



Annual Research report 2014



Preface

The 2014 annual research report of the Amsterdam School of Economics (ASE) provides information on the organisation, activities and results of its research institute ASE-RI. With the funding of the institute, staff members publish in and edit international journals, attend and organise international conferences and workshops, and write and supervise dissertations.

This year the ASE has reformulated its mission, ambition and strategy. The main ambition is to belong to the top-10 economics departments in Europe based on the ASE's research performance in Microeconomics, Macroeconomics and Quantitative Economics. In line with this ambition, the research time criteria and criteria for tenure have been aligned with the Research Fellow criteria of the Tinbergen Institute. Furthermore, new faculty will be hired at the tenure-track assistant professor level, selected from the American job market by a joint ASE recruitment committee.

Research output, in terms of publications and completed PhD projects, has stabilised at a level comparable to recent years. The increased emphasis on quality rather than quantity of publications is reflected in publications this year in high-impact journals such as *Science*, the *Quarterly Journal of Economics* and *Management Science*. The Research Priority Area Behavioural Economics succeeded in acquiring Additional Funding on the basis of the grant proposal "Communication by Action and Market Design". Another success is the KVS Penning prize awarded to Thomas Buser's PhD thesis.

In summary, research at the ASE has continued to flourish, and ASE-RI would like to thank all research staff for their contributions.

Prof. dr. H. Peter Boswijk
Director of the Amsterdam School of Economics Research Institute

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A

THE RESEARCH INSTITUTE

CHAPTER 1: INSTITUTIONAL OVERVIEW

1.1 MISSION STATEMENT

ASE-RI (Amsterdam School of Economics Research Institute) facilitates and promotes research at ASE to foster the academic ideal of intertwined university teaching and research. The institute aims for research results that significantly improve our understanding of the operation of economic systems, the behaviour of agents in the economy and the effects of economic policies. ASE-RI aims to appraise researcher performance and to provide a directive for further research with its standards for research. Research time is allocated to researchers based on their performance.

1.2 ORGANISATION

ASE-RI, the research institute of the Amsterdam School of Economics, is one of the two research institutes of the Faculty of Economics & Business (FEB); the other being the research institute of the Amsterdam Business School (ABS-RI). ASE-RI covers the wide area of economics, econometrics and actuarial science.

Research is organised in Research Programmes, which are directed by Programme leaders who are experts with core positions in the curriculum. Stimulating research that significantly improves our understanding of the economy is meant as a focus on fundamental research. In many cases, the inspiration for research questions derives from practical problems in business and society as well as from pressing problems for government policies, as is only natural for a social science. But the research results should primarily be reported to the international academic community and assessed against the quality standards that apply there. Such permanent quality assessment feeds back into the quality of teaching and of advice given to business and the government. Contributions to public debates should be a consequence of developing reliable knowledge about the economy rather than a primary goal.

In addition to the Research Programmes, ASE-RI also hosts the Research Priority Area Behavioural Economics. This is one of the 20 fields in which the UvA wishes to actively foster further development. Researchers from the several programmes participate in the RPA Behavioral Economics, in particular in the fields of experimental economics, industrial organization, labour economics, and complex socio-economic systems. Recently, ASE-RI and ABS-RI jointly have taken the initiative for a research focal area of the Faculty of Economics and Business on Risk and Macro Finance, in which researchers from (behavioural) finance, macro-economics, and actuarial science participate.

ASE-RI closely co-operates with the Tinbergen Institute, where many of ASE-RI's researchers are appointed as fellow. The Tinbergen Institute also acts as the graduate school for ASE-RI students.

1.3 STRATEGY AND POLICY

ASE-RI aims to reach its goals by organising, stimulating and monitoring Research Programmes. Annually, programme performance is assessed. Means are allocated to programmes based on performance. Research coverage is not directed and controlled by the Faculty's management, but develops in an open competitive environment. General policy issues are discussed by the Council of Programme Directors.

The main strategic aim of ASE-RI is to produce research in (quantitative) economics with, on the one hand, a high impact on the international academic research agenda, and on the other hand a strong societal relevance.

The first aim is in line with ASE's ambition to become a Top-10 school in Europe in each of the broad areas micro-economics, macro-economics, and quantitative economics (as stated in the ASE Strategic Plan of November 2014). The ambition implies that quality of publications has more emphasis than quantity. Although some variation in publication culture exists among the research groups, it means that researchers are encouraged to aim at publishing in the top economics journals and in field journals with a high citation impact (currently measured by the Article Influence Score, AIS). The strategy to reach these aims consists of the following elements.

Personnel policy

As stated in the ASE Strategic Plan, vacancies for new research staff are to be filled at the tenure track level. The school has adopted a 6-year tenure track, with a mid-term review after 3 years. Tenure criteria include, in addition to teaching performance and external funding, the ability to qualify as Research Fellow of the Tinbergen Institute, which requires that five publications in a recent five-year period are in journals with a cumulative AIS of five. In addition, ASE-RI requires that at least three publications are in a medium-impact field journal, or one in a Top-5 journal. As of 2014, recruitment of tenure track assistant professors occurs through the American academic job market, where a joint ASE recruitment committee aims to attract the most talented candidates, in line with the teaching requirements of the research-based bachelor and master programs that the school offers in combination with the school's Top-10 ambition. Tenure and promotion decisions are made by the Dean. The promotion and Tenure (P&T) Committee advises the Dean based on a standard set of criteria and after the consultation of full professors in the department.

Research time allocation

Each year, tenured faculty members with a research appointment (assistant, associate and full professors) are allocated research time based on research output. Currently the maximum research time for fulltime appointments (except for externally funded research) is 0.5 fte; as of 2014, the criteria for this maximum research time are aligned with criteria for Research Fellowship of the Tinbergen Institute, as indicated above. Researchers who do not satisfy these criteria may earn either 0.25 or 0.125 fte, if their research output satisfies the corresponding fraction of the TI criteria. ASE-RI aims to appraise researcher performance and to provide a directive for further research with its standards for research.

PhD programme and placement

A third approach to increasing the school's international research impact is through its PhD programme. As detailed below, ASE-RI's PhD programme is organised by the Tinbergen Institute graduate school. Through a systematic process of training, research supervision and job market preparation, the school aims at (and has succeeded in) placing its PhD graduates at good European and American departments.

ASE-RI also stimulates concentration of the school's research in Research Programmes by other means (such as providing an annual budget for conference visits and other academic activities to the Research Programmes).

CHAPTER 2: INPUT

2.1 RESOURCES AND OTHER PERSONNEL

Personnel policy and human resource management are the domain of the department chairs and section heads. ASE-RI encourages the sections to hire good researchers and to stimulate faculty to increase the quality and quantity of academic publications, and has a vote in promotion and tenure decisions. Broader strategy issues concerning hiring and firing are discussed within the Amsterdam School of Economics management team and this has resulted in a document on personnel policies in which the requirements that current and new staff should meet are clearly defined.

The tables below give information on ASE-RI faculty. Table I shows that the overall research capacity was relatively low in 2011 when the consequences of a major reorganisation of the Faculty of Economics and Business showed. In 2012, the total number of research staff slowly picked up again, due to inflow of staff hired in the second and third flows of funds and of PhD students. In 2013 the research capacity increased further. In 2014 the research capacity declined somewhat, although the number of PhD students had increased further.

Table I: Input research staff at institutional level (FTE)

	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		22,71	20,66	21,85	18,86
WP 2 (second flow of funds, excl. Ph.D.'s)		6,32	7,83	8,38	8,23
WP 3 (third flow of funds, excl. Ph.D.'s)		24,20	35,36	33,93	30,67
Ph.D. students		18,91	22,13	28,25	30,31
Total Research staff		72,14	85,98	92,41	88,07
Support staff ASE-RI(bureau)		1,00	1,00	0,89	0,89
Total Staff		73,14	86,98	93,30	88,96

Table II: Input research staff at programme level (FTE)

<i>UvA-Econometrics</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		3,96	2,68	1,87	1,40
WP 2 (second flow of funds, excl. Ph.D.'s)		0,60	0,80	0,80	0,80
WP 3 (third flow of funds, excl. Ph.D.'s)		0,00	0,00	0,00	0,00
Ph.D. students		1,45	3,20	3,47	3,73
Total Research staff		6,01	6,68	6,14	5,93
<i>Operations Research & Management</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		0,41	-	-	-
WP 2 (second flow of funds, excl. Ph.D.'s)		0,00	-	-	-
WP 3 (third flow of funds, excl. Ph.D.'s)		0,00	-	-	-
Ph.D. students		0,00	-	-	-
Total Research staff		0,41	-	-	-
<i>Equilibrium, Expecatations & Dynamics</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		2,91	2,64	2,41	2,91
WP 2 (second flow of funds, excl. Ph.D.'s)		0,60	1,67	2,67	2,58
WP 3 (third flow of funds, excl. Ph.D.'s)		0,08	0,80	0,74	0,80
Ph.D. students		3,83	2,73	3,60	3,07
Total Research staff		7,42	7,84	9,42	9,36

<i>Actuarial Science & Mathematical Finance</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		0,96	0,75	1,16	1,37
WP 2 (second flow of funds, excl. Ph.D.'s)		0,60	1,82	1,40	1,18
WP 3 (third flow of funds, excl. Ph.D.'s)		0,77	0,66	1,11	0,68
Ph.D. students		0,47	0,99	1,92	2,99
Total Research staff		2,80	4,22	5,59	6,22
<i>Industrial Statistics</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		0,10	0,10	0,20	-
WP 2 (second flow of funds, excl. Ph.D.'s)		0,00	0,00	0,00	-
WP 3 (third flow of funds, excl. Ph.D.'s)		0,70	2,00	1,40	-
Ph.D. students		1,70	0,25	1,46	-
Total Research staff					-
<i>Macro and International Economics</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		2,97	3,15	3,64	3,92
WP 2 (second flow of funds, excl. Ph.D.'s)		1,27	0,33	0,77	0,85
WP 3 (third flow of funds, excl. Ph.D.'s)		1,20	0,98	0,25	0,55
Ph.D. students		1,85	1,78	4,61	7,01
Total Research staff		7,29	6,24	9,27	12,33
<i>Human Capital</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		4,33	1,63	2,11	1,47
WP 2 (second flow of funds, excl. Ph.D.'s)		1,50	2,13	1,86	1,75
WP 3 (third flow of funds, excl. Ph.D.'s)		0,49	0,40	0,05	0,00
Ph.D. students		5,28	4,94	3,01	2,02
Total Research staff		11,60	9,10	7,03	5,24
<i>History & Methodology of Economics</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		0,93	-	-	-
WP 2 (second flow of funds, excl. Ph.D.'s)		0,00	-	-	-
WP 3 (third flow of funds, excl. Ph.D.'s)		0,11	-	-	-
Ph.D. students		0,20	-	-	-
Total Research staff		1,24	-	-	-
<i>Experimental & Political Economcis</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		4,41	3,71	3,04	4,04
WP 2 (second flow of funds, excl. Ph.D.'s)		0,75	0,28	0,35	0,80
WP 3 (third flow of funds, excl. Ph.D.'s)		0,00	0,00	0,00	0,00
Ph.D. students		3,33	4,81	6,99	7,89
Total Research staff		8,49	8,80	10,38	12,73
<i>Markets & Organizations</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		1,73	6,00	7,42	3,75
WP 2 (second flow of funds, excl. Ph.D.'s)		1,00	0,80	0,53	0,27
WP 3 (third flow of funds, excl. Ph.D.'s)		0,00	1,60	0,26	0,00
Ph.D. students		0,80	3,43	3,19	3,60
Total Research staff		3,53	11,83	11,40	7,62
<i>SEO</i>	fte	2011	2012	2013	2014
WP 1 (first flow of funds, excl. Ph.D.'s)		0,00	0,00	0,00	0,00
WP 2 (second flow of funds, excl. Ph.D.'s)		0,00	0,00	0,00	0,00
WP 3 (third flow of funds, excl. Ph.D.'s)		20,85	28,92	30,12	28,64
Ph.D. students		0,00	0,00	0,00	0,00
Total Research staff		20,85	28,92	30,12	28,64

Most faculty are in the ranks of professor and PhD student (the number of researcher (oz) fte is highest, but the majority are working at SEO Economic Research). Overall there seems to be a healthy mix of researchers in different stages of their career, although the numbers of Uhd's and Postdocs are low.

Table III Ranks at programme level

Research programme	Hgl		Uhd		Ud		Oz		Pdoc		PhD		Guest		Total	
	#	fte	#	fte	#	fte	#	fte	#	fte	#	fte	#	fte	#	fte
UvA- Econometrics	4	0,50	3	1,13	2	0,57	0	0,00	0	0,00	5	3,73	3	0,00	17	5,93
Equilibrium, expectations & dynamics	4	1,82	1	0,50	3	0,95	1	0,80	5	2,22	6	3,07	14	0,00	34	9,36
Actuarial science	4	1,97	0	0,00	3	0,49	0	0,00	2	0,77	6	2,99	7	0,00	22	6,22
MInt	7	2,53	0	0,00	5	1,99	0	0,00	1	0,80	11	7,01	8	0,00	32	12,33
Human Capital	4	2,00	0	0,00	0	0,00	2	1,22	0	0,00	6	2,02	6	0,00	18	5,24
Experimental & political economics	5	1,81	1	0,50	3	0,93	1	0,80	1	0,80	12	7,89	1	0,00	24	12,73
Markets & Organizations	3	1,25	1	0,50	5	2,27	0	0,00	0	0,00	5	3,60	2	0,00	16	7,62
SEO	1	0,80	0	0,00	0	0,00	34	29,32	0	0,00	0	0,00	0	0,00	35	30,12
Total	32	13	6	3	21	7	38	32	9	5	51	30	41	0	198	90

2.2 RESOURCES, FUNDING AND FACILITIES

A substantial part of the faculty's research budget is spent on the Tinbergen Institute, where it is used to cover the expenses of the MPhil programme, courses for students and the organisation of seminars. Another large part of the budget concerns funding of the research priority area 'Behavioural Economics'. Furthermore, the sections of ASE are allocated a budget for matching and a budget for its Research Programmes based on the size of the programme (fte) and on the numbers of PhD graduations. This budget can be used for the funding of research fte's and for any research related activities of programme members, such as visiting conferences, conducting experiments and collecting data.

CHAPTER 3: CURRENT STATE OF AFFAIRS

3.1 PROCESSES IN RESEARCH, INTERNAL AND EXTERNAL COLLABORATION

As explained in previous chapters, ASE-RI allocates resources based on past performance. ASE-RI stimulates and facilitates application for external funding (NWO, KNAW, EU). In general, the research institute tries to stimulate an active research environment, by organising a weekly general seminar, where participants from all Research Programmes meet, and it tries to assist programme members, when necessary, by providing them with information and administrative support. The overall quality of the various seminar series is good. Especially in the Tinbergen series foreign speakers are usually invited and the debates are lively.

Actual research management takes place within the Research Programmes. Decisions on research strategies, research topics, joint work, participation in international networks and publication outlets are all taken within these Programmes, sometimes by the Programme director, but mostly in an informal way by direct communication and interaction within these groups. Research groups are typically small and interaction is frequent, direct and effective.

Box I: Seminar series organised in co-operation with ASE-RI

Tinbergen Institute / CREED Seminars series

Organisation: Jeroen van de Ven and Gönül Dogan

Tinbergen Institute Econometrics Seminars & Workshops series

Organisation: Simon Broda and Lennart Hoogerheide

Tinbergen Institute PhD Lunch Seminars Series

Organisation: Jindi Zheng and Oana Furtuna

Tinbergen Institute Organizations & Markets Double Seminars

Organisation: Sander Onderstal and Jose L. Moraga-Gonzalez

Tinbergen Institute Macro Seminars

Organisation: Christian Stoltenberg and Björn Brügemann

Tinbergen Institute Complexity in Economics seminar series

Organisation: Isabelle Salle and Marco van der Leij

KAFEE Lunch seminar

Organisation: Lucyna Górnicka, Stephanie Chan, Joep Lustenhouwer and Francisco Gomez-Martinez

CeNDEF Seminars

Organisation: Marco van der Leij

Another way in which ASE-RI creates a stimulating research environment is by participating in the Tinbergen Institute (TI). Two other Dutch universities (Erasmus University and VU University) participate in the TI. It is their joint graduate school which facilitates exchange amongst its fellows (top researchers of the three participating faculties) by hosting seminar series and publishing a discussion paper series.

As a graduate school, the Tinbergen Institute offers a two-year research master (Master of Philosophy in Economics). These two years are part of a five-year PhD track. The advantage of this system is that

it offers students an excellent research-oriented two-year programme with good opportunities to meet top-level supervisors (TI-fellows).

