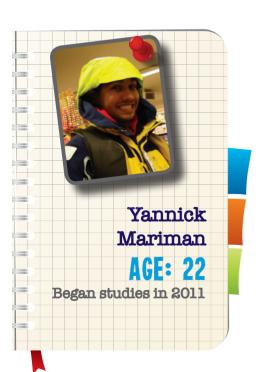


THE PASSION OF... YANNICK MARIMAN



"Sailing is the Perfect Harmony in Life"

My fellow interviewer Tom and I heard that Yannick Mariman had found some time in his busy schedule the very next day after the Nekst committee approached him and that he was to be found at the coffee bar in the left corner of the library, where he often studies. After getting himself another cup of coffee, as usual, we were to start the interview in a very casual way. As it turns out, Yannick is an easy and passionate talker, as we were told many times beforehand. **Text by: Jesson Einmahl**



A quick introduction

Yannick Mariman is 22 years old and a fourth-year econometrician. Finishing his study as soon as possible was never really a main focus for him, as he has participated in a wide range of activities. He has been an active member of Asset | Econometrics and the student association T.S.V. Plato. and he is a fanatic sailor. The latter is what this article is about. Yannick started with a small boat, rather liked it and moved on. As it happens, this will be his seventh year of teaching sailing and it will be the very first year he will be teaching sailing in Greece, for which he will receive a splendid training in April.

The beginning

Yannick Mariman was born on February 4, 1993, in Boxmeer and grew up in the close neighbor town of Nieuw-Bergen in the north of the province of Limburg. Before starting EOR, he participated in scouting, chess, competition swimming and salsa dancing. Yannick: "I have already been sailing from the age of eleven, I think, so I have been sailing for eleven years now."

Yannick's grandfather has always had a motorboat in the harbor. "When we were young, we really wanted to go on the boat. Our parents let us join in sailing lessons, so that if we really liked it, they might buy a sailboat." He and his brother joined sailing lessons for three years in the nearby town of Cuijk, which is surrounded by various beautiful lakes known as the 'Kraaijenbergse Plassen', perfect for sailing. Every Wednesday night they sailed and very often they participated in competitions on Saturday. But at

a certain point the boats, sails and waters became too small for them at the Kraaijenbergse Plassen. Yannick: "We were losing matches because we were older and heavier, which has a definite impact on the small boats of 3.5 meters and with only one sail." Clearly, this was very frustrating.

Moving on

The two brothers started attending sailing camps - even their parents joined a few times - and could move on to larger boats, which one can sit in much more comfortably. From then on they sailed here and there in the spring and autumn for a weekend with their parents and also sailed in the summer without parents. Two to three years ago, Yannick's parents bought a small 'kajuitjacht' (cabincruiser with sails), an Etap 21i. It is a fine and fast boat of 6.5 meter long with a height of eleven meters, including place for six persons and four places to sleep, very comfortable. He now sails in the province of Friesland and has been teaching sailing for seven years, with already 25-30 weeks overall. Currently he is even capable of teaching other instructors to teach sailing lessons on their turn. Yannick: "I do not really teaching sailing directly myself anymore in the summer holidays in Friesland, but when other instructors teach sailing lessons, I join them and sail with them for an hour." At the end of the day, he will share his review with them and try to help them improve themselves. Although he has a long trip with his brother by train of nearly four hours from his hometown every time, he says it is definitely worth it. Luckily, as sailors are spread across the country, he and his brother often meet others on the way after starting alone.

• THE PASSION OF NEKST SPRING 2015

The sailing school 'Oer 't Hout', where he teaches kids aged 11-17, is only open in the summer months and is rather small. There is also a sail instructor association attached, called 'Schuymers', with about 120-140 members, of which forty to fifty active members who know each other rather well. "With Schuymers, we often have a drink and other activities, as well as many competitions," Yannick says. He also has a drink now and then with another sail instructor in Tilburg and with a few sailing friends in Nijmegen, with whom he often meets. Yannick can combine sailing rather well with this study, as most of it takes place in the summer, but as it is a very close organization it often costs more time. Having your own boat is also very expensive. "I think sailing and organizing takes me some twenty to thirty days until the next summer. One summer I taught four weeks in a row, but this was not fun anymore, because of my lack of sleep," Yannick jokes.

Feeling

A few times he left home for a week with the boat with friends or other students, with a crate of beer and a bit of music on the boat, for splendid sailing, relaxing, freedom and rest. Sometimes you only hear the wind and the water in the middle of nature. When it is raining, Yannick becomes extremely spirited and makes primal roars, as only three or four boats remain and sail very heavily. Only thunder will stop Yannick from going out on

the water, because of safety reasons. "Sailing is basically everything," he says.

"I am not that interested in the technicalities of the boats, as I am more focused on what I can do with a boat physically. It is about anticipating and navigating, it is about the trees, the wind and the shape of the sail. Sailing is physics." When Yannick is on the water, he does not have to think about things. He also thinks he passed his driving exam in one time, because he imagines he is maneuvering his boat while driving.

Despite Yannick's passion, he is not really into watching sailing on TV, as he only sometimes watches the Volvo Ocean Race and America's Cup. Yannick: "I do recommend people who never sail to watch videos of the America's Cup with catamarans as they fly over the water, faster than the wind." If you feel like the world is very inhabited by people and want to feel closer to nature and you are a bit sportive, he very much advises the real feeling of sailing.

Sailing weekends

Although Yannick sometimes sails for one day, he most often sails a whole weekend during a training weekend, which are as follows. After arriving at 19:00 on Friday by train and bringing his sailing outfit, equipment, bags, the safety ton for the boat and his hair cap, they always start with the council

('scheepsraad') in which they discuss the weekend planning and the several tasks that have to be done. From 20:00 to 23:00, sailing theory is studied. At about 23:00 they round up, visit a bar and leave at 02:00-03:00, after which they sleep at the youth hostel. The following morning, actually only a few hours later, at 07:00-07:30 the alarm will go off. At 08:00 it is time for breakfast, after which he enters the boat at 08:30 and a quarter later he is already on the water, usually sailing until 17:30 in the afternoon.

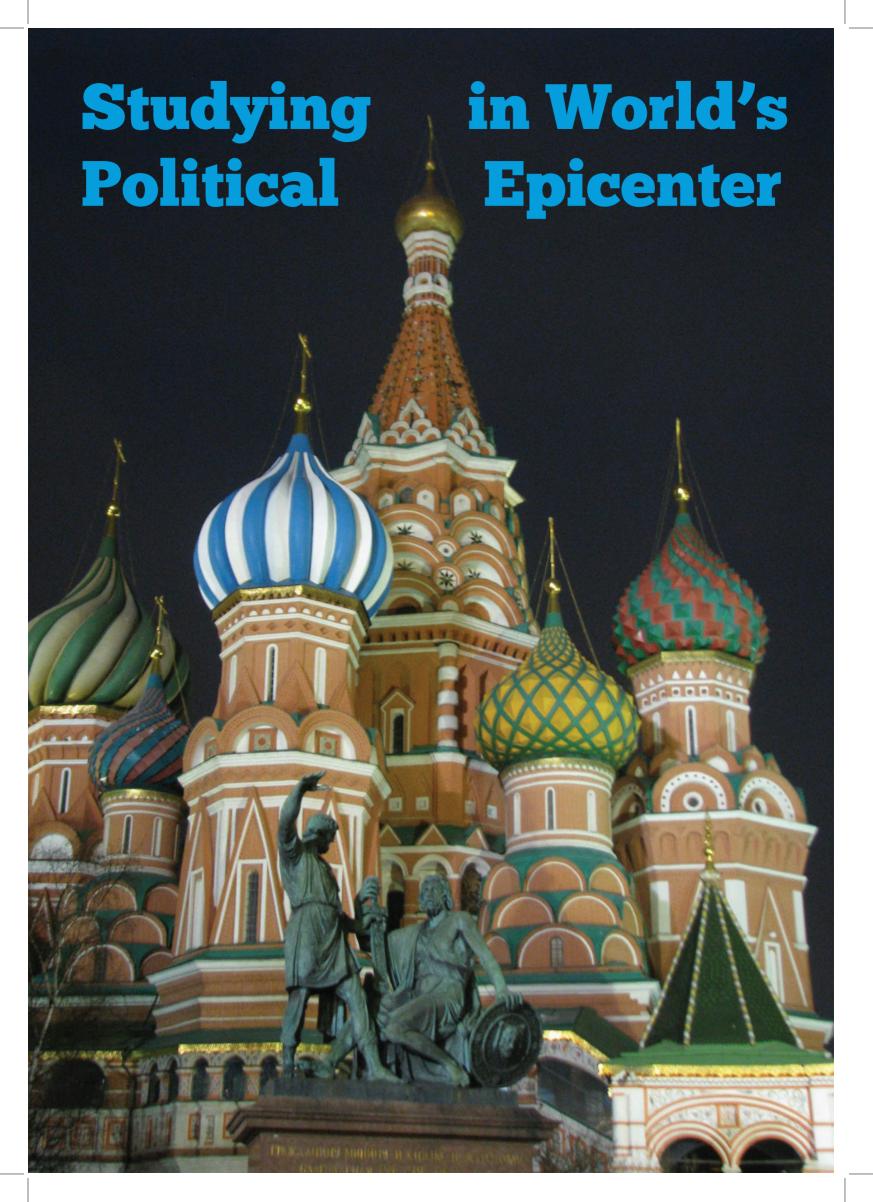
In the evening there are activities for the kids, after which he discusses the sailing performance and mental states of the kids with the instructors, as he is also responsible during weekends and therefore he organizes many activities and takes care of the kids. The Saturday evening and Sunday are rather similar. Every now and then they sail in the evening when there is wind, as the kids find it fantastic and they learn about obligatory lights on boats, but it is important that it happens safely. "I have had three accidents with motorboats, but it was never my fault," Yannick jokes.

