

4 - 2014/2015

PerVectum

magazine of study association



SCOPE | Vectum

Fabienne Verwey
Study Abroad in Oslo

Our Active Members

Research Article by
Tony Williams

Econometric World
Champion



SCOPE
Maastricht University
School of Business and Economics



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Word from the President

Dear Econometricians,

Usually I seize this "word of the President" as an opportunity to directly address the different years of SCOPE | Vectum. You are all in different stages of your studies, and I always try to write an encouraging and identifiable story that applies to all of you. But for this last word of the President, I want to direct myself to all of you more in general. Not as an Econometrician this time, but as a SCOPE | Vectum member, and also as a friend.

By the time you read this article, the proposed board for 2015-2016 is known. Even though I knew all year long that the moment would come that my board year was going to end, it has still affected me more than I expected. I did not want to get caught in the cliché 'time flies' and I always did my best to value every moment of it. In fact, from the first welcome activity onwards, I enjoyed my time as a President more than I thought I would. I was part of a team alongside three amazing board members, three different personalities, and all three at the right position within the board. I enjoyed helping with the organisation of different events, and being responsible for many different aspects besides the regular events.



Even the weekly and monthly meetings, both within Maastricht and in Utrecht, with the other associations were an interesting experience. I am going to miss all of that.

SCOPE | Vectum is based on three pillars: academic events, career events and social activities. Looking back on the year, I think we managed to take care of all three pillars. Every period we had a research lecture, for which I would like to thank the KE department a lot, I hope we can continue this good cooperation in the future. Moreover, we organised a latex workshop with SCOPE | Economics once more. Next to that, we had a suc-

cessful business trip, and also the case day was a great success. The social activities have been highlighted already before, and again the past period has been very successful, with an amusing Foctum pub crawl, a very original city Sudoku, a pub quiz and a nice barbecue (I, in particular, want to thank Remco for offering his place for the activity).

Throughout the year, we have been working together with many different people, and I would like to take this opportunity to thank you all for this cooperation. First of all, I would like to thank all our sponsors, needles to say that this year would not have been possible without your help. Thank you other SCOPE associations, for the good cooperation both on a formal and an informal level. Thanks as well to the national Econometrics associations, I always enjoyed coming to Utrecht to work with you. Thank you Pascal Lelkens and Leann Poeth, you made a good cooperation between SCOPE and the SBE possible. Obviously I should not forget all the great work performed by the different active members within all the committees. Thanks a lot to all of you, you made the work for us as board members both easier and more pleasant!

Automatically, I arrive now at the people I worked with the most the past

year, my fellow board members. Guys, I know it's not over yet, but I want you to know I have had an amazing and fantastic year with you. You were all three amazing at fulfilling your obligations. Coen, you've done a great job in keeping contact with our sponsors, and the case day was a great success! And even though you often took your time to formulate your opinion, I always appreciated your input about the way we operated within SCOPE | Vectum. Evy, you did a fantastic job in organising all our activities. You chose not to take the easy rout by choosing to improve our portfolio of activities together with your committee. Frederique, you encountered many problems with your different tasks during the year, many beyond your control, but despite these difficulties you always stayed positive (the phrase 'komt goed' will remind me of you for the rest of my life) and you managed to end up with amazing results. I can only be happy with three awesome fellow boardies!

My last thanks will be directed to you, the members of SCOPE | Vectum.

Of course none of this wouldn't have been nearly as if it wasn't for you guys. I loved the interaction with all of you. Sounds stupid maybe, but I even liked the fact that many of you (well, almost all of you) often took the piss out of me, as well as the resulting banter. The good conversations we had, the

fact that I got to know all of you very well in the course of this year; it has all meant a lot to me. When I applied for presidency a year ago, I think my main concern was actually whether I would be able to regularly stay up till late on Tuesdays. Considering during my bachelors I rarely stayed up past 1 AM. However, my worries were unnecessary, and I liked every single evening. While I used to check the time every 5 minutes, I now barely notice an hour has gone by. Thanks to you, this year has been so much better than I expected, and I just want to thank all of you for that.

To finish this last word of the President, I would like to wish the best of luck to the new board of SCOPE | Vectum 2015-2016. Assuming that the proposed board will become the new board, I can safely say I believe next year of SCOPE | Vectum is going to be at least as amazing as this year was.

I am very proud and thankful to have been your President this year, and I hope to stay in contact with all of you in the future.