Table IV: PhD Inflow 2004-2013

Cohort	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1st flow of fund projects	6	1	4,5	5	7	6	3	3	9	11	5
2nd flow of fund projects	4	1	3	2	4	3	1	7	2	1	2
3rd flow of fund projects	0	2	1,5	2	1	1	1	2	3	2	1
Total projects started	10	4	9	9	12	10	5	12	14	14	8

The number of PhD students starting a PhD project within ASE-RI was uneven in previous years and stabilized around an annual inflow of around 9 since 2006. After a decline in 2010, the inflow increased in the years between 2011 and 2013, but declined again in 2014. As can be seen from Table IV, there are major differences between the flows of fund.

In recent years the outflow of students from the Tinbergen Institute who completed their MPhil was sufficient to fill in all PhD vacancies.

Table V: PhD completion rates

Starting year	Inflow	Graduated in year 4 or earlier		Graduated in year 5 or earlier		Graduated in year 6 or earlier		Graduated in year 7 or earlier		Not yet finished		Discontinued	
		#	%	#	%	#	%	#	%	#	%	#	%
2006	9	1	11%	2	22%	7	78%	7	78%	2	22%	0	0%
2007	9	0	0%	3	33%	8	89%	8	89%	1	11%	0	0%
2008	12	7	58%	8	67%	9	75%	9	75%	1	8%	2	17%
2009	10	5	50%	7	70%	7	70%	-	-	3	30%	0	0%
2010	5	0	0%	4	80%	-	-	-	-	1	20%	0	0%
Total	45	13	29%	24	53%	31	78%	24	80%	8	18%	2	4%

Although the completion rates vary over the years, it is remarkable that the percentage of PhD projects completed in 5 years or less has grown over the years: of cohorts 2008–2010, on average 72% graduated within 5 years, whereas of cohorts 2006–2007, on average 28% graduated within 5 years and 56% within 6 years. More recent experience substantiates the claim that as the proportion of PhD students following the TI programme increases, the percentage of students finishing within 4 years will increase further. This can be partly explained by the fact that such students only have a salaried position for three years, as opposed to the four-year positions in the past. Furthermore, students entering such four year positions typically lack a research master background, and therefore have to complete a substantial amount of coursework in the first year of their PhD appointment. By contrast, the writing of an MPhil thesis, which typically will end up in the PhD thesis as a first chapter, gives MPhil graduates a head start. Most importantly, however, students who have completed the MPhil programme have been pre-selected based on academic talent and motivation, and have been exposed for two years to a peer group of similarly ambitious and talented students. It is clear that this peer group is increasingly focused on the academic job market, and hence on producing a single-authored job market paper within a period of two years after starting the PhD project, which, in combination with the factors mentioned earlier, will lead to improving PhD completion rates.

Table VI: PhD placement

Year	Number of dissertations	Top academic or high-profile international organisation	
		#	%
2008	2	2	100
2009	6	3	50
2010	5	5	100
2011	5	5	100
2012	18	11	61
2013	8	3	38
2014	5	3	60

Students with an ambition to develop a career in academia after finishing their PhD are actively encouraged to participate in TI's job market preparation program. This involves, among other things, feedback to improve the CV and reference letters, and mock job seminars and interviews to prepare for the American academic job market. In contrast with common practice up to a decade ago, in general ASE does not select tenure track candidates from its own pool of graduated PhD students. As mentioned above, the group of PhD students that enter the programme through TI's MPhil programme is increasingly oriented towards the academic job market. Out of the 5 ASE-RI students who defended their PhD thesis in 2014, 60% of the initial placement was at a university from the top 200 of the QS ranking in the subject category Economics & Econometrics or a high-profile international organisation such as the European Central Bank.

3.2 ACADEMIC REPUTATION

In the most recent Tilburg University Top 100 of Economics Schools Research Ranking the Faculty of Economics and Business was ranked 2nd in the Netherlands, 5th in Europe and 23rd worldwide.¹ This differs from the results of the ESB Economen-top 40 of 2014, where UvA ranked 3rd in the Netherlands². The 2014 QS World University Rankings by Subject puts the UvA between ranks 51-100 for the discipline Economics and Econometrics (4th in the Netherlands).³

Another measure to assess the quality of ASE-RI's academic reputation concerns editorial positions of its staff. Table VII indicates that many faculty members take up positions as editors or associate editors of international journals, and members of editorial boards.

¹ <https://econtop.uvt.nl/rankinglist.php>.

² <http://www.economie.nl/artikel/economentop-40-2014>.

³ <http://www.topuniversities.com/university-rankings/university-subject-rankings/2014/economics-econometrics>.

Table VII: Editorial positions in academic international journals

Name	Editorship	Journal
Amman, H.	Founding Co-Editor	<i>Computational Management Science</i>
Amman, H.	Founding Editor-in-Chief	<i>Computational Economics</i>
Amman, H.	Founding Editor-in-Chief	<i>Netnomics</i>
Amman, H.	Member editorial board	<i>New Dimensions in Networks</i> . (Book Series, Edward Elgar)
Amman, H.	Founding Co-editor	<i>Advances in Computational Management Science</i> . (Book Series, Springer)
Amman, H.	Founding Co-editor	<i>Advances in Computational Economics and Econometrics</i> . (Book Series, Springer)
Assenza, T.	Member editorial board	<i>Complexity Economics: Complexity, Crises & Choices</i>
Beetsma, R.M.W.J.	Chairman editorial board	<i>Netspar</i>
Beetsma, R.M.W.J.	Associate editor	<i>De Economist</i>
Beetsma, R.M.W.J.	Associate editor	<i>CESifo Economic Studies</i>
Boswijk, H.P.	Associate editor	<i>Journal of Time Series Analysis</i>
Boswijk, H.P.	Guest editor	<i>Computational Statistics and Data Analysis</i>
Burghouwt, G.	Member editorial board	<i>Journal of Air Transport Management</i>
Diks, C.G.H.	Associate editor	<i>Studies in Nonlinear Dynamics and Econometrics</i>
Doff, R.	Editor	<i>Solvency II Handbook: practical approaches to implementation RiskBooks 2014</i>
Ewijk, C. van	Editor	<i>De Economist</i>
Guerrero, C.	Associate editor	<i>International Review of Law and Economics</i>
Hartog, J.	Member editorial board	<i>Economics of Education Review</i>
Hartog, J.	Member editorial board	<i>International Journal of Happiness and Development</i>
Hartog, J.	Member editorial board	<i>ISRN Education</i>
Hinloopen, J.	Associate editor	<i>Review of Industrial Organization</i>
Hommes, C.	Associate editor	<i>Complexity Economics</i>
Hommes, C.	Associate editor	<i>Computational Economics</i>
Hommes, C.	Advisory editor	<i>Journal of Economic Dynamics and Control</i>
Hommes, C.	Associate editor	<i>Journal of Economic Interaction and Coordination</i>
Hommes, C.	Associate editor	<i>Macroeconomic Dynamics</i>
Hommes, C.	Honorary editor	<i>Review of Behavioral Economics</i>
Kaas, R.	Managing editor	<i>Insurance: Mathematics and Economics</i>
Kiviet, J.F.	Member editorial board	<i>Foundations and Trends in Econometrics</i>
Laeven, R.J.A.	Associate editor	<i>Depence Modelling</i>
Laeven, R.J.A.	Associate editor	<i>Insurance Markets and Companies: Analyses and Actuarial Computations</i>
Laeven, R.J.A.	Associate editor	<i>Insurance: Mathematics and Economics</i>
Leij, M. van der	Associate editor	<i>Complexity Economics</i>
Leij, M. van der	Associate editor	<i>Network Science</i>
Offerman, T.J.S.	Associate editor	<i>Games and Economic Behavior</i>
Offerman, T.J.S.	Member editorial board	<i>Experimental Economics</i>
Onderstal, A.R.	Editor	<i>TPedigitaal</i>
Oosterbeek, H.	Member editorial board	<i>Economics of Education Review</i>
Oosterbeek, H.	Member editorial board	<i>Effective Education</i>
Schram, A.	Advisory editor	<i>Experimental Economics</i>
Sonnemans, J.	Member editorial board	<i>Journal of Economic Psychology</i>
Sonnemans, J.	Member editorial board	<i>Quantitative Finance</i>
Tieben, B.	Member editorial board	<i>TPedigitaal</i>
Tuinstra, J.	Associate editor	<i>Journal of Economic Dynamics and Control</i>
Tuinstra, J.	Managing guest editor	<i>Special Issue of the Journal of Economic Dynamics and Control on 'Complex Nonlinear Dynamics in Economic and Spatial Structures'</i>
Wagener, F.O.O.	Editor	<i>Review of Behavioral Economics</i>
Wagener, F.O.O.	Editor	<i>Volume 14: Annals of the International Society of Dynamic Games</i>
Winden, F.A.A.M. van	Member editorial board	<i>Public Choice</i>

3.3 OVERVIEW OF RESULTS

Figure I: Publications 2010-2014

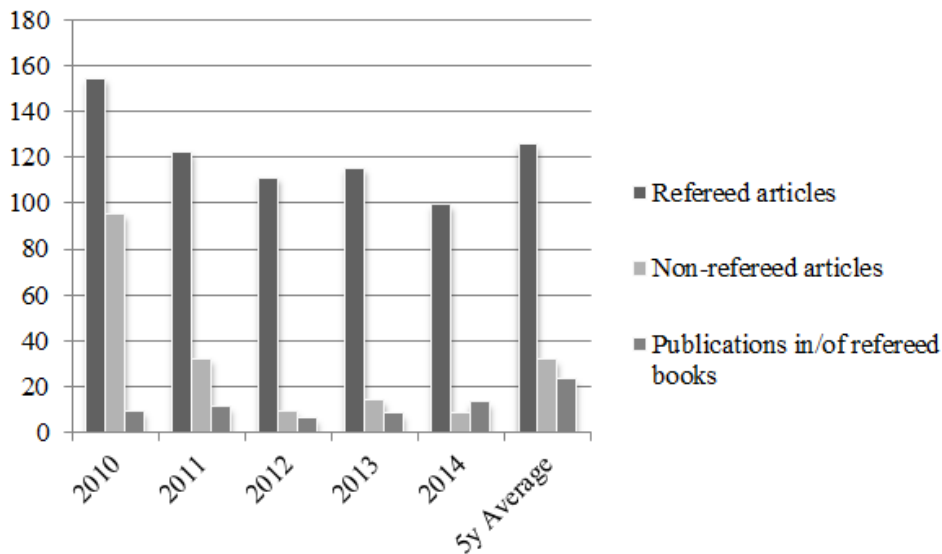


Figure I shows that in 2011 the output had decreased compared to 2010. A reorganization at the Faculty of Economics and Business led to a decrease in scientific staff from 88,35 research fte in 2010 to 72,27 research fte in 2011 (see Table I). In 2012, the research input picked up again, but the output was still in decline. PhD students had by then taken up an increasing proportion of the research input, substituting part of the senior research faculty. This trend continued in 2013 and 2014. In 2013 the research input increased further to 90,33 research fte, along with a further increase in the proportion of PhD students. A small increase in output can be seen. In 2014 the research input decreased again to 88,07 fte, while the proportion of PhD students continued to increase. The output decreased.

Table VIII: Refereed articles 2014

	Top	Other
UvA-Econometrics	4	4
Equilibrium, Expectations & Dynamics	9	9
Actuarial Science & Mathematical Finance	4	1
Macro and International Economics	8	7
Human Capital	6	7
Experimental & Political Economics	17	2
Markets & Organizations	10	4
SEO	1	12
Total ASE-RI*	54	45

*duplications removed

ASE-RI aims to increase the quantity and quality of its publications, in particular in refereed journals. For this purpose, publications are graded by the quality level of the journals. Based on the Article Influence Percentile Score, top publications can be distinguished.⁴ Table VIII shows that overall,

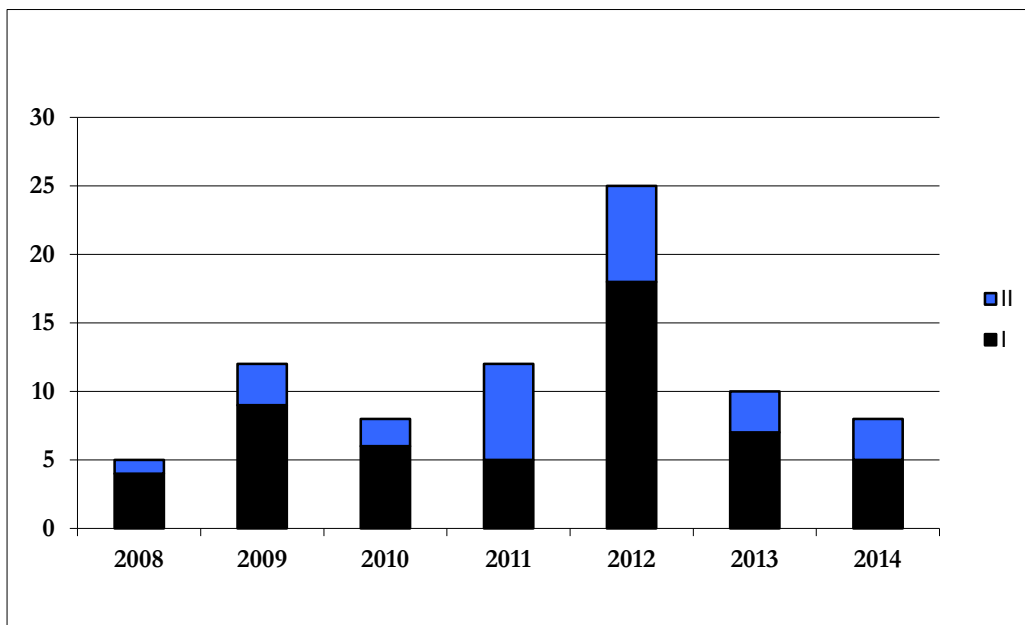
⁴ All journals with an Article Influence percentile score of ≥ 80 are considered to be 'top'. A journal's Article Influence score is a measure of the average influence of each of its articles over the first five years after publication. Scores are based on www.eigenfactor.org.

publications in top-refereed journals 2014 outnumbered publications in other journals. At the research groups the percentage of publications in top-refereed journals was at least 50%, except at SEO, who by their nature have a relatively larger share of popular and professional output. See table IX for an overview of the output of the research groups.

Table IX: Aggregated results of the institute

	Articles				Books or book chapters				Conference proceedings	PhD theses	Working papers
	Refereed	Non-refereed	Professional	Popular	Refereed	Non-refereed	Professional	Popular			
UvA-Econometrics	8	0	0	0	1	0	0	0	1	0	18
Equilibrium, Expectations & Actuarial Science & Mathematical Finance	18	2	0	0	2	0	0	0	0	4	16
Macro and International Economics	5	0	2	0	3	0	0	0	0	0	0
Human Capital	15	2	8	4	1	2	0	1	1	1	6
Experimental & Political Economics	13	0	3	5	2	1	0	0	0	0	9
Markets & Organizations	19	1	1	0	1	0	0	0	1	3	1
SEO	14	0	1	0	1	0	0	0	1	0	12
SEO	13	3	9	18	2	1	2	1	3	0	8
Total	105	8	24	27	13	4	2	2	7	8	70

Figure II: FEB Dissertations



*Category I: students who worked at FEB and graduated at FEB, II: external candidates who graduated at FEB.

The year 2012 showed a particular high increase of completed dissertations compared to previous years. In 2013 the number was 10 and in 2014 it was 8. It is expected that this number will continue to be around the same level in the years to come.

3.4 RELEVANCE TO SOCIETY

Although the main aim of ASE-RI is to let its research contribute to the international academic discourse, most research done within ASE-RI programmes contributes in several ways to society at large. Some examples are given here but more detailed information can be found in the programme sections in part B of this report.

The Human Capital Research Programme participates in TIER, an inter-university top Institute that conducts research in the field of evidence based education. The Top Institute wants to develop knowledge of ‘evidence based education’ that can be utilised by: 1) the Ministry of Education, Culture and Science in policy preparation and evaluation; 2) the educational practice – for example in educational institutions – in the allocation of resources and in the decision making process when choosing between educational theories; and 3) parents and students when choosing a school or training.

Researchers from the programmes Macro and International Economics and Actuarial Science & Mathematical Finance have strong ties with NETSPAR (network for studies on pensions, aging and retirement) and their research results will strongly impact the ways in which government and society will deal with the problems in these areas. In 2012 the Chair in Pension Economics was established, sponsored by MN. In addition, MInt has PhD students financed by De Nederlandsche Bank.