Future

As he has outgrown his current boat he continues for a new challenge, a new area and new people, so this summer he will be teaching sailing in Greece for two weeks. He will sail with a boat of over fourteen meters in a fleet consisting of eight to ten boats with other families, who all have some bit sailing experience. Yannick will be on the mother ship and, together with another instructor, they will give a briefing about the area and route. It will be a big tour of four weeks in which they will visit many Greek islands.

In the future, Yannick would like to live at the water and teach himself to windsurf. He would like to pass on sailing through his family, and maybe even his children if they like it. Finally, he always says whatever happens, he will never give up on sailing.





After about two years of studying at Tilburg University, I figured out that knowledge gathered in university (and in previous schools) is limited to the box we, scholars, in the Netherlands are thinking in. Our education is restricted to certain econometric approaches, techniques and models, to specific norms and values and to a bounded set of 'reasonable' possible life approaches. But how do people think in other countries and cultures? With which norms and values do they comply? How is education there? Doubtlessly the best way to find out is to study abroad!



When looking for interesting locations to study, the city of Moscow quickly came to my mind. It is a well-known fact that Russian media, either representing the voice of the government or being under heavy regulation, tends to report negatively about Western countries. But how do Western media report about Russia? With the developments at the time of my application (end of March 2014, just after the Crimea was annexed by Russia) I rarely heard something positive about this interesting country. The question arose: 'Is Russia that bad, or are our media biased as well?' Besides that, as some of you might remember from 'The Passion of ...' section in Nekst 3 of 2011-2012, I am a fanatic draughts player. Since some of the quality books are written in Russian, learning the language might be handy.

On top of that, education and research in mathematics is known to be of high quality in Russia. I found an interesting mathematical program called 'Math in Moscow (MiM)', provided by the National Research University - Higher School of Economics (HSE), in cooperation with the Independent University of Moscow (IUM) and the Moscow Center for Continuous Mathematical Education (MCCME). After my application at the HSE was accepted and a lot of paperwork had been done, I had my first experience with Russia culture even though I was still at home. The HSE postponed the sending of my invitation letter needed for visa application for not less than four times, yielding a 'last minute job'. This perfectly showed Russians preferences to postpone everything until the very last moment.

Arriving in Moscow

Just after finishing my Bachelor's Thesis presentation, I left our relatively peaceful country and headed to the turbulent city of Moscow, landing on a scary icy air strip. After the border security checked my two fully packed suitcases ("Are these both yours?!") I got a more warm welcome from my buddy Aydar, who was going to help me with practical issues during my stay. Arriving at the dormitory, which is owned and arranged by the HSE, I met my roommate Alexandre from Lyon (France). On the ground floor of the dormitory there is a canteen, gym and study hall located; the second floor is for foreign ladies, third for foreign boys and fourth for Russians. Each floor consists of about fifteen double bed rooms, a kitchen, laundry room and a hall. Some groups of two rooms have their own toilet and shower, but I have to share four toilets and two showers with about twelve students. According to the university, the dorm used to be a hotel until last summer. Based upon the poor quality and bad hygiene in the bathroom facilities, I still think they must have been joking. In the beginning the monthly rent was only 72 euros, but after somebody complained that this was too much (seriously?) they lowered it to little less than 15 euros. Not complaining.

In the first week, the HSE had organized several introduction activities. Most of them were formal and focused on paperwork. Quite handy, because Russians just love bureaucracy: everything has to be signed and stamped (even my bed sheets are stamped!) and finding the right person to put them is rather difficult. They also organized a trip to Этнномир, a touristic park where differences between several parts of Russia were highlighted. Almost all international students, coming from countries as South-Korea, Finland, USA, Czech Republic, France, Italy, Austria, Belgium and Germany, participated in the introduction week in which several other informal activities were organized in order to get to know each other.

Living in Moscow

My dorm is located in the north of Moscow, about thirty minutes by metro from the city center. Speaking of which, one of the first things I was amazed by is the Moscow Metro System. In rush hours metros depart every forty seconds! Missing a metro here is therefore not as annoying as missing a train in the Netherlands. Even if one do misses a metro, one can still enjoy the beauty of the station. Thanks to the thoughtfulness of Stalin, the system can still handle more than seven million passengers on average a day.

In contrast to everything else, I would say the metro system is rather efficient.



In general, people here do not care at all about efficiency. A lot of jobs are created just to prevent unemployment. Sometimes I get the impression that one job performed here is done by three persons, whereas in West-European countries one person would be able to do three jobs. Illustratively for Moscow's inefficiency is its well-known central heating to which almost all buildings are connected. In general this yields

overheated buildings. I once had to sleep with the window open while it was minus twenty degrees outside. The temperature difference between inside (buildings, metro: +20/25) and outside (-5/-20) made everybody sick at least once in the first two months.

One of the main difficulties of living in Russia is communication. When I entered the country, I had no knowledge of the Russian language at all. That makes it quite difficult to find your way around the city, as it rarely happens that something is indicated in English and only youngsters seem to be able to master the English language to some extent. In my second week, I got lost in the maze of one of Moscow's biggest stations. There were tons of exits and since aboveground pedestrian crossings are rare, one has to find the right exit sooner or later. It took me almost an hour to find the right way.

In contrast to Dutch people, Russians do not seem that friendly and helpful. Whereas saying 'good morning' or smiling to a passing stranger might be normal in the Netherlands, one does not have to expect that here. People

here do not smile that often in public and seem to be rather emotionless. I have been told that smiling to someone you do not know is considered to be strange: Muscovites believe that these smiles are fake and therefore worthless, hence they are taught not to smile. However, when one is 'accepted' as a friend, people are more open to you and show their friendliness and emotions more easily.

There are only two types of places where people do smile to strangers: at the airport, where taxi drivers try to act friendly in order to find new customers, and in night clubs, where dressed up beautiful girls (no lack of them in Moscow!) try to find a wealthy foreigner. Moscow's night life in general is great, to suit all tastes, ranging from luxury to decently priced, and from classical music style to rock. Especially in the weekends night life is booming. Instead of predrinking at someone's place, Muscovites like to go to bars around 20:00. In these bars one can have a proper meal and start to get into the right mood. I really like the concept of these bars, which are a kind of combination between a restaurant and a classical pub.



Studying

Besides discovering the city I soon had to face reality and start studying. Due to some misunderstandings I was only allowed to attend two classes of the Math in Moscow program instead of the planned five. Trying to fill the caused gaps in my program, I ended up with six courses for the third quarter. The MiM-courses Combinatorics and Basic Algebra are of great quality. In groups of only 5-10 students, a highly skilled professor shares his knowledge with the students. These students come from recognized universities as Princeton University, Queen's, MIT and several Chinese universities. Whereas at TiU it is possible to have some social talk with your neighbors, take a nap or even not show up at a lecture, this is unthinkable in Russian education, where participation and active contribution is highly valued and contributes a crucial part to your final grade. The course Basic Algebra - after completing the algebra classes in Tilburg it shocked me that this was the only suitable level for me as higher algebra levels were too difficult - is given by an aged genius, who developed several mathematical theorems.