Joost Veth,
President of SCOPE | Vectum 2014-2015

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PerVectum

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Econometrics students
at Maastricht University

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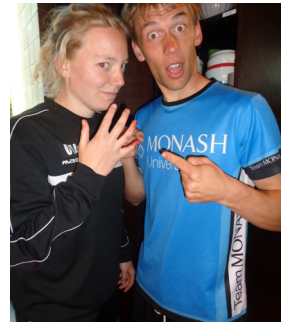
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Impressions from Foctum Pub Crawl



Impressions from Rowing



Cooperative equilibria in a one-shot public goods game with centralized punishment

By *Tony Williams*

Human cooperation has long been considered a puzzle among biological and social scientists. Even though there can be great social benefits from cooperation, there are often strong incentives for individuals to “free-ride” on the cooperative behavior of others while withholding cooperation. The intuition is best captured by the famous Prisoner’s dilemma. However, human cooperation is widespread and pervades our daily lives and societies. One of the key ways that humans have been able to cooperate is by forming institutions that define the rules of interaction. As noted by Nobel Prize-winning economist Douglass North states, institutions “are the humanly devised constraints that shape human interaction” which include both formal institutions – such as laws and constitutions – as well as informal institutions such as social norms, conventions, and taboos (North, 1991).

In (Fehr & Williams, 2013), we study the endogenous formation of institutions in a laboratory experiment using students from the University of Zurich. One type of institution that we allow is a form of centralized punishment in which one person assigns all of the punishment, but the cost is shared equally by everyone in the

group. While it may sound abstract, this type of institution is widespread. In small groups and small-scale societies, we often see collective enforcement (e.g., gossip, ostracism) of punishments decided by informal leaders. In modern societies, we have judicial systems including police, courts, and prisons which are publicly financed by taxes – thus sharing the costs of enforcement – but carried out by a small subset of the population.

In this short note, I characterize a set of cooperative equilibria in a one-shot version of the public goods game with centralized punishment. This note is based on the appendix to (Fehr & Williams, 2013).

Public goods game with centralized punishment

A typical public goods game consists only of a contribution stage. In the contribution stage, each player, $i \in \{1, 2, \dots, n\}$, receives an endowment of y and can contribute any amount $g_i \in \{0, 1, \dots, y\}$ to the public good. Each unit contributed to the public good is multiplied by $m > 1$ and shared evenly by all group members, so that each person receives (m/n) from each unit of the public good. The free-rider

problem occurs whenever $(m/n) < 1 < m$, as it is socially optimal for everyone to contribute $g_i = y$ to the public good (because $m > 1$) but individually rational for a person who only cares about her own monetary payoff to contribute $g_i = 0$ (because the individual's benefit, m/n , from the public good is less than the cost of contributing, which is 1).

Over the last 15-20 years, much attention has been focused on public goods games that allow for peer punishment after the contribution stage (Fehr & Gächter, 2000). In the punishment stage, individuals receive an additional endowment and can use the endowment to reduce the earnings of others. In typical economic experiments, each unit of punishment will reduce the recipient's earnings by 3 units but only costs 1 unit for the person assigning the punishment.

Utility under inequity aversion due to (Fehr & Schmidt, 1999)

Let $\Pi = (\Pi_1, \dots, \Pi_n)$ denote the vector of monetary payoffs. Then, player i 's utility is given by:

$$U_i(\Pi) = \Pi_i - \alpha_i \left(\frac{1}{n-1} \right) \sum_{j \neq i} \max\{\Pi_j - \Pi_i, 0\} - \beta_i \left(\frac{1}{n-1} \right) \sum_{j \neq i} \max\{\Pi_i - \Pi_j, 0\}$$

with the conditions that $\beta_i \leq \alpha_i$ and $0 \leq \beta_i \leq 1$. In the utility function, α_i captures the decrease in utility due to disadvantageous inequality, while β_i captures the decrease in utility due to advantageous inequality. When $\alpha_i = \beta_i = 0$, player i is "selfish" and simply maximizes her own material payoff.

Class of cooperative equilibria in the public goods game with centralized punishment

Proposition. Without loss of generality, order the values of α_i such that $\alpha_1 \leq \alpha_2 \leq \dots \leq \alpha_n$. Suppose there exists $q \in \{1, 2, \dots, n\}$ such that preferences satisfy:

$$\left(\frac{m}{n} \right) = \beta_j \text{ and } c < nr\alpha_j$$

for all $j \geq q$ and that $\alpha_j = \beta_j = 0$ for the remaining players.

In the public goods game with centralized punishment, all strategy profiles satisfying the following properties constitute subgame perfect equilibria:

1. Voting results in one of the players $j \geq q$ being elected as central authority with certainty. (Note that no specific member needs to be elected; moreover, ties are acceptable as long as $j \geq q$ for all candidates tied for the largest number of votes.)

2. During the contribution stage, $g_i = g \in [0, y]$ for all i .

3. If one of the players contributes $g_i < g$, the central authority assigns $(g - g_i)/r$ punishment points to player i .

4. Off the equilibrium path, any player $j < q$ elected to be the central authority will not punish because $\alpha_j = \beta_j = 0$. Using backwards induction, this lack of punishment results in zero contributions at the contribution stage.

Proof. Suppose that one of the players contributes $g_i < g$ during the contribution stage. Let P denote the punishment assigned by the central authority to player i . Monetary payoffs are:

$$\Pi_i = y - g_i + \left(\frac{m}{n}\right)[(n-1)g + g_i] - rP - \left(\frac{c}{n}\right)P$$

for Player i and

$$\Pi_j = y - g + \left(\frac{m}{n}\right)[(n-1)g + g_i] - \left(\frac{c}{n}\right)P$$

for all $j \neq i$.