SEO Economic Research carries out contract research for ministries and public organisations, private companies and non-profit institutions, nationally and internationally. SEO distinguishes itself from other research bureaus by its analytical approach. Modern economic analysis is applied to practical issues. Empirical questions are tackled with the econometrics toolkit.

CHAPTER 4: RESEARCH PRIORITY AREA: BEHAVIOURAL ECONOMICS

4.1 BACKGROUND

The Board of the University of Amsterdam set out a policy to create a number of Research Priority Areas ("onderzoekszwaartepunten") to move already promising areas to further excellence. Behavioural Economics had been selected as one of them. Behavioural Economics is an important field within the Amsterdam School of Economics (ASE). The ASE has the advantage that it has already had a center for experimental economics performing laboratory experiments (CREED) for more than 15 years. Within the Amsterdam School of Economics, CREED is clearly the most successful research group in terms of publications in highly ranked international journals.

The Amsterdam School of Economics wants to keep its leading position in Behavioural Economics in the Netherlands and in Europe. Now that it is a Research Priority Area, additional resources are available. These resources are allocated wisely through a committee. Researchers who need money for running experiments can apply and the committee allocates resources to promising research proposals. Furthermore, some of the resources will be used to improve the research environment. Examples include visiting costs in case of joint projects with researchers abroad, the training of students and organising workshops.

4.2 FOCUS



The Research Priority Area Behavioural Economics started late 2008. The goal of the Priority Area is to promote research in the field of Behavioural Economics. Behavioural Economics focuses on economic decision-making and goes beyond traditional economic theories that assume rationality and narrow self-interest: social preferences, emotions and bounded rationality are taken seriously. Behavioural economists therefore make extensive use of insights and theories of adjacent disciplines like psychology, sociology and political science. However, it is a typical economic science by the choice of topics and the way data are analysed and models are developed.

4.3 ORGANISATION

Research in Behavioural Economics has a strong empirical foundation; data are gathered in laboratory or field experiments. The department has a standing tradition in laboratory experiments and in recent years researchers from various fields in our department (e.g. industrial organisation, labour economics, non-linear dynamic systems, personnel economics, law and economics, finance) have found their way to the CREED laboratory. Nevertheless, to start with experimental research is not that easy. One needs to acquire practical knowledge and abilities, and one needs funds (e.g. to pay participants of experiments). The Research Priority Area Behavioural Economics helps by providing funds and dissemination of knowledge. In internal seminars researchers comment on each other's plans (compulsory for funding), a workshop is organised annually and international visits from or to co-authors are financed.

In 2014, the Research Priority Area Behavioural Economics succeeded in acquiring Additional Funding of 301K euro per year on the basis of the grant proposal "Communication by action and market design", written by Carsten de Dreu, Uri Gneezy, Theo Offerman and Jeroen van de Ven. The

grant makes it possible to construct the Communication Lab and it allows to hire two top-researchers who will contribute to the success of the new Lab.

In 2014, the committee dealing with the allocation of resources, consisting of Theo Offerman, Erik Plug, Randolph Sloof, Joep Sonnemans and Jan Tuinstra, funded 31 applications and the workshop ABEE Symposium 2014.

The topic of the ABEE Symposium 2014 was 'Communication and Cues: The role of verbal and non-verbal cues in social interaction'. Presentations were held by Gary Charness, Wim de Neys, Charles Efferson, Dan Houser, Mariska Kret, Jan Potters, Sigrid Suetens. Also Amsterdam-based researchers presented their work.

The Research Priority Area Behavioural Economics has already produced quite a few top publications, amongst which publications in the *American Economic Review* (Abbink, et al, 2010; Kuhn et al, 2011), the *Journal of Economic Literature* (Holmlund et al., 2011), *Nature* (van Veelen et al., 2010), http://rady.ucsd.edu/docs/faculty/GneezyRise_Fall.pdf *Proceedings of the National Academy of Sciences*, (Leibbrandt et al., 2013), the *Review of Economic Studies* (Offerman et al, 2009) and *Science* (Ule et al., 2009; Gneezy et al. 2014).

CHAPTER 5: RESEARCH FOCAL AREA: RISK AND MACRO FINANCE

5.1 ACTIVITIES

The Amsterdam Center of Excellence in Risk and Macro Finance (ACRM) hosting the activities of the Risk and Macro Finance research focal area of the University of Amsterdam's Faculty of Economics and Business, and directed by Prof. Roger Laeven, Prof. Enrico Perotti and Prof. Sweder van Wijnbergen, has seen a very successful year of inception.



Its main activities and successes in 2014 include:

1. ACRM has organized two flagship events:
 - An *academic* workshop on Micro Foundations for Micro Finance Research (August 23-24, 2014), featuring internationally leading academics in the field from Amsterdam, Chicago, LSE, MIT, NY Fed, NYU, Oxford, Princeton, and Stanford.
 - A *policy* oriented meeting on insurance regulation (September 5, 2014), featuring distinguished academics, practitioners and policymakers, and leading to official questions in the House of Parliament and to the Minister of Finance.
2. ACRM has initiated the Risk and Macro Finance seminar series on academic top-level research overlapping the areas of macroeconomics, finance and risk management. Featured speakers include top academics from Cambridge, LSE and NYU.
3. ACRM has successfully completed its first recruitment process by hiring Alex Clymo (from LSE) as an ACRM postdoc.
4. ACRM has awarded 10 Junior Risk and Macro Finance Fellowships to junior researchers representing the full width of Risk and Macro Finance research at the FEB and its two schools.
5. ACRM has initiated the Risk and Macro Finance Working Paper series with 10 ACRM working papers.
6. In 2014, the ACRM directors got their ACRM research accepted in top notch journals, such as the *Journal of Financial Economics*, the *Journal of Econometrics*, *Mathematics of Operations Research*, the *Annals of Statistics*, and the *Journal of Economic Dynamics & Control*. ACRM publications will be collected in the ACRM Publication Database.
7. Prof. Laeven (and co-authors) was awarded the Australian Securities Exchange (ASX) Prize for the best quantitative finance paper at the Australasian Banking and Finance Conference 2014. The conference, held in December in Sydney, Australia, is the most prestigious finance conference in the Asia-Pacific region, and brings together the world's foremost leaders of thought from the financial community.
8. Prof. Perotti has received a prestigious appointment from the European Central Bank (ECB). He will be visiting for two months as a 2015 Duisenberg Fellow to lecture on research on financial stability and advise on prudential policy, both at the ECB and the Single Supervisory Mechanism (SSM).
9. Prof. Van Wijnbergen (and co-author) featured on Bloomberg warning against the risk of contingent capital with a write-down feature.
10. ACRM has launched a website containing further details about its activities: <http://www.acrm.uva.nl>

5.2 BACKGROUND

Economics and Business at the University of Amsterdam has defined Risk and Macro Finance as a key research theme (“research focal area”), seen as a convergence and integration of methodologies to develop a more insightful view of recessions, financial crises and systemic risk. Such cross-disciplinary research is much-needed to adequately respond to some of the most fundamental economic problems of our times: (i) endogenous risk creation and interconnectedness of financial markets and institutions; (ii) the relation between government finances and the financial sector; (iii) the financing of long term guarantees in insurance and pensions; and (iv) the regulation of the broader financial sector. The initiative is the first of its kind in Europe. It pursues top-quality academic research, but also aims at facilitating policy and practice. The initiative is broadly supported by the Amsterdam Business School and the Amsterdam School of Economics.

5.3 PUBLICATIONS

Forthcoming publications

- Can, S. Umut, John H. J. Einmahl, Estate V. Khmaladze & Roger J. A. Laeven (2014). Asymptotically distribution-free goodness-of-fit testing for tail copulas, *Annals of Statistics*, forthcoming.
- Aït-Sahalia, Yacine, Julio A. Cacho-Diaz & Roger J. A. Laeven (2014). Modeling financial contagion using mutually exciting jump processes, *Journal of Financial Economics*, forthcoming.

Publications

- Aït-Sahalia, Yacine, Roger J. A. Laeven & Loriana Pelizzon (2014). Mutual excitation in Eurozone sovereign CDS, *Journal of Econometrics* 183, 151-167.
- Kovarik, Jaromir & Marco J. van der Leij (2014). Risk aversion and social networks, *Review of Network Economics* 13, 121-155.
- Laeven, Roger J. A. & Mitja A. Stadje (2014). Robust portfolio choice and indifference valuation, *Mathematics of Operations Research* 39, 1109-1141.
- Perotti, Enrico C. (2014). The roots of shadow banking, in Claessens, Stijn, Douglas Evanoff, Luc Laeven and George Kaufman (eds), *Shadow Banking Within and Across National Borders*, World Scientific.
- Schabert, Andreas & Sweder J. G. van Wijnbergen (2014). Sovereign default and the stability of inflation targeting regimes, *IMF Economic Review* 62, 261-287.
- Van der Kwaak, Christiaan G. F. & Sweder J. G. van Wijnbergen (2014). Financial fragility, sovereign default risk and the limits to commercial bank bail-outs, *Journal of Economic Dynamics and Control* 43, 218-240.

ACRM working papers

- Chan, Stephanie & Sweder J. G. van Wijnbergen (2014). Cocos, Contagion and Systemic Risk, ACRM Working Paper 2014-01.
- Van der Kwaak, Christiaan G. F. & Sweder J. G. van Wijnbergen (2014). Financial Fragility and the Fiscal Multiplier, ACRM Working Paper 2014-02.
- Van Bilsen, Servaas, Roger J. A. Laeven & Theo E. Nijman (2014). Consumption and Portfolio Choice under Loss Aversion and Endogenous Updating of the Reference Level, ACRM Working Paper 2014-03.
- Veld, Daan in 't, Marco J. van der Leij & Cars Hommes (2014). The Formation of a Core Periphery Structure in Heterogeneous Financial Networks, ACRM Working Paper 2014-04.

Policy publications

- Chan, Stephanie & Sweder J. G. van Wijnbergen (2014). CoCo's en het risico van een nieuwe crisis, ESB, Oktober.
- Suarez, Javier & Enrico C. Perotti (2014). The simple analytics of systemic liquidity risk regulation, in Schoenmacher, D (ed.), *MacroPrudentialism*, VoxEU Ebook, Dec 2014.

B

THE RESEARCH PROGRAMMES

6. UvA-ECONOMETRICS

Programme director:	Prof. dr. H.P. Boswijk & Dr. M.J.G. Bun
METIS-code:	uva/feb/ase/uva-e
JEL-classification:	C1, C2, C3, C4, C5
Starting date:	1997
Website:	www.ase.uva.nl/uva-econometrics
VSNU-scores 2001-2007:	Quality: 4, Productivity: 4, Relevance: 3.5, Viability: 3.5

6.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Boswijk, H.P	prof. dr.	hgl	0,50	0,50	0,50	1
Broda, S.A.	dr.	ud	0,50	0,50	0,50	1
Bun, M.	dr.	uhd	0,80	0,80	0,80	2
Çakmaklı, C.	msc	ud	0,50	0,04	-	1
Çakmaklı, C.	msc	guest	-	-	0,00	1
Cramer, J.S.	prof. dr.	hgl	0,00	0,00	0,00	1
Garderen, K.J. van	dr.	uhd	0,25	0,17	0,08	1
Giersbergen, N.P.A. van	dr.	ud	0,42	0,28	0,07	1
Gooijer, J.G. de	prof. dr.	hgl	0,00	0,00	0,00	1
Juodis, A.	msc	phd	0,80	0,80	0,80	2
Kiviet, J.F.	prof. dr.	hgl	0,13	0,13	-	1
Kiviet, J.F.	prof. dr.	guest	-	-	0,00	1
Kleibergen, F.R.	prof. dr.	hgl	0,00	0,00	0,00	1
Kleibergen, F.R.	prof. dr.	guest	-	-	0,00	1
Klein, A.A.B.	dr.	ud	0,13	0,00	-	1
Liu, Y.	msc	phd	-	0,27	0,80	1
Oomen, R.C.A.	dr.	guest	0,00	0,00	-	1
Ophem, J.C.M. van	dr.	uhd	0,25	0,25	0,25	1
Pleus, M.	msc	phd	0,80	0,80	0,80	2
Poldermans, R.	msc	phd	0,80	0,80	0,80	2
Pua, A.	msc	guest	0,00	0,00	-	1
Yang, X.	msc	phd	0,80	0,80	0,53	1
Total 1st flow of funds			3,48	3,16	2,73	
Total 2nd flow of funds			3,20	3,20	3,20	
Total 3rd flow of funds			0,00	0,00	0,00	
Total 1st f.o.f. excl. Ph.D.'s			2,68	2,09	1,40	
Total 1st-3rd flow of funds			6,68	6,36	5,93	
Ph.D. students			3,20	3,47	3,73	

6.2 PROGRAMME DESIGN

Objectives

The UvA-Econometrics programme aims at improving the accuracy, efficiency and robustness of econometric inference methods.

Motivation

Empirical economic data are usually not obtained from markets or agents in static equilibrium. Typically they give a random and disturbed indication at a certain moment in time, or over a relatively short period, of dynamic jointly dependent adjustment processes. Also they usually concern just a few aspects of the underlying complex (non-) linear economic system.

The various projects united in this programme all try to gear statistical techniques to the typical characteristics of empirical economic data. Main interest is the development of accurate and efficient econometric inference to test economic theory, to support decision making and for policy evaluation.

Techniques

Both analytic and experimental methods are used in this programme to improve understanding of the available statistical inference techniques, and to develop alternatives. The analytic aspects often involve the derivation of asymptotic distributions, the approximation of finite sample moments or distribution functions, the elimination of nuisance parameters etc. In computer simulations of completely specified systems the existing standard procedures and the newly developed techniques are then compared and evaluated experimentally. Occasionally the alternative techniques as such are of an experimental nature, because they involve computer-intensive methods (bootstrap resampling, randomization techniques, simulation-based inference). Actual data often serve to illustrate the empirical relevance and practical usefulness of the theoretical findings, but at times empirical issues are the prime motivation of the research projects engaged in.

Applications

The fundamental problems of econometrics indicated above are studied in interplay with actual applied econometric research. These applications come from economics, finance or business. We do not intend to give an exhaustive overview of specific applications, but UvA-Econometrics is active in labour economics (wage determination, job mobility and allocation, returns to schooling), development economics (exports and productivity, infant mortality), health economics (organization of health care, intelligence and mortality), finance (measurement and modelling of stock return volatility, option pricing, credit risk), international economics (effects of trade policy and economic integration), monetary economics (demand for money, term structure of interest rates) and business (marketing activities). The economic behaviour of individual agents is analysed on the basis of observational or experimental data of various dimensions (cross-section, time series or panel data).

Subprogrammes, themes

Within the general programme described above, the following sub-themes can be distinguished:

- *Econometric Theory*. Within this sub-theme, analytical finite sample approximations, simulation-based inference, inference based on IV/GMM with weak instruments, conditional inference, methods from differential geometry as well as semi- and non-parametric methods are studied for and applied in models that may be dynamic, simultaneous or non-linear.
- *Microeconometrics*. Econometric analyses within this sub-theme often entail a quantitative assessment of the effectiveness of a policy intervention. Outside controlled experiments policies are usually endogenous. Unbiased assessment of effectiveness requires adequate modelling of the causality, handling of any unobserved heterogeneity and understanding of

the identification issues. Applications within this sub-theme often include panel data, which calls for the development of accurate inference methods for dynamic panel data models.

- *Financial Econometrics*. Topics are ARCH and stochastic volatility models, the econometrics of the CAPM and factor models, econometric models of the term structure of interest rates, econometric analysis of credit risk, the analysis of option data and implied volatilities, and the analysis of high-frequency data and realized volatility. Applications within this sub-theme often include non-stationary data. This leads to the analysis of unit roots, cointegration and error correction models, the role of (weak) exogeneity in such models and structural change.

6.3 PROGRAMME EVALUATION

In 2014, the decline in research time available to the programme in recent years has continued; but by attracting Frank Kleibergen (Brown University and University of Amsterdam) for a full professorship (funded for the first three years by a fellowship of the Amsterdam Academic Alliance; starting in January 2015) we expect a substantial improvement in this situation in the coming years. This is not only because of an increase in quantity and quality of research output, but also because it will make the programme more attractive for junior faculty and PhD students.