Besides these MiM-courses I am attending the classes of History and Methodology of Mathematics, Databases, Investment and Portfolio Management. Also, I spend six hours per week studying Russian Language Course for beginners to be able to communicate to some extent with locals and learn some basics to be able to read the draughts books. A disadvantage of the HSE is that all faculties are distributed over the city; I have to travel to five different locations for only six courses. Luckily, most courses have only one long class, mostly three hours per week.

The main building of the university is right in the center of the city at мясницкая (Myasnitskaya) and has a canteen with good quality food at a decent price (two or three euros for a full meal). As names of streets are rather long on average, people tend to come up with abbreviations of them. The main building is often revered to as 'meat'. When planning to meet someone in its canteen, one can say "Let's meet and eat at meat".



Discovering Russia

A clear image of Russia can impossibly be obtained by only living in Moscow, where about 10% of all Russian citizens reside. Traveling to other cities is a perfect way to become more acquainted with Russian culture. Unfortunately, holidays seem to be taboo at the HSE. Given the participation obligation in most of my classes it is difficult to travel around. Luckily there are some national holidays on Mondays, making it possible to duck out for a long weekend.

So far I have only been to the beautiful city of Kazan, which was way more western than Moscow. In the night train to Kazan, we – the international students – drunk водка (vodka) with locals while others were trying to sleep. When two of the locals became too loud, they were kicked out off the train by train police. Afraid that this might also happen to us, we discussed whether or not to continue the little party. Just when we were about to make a decision, the locals came back: they paid the police and were allowed to stay. That is how it goes: corruption is still highly present in all day Russian life. Nevertheless, the party continued...

In the coming months, trips to Sochi (among others known for the Olympic Winter Games 2014), Murmansk (polar lights), Yekaterinburg (travel to there by Trans – Siberian Express) and last but not least Sint-Petersburg are upcoming!

World's political epicenter

An exchange report about Russia without discussing politics seems not illogical

these days. The most common question I hear is "What impact of the political crisis do you observe there?". My answer is just as realistic as disappointing: "none". I do not have knowledge about how Russia was operating before the 'political crisis' started, so I have no means of comparison with the normal course of business.

What I do observe though, is a lack of good fruits and vegetables. Due to the trading block with Western countries, notwithstanding workarounds, quality of food seems to have decreased over the past period. Another aspect is the highly fluctuating power of the Rubel. Most striking however is the murder on former prime minister and key figure from the Russian opposition Борис Немцов (Boris Nemtsov), which took place on the Большой Москворецкий мост (Bolshoi Moskvoretsky Bridge), just meters from Russia's political heart, the Kremlin. Whereas in international media this brutal murderer was main topic for days, it was not that big of a deal in Moscow. It was just another murder.

Although many Russian citizens believe everything which is on the propagated news, there is a fast growing group of youngsters that disagrees with the current government, but who do not revolt in fair of persecution. Instead, revolutionary ideas are mostly only spread by small-scale initiatives. All in all, it is just a matter of time before Russia will change...

The Kick-Off of a New Educational Year



I went to the DMM with my roommate Juul. We had to hurry a bit, because the meeting already started at 19:00. When we opened the door, we saw a lot of empty chairs. We first thought that most people still had to come, but soon we heard that the amount of people is always low at these meetings. With 25 people the meeting of today was certainly a success. During the meeting, the board discussed the new changes for the next semester and informed the members about the activities of past semester. During the meeting, I realized that it takes a lot of effort behind the screens to organize all these activities. I always thought that it was just normal business to keep everything rolling in the department, but the department needs a lot of active members to organize the activities well. Most active members were, strangely enough, not present at the meeting. Did they already know the general process of a DMM?

In my 3.5 years of being a 'passive' member of Asset | Econometrics, I have never visited a Department Members Meeting. In my busy week of exams I found a small empty spot to visit the DMM for the first time in my study career. Furthermore, the meeting was followed by the New Year's Drink at Café De Nachtwacht.

During the break I received my welldeserved cherry turnover with whipped cream and a nice bottle of beer. After regaining my energy, I was ready for the second round. This part became very interesting, because we saw the financial balance and expenses of Asset I Econometrics. I was shocked by the big amount of expenses on drinks. This was quite huge and makes my yearly contribution very profitable. I will not tell you the exact amount to encourage you to visit the DMM next year. I was too shy to ask the board to increase these expenses even more, because I thought this would be a bit greedy.

The meeting ended quite early after some general and compulsory agenda points. The New Year's Drink did not start immediately so we decided to play billiards for an hour, even though the competitive level was not very high. When we arrived back at Café De Nachtwacht, we enjoyed the free drinks of Asset. It was immediately very cozy and there were a lot of familiar faces. Most of them skipped the meeting and only joined the drink. The Drinks & Activities committee organized a small quiz with fourteen difficult and impossible questions. Each team of two people could join and guess the possible answers. We had some lucky guesses, but it was not enough to win the quiz. As there were two teams of girls who had both eleven correct answers, the final question was an estimation question. This was related

to the upcoming Hitchhiking activity; the teams had to guess the distance from Tilburg to Frankfurt. It became very noisy when everyone in the pub was discussing about the amount of kilometers. I did not hear which team finally won the quiz and the amazing prices. Sorry girls for not mentioning your names!

For most of the attending econometricians, the drink was in the middle of the exams and resits period. People could use their new knowledge in practice or explain some difficulties to friends who did not pass the first time. To prepare them for their resits the theory was linked to some practical issues. "Boys who cannot find a pretty girl in their feasible set, should relax some of their overconfident constraints." With these useful hints, I am sure that everyone will pass his or her courses.

After some more alcohol the pub became more and more empty. A lot of people went home or to another place to continue their drunk journey. After all, I learned some new things about the study association and met some new econometricians. Like the board said: 'I would like to thank them for their hard work so far.'

Christel Opheij AGE: 19 Began studies in 2014

Discovering Opportunities

On Thursday February 5, only half a year since the start of my first study year, I attended the Bachelor Information Day for freshmen. Asset I Econometrics had organized this day, because there is still a lot for us freshmen to discover within our study program.

All the participants gathered at 13:45 and we started with a delicious lunch. Afterwards, Ruud Hendrickx came to explain us the case we would be working on. It was a game, kind of like 'The Settlers of Catan'. You needed raw materials (brick, lumber, wool, grain and ore) to build a village, city or imperium. For every built settlement you received money and the goal of this game was to earn as much money as possible. Everyone was divided in teams consisting of two or three people. Each team got an envelope with some raw materials and also some cash to start with (from the monopoly game).

We started with the first round, meaning that everyone could trade raw materials and money with each other. I was in a group with Elles and Anouk and we discovered that we only had three sorts of raw material; clearly we wanted to trade some of these with other materials, because in any case you needed at least four different kinds in order to build something. We all started to trade very enthusiastic and after some time we received some hints from Ruud Hendrickx about how and what we should trade. The clue was that we should calculate the shadow prices. There were a few people who started doing this, but it turned not to be so easy. Anouk, Elles and I were a bit lazy, and we thought we would just see how far we would come.

After some more trading, it was time for a couple of auctions. There were many different types of auctions in which you could buy more raw materials. We made a strategic plan to determine which things we wanted to bid on and for how much. However during the auctions it turned out that all the prices were far above our budget. Obviously we started wondering why all the other groups had received that much more cash in the beginning. Our conclusion was that we definitely must have done something wrong. We ended the game with one last trading round and we succeeded in gaining a little money.

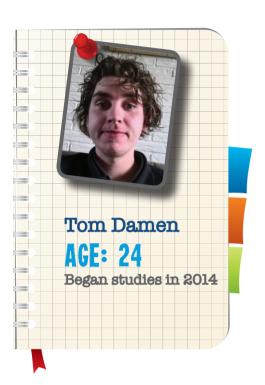
After the game, Ruud Hendrickx told us immediately that we could have done much better, for example by all working together. But yes, then it would not have been very exciting anymore and the game would have ended in five minutes. He also gave us the shadow prices and it turned out that we actually started with the most expensive materials (and therefore with less cash). Unfortunately we traded these for some materials with shadow price 0; we probably should try to calculate the shadow prices next time. However, although we did not do very well, it was a really nice game.