Notice, importantly, that player i 's monetary payoff is reduced by both the received punishment, rP , and by her share of the cost of punishment, $(c/n)P$, which is shared equally by all group members. We propose that the value of P that equalizes final payoffs will constitute an equilibrium.

$$\begin{aligned} \Pi_i &= \Pi_j \\ y - g_i + \left(\frac{m}{n}\right)[(n-1)g + g_i] - rP - \left(\frac{c}{n}\right)P &= y - g + \left(\frac{m}{n}\right)[(n-1)g + g_i] - \left(\frac{c}{n}\right)P \\ -g_i - rP - \left(\frac{c}{n}\right)P &= -g - \left(\frac{c}{n}\right)P \\ g - g_i &= rP \\ P &= \left(\frac{g - g_i}{r}\right) \end{aligned}$$

It should be clear that Π_i is less than the equilibrium payoff, $\pi = y + (m-1)g$. We omit the algebra here. Therefore, player i has no incentive to deviate, conditional on the punishment threat being credible. We show now that the punishment threat is indeed credible.

Suppose the central authority reduces P by ϵ . The central authority's monetary payoff increases by $(c/n)\epsilon$, as does the payoff of all other institution members (including player i). Unlike peer punishment, there is no inequity between the central authority and the other full contributors, as the cost of punishment is shared equally by all institution members. Player i 's monetary payoff increases by $r\epsilon$ from the reduction in received punishment and by $(c/n)\epsilon$ from the reduction in the cost of assigned punishment. Therefore, the central authority, whom we now

denote as player j , suffers a *non-monetary* reduction in utility due to disadvantageous inequality in the amount of $r\alpha_j$. Thus, if $r\alpha_j > (c/n)\varepsilon$, the punishment threat is credible and the central authority prefers not to deviate from the proposed equilibrium. Since the ε term is common, the requirement reduces to $c < nr\alpha_j$ which is the condition stated in the proposition.

Notice also that the central authority does not have an incentive to punish player i beyond the point of equal pay-offs. Any excess punishment causes a reduction in the central authority's utility by decreasing the monetary payoff due to increased costs of punishment and by increasing advantageous inequality with respect to player i .

Finally, we need to demonstrate that the central authority will not deviate in the contribution stage. The argument is the same here as in (Fehr & Schmidt, 1999)'s proof of their Proposition 5. The central authority can reduce her contribution to the public good by $\varepsilon > 0$ and increase her material payoff by $(1-(m/n))\varepsilon$. Doing so creates advantageous inequality of ε relative to each of the other institution members, causing an overall decrease in utility of $(1/(n-1))(n-1)\varepsilon = \beta_j \varepsilon$. The central authority will only deviate if $(1-(m/n))\varepsilon > \beta_j \varepsilon$ or, equivalently, $(m/n) + \beta_j < 1$. This last condition is ruled out by assump-

tion in the proposition. Therefore, the central authority will never deviate in the contribution stage.

The condition on voting is trivial. ■

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Puzzle

Yesterday, Dad got confused about which day of the week it was. 'Whenever we go on holiday, I forget,' he said.

'Friday,' said Darren.

'Saturday,' his twin sister Delia contradicted.

'What day is it tomorrow, then?' asked Mum, trying to sort out the dispute without too much stress.

'Monday,' said Delia.

'Tuesday,' said Darren.

'Oh, for Heaven's sake! What day was it yesterday, then?'

'Wednesday,' said Darren.

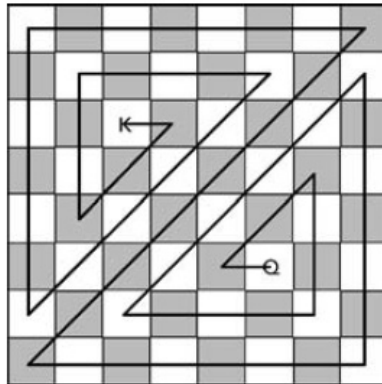
'Thursday,' said Delia.

'Grrrrrr!' said Mum, doing her famous Marge Simpson impression. 'Each of you has given one correct answer and two wrong ones.'

What day is it today?

Solution to the Puzzle

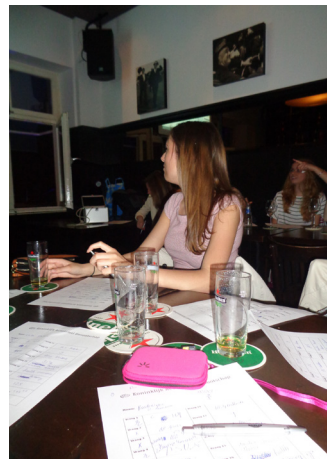
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A 15-move solution.