Almost weekly, a Friday afternoon (mostly external) seminar is organised at (and funded by) the Tinbergen Institute, jointly with econometricians from VU University Amsterdam. This is a very lively seminar series, with high-quality international speakers. In addition, occasionally an internal informal workshop is held on Thursdays at lunch time, where research projects which are still in an early stage are discussed. These meetings stimulate the coherence of the research programme and should lead to more joint research projects; however, their frequency has recently declined, which is a point for concern. All activities and achievements of UvA-Econometrics are communicated via its web-site (www.ase.uva.nl/uva-econometrics).

It is the ambition of UvA-Econometrics to find further international recognition as one of the major strongholds in theoretical econometrics worldwide. The activities and achievements over the last decade (number and quality of publications, presentations at and invitations for international meetings, responsibilities regarding journals and conferences, hosting of visiting scholars, exposure at peer institutions, etc.) have been substantial, but leave room for further qualitative and quantitative improvements. In particular, the continued high teaching loads in the group have had a negative impact on the research output of some of its members, and consequently on the research time available to the programme. Most individual members of UvA-Econometrics continue to operate in intensive formal and informal national and international networks. In the first half of 2014, Frank Kleibergen (Brown University and University of Amsterdam) completed his visit of the UvA-Econometrics group on a one-year sabbatical. As part of a strategy for improvement of research output, UvA-Econometrics continues to aim at strengthening the ties with other faculty research programmes, in the form of joint applied research projects in micro-econometrics and financial econometrics.

In 2014 the number of PhD students have remained stable; no new students started in September 2014. Because the current cohort of PhD students can be expected to graduate in the next few years, it is important for the programme to remain visible for the MPhil students of the Tinbergen Institute. As mentioned above, we expect that this visibility will improve when Frank Kleibergen joins our group early next year.

The above evaluation can be summarized in the following SWOT analysis regarding the activities and current position of UvA-Econometrics:

Strengths: good reputation; a relatively steady stream of publications; quality of human capital; expertise in a broad range of cutting edge areas of econometric (and statistical) theory; recently improved prospects regarding external funding; coherence of and atmosphere within the group; active

seminar and workshop series; exposure via own discussion paper series; tight but appropriate facilities regarding computing and travel.

Weaknesses: relatively few links with other units of the FEB outside the quantitative economics research groups; declining percentage of publications in A-journals.

Opportunities: recently developed MPhil programme and Fast Track in Econometrics within the Tinbergen Institute; developing a more applied profile within ASE and with the ABS; attracting new faculty.

Threats: decreased research input due to faculty members having reached (early) retirement age, and decreased research output (and hence eventually input) by some senior faculty members due to high teaching loads.

6.4 RESOURCES AND FUNDING

The current ASE-RI facilities allow the active researchers (and also first and second year Ph.D. students) to attend at least one international conference per year; in practice more is possible, so the research group does not experience binding constraints in this respect.

In recent years, UvA-Econometrics has been quite successful in obtaining external funding for research activities. Therefore, the 0.8 fte research time of one senior faculty member (Maurice Bun), and the appointments of three of the six currently active PhD students (Milan Pleus, Rutger Poldermans and Arturas Juodis) is funded by NWO grants. Another PhD student (Andrew Pua) is funded by the EDEEM network, and a fifth (Yang Liu) is subsidised by the Duisenberg School of Finance (through the Tinbergen Institute).

6.5 OUTPUT

Key publications

- Bun, M.J.G. & Windmeijer, F. (2010). The weak instrument problem of the system GMM estimator in dynamic panel data models. *Econometrics Journal* 13, 95-126.
- Broda, S.A., Haas, M., Krause, J., Paoletta, M., & Steude, S. (2013). A mix-stable GARCH model. *Journal of Econometrics* 172, 292–306.
- Guggenberger, P., Kleibergen, F., Mavroeidis, S. & Chen, L. (2012). On the asymptotic sizes of subset Anderson-Rubin and Lagrange multiplier tests in linear instrumental variables regression. *Econometrica* 80, 2649–2666.
- Kiviet, J.F. (2013). Identification and inference in a simultaneous equation under alternative information sets and sampling schemes. *Econometrics Journal* 16, S24–S59.
- Zu, Y. & Boswijk, H.P. (2014). Estimating spot volatility with high-frequency financial data. *Journal of Econometrics*, 181 (2), 117–135.

Forthcoming

- Altug, S. & Cakmakli, C. (2015). Forecasting inflation using survey expectations and target inflation: Evidence for Brazil and Turkey, *International Journal of Forecasting*.
- Boswijk, H.P., Jensen, M. & Nielsen, M.O. (2015). Improved likelihood ratio tests for cointegration rank in the VAR model, *Journal of Econometrics*.
- Gooijer, J.G. de & Yuan, A. (2015). Nonparametric portmanteau tests for detecting nonlinearities in high dimensions. *Communications in Statistics: Theory and Methods*.

Kleibergen, F. & Zhan, Z. (2015). Unexplained factors and their effects on second pass R-squared's and t-tests. *Journal of Econometrics*.

Publications in numbers

Output type	Classification	#
Articles	Refereed	8
	Non-refereed	0
	Professional	0
	Popular	0
Books or book chapters	Refereed	1
	Non-refereed	0
	Professional	0
	Popular	0
Conference proceedings		1
PhD theses		0
Working papers		8
Total		18

Article in journal - refereed

- Basturk, N., Cakmakli, C., Ceyhan, P. & van Dijk, H.K. (2014), On the rise of Bayesian econometrics after Cowles Foundation Monographs 10, 14, *Oeconomia*, 4-3, 381–447. doi: 10.4000/oeconomia.913.
- Basturk, N., Cakmakli, C., Ceyhan, P. & van Dijk, H.K. (2014), Posterior-predictive evidence on US inflation using Phillips curve models with non-filtered time series, *Journal of Applied Econometrics*, 29:7, 1164–1182. doi: 10.1002/jae.2411
- Berkhout, P., Hartog, J. & Ophem, H. van (2014). Starting wages respond to employer's risk. *Scottish Journal of Political Economy*, 61 (3), 229-260. doi: 10.1111/sjpe.12043
- Garderen, K.J. van & Boswijk, H.P. (2014). Bias correcting adjustment coefficients in a cointegrated VAR with known cointegrating vectors. *Economics Letters*, 122 (2), 224-228. doi: 10.1016/j.econlet.2013.12.003
- Kiviet, J.F. & Phillips, G.D.A. (2014). Improved variance estimation of maximum likelihood estimators in stable first-order dynamic regression models. *Computational Statistics and Data Analysis*, 76, 424-448. doi: 10.1016/j.csda.2013.09.021
- Kleibergen, F. & Mavroeidis, S. (2014). Identification issues in limited-information Bayesian analysis of structural macroeconomic models. *Journal of Applied Econometrics*, 29 (7), 1183-1207. doi: 10.1002/jae.2398
- Yuan, A. & Gooijer, J.G. de (2014). Asymptotically informative prior for Bayesian analysis. *Communications in Statistics: Theory and Methods*, 43 (14), 3080-3094. doi: 10.1080/03610926.2012.694549
- Zu, Y. & Boswijk, H.P. (2014). Estimating spot volatility with high-frequency financial data. *Journal of Econometrics*, 181 (2), 117-135. doi: 10.1016/j.jeconom.2014.04.001

Book chapter - refereed

- Kiviet, J.F. & Niemczyk, J. (2014). On the limiting and empirical distribution of IV estimators when some of the instruments are actually endogenous. In Y. Chang, T.B. Fomby & J.Y. Park (Eds.), *Essays in honor of Peter C.B. Phillips (Advances in Econometrics, 33)* (pp. 425-490). Bingley, UK: Emerald Group Publishing Limited.

Conference proceedings – non refereed

Kackovic, M., Bun, M.J.G., Ebbers, J.J., Weinberg, C.B. & Wijnberg, N.M. (2014). The effects of source credibility and source salience on sales: A study of corporate art collectors. In Academy of Management Proceedings 2014. New York (USA): Academy of Management.

Working- and discussion papers

- Bun, M.J.G. (2014). Identifying the impact of deterrence on crime: internal versus external instruments. (Preprints, UvA-Econometrics Discussion Paper, no 2014/03). Amsterdam: University of Amsterdam.
- Bun, M.J.G. & Harrison, T.D. (2014). OLS and IV estimation of regression models including endogenous interaction terms. (Preprints, UvA-Econometrics Discussion Paper, no 2014/02). Amsterdam: University of Amsterdam.
- Bun, M.J.G., Carree, M.A. & Juodis, A. (2014). On Maximum Likelihood estimation of dynamic panel data models. (Preprints, UvA-Econometrics Discussion Paper, no 2014/04). Amsterdam: University of Amsterdam.
- Chen, Z., Kiviet, J.F. & Huang, W. (2014). Hong Kong: a bridge connecting mainland China and the international market. (Preprints, EGC Report, no 2014/06). Singapore: Nanyang Technological University.
- Giersbergen, N.P.A. van (2014). Inference about the indirect effect: a likelihood approach. (Preprints, UvA-Econometrics Discussion Papers, no 2014/10). Amsterdam: Universiteit van Amsterdam.
- Juodis, A. and Sarafidis, V. (2014). Fixed T Dynamic Panel Data Estimators with Multi-Factor Errors. UvA-Econometrics Discussion Paper 2014-07.
- Kiviet, J.F., Pleus, M. & Poldermans, R. (2014). Accuracy and efficiency of various GMM inference techniques in dynamic micro panel data models. (Preprints, UvA-Econometrics Discussion Paper, no 2014/09). Amsterdam: University of Amsterdam.
- Kiviet, J.F. & Feng, Q. (2014). Efficiency gains by modifying GMM estimation in linear models under heteroskedasticity. (Preprints, EGC Report, no 2014/13). Singapore: Nanyang Technological University.
- Ruijg, J. & Ophem, H. van (2014). Determinants of football transfers. (Preprints, UvA-Econometrics Discussion Paper, no 2014/01). Amsterdam: University of Amsterdam.

Conference organiser

Cakmakli C. (2014). Workshop on “The Econometric Analysis of Recurrent Events in Macroeconomics and Finance”, Rotterdam, Netherlands, June 2014.

Editorship

- Boswijk, H.P. (2014). Associate editor of *Journal of Time Series Analysis*.
- Kiviet, J.F. (2014). Member of the Editorial Board of *Foundations and Trends in Econometrics*.

Keynote/invited talk

- Boswijk, H.P. (2014, 1 May). Inference on cointegration parameters in heteroskedastic vector autoregressions. Econometrics and Statistics Colloquium, The University of Chicago Booth School of Business.
- Bun, M.J.G. (2014, 12 March). OLS and IV estimation of regression models including endogenous interaction terms. Invited seminar, Tilburg University.
- Bun, M.J.G. (2014, 26 March). OLS and IV estimation of regression models including endogenous interaction terms. Invited seminar, University of Innsbruck, Austria.
- Bun, M.J.G. (2014, 8 April). OLS and IV estimation of regression models including endogenous interaction terms. Invited seminar, Baruch College, New York.

- Bun, M.J.G. (2014, 18 July). OLS and IV estimation of regression models including endogenous interaction terms. Invited seminar, Monash University, Melbourne.
- Juodis, A. (2014, 27 March) "Pseudo Panel Data Models with Cohort Interactive Effects", Deakin University.
- Juodis, A. (2014, 14 May) "Pseudo Panel Data Models with Cohort Interactive Effects", University of Melbourne.
- Kleibergen, F. (27 January), "Unexplained factors and their effects on second pass R-squared's and t-tests", University of Warwick, Warwick, United Kingdom.
- Kleibergen, F. (7 February), "Unexplained factors and their effects on second pass R-squared's and t-tests", European University Institute, Florence, Italy.
- Kleibergen, F. (14 February), "Unexplained factors and their effects on second pass R-squared's and t-tests", Catholic University Leuven, Leuven, Belgium.
- Kleibergen, F. (6 March), "Unexplained factors and their effects on second pass R-squared's and t-tests", Econometric Institute, Erasmus University Rotterdam, The Netherlands.
- Kleibergen, F. (12 March), "Identification and Inference in Linear Dynamic Panel Data Models using GMM", Cambridge University, Cambridge, United Kingdom.
- Kleibergen, F. (26 March), "Identification and Inference in Linear Dynamic Panel Data Models using GMM", Tilburg University, Tilburg.
- Kleibergen, F. (3 April), "Unexplained factors and their effects on second pass R-squared's and t-tests", University of Geneva, Switzerland.
- Kleibergen, F. (24 April), "Unexplained factors and their effects on second pass R-squared's and t-tests", Aarhus University, Aarhus, Denmark.

Other lectures

- Boswijk, H.P. (2014, 10 January). Factor GARCH and common-factor GAS models. Workshop on Dynamic Models driven by the Score of Predictive Likelihoods, Tenerife.
- Boswijk, H.P. (2014, 26 June). Inference on cointegration parameters in heteroskedastic vector autoregressions. 1st Annual Conference of the International Association for Applied Econometrics, Queen Mary University, London.
- Boswijk, H.P. (2014, 7 December). Adaptive testing for a unit root with non-stationary volatility. Computational and Financial Econometrics 2014, Pisa.
- Broda, S.A. (2014, August 21). On distributions of ratios. 21st International Conference on Computational Statistics (COMPSTAT), Geneva, Switzerland.
- Broda, S.A. (2014, June 20). On Distributions of Ratios. 9th Netherlands Econometrics Study Group Meeting, Tilburg, The Netherlands.
- Bun, M.J.G. (2014, 5 April). OLS and IV estimation of regression models including endogenous interaction terms. Camp Econometrics, Watkins Glen, NY.
- Bun, M.J.G. (2014, 19 June). OLS and IV estimation of regression models including endogenous interaction terms. UvA Econometrics lunch seminar, Amsterdam.
- Bun, M.J.G. (2014, 4 October). Identification and inference in moments based analysis of linear dynamic panel data models. Canadian Econometrics Study Group, Vancouver, Canada.
- Juodis, A. (2014, 11 March) "First Difference Transformation in Panel VAR models: Robustness, Estimation and Inference", Monash University.
- Juodis, A. (2014, 27 May) "Fixed T dynamic panel data estimators with multi-factor errors", Monash University.
- Juodis, A. (2014, 5 June) "Fixed T dynamic panel data estimators with multi-factor errors", UvA-Econometrics Lunch Seminar.
- Juodis, A. (2014, 10 June) "Pseudo Panel Data Models with Cohort Interactive Effects", Tinbergen Institute PhD Lunch Seminar.
- Juodis, A. (2014, 20 June) "Pseudo Panel Data Models with Cohort Interactive Effects", Netherlands Econometric Study Group Meeting, Tilburg. (poster)
- Juodis, A. (2014, 26 June) "Pseudo Panel Data Models with Cohort Interactive Effects", 1st Annual Conference of the International Association for Applied Econometrics, London. (poster)

- Juodis, A. (2014, 7 July) "Pseudo Panel Data Models with Cohort Interactive Effects", Bristol Econometric Study Group Meeting, Bristol.
- Juodis, A. (2014, 11 December) "On Maximum Likelihood estimation of dynamic panel data models", UvA-Econometrics Lunch Seminar.
- Kiviet, J.F. (2014, 13 May). Glimpses of the Prehistory of Econometrics. Seminar at KOF-ETH Zurich, Switzerland.
- Kleibergen, F. (17 May), "Unexplained factors and their effects on second pass R-squared's and t-tests", Financial Econometrics Conference, Toulouse University, Toulouse, France.
- Kleibergen, F. (24 May), Efficient size correct subset inference in linear instrumental variables regression, Tsinghua International Conference in Econometrics, Tsinghua University, Beijing, China.
- Kleibergen, F. (20 June), Efficient size correct subset inference in linear instrumental variables regression, Netherlands Econometrics Study Group Meeting, Tilburg University, Tilburg
- Kleibergen, F. (12 November), Efficient size correct subset inference in linear instrumental variables regression, Brown University, Providence, United States
- Kleibergen, F. (6 December), Efficient size correct subset inference in linear instrumental variables regression, Greater New York Metropolitan Area Econometrics Conference, Princeton University, Princeton, United States.
- Yang, X. (2 May). Testing for self-excitation in jumps. Quantitative Economics Doctorate (QED) conference, Bielefeld, Germany. May 2014.
- Yang, X. (19 June). Testing for self-excitation in jumps. North American Summer Meeting of the Econometric Society, United States.
- Yang, X. (26 June). Testing for self-excitation in jumps. China Meeting of the Econometric Society (CMES), Xiamen, China.
- Yang, X. (3 July). Testing for self-excitation in jumps. Econometric Society Australasian Meeting (ESAM), Hobart, Australia.
- Yang, X. (27 August). Testing for self-excitation in jumps. Econometric Society European Meeting (ESEM), Toulouse, France.
- Yang, X. (11 December). Specification test for option pricing models with a delta-hedging interpretation. Simposio de la Asociacion Espanola de Economia (SAEe), Palma de Mallorca, Spain.
- Yang, X. (16 December). Specification test for option pricing models with a delta-hedging interpretation. European Winter Meeting of the Econometric Society, Madrid, Spain.