After this case, Marion van Heijningen and Edwin van Dam told us something about the rest of our study program, such as the courses for coming years. We are really lucky that we are the first students who can go on exchange without having study delay, since I have always wanted to go on exchange. Next up was Rutger van Alphen, who told us about his experience from his own exchange.

There were also some students who told us about the Honors Programs. In contrary to the exchange, I did not know that such programs existed. Lotte Ruwaard told us about the Discourses of Europe Honors program and Thomas van Manen about the Outreaching Program. Almost all freshmen agreed that these programs seemed really cool! I think these programs might be more interesting than going on an exchange, especially since you can also do an internship abroad within the Outreaching Program.

We ended this really nice afternoon with a drink. I learned a lot about things I can do in the next few years and I also had a lot of fun!

Hitching a Ride to Frankfurt



According to the committee, hitch-hiking is not that hard and to assure everybody of this fact, an introductory meeting was given a week beforehand. In this meeting, we were taught the very basics that you need to know about hitchhiking. We were also given several tasks that needed to be completed while hitchhiking (like finding the funniest license plate or making two full laps on a roundabout). These tasks may have granted some additional points in case it was unclear who had won the competition.

After the meeting, everybody was given a few days to prepare for the big journey to Frankfurt. At 08:00 sharp on Friday, almost everybody was present at Tilburg central station and even Masum was in time to get the train to our drop-off point. Some of us were dropped in Nijmegen, and others went to Arnhem. Jeannine and

For the first time in the history of Asset | Econometrics, a coordinated attempt has been made to go on a hitchhiking trip. A group of 22 people, including the committee, gathered in the early morning of January 30 to participate in this journey that would turn out to be of epic proportions.

I, together with Zeger, Kristel, Mitchell and Floris chose to go to the gas station in Arnhem recommended by the committee, while Masum and Vera thought they knew a more strategic gas station (which was in fact the same place). Here, the hitchhiking trip really began.

Already from the start, different strategies were used: some tried to lead cars into the gas station with the well-known thumb in the air and a hitchhiking sign in the other hand; others just approached random people at the station. The latter seemed to work best, as in ten minutes, Jeannine and I were in our first ride. It was a car dealer that was just heading home, but was willing to make a few extra kilometers

we asked them to take us with them. After little hesitation, they agreed ("We have been hitchhiking in the past, so we are pretty much obliged to take you along").

Although they were quite a bit older than us, we had some nice conversations and we found out they were going to an art exhibition for the weekend. After a couple of hours, we did not have much left to talk about, so we started thinking about the tasks we were given. We found quite a few foreign number plates and even some funny ones, but they were hard to photograph with our potato-quality phone cameras. We managed to find about five plates from different countries and a number plate that spelled "MEXX" (a shame I left my

'We decided to start doing what Germans do best: drinking beer'

to drop us off at the Dutch-German border. This gas station was situated alongside the highway, instead of just at the city's edge, so we figured this would give better chances on getting a ride. It must have been our lucky day, because after just a few minutes we approached two Dutch women, asking if they were going to Cologne (which was on route to Frankfurt). They did not really know, but after finding out their final destination was Frankfurt (!),

dices at home). After spending a few more hours fulfilling these tasks, the Frankfurter skyline arose and we knew we were almost at our destination. Some fifteen minutes later, at a conveniently placed traffic light, we were dropped off and we continued walking to the hostel where we would sleep for the weekend.

Luckily, our ride dropped us relatively close to the hostel, so we only needed a

• HITCHHIKING TRIP NEKST SPRING 2015

fifteen-minute walk to find out we were the first hitchhikers to arrive; even the first car with committee members had just arrived. After helping them a bit with unloading everybody's luggage, we did not need to wait long until the next few groups arrived. When there were three groups, we decided to start doing what Germans do best: drinking beer (or apple wine, as we were in the 'Apple Wine Capital'). The pub we found was hardly big enough for the six of us, let alone the whole group, as they were coming in one by one. At dinner time, we went to an Italian place not far from the hostel. Here the last pair of hitchhikers arrived, so they were just in time for dinner.

Afterwards it was time for some drinks. We found a place where they sold shots of tequila for only one euro, so that was the place to go! It did not take long before the first trays of tequila shots were served. Apparently, some of us were a little bit thirstier than others, and together with the afternoon drinks we all got a little tipsy. At this time, the committee's hidden talent of playing electronic darts really surfaced. Within a few throws, the dart tips spontaneously broke, so it was impossible to continue darting. This was not a problem, because everyone's attention was focused on the slightly drunk Milan (who still managed to order five shots of tequila for himself). After a few hours in the bar, we decided to call it a day and head back to the hostel.

The next morning we woke to a pretty sour smell, and we found that some of Milan's tequilas had wanted to come out, so they did in his bed. After him changing the bed sheets, we went to the Frankfurt Zoo. Because of the cold, some of the monkeys and birds had been removed from the zoo, but besides that, there were a lot of animals to be seen. In the end we were a little too mesmerized by the apes that we needed to rush through the other areas, which was quite a shame.

After gathering everybody, we walked to the city center where we were given time off to get some lunch. Some went to get a sandwich, but I was more attracted to the little market where we were right then. Immediately we saw a sausage stand where we decided to take our meal, and after a coffee we prepared for the city tour. Apart from the freezing cold, it was an interesting tour and it is always nice to know a little bit more about the city you reside. The tour ended with a visit of the Main Tower, which has an observation deck at 200 meters altitude. Despite the foggy weather, we managed to get a good view over Frankfurt.

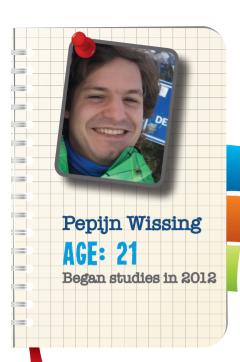
By now it was time for dinner, so we looked for a place that had room for 22 people. As we did not make any reservations, this was quite a task. Eventually we found a train station themed burger bar where we could

FRANKFURT

have our dinner. When our bellies were filled, we were ready to go partying! After a short pit stop at the hostel, we went to what apparently was the pub area. Here we found a club that was situated in the basement of a shopping centre, which I found to be a strange place for a club. After some excellent karaoke songs, we were put to the dilemma of leaving early, or party die hard to the end, as the hostel had a curfew at 02:00 and did not open until 06:30. I chose for to go home at 1:30, along with most of the group, so we could have a good night's sleep.

Right at the breakfast, it was easily seen who had been partying all night and who went home somewhat earlier. We needed to be out of the hostel at 09:30, so after a quick breakfast, we returned to the room to pack out bags. For everyone, this day was considered a hangover day and we were given some time off. Some visited a museum, others went downtown one last time. and I decided to stay at the hostel to play some cards. In the afternoon we went to a swimming pool to recover some more. From there we were picked up by bus for our return journey to Tilburg. After this exhausting weekend, it was really convenient not to be hitchhiking all the way back. After two exhausting, but beautiful days it was nice to be home and recover!





Saving Lives One Symposium at a Time

Somewhere along the way, I picked up the habit of seizing opportunities whenever they present themselves. When Ernst mentioned – well, repeatedly slapped me across the face with – the Symposium committee still needing a member, I made no exception. So here I am, close to five months in and honestly: I could not have been more grateful.

For those who do not exactly know what a symposium is, it is essentially an academic congress, where researchers – not necessarily just academics – present their work. As you might expect, these symposia typically have a general topic to tie the whole thing together. Naturally, this was where we started shaping the organization of our symposium.

Easy as that sounds, finding an interesting, relatively unique topic for which we would eventually be able to find both appealing speakers and relevant companies proved to be harder than you might think. Thanks to some great creative thinking and certainly also thanks to our chairman of the day, we ended up with a topic that I, for one, feel very passionately about: 'Saving Lives'. From this rather general topic, we would be able to branch into diverse associated subfields such as healthcare, military and humanitarian operations, ensuring a varied and, more importantly, very engaging program for the day itself.

As soon as we had our topic ready to go, we could proceed with getting together a Board of Recommendation: basically a couple of well-known people in relevant research fields who have publicly stated they support our topic, in order for acquisition of speakers and companies to be somewhat easier. This is where we encountered our first real issue. To our frustration hardly anyone we contacted seemed to be able to just read an e-mail and respond to the questions in it. Time after time, people would mistakenly assume stuff we did not ask, respond to only half of the e-mail or simply not reply at all. In the end, we decided just to roll with only the support of the university. That would turn out to be the right decision.