The smallest number of moves is 15. The path shown, and its reflection about the diagonal, are the only solutions. (Remember – each square is visited *exactly once*; that is, the path cannot cross itself.)

Impressions from AI Pubquiz



Econometric World Champion

By Mark van der Spoel

It was Monday March 30th and the team members of Maastricht University are speculating about the subject of the case they would be making the next two (maybe three) days. What could it be? Poverty analysis, or maybe a feared Micro panel, we would find out later.

The next day it all started. Andreea Bicu (PhD student at AE2, "Captain" of the team), Rogier Quaedvlieg (NWO PhD student at Finance), Lin Yicong (EFR Research Master student) and me (Mark van der Spoel, current Master student Econometrics) found out that we were all wrong the day before. This year's topic of the Econometric Game (a.k.a The World Championships Econometrics) was about sharing longevity risk. This means in short, the problems that occur in pension systems due to people living longer. After some introduction to the case by the case maker Bas Werker and some speeches by the sponsors, we all went to the Zuiderkerk. We would have the whole afternoon to get acquainted with the data and the models; the full details about the case were only to be given to us the following day. We connected our laptops to the very poor internet connection and started to dig into the materials provided.



At the end of the day we all had a bit of an idea about the topic and methods and we found ourselves again speculating what questions they would be asking us. After a dinner at a Mexican restaurant and a good night sleep, we turned out to be wrong again. We were given several questions about life expectancy and survival probabilities, and had 9 hours to formulate our answers in a comprehensive paper. During dinner, which was now in a more fancy restaurant as the day before, the case makers and the jury discussed the papers (handed in anonymously). They would be announcing the 10 finalists later that evening. The Maas-

tricht team won this competition in 2011, but has not reach the final since. Our goals for the week were first to have fun and secondly to get through to the final. When at some point in the evening the case makers arrived at the bar, the tension in the room increased and the people became very silent. And then the finalists were announced. After the cheering of the home university (UVA Amsterdam) had calmed down, Maastricht was announced. We all were very happy, but had to go back to the hotel and get some rest before starting all over again at 8 am.



The day of the finals started early, and turned out to be a very long day for everyone. As the first case was about modelling longevity risk, we knew that this case would be on sharing longevity risk. We decided to take a ‘fiancancy’ approach and decided to model the assets and liabilities of a pension fund and use as input our results from the standard Lee-Carter model. This was a risky decision, but turned out to be great. Rogier typed and typed more code, while the others were looking up

advantages and disadvantages of several solutions for mitigating longevity risks for our pension fund, as proposed by the case makers and invented by us. This resulted, again in a paper, as well as a presentation which included 2 slides: 1 opening slide and 1 graph.

After the presentations of the 10 finalists, we headed to the dinner location, meanwhile speculating who could be the winner of the Game. We thought we could be in the top 5, maybe top 3, but were probably not good enough to be winners. The competition was very though as it consisted of, among others, defending champion Copenhagen, a longevity expert Carlos III Madrid, and the very strong University of Aarhus. But again, we were proved wrong. After the case makers returned from their long discussion, the usual speeches to thank them and the organising committee were held. Then the people in the room became very silent... “On third place, Harvard University”, “On second place: University of Illinois at Urbana Campaign”. “And then on first place, with a very decent paper, a good presentation and very nice overall results, ..., the team of Maastricht University.” At this moment, we all could not believe what happened and we received the very heavy cup, a bottle of champagne, a gold medal and some nice flowers. We filled the cup with beer and received

many wishes of congratulations. We also gave our mentor Jean-Pierre Urbain a call and he was, of course, “super super proud of you guys”.

The day after we returned to Maastricht with the cup, and a blue IKEA bag with the bottles of champagne and the flowers, and we reflected, with a bit of a hangover, the things we had achieved. For the next year, or basically for the rest of our lives, we can say that we are World Champions, which we probably will never be again.





Dear Active Members,

We would like to take this opportunity to thank you all for the hard work you did for SCOPE | Vectum this year! Working with you was amazing and we hope to see you again next year!



2014 - 2015

The PerVectum Committee

- **My name is:** Naomi Shakesheff
- **I am from:** Aldershot in England
- **I joined the PerVectum committee because:** I enjoy editing things and being one of the first ones to read the articles
- **My favourite food is:** When I'm in England I'd have to say a good Sunday roast or cooked breakfast but otherwise pizza
- **Econometrics is amazing because:** It's a subject with quite direct real-life applications, requires working with numbers (usually) instead of lots of reading and has good post-graduate job opportunities
- **My favourite subject is:** Finance
- **The thing I like most besides studying is:** Politics and going for a drink with friends



- **My name is:** Naomi Schippers
- **I am from:** Aruba
- **I joined the PerVectum committee because:** I wanted to get involved in Vectum
- **My favourite food is:** spaghetti Bolognese
- **Econometrics is amazing because:** it offers a combination between economics, math and coding and it's challenging
- **My favourite subject is:** Mathematical Statistics
- **The thing I like the most besides studying is:** reading books and watching movies/TV-series