Membership academies

- Boswijk, H.P. (2014). Member of the programme committee of the International Association for Applied Econometrics Annual Conference, 2014.
- Boswijk, H.P. (2014). Fellow Tinbergen Institute.
- Bun, M.J.G. (2014). Member of the scientific committee of the 20th International Conference on Panel Data, Tokyo, 2014.
- Bun M.J.G. (2014). Fellow Tinbergen Institute.
- Bun, M.J.G. (2014). Member of the programme committee of the Econometric Society European Meetings (ESEM), Toulouse, 2014.
- Kiviet, J.F. (2014). Elected member of the Royal Netherlands Academy of Arts and Sciences.
- Kiviet, J.F. (2014). Fellow of Journal of Econometrics.
- Kiviet, J.F. (2014). Member CESifo research network.
- Kiviet, J.F. (2014). Tinbergen Institute Research Fellow.
- Kleibergen, F. (2014). Fellow of the Journal of Econometrics.

Relevant position

- Bun, M.J.G. (2014). External examiner PhD degree Eleanor Sanderson (University of Bristol).
- Bun, M.J.G. (2014). Visiting scholar Monash University, 10-20 July 2014.

- Bun, M.J.G. (2014). Referee for: Economics Letters, Empirical Economics, Journal of Econometrics, Small Business Economics, Statistical papers, FWO, Review of Social Economy, The Manchester School.
- Boswijk, H.P (2014). External examiner PhD degree Andreas Noack Jensen (University of Copenhagen).
- Boswijk, H.P. (2014). Referee for: Econometric Theory, Journal of Economic Dynamics and Control, Journal of Econometrics, Journal of Statistical Planning and Inference, Journal of Time Series Analysis, Oxford Bulletin of Economics and Statistics, Scandinavian Journal of Statistics.
- Cakmakli C. (2014). Referee for: Emerging Markets Finance and Trade, Empirical Economics, International Journal of Forecasting, Journal of Applied Econometrics, Journal of Empirical Finance, Journal of Macroeconomics.
- Juodis, A. (2014, 3 March - 29 May) Visitor at Department of Econometrics and Business Statistics, Monash University.
- Juodis, A. (2014). Referee for: Computational Statistics & Data Analysis.
- Kiviet, J.F. (2014, January 1- March 31 and October 1 – December 31). Visiting Professor at Nanyang Technological University, Singapore.
- Kiviet, J.F. (2014, May 5-16). Visitor at KOF, ETH Zurich (Switzerland) to teach a 15 hours course on Dynamic Panel Data Econometrics.
- Kiviet, J.F. (2014, July 21-25). Visitor at University of Salamanca (Spain) to teach a 10 hours course in Dynamic Panel Data Analysis.
- Kiviet, J.F. (2014). Referee for: Econometric Reviews, Economics Letters, Journal of Applied Econometrics, Journal of Econometrics, Singapore Economic Review.
- Kleibergen, F. (2014). Referee for: Journal of Econometrics, Journal of Applied Econometrics, Econometric Theory, Econometrica, Journal of Business and Economic Statistics, Econometrics Journal, The Review of Economic Studies.

7. EQUILIBRIUM, EXPECTATIONS & DYNAMICS

Programme director: Prof. dr. C.H. Hommes & dr. ir. F.O.O. Wagener
 Metis-code: uva/feb/ase/eed
 JEL-Classification: C, D, E6
 Starting date: 1998
 Website: <http://cendef.uva.nl>
 VSNU-Scores 2001-2007: Quality: 4.5, Productivity: 4.5, Relevance: 5, Viability:5

7.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Altghlibi, M.	msc	guest	-	-	0,00	1
Amman, H.M.	prof. dr.	hgl	-	-	0,00	1
Anufriev, M.	dr.	ud	0,02	-	-	1
Anufriev, M.	dr.	guest	-	0,00	0,00	1
Assenza, T.	dr.	postdoc	0,16	0,16	0,16	1
Bao, T.	dr.	postdoc	0,80	0,47	-	3
Diks, C. (CeNDEF)	prof. dr.	hgl	0,50	0,50	0,50	1
Fang, H.	msc	phd	-	-	0,27	1
Heemeijer, P. (CeNDEF)	dr.	guest	-	0,00	0,00	1
Hommes, C.H. (CeNDEF)	prof. dr.	hgl	0,47	-	0,50	1
Hommes, C.H. (CeNDEF)	prof. dr.	hgl	0,07	1,00	0,32	2
Huang, Z.	dr.	postdoc	-	0,07	0,80	2
Kiseleva, T.	dr.	postdoc	0,07	-	-	1
Kiseleva, T.	dr.	guest	-	0,00	0,00	1
Kopányi, D.	msc	phd	0,80	0,80	0,53	1
Koster, M.A.L.	dr.	ud	0,25	0,25	0,25	1
Leij, M. van der	dr.	postdoc	0,80	0,80	0,33	2
Leij, M. van der	dr.	ud	-	-	0,20	2
Leij, M. van der	dr.	ud	-	-	0,17	1
Leur, M. van de	msc	guest	0,00	0,00	0,00	1
Lustenhouwer, J.	msc	phd	-	-	0,27	1
Makarewicz, T.	msc	phd	-	-	-	1
Makarewicz, T.	msc	phd	0,80	0,80	0,67	2
Makarewicz, T.	dr.	postdoc	-	-	0,13	2
Massaro, D.	dr.	postdoc	0,80	-	-	2
Massaro, D.	dr.	oz	-	0,80	0,80	2
Negriu, A.	msc	phd	0,20	0,80	0,80	1
Ochea, M.I.	dr.	ud	0,17	0,50	0,33	1
Papana, A.	dr.	guest	-	-	0,00	1
Ramer, R.	dr.	ud	0,00	-	-	1
Ramer, R.	dr.	guest	-	0,00	0,00	1
Salle, I.	dr.	postdoc	-	0,27	0,80	3
Sniekers, F.	msc	phd	0,13	0,40	-	1
Sniekers, F.	msc	guest	-	-	0,00	1
Tuinstra, J. (CeNDEF)	prof. dr.	hgl	0,50	0,50	0,50	1

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Veld, D. in 't	msc	phd	0,80	0,80	0,53	2
Veld, D. in 't	dr.	guest	-	-	0,00	1
Wagener, F. (CeNDEF)	dr.	uhd	0,50	0,50	0,50	1
Wang, J.	msc	guest	0,00	0,00	0,00	1
Wang, H.-S.	msc	guest	-	0,00	0,00	1
Weide, R. van der (CeNDEF)	drs.	phd	0,00	-	-	1
Wolski, M.	msc	guest	0,00	0,00	0,00	1
Zeppini-Rossi, P.	dr.	guest	0,00	0,00	0,00	1
Zovko, I. (CeNDEF)	dr.	guest	0,00	-	-	1
Zhu, M.	dr.	guest	0,00	0,00	0,00	1
Total 1st flow of funds			3,77	4,41	4,78	
Total 2nd flow of funds			3,27	4,27	3,78	
Total 3rd flow of funds			0,80	0,74	0,80	
Total 1st f.o.f. excl. Ph.D.'s			2,64	2,41	2,91	
Total 1st-3rd flow of funds			7,84	9,42	9,36	
Ph.D. students			2,73	3,60	3,07	

7.2 PROGRAMME DESIGN

The objective of the programme is the development of (mathematical) economic theory, focussing on the understanding of economic processes. The programme aims at developing models of economic behaviour in different areas of economics, including microeconomics, macroeconomics and finance. Emphasis is given to behavioural models of dynamic market phenomena.

The research group employs a multi-disciplinary approach. The models are studied both from a theoretical and a computational perspective, and the validity of the models is tested in laboratory experiments with human subjects as well as empirically using real data. The NWO-Vernieuwingsimpuls Information Flows in Financial Markets, the EU STREP project Financial Markets and Complexity and the NWO-VIDI programme *Structural Stability in Economic Dynamics* are part of the research programme.

The programme can be subdivided into five closely related and interacting research themes:

Equilibrium theory

Individual optimising behaviour of economic agents generates aggregate supply and demand of commodities, as a function of prices and individual expectations. In equilibrium supply and demand are equal. Many types of equilibrium can be studied: partial versus general, competitive versus monopolistic, dynamic versus static, temporary equilibrium, single, representative agent as well as heterogeneous, interacting agents equilibria. The existence of equilibria is studied, as well as conditions for stability or instability of dynamic adjustment processes.

Game theory & Industrial organisation

This part of the programme focuses on modelling strategic behaviour of economic agents in markets with imperfect competition, such as duopoly and oligopoly. Equilibria in non-cooperative games (e.g. duopoly, oligopoly) as well as cooperative games (costs sharing, general equilibrium) are studied. Evolutionary games with heterogeneous, boundedly rational strategies competing against each other are also studied.

Expectations and learning

Bounded rationality models of expectation formation and learning schemes are becoming a serious alternative to rational expectations, which was the dominating paradigm until quite recently. The fully rational representative agent is replaced by a large *heterogeneous* population of boundedly rational interacting agents, who form expectations based upon time series observations and update their forecasting rules according to new observations and new information about market fundamentals. Conditions under which learning schemes converge to rational expectations or to a boundedly rational expectations equilibrium with excess volatility are investigated. Formation of expectations is studied in theory, in laboratory experiments with human subjects and in real markets.

Nonlinear economic dynamics

This part of the programme focuses on nonlinear complexity models of dynamic market phenomena. Are market fluctuations mainly caused by random exogenous shocks, or can endogenous nonlinear economic laws of motion explain (a significant part of) the fluctuations? Various deterministic and stochastic economic models are studied theoretically, computationally as well as empirically, attempting to explain the most important stylised facts observed in real economic and financial time series. Emphasis is given to *complex adaptive systems* where markets consist of a large population of agents selecting simple strategies according to their relative success in the recent past. In these evolutionary adaptive systems endogenous variables such as prices and agents' beliefs co-evolve over time.

Dynamic optimisation

Emphasis is given to dynamic optimisation problems in environmental economics, characterised by a conflict between economic benefits and ecological costs. Tools from nonlinear dynamics and bifurcation theory are employed to investigate non-convex dynamic optimisation problems. The main thrust is a structural analysis, that is, investigation of the global solution structure of dynamic optimisation problems and dynamic games. The qualitative changes of these solutions are studied under changes of the parameters. Geometrical methods, like bifurcation theory, normal form theory and perturbation theory, as well as numerical methods yield insights that hold not just at isolated parameter values, but for the complete parameter set.

7.3 PROGRAMME EVALUATION

This program grew out of a mathematical economics program Equilibrium and Dynamics, led by Weddepohl, which was quite small until the mid nineties. The group was extended considerably at the end of 1998, thanks to an NWO-MaG Pionier grant awarded to Hommes, to set up the Center for Nonlinear Dynamics in Economics and Finance (CeNDEF). At that time the program changed from a small specialized mathematical economics program into a multi-disciplinary research program with an emphasis on economic theory, but also running laboratory experiments (in cooperation with Joep Sonnemans at CREED) to test behavioural theories and doing empirical work as well (in cooperation with Peter Boswijk at UvA-Econometrics), in particular nonlinear time series analysis, to test behavioural models empirically. Weddepohl retired in 2002 while Furth and Koster joined the group in the same year; at that point game theory has been included as one of the research themes of the program. At the end of 2003, the CeNDEF postdocs Diks, Tuinstra and Wagener obtained tenured positions, ensuring the continuation of the research program. In 2009 the research program was ranked as one of the three top programs at the FEB by the VSNU "Visitatiecommissie" (Quality 4.5, Productivity 4.5, Relevance 5, Viability 5). From the report of the committee: "The group (...) is developing very fruitful projects on highly topical current issues."

The publication record of the year 2014 is excellent. The output was 12 articles in international refereed journals, amongst which publications in *Games and Economic Behavior*, the *Journal of Economic Theory* and the *Review of Economics and Statistics* and , a book, and a publication in a book. There were four PhD students that had a (co-)supervisor from the group, Michiel van de Leur, Tomasz Makarewicz, Daan in 't Veld and Marcin Wolski, who defended their thesis successfully; Daan in 't Veld received his doctorate even cum laude.

The programme is internationally established, as is shown by excellent citation statistics (e.g. according to the Science Citation Index (SCI) in 2014 almost 500 citations of published work by group members), many invited and several keynote lectures at international seminars, conferences and workshops by various members of the research group. In the IDEAS/RePEc ranking of Top 20% institutes (<http://ideas.repec.org/top/top.netherlands.html>), CeNDEF ranks as number 13, one position down from last year. This ranking contains faculties of economics and departments; among the small institutes of the order of a research group (up to 15 researchers) CeNDEF ranks 2nd on the list, only trailing the UvA Finance Group.

In 2014, Hans Amman joined the group as professor, Marieke van Rooij as UD, Moutaz Altaghibli as EDE-EM PhD student, and Hao Fang and Joep Lustenhouwer as PhD students.

The evaluation can be summarized in the following SWOT analysis of the CeNDEF activities.

Strengths: international reputation as an excellent research group on nonlinear dynamics and complexity applications in economics and finance, high scientific impact (e.g., with both having been cited about 450 times (Web of Science), Brock and Hommes (Econometrica 1997), and Brock and Hommes (JEDC 1998), are two of the best cited journal articles co-authored by a Dutch economist), regular international visitors, active seminars and international workshops, own working paper series, frequently visited website, good facilities for computing and travel.

Weaknesses: relatively few publications in top mainstream journals, where multi-disciplinary work and non-mainstream approach such as agent-based modelling and complexity modelling are far from being well accepted; the number of links with practitioners and policy makers has been relatively low, but is now increasing.

Opportunities: development of UvA Graduate School in Economics; application of group-specific know-how to core economic problems, to demonstrate in this way the value of the programme's characteristic approach; developing more policy oriented research, e.g. through a new project on heterogeneous expectations in macro economics and monetary policy; for example, the NWO-complexity project is a research project jointly with researchers and policy makers at DNB.

Threats: A multidisciplinary group is likely to be handicapped when evaluated in a mono-disciplinary environment; and the complexity of the tools used may turn out to be an impediment at disseminating the research approach.

7.4 RESOURCES AND FUNDING

The budget received from ASE-RI every year (about K€12) only covers on average one conference per researcher per year. In the last couple of years the remaining CeNDEF budget (from the NWO-Pionier grant 1998-2003) was able to cover additional conferences, workshops, etc., if desired. A budget of the Faculty covers some of the costs for the Economics Colloquia; another budget of the Tinbergen Institute covers the costs of joint research seminars Cooperative Behaviour, Strategic Interaction and Complex Systems - CSC together with the VU mathematical economics group.

The group has been quite successful in obtaining additional external funding. In 2010, Cees Diks and Cars Hommes have obtained a NWO-Complexity grant of K€ 440 for the research proposal "Understanding financial instability through complex systems", jointly with DNB. Marco van der Leij and Daan in 't Veld are funded as post-doc and PhD student respectively through this grant. Tomasz Makarewicz finished his PhD student funded by the NWO Talent project Learning to Forecast with Evolutionary Models. Joep Lustenhouwer is a new PhD student funded by a NWO Talent project Monetary and Fiscal Policy under Bounded Rationality and Heterogeneous Expectations

CeNDEF is part of several European consortia that obtained grants: the EU FP7-ICT collaborative projects (between 10 European partners) “Complexity Research Initiative for Systemic Instabilities” (CRISIS), the EU FP7-SHS collaborative project (between 12 European partners) Macro-Risk Assessment and Stabilization Policies with New Early Warning Signals (RASTANEWS), the EU COST action IS1104 “The EU in the new complex geography of economic systems: models, tools and policy evaluation”, and two newly funded INET projects, “Coordination of Expectations”, led by Roger Guesnerie and “Heterogeneous Expectations and Financial Crises”, led by Cars Hommes. Zhenxing Huang has been appointed as postdoc in this project A newly funded EU FP7-SHS Collaborative project (with 12 European partners) Macro-Risk Assessment and Stabilization Policies with New Early Warning Signals (RASTANEWS) "Integrated Macro-Financial Modelling for Robust Policy Design (MACFINROBODS) " started in May February 2013⁴ and is coordinated by Cars Hommes for UvA. In May 2014 Cars Hommes was awarded the Distinguished Lorentz Fellowship of the Netherlands Institute of Advanced Studies (NIAS).