Thanks to both of our External Affair Officers doing a stellar job, it did not take long for the first companies to confirm their attendance. The first few speakers followed closely and the first promotional material was starting to be created. All committee members were embracing their respective roles and the distinct marks of joy and eagerness were showing all around.

A few months in, one of the misread e-mails took a very surprising turn. When one of our potential Board of Recommendation members expressed an interest to speak and shortly after that simply stopped replying to our e-mails, we decided to try to reach her by phone. I have to admit, hardly ever have I been that terrified to pick up a phone. After no less than ten (!) attempted calls and equally many reached voicemails, in a mood that is best characterized by 'to hell with it', I decided to just leave a voicemail and be done with it. You can imagine the surprise when we received a reply the next morning. A couple of days later it had been confirmed, prof. dr. Eva Lee, Director of the Center for Operations Research in Medicine and HealthCare, stationed in Atlanta (USA), was going to speak on our symposium.

It is hard to describe the satisfaction I felt at that moment. It might sound strange, simply because nothing has actually happened yet, but that was the first time it actually started to feel like we were doing something real, something significant. Our hard work started to pay off; something we were organizing could actually be a success.

While I am writing this, I am actually not sure about the words 'hard work'. I mean: yes, it takes quite a lot of time, but when I put some thought into it, I actually do not think of it as 'work'. Honestly, a large amount of time is simply taken by the meetings, which are traditionally pretty lengthy. I believe the standing record is somewhere around three hours. The time these take has little to do with some vast amount of actual business we have to discuss. It is just a consequence of an amazing and enthusiastic group of people who literally cannot wait until the 'Any Other Business' section before discussing all kinds of other business. So much that I would say Zeger and I have picked up on a good amount of womanly dressing and shopping habits, whereas Denise would be able to fill the entire 'Quatsch!' section with hilarious oneliners, all by herself.

Of course, it is not all fun and play. For example, seemingly good ideas do not realize themselves. Sitting down, trying to create that one particular flyer design you are happy with, fine-tuning contractual details or getting a complete website up and running; these things are simply unavoidable. I would say we are well on our way, but so much many, completely different things still have to be done. By now, you are probably wondering which day to block in your agenda. On behalf of the entire committee, I would like to invite you all to join us on April 30. Seize this opportunity; discover how econometrics can save lives.

Democracy and Tilburg University

At the time of writing this column the administrative center of the University of Amsterdam (the Maagdenhuis) is occupied by students and some staff members. They complain about a lack of democracy within Dutch universities and about the allocation of funds on the basis of student numbers. The Tilburg econometricians seem hardly interested in what is happening in Amsterdam.

For students that know about the history of our university this might come as surprise. The (in the Netherlands) wellknown occupation by students of the Maagdenhuis in 1968 was preceded by occupation of the main auditorium of Tilburg University. The name of the university was changed to Karl Marx University and econometrics students played a very significant role. One of the leaders of the student protest was econometrics student Jean Frijns. Students pleaded for more democracy and a lot was achieved. Jean Frijns by the way later on became one of the best-known alumni of Tilburg, and acted as deputy director of the CPB and chief investment officer of ABP. The econometrics education as well as being able to clearly express your views on society apparently are good ingredients for an impressive career. Nowadays by the way, among many other things, Jean is 'my' chairman of the supervisory board of Netspar...

Tilburg students have also played a very significant role in one of the most influential decisions taken in the history of TiSEM: the decision to appoint econometrics professor Arie Kapteyn to become dean of TiSEM in the early nineties. At the time the chain of events that had been initiated by the Karl Marx University had led to very influential faculty councils. TiSEM at the time was very locally oriented, and little attention was devoted to publishing in international academic journals. While one might think that students hardly value research, the students who voted strongly supported the significant change to a new dean with a strong international research orientation. Arie Kapteyn initiated many changes of which TiSEM still benefits today. Because the academics were very much divided in their views, students determined his appointment and econometrics students were again quite influential.

Student democracy was significantly reduced in later years, because the decision processes in many universities took much too long. The current student protest in Amsterdam again asks for a stronger student voice in all decisions taken within the university. Hardly any Tilburg econometrics student seems concerned about a lack of democracy. Perhaps this is due to the system of student evaluations, educational boards and sounding boards that did not exist in the sixties. Students can nowadays easily voice their opinion on teachers and courses in an early stage and the quality of many courses has definitely

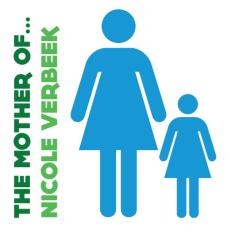
benefited from that. I am not sure whether we should prefer more student democracy. Many decisions to be taken within a university are on issues such as academic research and valorization of knowledge where students have little expertise. On the other hand our history has shown that student's thinking can be an important driver for new developments and innovation.

The second main complaint of the current protest in Amsterdam concerns the plans to close very small educational programs where the number of staff members exceeds the number of students. In Tilburg there are also huge differences in the student/staff ratio between different educational programs. Econometrics students benefit from the fact that many staff members can find time to exchange ideas with students. This is far less the case in the business programs where students nowadays for example have to write their theses with very little guidance from staff members. Unfortunately TiSEM is nowadays confronted with tight budget constraints. This might become a threat

for the current and succeeding generation of econometricians. Perhaps your support of the Amsterdam protest will be required anyway, following a strong tradition...

Theo Nijman

Theo Nijman is chaired professor in the Econometrics of Financial Markets, as well as Pension Provision and Risk Management. He is also Scientific Director of Netspar.



Mind to 0 and and Focus on ∞

On February 6, Tom and Ennia traveled to Tiel; the hometown of Nicole Verbeek. The one-hour train journey to the house of Anja and Dietmar proved to be the start of a cozy dinner. The evening was a nice combination of interesting stories, of which there is no shortage in the Verbeek family, and a tastefully prepared meal. Text by: Mike Weltevrede

Anja has just passed the age of fifty and was born and raised in the city of Enschede, which is situated in Twente, a region in the eastern part of the Netherlands. She went to an athenaeum high school, where she mostly followed beta courses. Afterwards she went to the HTS to study biotechnology. A couple of years later she went to the PABO, a school to study to become a primary school teacher and she has also achieved some economic related certificates over the course of time. This was one of the first things Anja told when she was asked about her life and it showed that it would be a very interesting interview, simply because of all the experiences and insights she has gained during her life.

When she worked in the plant-biological field she came to the conclusion that she knew quite the amount about a very small and specific field of study. This was a wake-up call for her to not become a 'profession idiot' (as she

calls it herself), but to do something with a wider field of study. Going to the PABO was her next step and this proved to be the right one, since she is still active as a teacher. Anja's favorite course to teach is arithmetic, despite her claim that she was no star at math. Nevertheless, it is safe to say that Nicole did not inherit her interest for math from a stranger. Moreover, drawing, painting and doing other creative things in general is something mother and daughter share. This was something that can also be seen throughout the house itself, because Anja has painted all the paintings herself. The only thing that Anja and her kids do not have in common is Anja's interest in geography.

These are not the only things that Nicole has inherited from her parents. According to them, also her stubbornness, perfectionism and her driven spirit are things she inherited from them. Luckily, Nicole also has the same type of humor, so she can put all those characteristics together with a laugh.

Anja & Dietmar

Anja and Dietmar met each other during carnival, in a community center in their hometown Enschede when they were both somewhere around eighteen years old. They discovered they lived less than a kilometer apart and went to the same educational institution. After an unplanned iceskate date and another carnival together, they seriously started dating. This year, they will celebrate their 25th anniversary already. After living in Alphen aan de Rijn for four years, they moved to Tiel.

The move to Tiel, located in the centre of the country, was a strategical move, since Dietmar has to travel a lot across the country for his job. Both of their kids were born in Tiel, namely Nicole and her younger brother Marc. Marc still lives at his parents' house and goes to college in Geldermalsen, near Tiel. Anja and Dietmar really enjoyed their bike trips before they got kids, but after Nicole was born, it became somewhat harder to do these impulsive 'throw the bike in the car and we will see where we end up'trips. This definitely did not mean that they would not go biking anymore. On the contrary, they just installed a child's seat on their bike and took Nicole along. They made such long rides that Nicole would just fall asleep in her little seat. Nicole says: "If I would get an ice cream cone that day, I was already pleased," so the bike trips were a pleasant activity for everyone.