- **My name is:** Rick van Dael
- **I am from:** Weert / Netherlands
- **I joined the PerVectum committee because:** Frederique asked me
- **My favourite food is:** penne all'arrabiata
- **Econometrics is amazing because:** it challenges you, it is interesting and it is useful for the future
- **My favourite subjects are:** Analysis 2 and Finance
- **The thing I like the most besides studying is:** running

The External Affairs Germany Committee

Certainly best about the committee was to be able to understand, how (slow) companies and especially the human resources department works. Next to that it was awesome for me personally to contact some old friends from my bachelor studies that are already working, see what they do now and trying to get them come over to Maastricht. Unfortunately bureaucratic obstacles, such as budget allocations and company acquisitions prevented us from organizing an activity with them, but I am sure next year's committee will be able to do so!
Enjoy and maybe see you soon, when I visit Maastricht again.

Alice & Peter Thesling

The Event Committee

Ice Skating! "The Dutch tradition on the Vrijthof"



Welcome Event! "To kick of the start of the year: group sack races, tug of war, volleyball with bed sheets and throwing crème at the presidents face!"



Escape Room! "Find clues, codes, solve puzzle, riddles and try to get out within 60 minutes! As simple as that! Or is it?"

2014



Research Lecture by Sean Telg on Econometrics



LEVT! "The yearly soccer battle between Econometricians in the Netherlands!"



*Unique event in the Netherlands:
"Underground Laser gaming in
Valkenburg!"*



*"Having fun after
drinking some
beers and wines
at the Beer-Wine
Tasting"*



*"Showing off our
Squash skills at the
Squash Tournament"*

2015



"Rowing as fast as we could"



*AI Pubquiz:
"What are
the first 10
digits of
Pi?"*



*Barbecue: "Eat-
ing as much meat
as possible during
the last event of
the year"*



The Business Trip Committee

The Business Trip Committee is, as its name suggests, responsible for our business trips. As usual, the business trip took place in January this year. With a group of 31 students, we went to the Randstad to visit some interesting companies. But what happens before the actual week? And more interestingly, what is the role of the business trip committee in this? In order to throw some light upon this burning issue, we decided to interview the members of the business trip committee 2014-2015, Jeroen Lamers (JL), Merit Geldmacher (MG) and Wai Man (WM)

Why did you want to be in the business trip committee?

MG: Because I already did it last year, and as I had a lot of fun organising it, I wanted to do it again. This way, I could also experience the business trip itself. And I wanted to be in a committee with Joost :) (laugh)

WM: I wanted to become an active member of SCOPE | Vectum, and of all committees, the Business Trip committee seemed most appealing, as it gave me the chance to participate in the Business Trip.

JL: I wanted to become active, and I was not interested in the other committees. I wanted to organise stuff, and

as a nice extra indeed, I could join the Business Trip.

What were your main tasks in the preparation for the Business Trip?

MG: I was in charge of the transport and the Business Trip booklet.

WM: I took care of the contact with the alumni, and informed the students about everything they needed to know.

JL: I arranged the restaurants and the hostel.

Did you enjoy these tasks? Were you happy with the things you were asked to do, or would you have preferred to do different things?

MG: It was fine, but not too exciting. But we have chosen those things ourselves so we knew what to expect.

WM: I expected more work to do, it was not that much, but I was busy myself as well, so I didn't mind. In general I liked it.

JL: I was happy with it. It was not much indeed, but what I needed to do was nice, I could choose the food itself. I also thought it would be more work, but I understand that contacting the companies was not something for second year committee members.

Would you have liked to do more?

JL: I don't think there was much more

we could do.

WM: We don't have to promote either, which saves a lot of time. And for us as a committee, contact with companies was barely possible. So then there was not much left.

JL: As last year, many things were already organised very well, so there was also not much need for change. Of course we checked several options, but in the end last year's option was often the best option again.

How was the experience of the business trip itself?

JL: I think it was amazing. Lot of nice people, nice atmosphere, and a really nice first chance to get in contact with companies.

MG: You can experience what you were organising for months beforehand; that was nice.

WM: I didn't know much about consultancy - I learned a lot about it during the Business Trip though, so that really was an eye-opening experience.

To what extent could you see the effects of your organisational efforts during the week? Are you satisfied with your contributions?

WM: Everyone came to me with questions, such as: "where do I have to go, you organised it, you know!". Everyone remembers you were involved, and even if I did not know the answer, it made me feel important (laugh)

JL: I was satisfied, I could continue on the work of last year's committee, so I did not have to do too much, but what I did was of course clearly visible. Everyone was satisfied after the dinner (MG: yes of course, it was food right? (laugh)), so I think the few things I had to do, I did correctly.

MG: We managed to get everyone on the correct train, and even when Timo got lost in Amsterdam, he managed to arrive on time at the company of that day. So that worked well :)

How did you like the cooperation within the team, and with the President?