7.5 OUTPUT

Key publications

- Anufriev, M. & Hommes, C.H. (2012), Evolutionary selection of individual expectations and aggregate outcomes, *American Economic Journal–Micro* 4 (4), 35-64.
- Brock, W.A., Hommes, C.H. & Wagener, F.O.O. (2009). More hedging instruments may destabilize markets. *Journal of Economic Dynamics & Control*, 33, (11), 1912-1928.
- Diks, C., Panchenko, V. & Dijk, D. van (2011). Likelihood-based scoring rules for comparing density forecastst in tails. *Journal of Econometrics*, 163, 215-230.
- Hommes, C.H. and Zhu, M. (2014). Behavioural learning equilibria, *Journal of Economic Theory* 150, 778-814.
- Leij, M.J. van der (2011). Experimenting with buddies. *Science*, 334, 1220-1221.
- J. Linde, J. Sonnemans & J. Tuinstra (2014). Strategies and evolution in the minority game: a multi-round strategy experiment. *Games and Economic Behavior*, 86, 77-95.
- Polasky, S., Zeeuw, A. de & Wagener, F.O.O. (2011). Optimal management with potential regime shifts. *Journal of Environmental Economics and Management*, 62, 229-240.

Forthcoming

- T. Assenza, D. Delli Gatti & J. Grazzini (2015). Emergent Dynamics of a Macroeconomic Agent Based Model with Capital and Credit. *Journal of Economic Dynamics & Control*, 50, 5-28.
- T. Assenza, J. Grazzini, C. Hommes & D. Massaro (2015). PQ strategies in monopolistic competition: some insights from the lab. *Journal of Economic Dynamics & Control*, 50, 62-77.
- J.L. Molina-Borboa, S. Martinez-Jaramillo, F. Lopez-Gallo & M.J. van der Leij (2015). A multiplex network analysis of the Mexican banking system: Link persistence, overlap, and waiting times. *The Journal of Network Theory in Finance*. In press.
- J. Kovarik & M.J. van der Leij (2015). Risk aversion and social networks. *Review of Network Economics*. In press.
- I.L. Salle (2015). Inflation Expectations, Forward Guidance and Macroeconomic Stabilization. *Economic Modelling*, 46, 130-141.
- I.L. Salle & P. Seppacher (2015). Social Learning about Consumption. *Macroeconomic Dynamics*. In press.
- P. Seppacher & I.L. Salle (2015). Deleveraging crises and deep recessions - a behavioural approach. *Applied Economics*. In press.
- D. Grass, T. Kiseleva & F.O.O. Wagener (2015). Small-noise asymptotics of Hamilton-Jacobi-Bellman equations and bifurcations of stochastic optimal control problems. *Communications in Nonlinear Science & Numerical Simulation*, 22, 38-54.

Publications in numbers

Output type	Classification	#
Articles	Refereed	18
	Non-refereed	2
	Professional	0
	Popular	0
Books or book chapters	Refereed	2
	Non-refereed	0
	Professional	0
	Popular	0
Conference proceedings		0
PhD theses		4
Working papers		16
Total		42

Article in journal - refereed

- Amman, H.M. & Kendrick, D.A. (2014). Comparison of policy functions from optimal learning and adaptive control frameworks. *Computational Management Science*, 11 (3), 221-235. doi: 10.1007/s10287-014-0215-9
- Canoy, M. & Veld, D.L. in 't (2014). How to boost the production of free services: in search of the holy referee grail. *Man and the Economy*, 1 (1), 79-92. doi: 10.1515/me-2014-0007
- Diks, C., Panchenko, V., Sokolinskiy, O. & Dijk, D. van (2014). Comparing the accuracy of multivariate density forecasts in selected regions of the copula support. *Journal of Economic Dynamics & Control*, 48, 79-94. doi: 10.1016/j.jedc.2014.08.021
- Dockner, E. & Wagener, F. (2014). Markov perfect Nash equilibria in models with a single capital stock. *Economic Theory*, 56 (3), 585-625. doi: 10.1007/s00199-014-0805-3
- Ductor, L., Fafchamps, M., Goyal, S. & Leij, M.J. van der (2014). Social networks and research output. *Review of Economics and Statistics*, 96 (5), 936-948. doi: 10.1162/REST_a_00430
- Hommes, C. & Zhu, M. (2014). Behavioral learning equilibria. *Journal of Economic Theory*, 150, 778-814. doi: 10.1016/j.jet.2013.09.002
- Hommes, C.H. (2014). Behaviorally rational expectations and almost self-fulfilling equilibria. *Review of Behavioral Economics*, 1 (1-2), 75-97. doi: 10.1561/105.00000004
- Hommes, C. & Zeppini, P. (2014). Innovate or imitate? Behavioural technological change. *Journal of Economic Dynamics & Control*, 48, 308-324. doi: 10.1016/j.jedc.2014.08.005
- Hommes, C. (2013). Reflexivity, expectations feedback and almost self-fulfilling equilibria: economic theory, empirical evidence and laboratory experiments. *Journal of Economic Methodology*, 20 (4), 406-419. doi: 10.1080/1350178X.2013.859426
- Kovářík, J. & Leij, M.J. van der (2014). Risk aversion and social networks. *Review of Network Economics*, 13 (2), 121-155. doi: 10.1515/rne-2014-0029
- Linde, J., Sonnemans, J. & Tuinstra, J. (2014). Strategies and evolution in the minority game: a multi-round strategy experiment. *Games and Economic Behavior*, 86, 77-95. doi: 10.1016/j.geb.2014.03.001
- Salle, I. & Yıldızoğlu, M. (2014). Efficient sampling and meta-modeling in computational economic models. *Computational Economics*, 44 (4), 507-536. doi: 10.1007/s10614-013-9406-7
- Toomet, O., Leij, M. van der & Rolfe, M. (2013). Social networks and labor market inequality between ethnicities and races. *Network Science*, 1 (3), 321-352. doi: 10.1017/nws.2013.20
- Tuinstra, J. & Veld, D.L. in 't (2014). Market-induced rationalization and welfare-enhancing cartels. *The B.E. Journal of Economic Analysis & Policy*, 14 (1), 189-202. doi: 10.1515/bejeap-2013-0005

- Tuinstra, J., Wegener, M. & Westerhoff, F. (2014). Positive welfare effects of trade barriers in a dynamic partial equilibrium model. *Journal of Economic Dynamics & Control*, 48, 246-264. doi: 10.1016/j.jedc.2014.06.015
- Veld, D. in 't & Lelyveld, I. van (2014). Finding the core: network structure in interbank markets. *Journal of Banking & Finance*, 49, 27-40. doi: 10.1016/j.jbankfin.2014.08.006
- Wagener, F. (2014). Expectations in experiments. *Annual Review of Economics*, 6, 421-443. doi: 10.1146/annurev-economics-080213-040935
- Yildızoğlu, M., Sénégas, M.A., Salle, I. & Zumpe, M. (2014). Learning the optimal buffer-stock consumption rule of Carroll. *Macroeconomic Dynamics*, 18 (4), 727-752. doi: 10.1017/S1365100512000582

Article in journal - non-refereed

- Commendatore, P., Sordi, S. & Tuinstra, J. (2014). Introduction to the Special Issue on "Complex nonlinear dynamics in economic and spatial structures". *Journal of Economic Dynamics & Control*, 48, 226-228. doi: 10.1016/j.jedc.2014.10.004
- Hommes, C. (2014). A reply to Rosser and Kirman. *Journal of Economic Methodology*, 21 (3), 317-321. doi: 10.1080/1350178X.2014.941150

Book / book chapter – refereed

- Assenza, T., Bao, T., Hommes, C. & Massaro, D. (2014). Experiments on expectations in macroeconomics and finance. In J. Duffy (Ed.), *Experiments in macroeconomics (Research in experimental economics: a research annual, 17)* (pp. 11-70). Bingley: Emerald.
- Kendrick, D.A., Amman, H.M. & Tucci, M.P. (2014). Learning about learning in dynamic economic models. In K. Schmedders & K.L. Judd (Eds.), *Handbook of computational economics. - Vol. 3 (Handbooks in Economics)* (pp. 1-35). Amsterdam: Elsevier, North-Holland.

Book editorship

- Dieci, R., He, X.Z. & Hommes, C. (Eds.). (2014). *Nonlinear economic dynamics and financial modelling: essays in honour of Carl Chiarella*. Cham: Springer.

Report – professional

- Koster, M.A.L., Westkamp, A., Klijin, F., Muskens, M. & Broek, A. van den (2014). *Matching in het Nederlandse hoger onderwijs: Aanbevelingen voor centrale toewijzing en decentrale selectie. (extern rapport)*. Nijmegen: ResearchNed.

Working- and discussion papers

- Agliari, A., Massaro, D., Pecora, N. & Spelta, A. (2014). Inflation targeting, recursive inattentiveness and heterogeneous beliefs. (Preprints, CeNDEF Working Papers, no 14-12). Amsterdam: Universiteit van Amsterdam.
- Assenza, T., Heemeijer, P., Hommes, C. & Massaro, D. (2014). Managing self-organization of expectations through monetary policy: a macro experiment. (Preprints, CeNDEF Working Papers, no 14-07). Amsterdam: Universiteit van Amsterdam.
- Bao, T., Hommes, C. & Makarewicz, T. (2014). Bubble formation and (in)efficient markets in learning-to-forecast and -optimize experiments. (Preprints, CeNDEF Working Paper, no 14-01). Amsterdam: Universiteit van Amsterdam.
- Bolt, W., Demertzis, M., Diks, C., Hommes, C. & Leij, M.J. van der (2014). Identifying booms and busts in house prices under heterogeneous expectations. (Preprints, DNB Working Paper Series, no 450). Amsterdam: De Nederlandsche Bank (DNB).

- Bolt, W., Demertzis, M., Diks, C., Hommes, C. & Leij, M. van der (2014). Identifying booms and busts in house prices under heterogeneous expectations. (Preprints, CeNDEF Working Paper, no 14-13). Amsterdam: University of Amsterdam.
- Canoy, M. & Veld, D. in 't (2014). How to boost the production of free services: in search of the holy referee grail. (Preprints, CeNDEF Working Paper, no 14-03). Amsterdam: University of Amsterdam.
- Demertzis, M., Bolt, W., Diks, C.G.H., Hommes, C.H. & Leij, M.J. van der (2014). Identifying booms and busts in house prices under heterogeneous expectations. (Preprints, Tinbergen Institute Discussion Paper, no TI 2014-157/II). Amsterdam/Rotterdam: Tinbergen Instituut.
- Hommes, C. & Veld, D. in 't (2014). Booms, busts and behavioural heterogeneity in stock prices. (Preprints, CeNDEF Working Paper, no 14-14). Amsterdam: University of Amsterdam.
- Koster, M.A.L. & Boonen, T.J. (2014). Egalitarian Risk Sharing under Liquidity Constraints.
- Papana, A., Kyrtsov, C., Kugiumtzis, D. & Diks, C. (2014). Assessment of resampling methods for causality testing. (Preprints, CeNDEF Working Paper, no 14-08). Amsterdam: University of Amsterdam.
- Papana, A., Kyrtsov, C., Kugiumtzis, D. & Diks, C. (2014). Identifying causal relationships in case of non-stationary time series. (Preprints, CeNDEF Working Paper, no 14-09). Amsterdam: University of Amsterdam.
- Schinkel, M.P., Tóth, L. & Tuinstra, J. (2014). Discretionary authority and prioritizing in government agencies. (Preprints, Amsterdam Center for Law & Economics Working Paper, no 2014-06). Amsterdam: University of Amsterdam.
- Sniekers, F. (2014). Persistence and volatility of Beveridge cycles. (Preprints, CeNDEF Working Paper, no 14-11). Amsterdam: University of Amsterdam.
- Sniekers, F. (2014). The order of buying and selling: multiple equilibria in the housing market. (Preprints, CeNDEF Working Paper, no 14-02). Amsterdam: University of Amsterdam.
- Veld, D. in 't, Leij, M. van der & Hommes, C. (2014). The formation of a core periphery structure in heterogeneous financial networks. (Preprints, Tinbergen Institute Discussion Paper, no TI-2014-098/II). Amsterdam/Rotterdam: Tinbergen Institute.
- Veld, D. in 't, Leij, M. van der & Hommes, C. (2014). The formation of a core periphery structure in heterogeneous financial networks. (Preprints, CeNDEF Working Paper, no 14-04). Amsterdam: University of Amsterdam.

UvA Dissertation – internally prepared

- Makarewicz, T.A. (2014, November 11). Learning to forecast: Genetic algorithms and experiments. Universiteit van Amsterdam (vi, 205 pag.) (Amsterdam: Tinbergen Institute). Prom./coprom.: prof.dr. C.H. Hommes.
- Veld, D.L. in 't (2014, Oktober 17). Complex systems in financial economics: Applications to interbank and stock markets. Universiteit van Amsterdam (vi, 235 pag.). Prom./coprom.: prof.dr. C.H. Hommes & prof.dr. C.G.H. Diks.

UvA Dissertation – externally prepared

- Leur, M.C.W. van de (2014, November 11). Essays on markets over random networks and learning in Continuous Double Auctions. Universiteit van Amsterdam (vii, 168 pag.). Prom./coprom.: prof.dr. C.H. Hommes, M. LiCalzi & dr. M. Anufriev.
- Wolski, M. (2014, Juni 27). Essays in nonlinear dynamics in economics and econometrics with applications to monetary policy and banking. Universiteit van Amsterdam (v, 160 pag.). Prom./coprom.: H. Dawid, prof.dr. C.G.H. Diks & prof.dr. C.H. Hommes.

Conference organiser

- Assenza, T. (2014). Workshop, local co-organizer: Banking Crises and the Real Economy, Catholic University of Milan, sponsored by the UniCredit and Universities, Knight of Labor Ugo Foscolo Foundation, May 26, 2014.

- Wagener, F.O.O. (2014). Workshop co-organizer: Modelling multiregional economies as complex structures: building blocks, May 2014, Vienna, Austria.
- Wagener, F.O.O. (2014). Conference organizer: 16th International Symposium on Dynamic Games & Applications, July 2014, Amsterdam, The Netherlands.

Recognition

- Hommes, C.H. (2014-2017). EU FP7 grant (nr 612796, budget 2.5M) Collaborative project *Integrated Macro-Financial Modelling for Robust Policy Design* (MACFINROBODS), Coordinator consortium of 12 European Universities & Research Institutes.
- Hommes, C.H. and Lustenhouwer, J. (2014-2017). NWO Talent grant (nr 406-14-011, budget 198K).
- Hommes, C.H. (2014/2015). *Distinguished Lorentz Fellowship*, Netherlands Institute for Advanced Studies (NIAS).
- Hommes, C.H. (2014-2016). President Elect, *Society of Computational Economics*.
- Veld, D. in 't (2014). Winner of the Graduate Student Contest at the Computing in Economics and Finance (CEF) conference in Oslo, for paper titled “Adverse effects of demand constraints in a financial market model with heterogeneous agents”.
- Wolski, M. (2014). Winner of Gerald P. Dwyer prize for the best paper in finance, 22nd Annual Symposium of the Society for Nonlinear Dynamics and Econometrics, New York, USA.

Media appearance

- Hommes, C.H. (2014). Video Interview ‘gedragsmodellen’, *Me Judice* (<http://www.mejudice.nl/video/detail/cars-hommes-over-gedragsmodellen>).

Editorship

- Amman, H. (2014). Founding Co-Editor: *Computational Management Science*.
- Amman, H. (2014). Founding Editor-in-Chief : *Computational Economics*.
- Amman, H. (2014). Founding Editor-in-Chief : *Netnomics*.
- Amman, H. (2014). Editorial board member: *New Dimensions in Networks*. (Book Series, Edward Elgar).
- Amman, H. (2014). Founding Co-editor: *Advances in Computational Management Science*. (Book Series, Springer).
- Amman, H. (2014). Founding Co-editor: *Advances in Computational Economics and Econometrics*. (Book Series, Springer).
- Assenza, T. (2014). Member of the Editorial Board: *Complexity Economics: Complexity, Crises & Choices*.
- Diks, C. (2014). Associate editor: *Studies in Nonlinear Dynamics and Econometrics*.
- Hommes, C.H. (2014). Advisory Editor: *Journal of Economic Dynamics & Control*.
- Hommes, C.H. (2014). Honorary Editor: *Review of Behavioral Economics*.
- Hommes, C.H. (2014). Associate Editor: *Macroeconomic Dynamics*.
- Hommes, C.H. (2014). Associate Editor: *Computational Economics*.
- Hommes, C.H. (2014). Associate Editor: *Journal Economic Interaction and Coordination*.
- Hommes, C.H. (2014). Associate Editor: *Complexity Economics*.
- Leij, M.J. van der (2014). Associate editor: *Network Science*.
- Leij, M.J. van der (2014). Associate editor: *Complexity Economics*.
- Tuinstra, J. (2014). Associate editor: *Journal of Economic Dynamics and Control*.
- Tuinstra, J. (2014). Managing guest editor of special issue on “Complex Nonlinear Dynamics in Economic and Spatial Structures”: *Journal of Economic Dynamics and Control*.
- Wagener, F.O.O. (2014). Editor: *Review of Behavioral Economics*.
- Wagener, F.O.O. (2014). Editor of Volume 14: *Annals of the International Society of Dynamic Games*.