The family is planning on moving somewhere else in a couple of years, because Tiel does not really excite them anymore. Anja casually states that they will "cross the IJssel river", which made me realize that my geographic knowledge really is a little rusty. It also made me realize that Anja really knows what she is talking about and that it comes very naturally for her. Something that also more or less stood out during the interview was that you could really tell that Anja is a teacher. It graced her that she could, without being anywhere close to annoying, tell you how a lot of things worked or how they are put together, really giving you the feeling that she knows what she is talking about.

• THE MOTHER OF NEKST SPRING 2015

Nicole and Marc have a good relationship, despite their age difference. Marc sometimes even visits Nicole in Tilburg and then they just have a good time. Nicole was not really the typical 'pain in the ass' adolescent; her parents could not even think of a moment that they really had a big fight at home. Nicole and her mom really get along well, and in the same way, Marc has this connection with his dad.

No shortage of sports

You can find Nicole at the gym at least three days a week, but that is not that strange when you get to know her parents. Her dad runs around three times a week, he even ran the Roparun once, and on a sunny day he likes to ride his racing bike. If he has any time left for sports you can also find him in the gym. Nicole's mother is no exception. She says: "I am not that fanatic. I only do Nordic walking, I ride my race bike and I do yoga." Long walks are something else she really enjoys, but for walks of less than ten kilometers you do not have to wake her. "Mind to zero and focus on infinity" is her motto as she walks her long walks of around 15-20 kilometers. This way, she can really clear her mind.

Nicole's trip to Australia

After Nicole graduated from high school, she got the opportunity to go to Australia for nine months and Nicole would not be Nicole if she had not taken the opportunity. Her dad found it the hardest when he saw his eighteenyear-old Nicole getting on the plane. Anja: "For me, the thought of her being away was worse than when she actually was away". As it turns out, this was pretty accurate to the reality. "Before Nicole left, you could think of things that could go wrong, but when she was in Australia it became clear that she really knew how to handle everything. She worked in a restaurant in Perth for three months, picked fruit at a farm, did a road trip and she even shot her own meals." This trip was so intriguing that we could dedicate a whole article to it, so it is hard to just leave it at these few words.

After she got home from Australia, she lived with her parents for half a year, while studying International Business



Administration. "After those months it felt really good to get my own room and leave the parental home." Anja and Dietmar both really supported this decision as they believe Nicole was not used to the life of a family anymore, because of the nine months she spent on her own. Anja: "Besides, it is just normal for someone to go live on their own after a certain age." They even told Marc that when he reached the age of 25, they will use the 'Coolblue' high pressure hose to get him out of the house.

Nowadays, Nicole visits parental home around every three weeks and does not study IBA anymore. After she had passed her first year cum laude, it was time for a change. Everyone in the family dislikes delusory hopes and Nicole is no exception. She thought a lot of the courses were a bit too spacey and not clear, so the transition to the rectilinear Bachelor of Econometrics and OR was therefore a logical step. She is now in her second year and has a room at the Verbernelaan, which means that she lives with sixteen other roommates. Quite a difference with her parental home!

After an interesting interview and a lovely meal, prepared by Anja and Nicole, it was time to leave the tremendous city of Tiel again. We would like to thank the Verbeek family for their kindness and hospitality. •



Björn Floor AGE: 20 Began studies in 2012

Crazy Carnival Competition

Hello everyone! I hope you all enjoyed carnival this year, I sure did, with six days of partying. I kicked off my carnival this year with the Carnaval Volleybal Tournament and the Pre-Carnaval Party afterwards. This of course means that a lot of beer is flowing through everybody's veins at the end of the night, which promises a very crazy and fun night.

First I will explain to you the concept of the Carnaval Volleyball Tournament, as there are two separate competitions: the beginner and experienced competition. Everyone has to subscribe his/her team beforehand in a certain competition, after which they are classified in a pool by the organization. Next everyone plays a couple of pool matches, after which the quarter-finals and the semifinals are played. During the actual final, the winners of both competitions play against each other (beginner and experienced). The tournament sounds rather serious, but it is actually focused on one thing: playing volleyball and drinking beer at the same time, where the latter part is the most important. Playing volleyball with your right hand, while holding your beer in your left one without spilling some actually happens to be quite difficult.

This year I did not play for the Asset I Econometrics volleyball teams, because I played with my own team from student volleyball association Gepidae. Before we went to the Sport Center, we had dinner with the whole team at my place, to create a nice foundation consisting of pizza and a couple of beers; clearly a good start of the evening. After we had our dinner and finished our beers, we headed to the Sport Center in our gangster outfits. However, after arriving at the Carnaval Volleyball Tournament, we noticed that everyone was dressed at least as crazy as ourselves. There was

also a team whose players were dressed as Waldo from 'Where is Waldo?'.

The first thing that had to be done when arriving over there, was grabbing some nice ice-cold beers from the bar for everyone. After these were arranged, we could play our first match, which we won big time! We won the next match as well and our third match was against the team of Asset I Econometrics, so that had to be a very fun match. After fifteen minutes of playing 'beervolleyball', we happened to tie.

(Un)fortunately we did not made the quarter-finals, so we could immediately start the party at the bar of the Sport Center. For this event, the bar was extended so there could fit at least twice

as many people as there normally would have fitted. When it was approximately 02:00, I went to the Pre-Carnaval Party at Café the Boekanier. Of course the free barrels of beer were already empty before I arrived at this party, but that did not make the party any less fun. When arriving at the Boekanier, everyone had already consumed enough beer to party all night long on the carnival music. Let us be honest, without beer it is very hard to listen to carnival music for more than three hours. However, this might also only apply to me, since this was in fact only my second year of celebrating carnival in my life. Nevertheless, I really enjoyed the Carnaval Volleyball Tournament and the Pre-Carnaval Party and of course all the craziness of the rest of the days of carnival. Alaaf!





LED it be Your Day

On February 10, it was time for the National Econometrics Day of 2015. After a somewhat rough night, my alarm went off at 6:30 in the morning to catch the train to Utrecht. After a cold and tiring journey we arrived at the NBC building in Nieuwegein.

When we got inside, we picked up our badges which told us which company we were going to attend at each part of the day. The day was split into three company parts. We first had a morning case, then after lunch we had another afternoon case and if you were lucky you could also have dinner at a company table. Spread across the day two lectures took place and in between the cases there was some time to get lunch. When everyone eventually had picked up their badge, we started the day with discussing the companies we were going to attend and looking for classmates with the same companies.

After all these discussions we could finally take place in the grand hall of the building. Here the chairman of the LED committee and the chairman of the day opened the LED. We first had a lecture given by philosopher Ad Verbrugge, during which he tried to relate economy to philosophy. Since philosophy does not have my interest, I have to say I do not recall a lot from this lecture. Right after this lecture we had to find our way to the company of our morning case. I was assigned to the case of Zanders, a finance company specialized in risk and treasury management. Since Zanders was not in my top three choices of companies I was disappointed at first. We first got a presentation about the company before getting to the case. The case we had to work on was about leading a company that produced jenever. Our job was to choose the right investment in this drink, and as an award the best group would win a bottle of vodka. As my group included some smart people, we did win this bottle in the end, for which my roommates are still very thankful.

At 13:00 it was finally time for lunch. There was an opportunity to talk to companies but most of us just discussed their morning adventures with friends. When everyone was finished eating we could proceed to the next round. For the afternoon case I was assigned to the NS. Since we all know the NS I was curious what an econometrician could mean for this company. The case at the NS was more focused on Operations Research, which was pretty interesting. Our task during the case was to find the optimal choice of train routes that would lead to happy people and a high profit. With a lot of puzzling and trial and error, we got to a solution that we found pretty reasonable. Unfortunately this answer and our amazing speech did not result in us winning this case.

While being a bit disappointed we moved to the grand hall where our former prime minister, Jan Peter Balkenende, was ready to give an interesting lecture about sustainability. During this lecture I was finally awake enough to actually pay attention and let me say, this man is more interesting than he looks. He knew how to get the attention of the crowd and

keep everyone awake. While cracking some jokes in between the more serious parts, he made his lecture better than I expected.