MG: Joost was really nervous about forgetting something, but we worked so well together that everything went fine.

JL: We didn't forget anything of major importance, also because we discussed it often during the meetings, we talked a lot about everything that still needed to be done, so that we would not miss anything. I liked the team, I liked working with the others and the President, it was clear what I had to do, so I didn't have to discuss much therefore the meetings were not a necessity for me. It was nice that we checked the things we found together afterwards.

What would you like to see different next time?

WM: I expected to have more input

on choosing the companies, e.g. which companies we would be going to visit. If possible, it would be nice to have a vote in this as well. (MG and JL agree)

Do you have a funny anecdote about anything you encountered during your time in the committee?

MG: A few days before the BT, the booklet was ready to be printed. It could have been as easy as that if there had not been technical difficulties which led me coordinating the printing whilst sitting in the library and doing our skills project. When I thought I could finally continue working on the project, I received another call which forced me to stop the current printing process (there were already ten booklets printed). After which I had to let it start over again. Eventually it all worked out well though and we had a nicely printed booklet.

JL: I think the most remarkable moment was the discussion between one of the students about their management skills. It was a brilliant discussion that I think most people who joined the Business Trip will not forget.

Oh, and one other thing. Some of the students had to buy new clothes during the Business Trip, because they didn't bring the right clothes to the trip. Very good preparation! (laugh).



The External Affairs Committee

Case Day

Introduction

On 16 April 2015, SCOPE | Vectum hosted its annual Case Day. The Case Day is the main event organised by the External Affairs. First, the Case Day will be briefly explained and afterwards the Committee gives a report of its experiences and opinion of the day.

So, what exactly is the Case Day? The Case Day is a day where Vectum invites a number of companies to come to Maastricht with a small case study in their usual field of operation. This year there were four companies, these were:

- CBS, the Dutch Central Bureau of Statistics
- Kleynten Consultants, a consultancy firm for insurance companies and pension funds
- APG, a firm that manages pensions for millions of Dutch citizens
- NERA, a worldwide economic consultancy company active in many different fields

Every participant in the Case Day was able to take part in two of the case studies, in the morning sessions the companies were CBS and Kleynten Consultants. In the afternoon it was APG and NERA's turn.

The two sessions were separated by lunch at Restaurant Reube.

Preparation

The preparation for the Case Day can clearly be separated into two parts, namely, the work done by the head of the committee, Coen, and the work done by the committee members.

Coen

My main task for the case day as the Vice-President was finding companies that are willing to participate. I started this already in June of last year, when I started as the Vice-President of SCOPE | Vectum. During my initial contact with companies, I approached several of them about the case day. This year, two companies were contracted because of old Vectum members working at these companies. As a board member am I very pleased that we have such a good reputation that they approach us for activities like this. I have also contacted several other companies about the case day separately, but none of them turned out to be interested this year.

Committee Members (Mark, Katja, Bas and Jacob)

The main tasks for the committee members were, firstly, to find a location for the Case Day itself and for the lunch, this was quickly taken care of as we had a precedent from last year. Secondly, to organise operational things during the Case Day. In the days leading up to the Case Day, things such as taking care of name tags, getting a thank you gift for the companies, and setting up evaluation forms for both the companies and the participating students. During the day, we were responsible for starting up every case, making sure the company representatives have everything they need and are able to work properly.

Cases

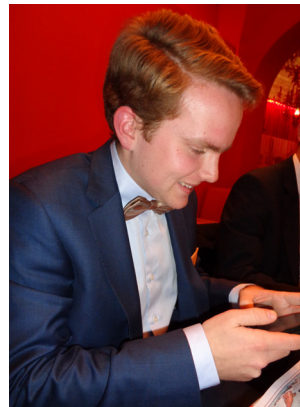
CBS

In the CBS case, we first got some general information about the Nation-

al Bureau of Statistics before we had to start with the case. We were given a SPSS-file with data to answer questions about the probability that people do not respond in a household survey and the effects of that. As we all did not know the program it was a struggle to get to the answers, but with a little bit of help it turned out fine. In the end we collectively discussed the answers so there was no price unfortunately.

Kleynen Consultants

The case of Kleynen Consultants was split up into two different parts. In the first part, we needed to fill in fields in excel fields. The assignments were all related to the coverage ratio of a pension fund. In this first part, we got a good feel of what things to take into account when managing a pension fund's portfolio. In the second part, we had a chance to optimize the portfolio ourselves. The team who was able to pay out the most amount of dividend to



their shareholders, while maintaining the coverage ratio, would win the case. With the price being a bottle of champagne, winning was definitely worth your while.