Keynote/invited talk

- Assenza, T. (2014, June). Animal, spirits, Heterogeneous Expectations and the Emergence of Booms and Busts. Workshop on “Business Cycle and Economic Growth”, Fondation des Treilles, France.
- Diks, C., (2014, December 10). Identifying Booms and Busts in House Prices Under Heterogeneous Expectations, Expectations and Forecasting in International Macroeconomics, Symposium, Banque de France, Paris, France.
- Diks, C. (2014, December 7). Comparing the Accuracy of Copula-based Multivariate Density Forecasts in Selected Regions of the Copula Support. 8th International Conference on Computational and Financial Econometrics (CFE 2014), Pisa, Italy.
- Diks, C., (2014, September 19). Comparing the Accuracy of Copula-Based Multivariate Density Forecasts in Selected Regions of the Copula Support, Workshop Nonlinear Time Series Analysis: Thresholding and Beyond, London School of Economics, London, UK.
- Diks, C. (2014, September 16). Evaluating Copula-Based Multivariate Density Forecasts in Selected Regions of Support, NOLTA 2014, Luzerne, Switzerland.
- Diks, C. (2014, July 1). Comparing the Accuracy of Copula-based Multivariate Density Forecasts in Selected Regions of Support. 34th International Symposium on Forecasting (ISF 2014), Erasmus University Rotterdam, The Netherlands.
- Hommes, C.H. (2014, February 26). Managing self-organization of expectations through monetary policy: a macro experiment, Seminar NY-FRB, New York, USA.
- Hommes, C.H. (2014, April 10-12). Reflexivity, expectations feedback and almost self-fulfilling equilibria: economic theory, empirical evidence and laboratory experiments. INET Conference, Session on Reflexivity and Knightian Uncertainty: Implications for Economics. Toronto, Canada.
- Hommes, C.H. (2014, April 17-18). Booms, busts and behavioural heterogeneity in stock prices, plenary keynote lecture 22nd Annual Symposium Society for Nonlinear Dynamics and Econometrics, Baruch College, New York, USA.
- Hommes, C.H. (2014, May 27). Managing Socio-Economic Complexity, Distinguished Lorentz Fellowship Prize Lecture, NIAS, Wassenaar.
- Hommes, C.H. (2014, June 9-10). Managing self-organization of expectations through monetary policy: a macro experiment, 5th LEEX International Conference on Theoretical and Experimental Macroeconomics, GSE Summer Forum, Barcelona, Spain.
- Hommes, C.H. (2014, June 27). Mathematical Economics: from Laboratory to Real World, Development in Theory and Practice. Seminar in Honour of Michiel Keyzer, SOW-VU.
- Hommes, C.H. (2014, August 7-8). Bubble Formation and (In)Efficient Markets in Learning-to-Forecast and -Optimize Experiments, Workshop Expectations in Dynamic Macroeconomic Models, Bank of Finland, Helsinki, Finland.
- Hommes, C.H. (2014, September 19-20), Rationality, Expectations and Learning in ABM, INET Workshop Agent-based models and stock consistent flows, Ancona.
- Hommes, C.H. (2014, September 23-27), Expectations Feedback and Adaptive Learning in Complex Economic Systems, European Conference on Complex Systems, ECCS 2014, Lucca, Italy.
- Hommes, C.H. (2014, October 15). Behaviour: from Micro to Macro. CRISIS Advisory Board Meeting, Bank of England.
- Hommes, C.H. (2014, November 5-6). Managing self-organization of expectations through monetary policy in complex systems, Workshop Experiments in Monetary Policy, Lyon.
- Hommes, C.H. (2014, November 10-11). Laboratory experiments in macroeconomics. INET Workshop New Economic Thinking for an Evolving Financial System, DNB, Amsterdam.
- Hommes, C.H. (2014, November 27). Agent-based Models in Economics: Theory, Experiments and Empirical Validation, Almende Seminar, Rotterdam.
- Hommes, C.H. (2014, December 2). Managing self-organization of expectations through monetary policy: a macro experiment, Seminar SHUFE, Shanghai, China.
- Hommes, C.H. (2014, December 4). Managing self-organization of expectations through monetary policy: a macro experiment, Seminar Fudan University, School of Economics, Shanghai, China.

- Hommes, C.H. (2014, December 8). Managing self-organization of expectations through monetary policy: a macro experiment, Workshop on Macroeconomics, Experimental Economics and Behavior, Monash, Melbourne, Australia.
- Hommes, C.H. (2014, December 10). Booms and Busts in House Prices under Heterogeneous Expectations : Estimation and Experimental Evidence, Seminar University New South Wales, Sydney, Australia.
- Hommes, C.H. (2014, December 15), Bubble Formation and (In)Efficient Markets in Learning-to-Forecast and -Optimize Experiments, Economic Dynamics and Quantitative Finance, Workshop in honour of Carl Chiarella, Sydney, Australia.
- Leij, M.J. van der (2014, August 22). The formation of a core periphery structure in heterogeneous financial networks. Seminar in session on 'Core-Periphery Financial Networks' (host: prof. Rama Cont) of the scientific programme 'Systemic Risk: Mathematical Modelling and Interdisciplinary Approaches', Isaac Newton Institute, Cambridge, UK.
- Leij, M.J. van der (2014, August 26). Liquidity hoarding in the interbank market: Evidence from Mexican interbank overnight loan and repo transactions. Talk at workshop on 'Systemic Risk: Models and Mechanisms' (organizers: prof. Darrell Duffie, prof. Paul Glasserman, prof. Fernando Vega-Redondo) of the scientific programme 'Systemic Risk: Mathematical Modelling and Interdisciplinary Approaches', Isaac Newton Institute, Cambridge, UK.
- Leij, M.J. van der (2014, December 10). The formation of a core periphery structure in heterogeneous financial networks. Talk in Conference on Network Analysis and Financial Stability Issues (host: dr. Serafin Martínez-Jaramillo), CEMLA, Mexico City, Mexico.
- Salle, I. (2014, 14 January). Deleveraging Crises and Deep Recessions, a behavioral approach. Internal seminar at the Catholic University, Milan, Italy.
- Salle, I. (2014, 7 February). How Transparent Should a Central Bank Be? an ABM assessment. Internal Seminar at the University of Surrey, UK.
- Wagener, F.O.O. (2014, April 28). Numerical determination of equilibrium strategies in nonlinear differential games. Beijer Workshop. Royal Academy of Sciences of Sweden, Stockholm, Sweden.

Other lectures

- Assenza, T. (2014, June). Individual Expectations and Aggregate Macro Behavior. 20th International Conference "Computing in Economics and Finance" (CEF), BI Norwegian Business School, Oslo, Norway.
- Assenza, T. (2014, June) Animal, spirits, Heterogeneous Expectations and the Emergence of Booms and Busts. 17th International Economic Association World Congress, Dead Sea, Jordan.
- Assenza, T. (2014, May) Individual Expectations and Aggregate Macro Behavior. Workshop on "Banking Crises and the Real Economy", Catholic University of Milan, Milan, Italy.
- Bao, T., (2014, 13 December). Adaptive vs. Eductive Learning: Theory and Evidence. Hong Kong Economic Association Biennial Meeting, Jinan.
- Bao, T., (2014, 15 June). When Constructors Meeting Speculators: an Experiment on Housing Price Dynamics, Barcelona.
- Bao, T., (2014, 20 August). Adaptive vs. Eductive Learning: Theory and Evidence. Society for Advancement of Economic Theory Annual Conference, Tokyo.
- Bao, T., (2014, 7 August). Adaptive vs. Eductive Learning: Theory and Evidence. Conference on Expectations in Dynamic Macroeconomic Models, Helsinki.
- Bao, T., (2014, 16 December). An Experimental Study on Fee Structure and Mutual Fund Choice, Seminar at Fudan University, Shanghai.
- Bao, T., (2014, 22 December). An Experimental Study on Fee Structure and Mutual Fund Choice, Seminar at Tsinghua University, Beijing.
- Diks, C. (2014, April 17). Booms and Busts in House Prices under Heterogeneous Expectations, SNDE Conference, Baruch College, City University of New York, New York, USA.
- Hommes, C.H. (2014, January 3-5), Discussant "Correlated Shocks or Signals in Keynesian Beauty Contest Games", by Jess Benhabib, John Duffy and Rosemarie Nagel, AEA meetings 2014, Philadelphia, USA.

- Hommes, C.H. (2014, January 3-5), Interest Rate Rules and Macroeconomic Stability under Heterogeneous Expectations, ASSA meetings 2014, SCE Session Policy Design with Heterogeneous Agent Models, Philadelphia, USA.
- Hommes, C.H. (2014, March 5-8), Behavioural heterogeneity in stock prices, Midwest Finance Conference, Orlando, Florida, USA.
- Hommes, C.H. (2014, June 22-24), When Speculators Meet Constructors: an Experiment on Housing Market as an Expectation Feedback System with both Positive and Negative Feedbacks, CEF 2014 Conference, Oslo, Norway.
- Hommes, C.H. (2014, June 22-24), Price Dynamics and Bubble Formation in Learning-to-Forecast and -Optimize Experiments, CEF 2014 Conference, Oslo, Norway.
- Hommes, C.H. (2014, October 31). Managing self-organization of expectations through monetary policy: a macro experiment, Nederlandse Economendag, DNB, Amsterdam.
- Hommes, C.H. (2014, November 21). Behavioral and Experimental Macroeconomics, CeNDEF-MINT Workshop, UvA-ASE, Amsterdam.
- Koster, M.A.L. (2014, 3 July). The Prediction Value. EUSN (2014), First European Conference on Social Networks, Barcelona, Spain.
- Leij, M.J. van der (2014, June 19). Trading relationships in OTC markets in Mexico. 6th IFABS Conference on Alternative Futures for Global Banking, Lisbon, Portugal.
- Leur, M.C.W. van de (2014, 10 July). Information and Efficiency in Thin Markets over Random networks. EDE-EM Jamboree, Bielefeld.
- Leur, M.C.W. van de (2014, 12 July). Information and Efficiency in Thin Markets over Random networks. 16th International Symposium on Dynamic Games, Amsterdam.
- Leur, M.C.W. van de (2014, 22 June). Information and Efficiency in Thin Markets over Random networks. 20th International Conference on Computing in Economics and Finance, Oslo.
- Leur, M.C.W. van de (2014, 8 July). Information and Efficiency in Thin Markets over Random networks. Seminar Università Ca' Foscari Venezia, Venice.
- Leur, M.C.W. van de (2014, 11 November). Essays on markets over random networks and learning in Continuous Double Auctions. PhD defense, Amsterdam.
- Makarewicz, T. (2014, June). Networks of heterogeneous expectations in an asset pricing market, CEF, Oslo, Norway.
- Makarewicz, T. (2014, July). Networks of heterogeneous expectations in an asset pricing market, WIEM, Warsaw, Poland.
- Massaro, D. (June 2014) "Behavioural Heterogeneity in US Inflation Dynamics", 17th International Economic Association World Congress, Dead Sea, Jordan.
- Massaro, D. (June 2014) "Inflation Targeting, Recursive Inattentiveness and Heterogeneous Beliefs", 20th International Conference Computing in Economics and Finance, Oslo, Norway.
- Negriu, A. (2014, June). Technological and Institutional Dynamics in a Public Goods Game. The 19th Workshop on Economic Science with Heterogeneous Interacting Agents (WEHIA), Tianjin.
- Negriu, A. (2014, June). Technological and Institutional Dynamics in a Public Goods Game. The 20th International Conference on Computing in Economics and Finance (CEF), Oslo.
- Negriu, A. (2014, July). Technological and Institutional Dynamics in a Public Goods Game. The 16th International Symposium on Dynamic Games and Applications, Amsterdam.
- Salle, I. (2014, 10 April). Deleveraging Crises and Deep Recessions, a behavioral approach. International Symposium in Computational Economics and Finance (ISCEF), Paris, France.
- Salle, I. (2014, 23 June). Social Learning about Consumption. International Conference on Computing in Economics and Finance (CEF), Oslo, Norway.
- Salle, I. (2014, 12 December). Deleveraging Crises and Deep Recessions, a behavioral approach. Workshop "Modelling and Analysis of Complex Monetary Economies", University of Paris North, France.
- Tuinstra, J. (2014, June 23). Strategies and Evolution in the Minority Game: A Multi-Round Strategy Experiment. The 20th International Conference on Computing in Economics and Finance, Oslo, Norway.
- Tuinstra, J. (2014, July 11). Strategies and Evolution in the Minority Game: A Multi-Round Strategy Experiment. The 16th International Symposium on Dynamic Games and Applications, Amsterdam, The Netherlands.

- Veld, D. in 't (2014, 20 March). Adverse effects of demand constraints in financial markets with heterogeneous beliefs. NWO Complexity meeting, Amsterdam.
- Veld, D. in 't (2014, 20 May). Network structure in interbank markets: Core banks in the Netherlands. Seminar at the European Institute, London School of Economics, London.
- Veld, D. in 't (2014, 23 June). Adverse effects of demand constraints in financial markets with heterogeneous beliefs. 20th Annual Conference on Computing in Economics and Finance (CEF). Oslo, Norway.
- Veld, D. in 't (2014, 23 June). Booms, busts and behavioural heterogeneity in stock prices. Research in Behavioural Finance Conference, Rotterdam.
- Veld, D. in 't (2014, 31 October). Adverse effects of demand constraints in financial markets with heterogeneous beliefs. Nederlandse Economendag, Amsterdam.
- Wagener, (2014, 24 June). Expectations in Experiments. Conference on Computing in Economics and Finance, Oslo, Norway.
- Wagener, (2014, 18 September). Expectations in Experiments. Research in Behavioural Finance Conference, Rotterdam.
- Wagener, (2014, 6 November). Expectations in Experiments. Workshop Experiments in Monetary Policy, Lyon, France.
- Wang, H. (2014, July). An R&D race with accumulation of public knowledge stock. "Sixteenth International Symposium on Dynamic Games and Applications", Amsterdam.
- Wang, H. (2014, July). An R&D race with accumulation of public knowledge stock. EDEEM summer meeting, Bielefeld University, Bielefeld, Germany.
- Wolski, M. (2014, June). Do safe havens make asset markets safer? World Congress of the International Economics Association, Dead Sea, Jordan.
- Wolski, M. (2014, May). On the role of nonlinearities in systemic risk. QED Jamboree, Bielefeld, Germany.
- Wolski, M. (2014, April). Exploring nonlinearities in financial systemic risk. 22nd Annual Symposium of the Society for Nonlinear Dynamics and Econometrics, New York, USA.
- Zeppini P. (2014, June). A discrete choice model of transitions to sustainable technologies, 5th World Congress of Environmental and Resources Economists, Istanbul, Turkey.
- Zeppini P. (2014, July). Evolutionary environmental games. The 16th International Symposium on Dynamic Games and Applications, Amsterdam.

Membership academies

- Amman, H. (2014). Council Member of Society for Economic Measurement.
- Amman, H. (2014). Member Technical Committee on Computational Finance and Economics, IEEE Computational Intelligence Society.
- Amman, H. (2014). Member Advisory Council of the Society for Computational Economics.
- Assenza, T. (2014). Member Advisory Council of the Society for Computational Economics.
- Bao, T. (2014). University of Groningen, SOM Research Fellow.
- Bao, T. (2014). PhD Defence Committee Member, Peter Dijkstra, University of Groningen.
- Diks, C. (2014). Tinbergen Institute Research Fellow.
- Hommes, C.H. (2014). Tinbergen Institute Research Fellow.
- Hommes, C.H. (2014). Center for Financial Studies Research Fellow, Frankfurt.
- Hommes, C.H. (2014), NWO *Complexity* Program Committee.
- Leij, M.J. van der (2014). Tinbergen Institute Research Fellow.
- Leij, M.J. van der (2014). Junior Risk and Macro Finance Fellow, Amsterdam Center of Excellence in Risk and Macro Finance.
- Salle, I. (2014). Tinbergen Institute Candidate Research Fellow.
- Tuinstra, J. (2014). Tinbergen Institute Research Fellow.
- Tuinstra, J. (2014). Member PhD committee Vessela Daskalova (Queen Mary University of London).
- Wagener, F.O.O. (2014). Tinbergen Institute Research Fellow.