After this lecture there was a networking drink. At this drink you had the opportunity to network with recruiters to find out more about possible internships or job possibilities. You could also talk to a lot of other employees to find out more about working at different companies. Around 19:00 it was finally time to have dinner. After an entire day of socializing, some food was very welcome. Everyone sat down at their assigned table and enjoyed a delicious dinner. Since I had dinner with TNO, I still had the opportunity to find out all about this company. At the end of the night buses were arranged to get us to the hostel, after which we could attend the well-known LED party. We enjoyed a wonderful night, a great way to finish a very interesting day.





A quick dinner in the Mensa was the predecessor of an interview with Erwin van Oosten. He recently started living together in an apartment with his girlfriend Ilse van Loon, who is also an econometrician. Although Erwin noted this is not the first time he is being interviewed for 'Living in Lodges', we found this a good reason to pay a new visit. An interview about elderly people, making fire and a responsible cat. Text by: Stefan ten Eikelder

The apartment

Mike and I typed house number 62 into an ATM-like machine and were allowed to enter the building. When we found the right floor, we got a warm welcome by Erwin and Ilse. Erwin, who also happens to be my former TOP-mentor, is currently doing the EME Master program, while Ilse has graduated from EME and is now working at Mutsaerts. On a first glance the apartment looked very tidy, especially when compared to other student houses. Although most furniture came from their previous student houses or from friends and family, everything seemed to fit together nicely. During the tour around the spacious apartment, which for some reason took place at the end of the interview, we saw the renovated kitchen, the bathroom that conveniently included two sinks and a nice balcony. Notable was also the study room, where I guess some constraints in the model were violated: there were two desks,

> but the space in the middle was such that only one desk could be occupied at a time.

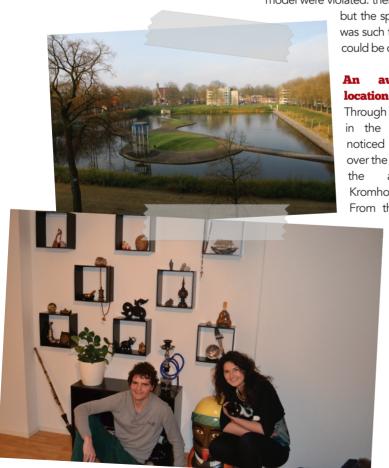
An award winning location

Through the large window in the living room we noticed the great view over the city and especially the award winning Kromhout park close by. From their balcony they



can see elderly people going for a walk and children feeding the ducks. They consider this view as one of the best things about the apartment, together with the fact that it has more space than a student house. They noted that the location is also very good, close to both the university and the city center. As it is actually close to my own house, I can personally only confirm this. Furthermore we spotted a cat in the living room, who listens to the name 'Unit'. We apparently were not the only people who thought this was a somewhat strange name, as it turned out that even the vet was surprised.

We then inquired how they got to live here. Erwin and Ilse met back in the days when one could still eat dinner on Tuesdays at Café Philip and stayed together ever since. When their recent half-year journey around the world was a huge success, they decided to start living together. In their search for housing they stumbled upon this apartment, which according to Ilse looks a bit like an elderly flat. This idea was reinforced by them being invited to the flat's annual "Jeu de Boules" tournament by other residents.





This rather unusual surrounding for young people has both up- and downsides. For example, the music volume can be turned up as loud as they want, because "the other residents are deaf anyway". So, can they still live a student life; or have they adjusted to living a civil adult life? Ilse: "Actually, if anything, we see our friends even more than we used to. Not much changed in that aspect."

Half a year, half of the world

Not surprisingly, their six-month journey around the world has made a huge impact on their lives and this is also visible in their apartment. One of the walls in the living room has been dedicated entirely to souvenirs they obtained in the many countries they visited. They actually collected so many souvenirs that they wanted to send a lot of them back to the Netherlands already. This turned out to be too expensive, but as it happens, a relative of Erwin was diplomat in Jakarta, so he took a large part of the souvenirs with him when he visited the Netherlands. Among all the souvenirs, we found an enormous wooden head, which seemed to fit in perfectly with all the exotic souvenirs. You might wonder how such a large object was transported back to the Netherlands. It was indeed not. It is not a souvenir, but more commonly known as 'the punishment man' from Erwin's previous student house. It has been discussed in the Nekst a couple of times before though, so I will refrain from retelling old stories, as they undoubtedly made new stories during their journey.

They visited mostly countries in eastern Asia and did so on a venture. They only booked one way tickets and decided on the spot where to go, when to go, and how long to stay. This mindset brought them to several very interesting places. Perhaps the most beautiful country they visited was the Philippines, which was actually not on their list in the first place! They googled the highlights, asked the locals and went wherever seemed most interesting. In the Philippines, a local fisherman dropped them off on an uninhabited island. They stayed here for three days, laying in hammocks, trying to make fire and pretending to be in 'Expeditie Robinson' by organizing an 'Island Council' amongst others. What an adventure, I must say!

One time this way of traveling turned out not so well. They found an interesting cruise on the internet, but when they arrived the company turned out bankrupt. Let us say that this is an exception that proves the rule. This proof can also be found in the set of photo albums they made of their journey, which totals six. They can recommend the traveling experience to all econometricians, and find it is easiest to do so before having a job.

A discussion concluded that it would not be Putin who they wanted to show their apartment to, but they agreed it would be fun to show how they live back here to their guide in Mongolia, who showed them the many differences in ways of living during two weeks.

Back to business

Like all journeys, it had to come to an end at some point. How did they experience adjusting back to life? According to Erwin this was quite a switch: "During our journey we did something new, awesome every day, while back here people only had a couple of parties." Upon their return, Erwin started with the master EME and is now currently writing his thesis at Building Blocks in Tilburg. Next to this, he is also working on regular projects, so it is a fulltime job. Ilse is doing a traineeship at Mutsaerts, which is a small insurance firm in Tilburg. She will lead the InBrabant day of the EBT at Mutsaerts, so we are all invited to come visit. Because they are both working full time, they cannot make other plans for during the day, but in the evening there is still enough time for other things. This is a switch from studying, but not necessarily a bad one.

Concerning cooking, they both indicate that they are not really culinary people. The dish they make most often is white pasta, because it is both easy to make and tastes good. A good taste to preparation time ratio, econometricians can appreciate that. As in any house, they too cannot avoid having to dean some times. Ilse is most precise in this, so she spends the most time and effort, but she says that "Erwin nicely takes out the garbage". Neither of them is the most responsible person in the house though, as this title is reserved for Unit.

As mentioned, we ended the interview with a tour and on the balcony we had a beautiful view over Tilburg at night. Shortly after, we headed out back into this night, but not before we thanked Erwin and Ilse for their hospitality.

Maarten van Hooft AGE: 23 Began studies in 2014

Intruders!

It was a cold and drizzling winter evening. While most of Tilburg's inhabitants were dressed up warmly in there onesies around their central heating, others might have noticed the whacky sounds coming out of Café Qwibus. Obviously, this could only mean one thing: the fifth edition of the Asset | Econometrics Après-Ski party was alive and kicking!

Let us start at the very beginning: a very good place to start! At 22:00 Café Qwibus opened their doors to a group of aspiring future econometricians. Out of all these beautiful minds, as you may know, both the best dressed Anton und Heidi would receive a prestigious reward. With that in mind, I left my econometrists household and short after that entered the place to be for this evening in my Anton outfit. Although at arrival the population not yet exceeded the amount of fingers on my hands combined, the atmosphere already was excellent.

The beer mugs with this year's Drinks and Activities committee logo soon became apparent. More capacity and a drunken duck; who would not want that? One plus one equals two, right? False! It is three, as you could also fill your mug for free for the first something minutes. Cheers, Asset | Econometrics!

As the evening went by, I drunk my beer and did a little dance here and there. Well, dancing, dancing. Since that would imply I knew what I was doing, that would be a somewhat odd description. The music played was your typical carnival-like. Of course, this fitted our intentions of so-called 'hossen' rather well. So well, there I was, jumping up and down, fitting in extremely well with your average Looney Tunes episode. Just at that exact moment I noticed the music had been turned off.

Although I had drunk quite some beer, I immediately knew that the long-awaited moment had arrived. It was time for the announcement of this year's best dressed king and gueen of this peculiar prom: Anton und Heidi. So, I set my beer mug aside, cleared my throat, and prepared myself by searching my pockets for my acknowledgements letters. "And the winners of this year's Anton und Heidi contest are...." I decided to already walk up front, as it would make the whole procedure a tad more efficient. You have to imagine that I lived up to this moment ever since I knew this party was thrown, so the nerves definitely were extant. I regrabbed my beer and took a huge pinch of it, as I already felt I was going to choke during my speech. "Congratulations to

state of mind, to judge ones credibility, right? All of a sudden something hit me. The contest! Who will be my beloved Heidi?