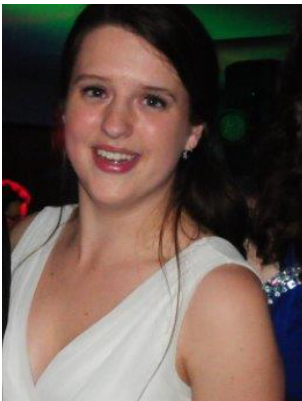
APG

APG 's case was about managing a portfolio of securities in the so-called Allocation Game. In the game, your team started with 350 billion euros and you had to allocate this money by using the current economic situation and the news that became available throughout the 'year'. The game consisted of 5 rounds, which were all equal to one year. After each round was finished, the representatives from APG showed what the effects of the news were on the economy and the securities you could invest in. Afterward they showed how each team performed in the year and the corresponding ranking of the teams. The ranking was based on six different factors, such as return and

diversification. After playing the Allocation Game for five rounds, the team with the highest score became the winner.

NERA

The NERA case concerned competition policy, it was for us to decide whether a company would need to be fined for breaching competition policy restrictions. In this case it concerned an unsolicited price hike in a certain time period. Analysis of this case was done using econometric methods. Participants were provided with a data set and could work in a number of different statistical software packages, mainly STATA and EViews. The NERA representatives were there to assist us in picking the correct regressions to run and guide us in the right direction. In the end the goal was to reach a fine that was as close to the one that NERA had determined. The team that was the closest was pronounced the winning team.



Conclusion

Bas

This was the first time that I helped organising the case day, but also the first time that I attended one. In the morning I participated in the case of Kleynen Consultants and in the afternoon I did my best, together with my fellow team members, to obtain the best results in APG's Allocation Game. Even though I am still a first year student and therefore lack some knowledge, I was very well able to participate in the cases. Because of the interesting cases and the fact that I got to know the companies better, I can say with certainty that I had a great and inspiring day.

Jacob

For this was the first time participating and organising the Case Day, I must say that I really enjoyed the day myself. The case I participated in in the morning, Kleynen, was pretty interesting in my opinion. In the afternoon I helped the NERA representatives and also participated in making the case, which to me was the highlight of the Case Day.

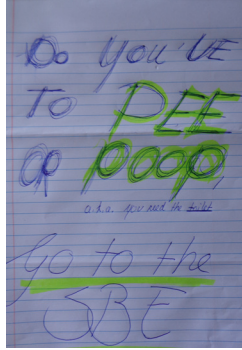
Mark

For me it was the first time organizing the Case Day, but I've participated in previous year's Case Day and the similar Congress the year before. I think it is a very interesting activity to get in touch with relevant companies, as I did the case of CBS and APG this year. In particular, I like the informal lunch to talk to the employees while having delicious food and also that students from earlier years can participate easily.

Coen

As the Case Day is one of my main responsibilities as the Vice-President of SCOPE | Vectum, I am very happy with how the Case Day turned out. The feedback we received by the companies so far is very positive, as well as the feedback of the students. All in all, it has been an instructive experience, with a positive result.

Impressions from The Barbecue



Land of The Vikings

Exchange Semester in Oslo

By *Fabienne Verwey*

While I am writing this article the second year students already know where their next adventure will be. Last year I was in the same position and was excited to go to BI in Oslo! While choosing where I wanted to go I had a lot of countries in mind. At first, for some unknown reason, I didn't consider Scandinavian countries. When the time came and I actually had to make my list of choices I realized I didn't know anything about these countries, so I then started to consider them. I was drawn to Oslo, and I wanted to know more about it. The first things people think of if you say Oslo are Vikings, reindeers and that it is very expensive. Unfortunately the latter is true. However, there are a lot more positive things outweighing the bad.

On 2nd August the moment arrived: I was going to Oslo! My mom and dad wanted to see with their own eyes where I would live for the next 5 months and decided to drive me all the way there. This gave me the perfect opportunity to stuff the entire car with my clothes without being limited to the 20kg per suitcase. After two days of driving we finally arrived. As BI offers you housing I luckily had something less to worry about, and we drove directly to my new home for the



coming months. As my parents and I wanted to enjoy the summer there as well, we were a bit early in the season. When we arrived at my apartment I was a bit disappointed that I was the only one there. When entering my room the disappointment continued, as there was only a bed, a table and a chair. Luckily Oslo is well known with the concept of IKEA, so we installed the Wi-Fi, searched for the nearest one and drove there. After installing everything in my room it finally felt like a home.

The first week alone was a week of a lot of different emotions. The first couple of flat mates I met only wanted to stay in their room. This wasn't how I

imagined my exchange. I already gave up hope in finding people to go to the opening party with. Then my last flat mate arrived and she was great! She had already met a lot of people on the flight to Oslo, and she introduced me to them. As this was the opening to the Faderrullan (similar to the Inkom) it only got better during the rest of the week. Despite everything else this was finally turning into a good start of my exchange!



I lived in Kringjå, which was just a big student village. As I mentioned before, before my exchange started I already knew where I was going to live. I was lucky enough to have a room with a private bathroom and a kitchen shared with 6 other girls. In Kringsjå, there were a lot of exchange students. As I already mentioned, Oslo is expensive. But as we all had common kitchens, there was always a kitchen party somewhere. Only 200 meters further

down the road there was a huge, and pretty lake. At the beginning of the semester there would always be students swimming there or having a barbeque. Around the lake there are a lot of woods which gave you the perfect opportunity to go for a workout. You could always go for a hike, rent a mountain bike or go for a walk there. Normally I wouldn't be too happy living so close to the woods, and the last stop of the metro line. However, I don't know any country safer than Norway.

Like everything in Norway, BI was very well organized. They had already sent me a list of all the possible courses and timetables beforehand. This gave me the advantage of designing my own schedule, which meant only having classes on Wednesday and Thursday. The best thing about this was the fact that I had time to make a lot of trips. As the temperature decreases fast in Oslo, it is key to do your hikes as soon as possible. My first trip was therefore going on a hike to Preikestolen. I went with three other girls. We first had to go to Stavanger by an 8 hour train journey, boat and then finally a bus to Preikestolen. As we weren't that familiar with the concept of hiking, we expected to find a shop or restaurant near our hostel. Unfortunately this wasn't the case. The hostel turned out to be just a cabin, there was no shop

and the last bus had already left. We were stuck there without food. Luckily there was some small reception where we could buy some bread, so we were good for the night. The next day it was time for the hike. As I only went to the woods near my home a couple of times to go on a small hike, I wasn't prepared for this at all. It was way tougher than I thought it would be. After a 3 hour hike we finally made it to the top! And it was one of the best experiences of my life. The feeling you get when you are standing there on top of the mountain is indescribable.

When we were back in Oslo again I wanted more of this. I found out that there was an event called "Friluftstreffet".

This was basically a four day camping trip to Jontumheimen, a big natural park. There we could choose between several activities. The activities I chose were hiking, glacier hiking, and mountain climbing. During the night we again slept in cabins. I thought the hike to Preikestolen was tough. However, it was nothing compared with this hike. I had the pleasure to go with 4 experienced hikers. They were everything I was not. After 8 hours of hiking I was completely broken. But an amazing experience. The next day I still felt my legs, but it was time to go on the glacier. Again this was amazing! We had spikes on our shoes, an axe in case we fell, and we were tied to each other by a rope.



With this equipment we hiked on that glacier for the entire day. It was a great adventure, and I am happy I was able to do this.

Before going to Oslo I was never a person that particularly appreciated the beautiful nature around me – I just took it as a given. I was surprised that I actually started to enjoy all the small things there.



Besides all the trips, being “close” to home gave my friends the opportunity to visit me. I was lucky enough that some of my friends found the time to visit me! First Ellissa visited me, then Maartje and finally Celine. I think it is really nice to have your friends and your exchange mixing up a bit. Now when I’m talking about something from my exchange they can actually picture what you are doing.

One of the final things I did while I was there was going to the Nobel Peace Prize concert. Here the Nobel peace prize winners chose some of the performers, next to a wide range of worldwide known singers. The Nobel peace prize winner also gives a speech there. Even the royal family was there to hear the speech. I think it was a very eye opening night.

All in all I fell in love with Norway.

To all the second year students getting ready for their exchange, there is only one thing I would say: enjoy!

The City Sudoku

By Marijke Lijzenga and Evy Dooms

As econometricians we always like to work with numbers, so we were looking forward to the city Sudoku which took place on Tuesday 28th of April. We gathered at the gate of the SBE and had to make groups of approximately five students. After some practicalities, we could start our journey to find the solutions of the Sudoku. Some fanatic econometricians started running to be the first in solving the Sudoku, which wasn't that easy. However, it was a good way to get to know the city better and at the same time it was a good workout, which lead to myalgia for some people. ;)



By using the colour-coded map, we got to the places where we could answer the questions. The activities committee did a really good job in coming up with original questions, like counting the house numbers in the Grote Staat and the number of stairs of the 'Hoge Brug'. We also had to count the number of University buildings in the Tongersestraat, Lenculenstraat and Pappenstraat and take the square root of

this and afterwards divide it by this number. This was a clever question as most people started counting the buildings while the answer was just one.



Nobody managed to solve the Sudoku completely, but it was a really fun activity as everyone was actively trying to answer the questions and we all had a good time. After some hours of puzzling, we went to the Preuverij to have some drinks. Altogether, we had a really good evening and we would love to do this activity again next year!



Upcoming Events

June 12th - 14th Members Weekend

An amazing weekend full of fun, drinks and surprising activities!

June 24th Annual GMA

On the last Wednesday of the skills period, our annual GMA will take place. The financial statements and this year's progress will be reviewed. After that, the new board will be elected and we will conclude our last drink of the year in the Preuverij.

Academic Year 2015/2016

September 1st Welcome Activity

The very first activity of the new academic year! Come and join us for an amazing activity, meeting your old fellow econometricians after the summer break and welcoming our new members.

September 15th LEVT

The Landelijke Econometristen Voetbal Toernooi will be your chance to show off your football skills! Can we bring the trophy home?

This list may be subjected to changes.

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