I rushed myself to the committee to ask for some clarification. "Heidi? She is there with Anton." I could not believe it. Nienke Marcus and Willem Jongen? Are you kidding me? I was devastated. It became obvious that for me the time had come to go home. Succeeding cycling home, I proudly placed my mug in my dorm and called it a night.

The next morning I felt reborn again. I went to the kitchen to make myself a sausage roll (in Dutch: worstenbroodje) and to overthink what had happened last night. I felt happy for the winners

'I proudly placed my mug in my dorm and called it a night'

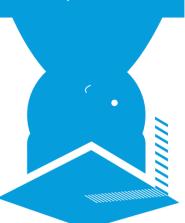
Evidently that is the moment I passed out. The next thing I knew was that I woke up in an unorthodox location. Where am I? And who are those people? It took me some time, but soon I recalled these party-people were fellow students. Well, some of them, that is. As after I brightened up a bit, I realized that there were some young men that definitely were not fellow students! During a small talk, I was told I was wrong on this one. Well, very well could be. Who am I, in this

and realized I had a blast! That was the moment I noticed a beer mug with a drunken duck on the table, which definitely was not mine. Drinks and Activities committee: big thanks!

GRADUATES



Asset Econometrics congratulates...



Name: Kiona van Campenhout

Title: Local Search Method for LNG Inventory

Supervisors: Dr. G. Gürkan, Prof.dr.ir. R. Sotirov

Name: Koen Peters

Title: The Effective Use of Optimisation in Human-

itarian Supply Chain Management: A case

study at WFP

Supervisors: Prof.dr.ir. H.A. Fleuren, Prof.dr.ir. D. den

Hertog

Name: Bas Hendriks

Title: Calibration and estimation of a correlated

multi-factor term structure model

Supervisors: Prof.dr. B. Melenberg, Prof.dr. J.M. Schum-

acher

Name: Jiamin Zhu

Title: Replicating Portfolio for the Holistic Balance

Sheet

Supervisors: Prof.dr. J.M. Schumacher, Dr. R. vd Akker

Name: Joris Blonk

Title: Factor Investing for Large Scale Investors:

Challenges and Solutions

Supervisors: Prof.dr. T.E. Nijman, Dr. R.J. Mahieu

Name: Jorn Veeneman

Title: Economic Value of Pension Fund Participa-

tion: Incorporating Longevity Risk

Supervisors: Dr. R. van den Akker, Prof.dr. B. Melenberg Name: Kristy Jansen

Title: Optimal asset allocation with illiquid assets Supervisors:

Prof.dr. B.J.M. Werker, Prof.dr. J.M. Schum-

acher

Name: Denise van Kampen

Title: Measures of relative skill: a quantitative

analysis and an application to Mini Poker

Prof.dr. P.E.M. Borm/M. Musegaas MSc., Dr. Supervisors:

R.L.P. Hendrickx

Name: Tjeerd van Campen

Title: A new approximation method for the Shap-

lev value: Structured random sampling

Supervisors: Prof.dr. H.J.M. Hamers, Dr. B.G.M. Husslage

Name: Yuri van Berkum

Lower bounds on Rendezvous on the line Title:

Supervisors: Dr. J. Vera, Prof.dr.ir. R. Sotirov

Name: Chris Pustjens

Title: Optimization of Measures to Protect Against

Floodings Application for the Rhine-Meuse

Estuary-Drechtsteden Area

Supervisors: Prof.dr.ir. D. den Hertog, Dr. R.C.M. Brekel-

mans

Name: Fang Qi Wu

Title: Longevity Risk in Solvency II: Standard For-

mula and Internal Model Compared

Prof.dr. B.J.M. Werker, Prof.dr. J.H.J. Ein-Supervisors:

...on obtaining their Master's degree.

Quatsch!

Ashley Beringer: 'Denise, heb jij nog quatsches?' Denise Ligthart: 'Nee, ik heb geen kwartjes.'

Thijs Kramer: 'In welke film speelde Pocahon-tas ook alweer?'

Thomas van Manen: 'In die bitterballen zat zoveel olie dat Bin Laden er een land voor binnen zou vallen.'

Denise Ligthart: 'Wijn na bier geeft plezier, bier na wijn geeft plezier.'

Juul Kooijmans: 'Ik ben niks kwijt geraakt gisteren. Zelfs mijn waardigheid niet.'

Henk Norde: 'Do not be confused by this, we do not want to set you on the wrong leg.' Ruud Hendrickx: 'It is always good to blow things up. No, not in the Palestine way.'

Wise words of ...

Prof. Sotirov: 'You get nothing in this world for free!'

Quatsch?

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



Now that spring is in the air, it is time to break our head over something more cheerful than Stieltjes integration or identically independent distribution samples. For this puzzle, we are going to have a look at an acrobat with a fairly strange act. However, we would like to state that no participants should try to perform this act at home themselves.

Our acrobat is performing an act in which he walks across a rope. He starts at the left end and starts walking to the right, only taking one step at a time, which equals a distance of ten centimeters. After each step his companions stretch the robe by one meter to make the act more interesting.

Hence the act goes as follows: start at the left, step, stretch, step, stretch, etc. Every combination of a step plus a stretch takes exactly fifteen seconds. Will the acrobat ever reach the end of the robe and hence finish his act? If so, how long will it take him?

Please send your solution to Nekst@Asset-Econometrics.nl before May 31. A crate of beer or a delicious pie, whichever the winner prefers, will be waiting for whoever has the best (partial) solution. Please note that, as before, every recipient of this magazine is eligible to send in their solution, so members of the department are invited to participate as well. Good luck!





Dennis Jaheruddin is the winner of the previous puzzle. As a reward, he can come and pick up a crate of beer or a pie at room E1.10. The solution of the previous puzzle was 1/2. If you want to know more, visit www.Nekst-Online.nl.

Agenda SPRING 2015

Economics Business weeks Tilburg

Monday April 13 - Thursday April 23

CV checks, Assessment Day, Personal Development Day and more than sixty participating companies: that is what the EBT is all about! Unfortunately the registration for this event is already closed, but you can still buy your ticket for the EBT End Party, which will take place on April 23.



On April 21, it is time for the second Drink & Activity's activity

of the year. After a fun activity, an interesting lecture drink by Actuarieel Genootschap will take place. We will end the activity

together, with our monthly drink in Café de Nachtwacht.

Tuesday April 21

Batavierenrace

Saturday April 25

For the umpteenth year in a row, we will participate in the Batavierenrace, a relay race from Nijmegen to Enschede. This year we will form a team together with Asset | Accounting & Finance. Are you the enthusiastic runner who wants to fill one of the last spots in our team?

Symposium: Saving Lives

Thursday April 30

Active Members Weekend

Friday May 8 - Sunday May 10

As the tradition tells us, everything about our Active Members weekend will remain secret until the very last moment, but it will be a great weekend for sure!

'Saving Lives' in different fields. The day will consist of interesting speakers, for example prof. dr. E. Lee from the United States of America and several company rounds. We will end the day together with a drink.

This year Asset | Econometrics' symposium will be about

Sport Activity
Week 20

The third and last sport activity of this year will take place in week 20. Sadly, we cannot divulge the

Asset Charity Event

Tuesday May 12

In cooperation with student association T.S.C. St. Olof, Asset organizes a charity event. The money raised with this event will be donated to 'Professors for Development'. Do you want to improve the level of education in Africa? Then block May 12 in your agenda!

activity at present. However, every sportive econometrician should make sure he/she will not miss it. Freshmen Activity

& Beer Race Drink

Tuesday May 19

The third Freshmen Activity is the last chance for freshmen to get to know each other on an activity organized especially for them. Afterwards, it is time to meet up with all other econometricians and show your beer drinking talent during the Beer Race Drink.

Football Tournament & Announcement Drink

Thursday June 11

That a lot of econometricians like football will not come as a surprise. Therefore, Asset | Econometrics organizes the annual Football Tournament. Sign up in teams and compete with other econometricians. After the tournament it is time for the most exciting moment of the year: the announcement of the new board!





Spaar Air Miles voor AAP en red dieren als Linda van een uitzichtloos bestaan

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de grootste financiële dienstverlener in pensioen