- Wagener, F.O.O. (2014). Member Management Committee for the Netherlands of COST action IS1104: The EU in the new complex geography of economic systems: models, tools and policy evaluation.
- Wagener, F.O.O. (2014). Member Steering Committee. COST action IS1104: The EU in the new complex geography of economic systems: models, tools and policy evaluation.
- Wagener, F.O.O. (2014). Member Executive Committee of the International Society of Dynamic Games

Relevant position

- Assenza, T. (2014). Member program committee of the International Conference on Computing in Economics and Finance. BI Norwegian Business School, Oslo, Norway.
- Assenza T. (2014). Referee for: Macroeconomic Dynamics, Journal of Economic Dynamics and Control.
- Bao, T. (2014). Referee for: Journal of Economic Dynamics and Control, Journal of Behavioral and Experimental Economics.
- Diks, C. (2014). Referee for: Journal of Economic Dynamics and Control (2), Quantitative Finance, Macroeconomic Dynamics, Computational Statistics and Data Analysis, BE Journal of Macroeconomics, Empirical Economics (2), Entropy, Journal of Physics A, Communications in Nonlinear Science and Numerical Simulation, Water Resources Research, Abstract and Applied Analysis.
- Hommel, C.H. (2014). Referee for: Journal of Economic Theory, Journal of Empirical Finance, Journal of Mathematical Economics, Journal of Economic Dynamics & Control, Journal of Banking and Finance, Journal of Economic Methodology, Swiss National Bank, Quantitative Finance, Management Science.
- Kopányi, D. (2014). Referee for: Communications in Nonlinear Science and Numerical Simulation.
- Koster, M.A.L. (2014) Referee for: European Journal of OR.
- Massaro, D. (2014). Referee for: Journal of Economic Dynamics and Control, Economic Inquiry, Macroeconomic Dynamics.
- Salle, I. (2014). Referee for: Macroeconomic Dynamics (2), Journal of Economic Behavior & Organization.
- Salle, I. (2014, Winter/Spring). Visiting researcher, CRABE, Simon Fraser University, Burnaby, BC, Canada.
- Tuinstra, J. (2014). Referee for: Canadian Journal of Economics, Economics Bulletin, Economic Inquiry, Economics Letters, Illinois State University, Journal of Economic Behavior and Organization, Journal of Systems Science and Systems Engineering, McGraw-Hill.
- Veld, D. in 't (2014). Referee for: Journal of Economic Dynamics & Control, Journal of Economic Behavior & Organization.
- Wagener, F.O.O. (2014). Referee for: JPE, Chaos, Journal of Economic Dynamics and Control (2), Journal of Environmental Economics and Management, Journal of Mathematical Analysis and Applications, Review of Behavioral Economics (2).

8. ACTUARIAL SCIENCE & MATHEMATICAL FINANCE

Programmeme director: Prof. dr.ir. M.H. Vellekoop
 METIS code: uva/feb/ase/act
 JEL-classification: C, G2
 Starting date: 1989
 Website: www.aseri.uva.nl/act
 VSNU-scores 2001-2007: Quality: 4, Productivity: 4, Relevance: 5,
 Viability: 3.5

8.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Antonio, K.	dr.	ud	0,60	0,60	0,38	2
Berkum, F. van	msc	phd	0,32	0,32	0,32	3
Boonen, T.	dr.	ud	-	0,17	0,00	3
Can, U.	dr.	postdoc	0,47	0,33	-	3
Can, U.	dr.	postdoc	-	0,29	0,50	1
Cui, J.	dr.	ud	0,00	-	-	1
Cui, J.	dr.	ud	0,16	0,23	-	3
Doff, R.R.	dr.	guest	-	-	0,00	1
Engel, K.	msc	guest	-	-	0,00	1
Fan, Z.	msc	phd	0,27	-	-	1
Fan, Z.	msc	phd	-	0,80	0,80	3
Gastel, L. van	dr.	ud	-	0,08	0,11	3
Goovaerts, M.J.	prof. dr.	guest	-	0,00	0,00	1
Hooijsma, J.	msc	phd	-	0,13	0,40	3
Janssen, M.J.J.	drs.	guest	-	0,00	0,00	1
Joseph, A.S.	drs.	guest	0,00	-	-	1
Kaas, R.	prof. dr.	hgl	0,50	0,42	0,42	1
Kort, J. de	msc	phd	0,40	0,40	0,40	3
Kuné, J.B.	prof. dr.	hgl	0,00	-	-	1
Kuné, J.B.	prof. dr.	guest	-	0,00	0,00	1
Laeven, R.	prof. dr.	hgl	0,75	0,80	0,80	2
Lalu, A.	msc	phd	-	0,27	0,80	1
Petrov, M.	msc	guest	-	-	0,00	1
Plat, H.J.	drs.	guest	-	0,00	0,00	1
Ronner, A.E.	prof. dr.	bijz. hgl	0,10	-	-	3
Ronner, A.E.	prof. dr.	bijz. hgl	-	0,10	0,10	1
Rijckevorsel, J.L.A.	prof. dr.	bijz. hgl	0,08	-	-	3
Vellekoop, M.	prof. dr.	hgl	0,25	0,35	0,35	1
Vellekoop, M.	prof. dr.	hgl	0,32	0,30	0,30	3

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Yang, X.	dr.	postdoc	-	-	0,27	3
Yue, Y.	msc	phd	-	-	0,27	3
Total 1st flow of funds			1,02	1,43	2,17	
Total 2nd flow of funds			1,82	1,40	1,18	
Total 3rd flow of funds			1,38	2,76	2,87	
Total 1st f.o.f. excl. Ph.D.'s			0,75	1,16	1,37	
Total 1st-3rd flow of funds			4,22	5,59	6,22	
Ph.D. students			0,99	1,92	2,99	

8.2 PROGRAMME DESIGN

The programme concerns both fundamental and applied research in the field of financial institutions. It is mainly directed at insurance companies (for life, non-life, pension and social insurance), but also at banks and other financial intermediaries. Research is performed on the mathematical modeling, estimation, appraisal and control of financial risks of such financial institutions under complete and incomplete information and for complete and incomplete markets. For long term insurance contracts, especially pensions, saving by insurance is significant, which leads to the study of optimal investment and consumption problems. An increasingly important aspect is the influence of the "risk of longevity" on the policies of life insurance, social insurance and care insurance. Newly reported statistics show that life expectancy continues to rise faster than predicted both in the Netherlands and abroad, and the modeling of this effect and its consequences for life insurance policies and pension contracts therefore remains an important area of investigation. Present-day challenges for non-life insurance contracts include decreasing profit margins, increasing competition and selective behaviour of the insured and of insurance companies. In social insurance, there are specific problems that emerge from the privatisation of social insurance contracts. Apart from studying problems in the separate fields of life, non-life, pension and social insurance, work is also done on the theoretical research subject which concerns the unification of several distinct actuarial theories in these fields, and their connection with stochastic financial mathematics.

Supervision and regulation of insurance companies and pension funds form an important part of the field of actuarial research. Methods for risk measurement and the determination of solvency requirements have come under intensified scrutiny in the wake of the recent financial crisis. The new European regulatory framework Solvency II for insurers and the Dutch FTK regulation for pension funds lead to many important new research questions. The Actuarial Science group therefore works on the further development of actuarial risk theory, in particular the development of new mathematical and economic models in the fields of market-consistent valuation, market-consistent pricing and market-consistent embedded value for insurance portfolios.

Other significant fields of research are the interaction between credibility theory, models for the estimation of unreported claims (IBNR) and actuarial ordering of risks, and their consequences for the determination of insurance premiums (risk classification). Credibility models can be viewed as Generalized Linear Mixed Models, having both random (subject-specific) and fixed effects in the linear predictor. Generalized Linear Models and Generalized Linear Mixed Models can be used for a variety of actuarial statistical problems like survival modelling, graduation, multiple-state models, loss distributions, risk classification, premium rating and claims reserving in non-life-insurance. Other aspects are the homogeneity and heterogeneity of insurance portfolios, the probabilistic and subsidising solidarity imposed on the insured, the voluntary or compulsory character of the insurance, and the auto-selection and anti-selection of those insured.

8.3 PROGRAMME EVALUATION

The growth of the research group Actuarial Science has continued in 2014 with the arrival of a new postdoc, Xiye Yang, and a new PhD student, Yuan Yue. Xiye works on the asymptotic properties of estimators which use high frequency asset price data to estimate continuous and discrete leverage effects in asset returns, and on statistical tests which detect self-excitation in jumps. In this context self-excitation means that a jump in asset prices may increase the probability of a new jump directly afterwards, a phenomenon that could help explain the clustering of jumps which is observed in certain financial time series. Yuan will work on fraud detection in insurance claims in cooperation with the PhD project's sponsor, Van Ameyde International bv. Before taking up this project in insurance she has successfully worked on models for pension funds as well, as witnessed by the prize that was awarded to her by Netspar, the Network for Studies on Pensions, Ageing and Retirement. She received this prize for the MSc thesis *Measuring the Cost of Regulatory Funding Ratio Constraints for Defined Benefit Pension Plans* which she wrote as the result of an internship at APG.

Another prize was awarded to Roger Laeven and his co-authors from the University of Tilburg, Servaas van Bilsen and Theo Nijman. They received the prestigious Australian Securities Exchange (ASX) Best Quantitative Paper Prize for their paper 'Consumption and Portfolio Choice under Loss Aversion and Endogenous Updating of the Reference Level' at the Australasian Banking and Finance Conference which was held in December in Sydney.

Two members of the group, Katrien Antonio and Michel Vellekoop, participated in a large applied research project which led to new stochastic mortality models for the Netherlands and Belgium which are now the default choice for actuarial calculations in life insurance contracts for both countries. Research was done in cooperation with the Dutch Actuarial Society (het Koninklijk Actuarieel Genootschap), the Belgian Actuarial Society (IA|BE), several representatives from Dutch insurance companies and pension funds and colleagues from the University of Tilburg.

International contacts have been strengthened during research visits at the School of Mathematics, Statistics & Operations Research at Victoria University of Wellington (Umut Can) and the Business School of Imperial College in London (Tim Boonen). In the Netherlands we have organised working group meetings for the Netspar research theme *Risk Management for Funded Pension Systems* and another successful installment of the by now traditional autumn symposium for the Dutch Association of Insurers (het Verbond van Verzekeraars). This year, the event was organized jointly with ACRM (the Amsterdam Center of Excellence in Risk and Macro Finance), the new research priority area of the faculty. The group actively participates in this center, which aims to develop more insight into recessions, financial crises and systemic risk by using integrated methodologies from different disciplines. During a successful ACRM workshop *Micro Foundations for Macro Finance* in August, more than 30 people participated in a series of structured brainstorm session, seeking the frontiers of the current methodological debate on micro models for financial intermediaries.

Strengths: New tenure tracks and a number of part-time positions have strengthened the research profile of the group. We therefore expect to continue to play an important role in the national and international research networks which study problems in actuarial science and mathematical finance.

Weaknesses: The group has many junior researchers and only a few senior researchers and there are relatively many part-time positions in the group.

Opportunities: Research in the group comprises some traditional actuarial subjects but also looks at the interplay between finance and insurance which has received increased attention since the beginning of the financial crisis. This allows the group to play a growing role in *Macro Finance Risk*, the new research priority area in the faculty.

Threats: The increased number of Master students for both Executive and regular programmes has led to an increase in the number of theses that have to be supervised by the staff. This leads to increasing pressure on the time available for research.

8.4 RESOURCES AND FUNDING

Below are several Research grants awarded to members of the group:

01/2010 – 01/2014: VIDI grant (NWO Vernieuwingsimpuls/Innovational Research Incentives Scheme) ‘Econometrics of Contagion in Insurance and Finance’, prof. dr.R.J.A. Laeven, €800.000.

01/2013 – 12/2015: Netspar theme grant: Risk Management for Funded Pension Schemes, theme coordinator: prof. M.H. Vellekoop, €500.000.

01/2012 – 01/2015: Chair ‘Verzekeringseconomie’ sponsored by Verbond van Verzekeraars (Dutch Association of Insurers), €400.000.

01/2012 – 01/2015: Sponsored PhD Research Grant, APG (Position of Zhenzhen Fan, extended).

2013: Sponsored PhD Research Grant, Van Ameyde (Position of Yuan Yue).

2013: EDEEM PhD Research Grant, jointly with Universidade Nova de Lisboa (Position of Marko Petrov).

8.5 OUTPUT

Key publications

Antonio K. & Valdez E.A. (2012). Statistical concepts of a priori and a posteriori risk classification. *Advances in Statistical Analysis* 96(2), 187-224.

Chen, A., Pelsser, A. and Vellekoop, M.H. (2011). Modeling Non-Monotone Risk Aversion Using SAHARA Utility Functions, *Journal of Economic Theory* 146(5), pp. 2075-2092.

Kaas, R., Goovaerts, M.J., Dhaene, J. & Denuit, M. (2008). *Modern actuarial risk theory — Using R*. 2nd edition. Springer.

Laeven, R.J.A. & Stadjje, M. (2013). Entropy coherent and entropy convex measures of risk, *Mathematics of Operations Research* 38, 265-293. Goovaerts, Marc J., Rob Kaas & Roger J. A. Laeven (2011). Worst case risk measurement: Back to the future?, *Insurance: Mathematics and Economics* 49, 380-392.

Plat, R. (2009). On Stochastic Mortality Modeling, *Insurance: Mathematics and Economics* 45 (3), pp. 393-404.

Publications in numbers

Output type	Classification	#
Articles	Refereed	5
	Non-refereed	0
	Professional	2
	Popular	0
Books or book chapters	Refereed	3
	Non-refereed	0
	Professional	0
	Popular	0
Conference proceedings		0
PhD theses		0
Working papers		0
Total		10

Article in journal – refereed

- Antonio, K. & Plat, R. (2014). Micro-level stochastic loss reserving for general insurance. *Scandinavian Actuarial Journal*, 2014 (7), 649-699. doi: 10.1080/03461238.2012.755938
- Aït-Sahalia, Y., Laeven, R.J.A. & Pelizzon, L. (2014). Mutual excitation in Eurozone sovereign CDS. *Journal of Econometrics*, 183 (2), 151-167. doi: 10.1016/j.jeconom.2014.05.006
- Can, S.U. (2014). A class of asymptotically self-similar stable processes with stationary increments. *Stochastic Processes and their Applications*, 124 (12), 3986-4011. doi: 10.1016/j.spa.2014.07.014
- Laeven, R.J.A. & Stadje, M. (2014). Robust portfolio choice and indifference valuation. *Mathematics of operations research*, 39 (4), 1109-1141. doi: 10.1287/moor.2014.0646
- Pigeon, M., Antonio, K. & Denuit, M. (2014). Individual loss reserving using paid-incurred data. *Insurance: Mathematics & Economics*, 58, 121-131. doi: 10.1016/j.insmatheco.2014.06.012

Article in journal – professional

- Berkum, F. van (2014). De impact van structurele veranderingen op de projectie van sterftekanssen. *Actuaris*, 21 (5), 10-13.
- Laeven, R.J.A. (2014). Kruisbestuiving tussen wetenschap en praktijk. *Actuaris*, 21 (3), 14-15.

Report – professional

- Boer, W. de, Broekhoven, H.W.M. van, Kromme, E.B.B., Schulteis, T.J.W., Vellekoop, M.H., Vries, R.W.J. de, Werker, B.J.M. & Winden, M.R. van der (2014). Prognosetafel AG2014. (extern rapport). Utrecht: Koninklijk Actuarieel Genootschap.

Book / book chapter – refereed

- Antonio, K. & Zhang, Y. (2014). Linear mixed models. In E.W. Frees, R.A. Derrig & G. Meyers (Eds.), *Predictive modeling applications in actuarial science - Vol. 1: predictive modeling techniques* (International Series on Actuarial Science) (pp. 182-216). New York: Cambridge University Press.
- Antonio, K., Shi, P. & Berkum, F. van (2014). Longitudinal data and experience rating. In A. Charpentier (Ed.), *Computational actuarial science with R* (Chapman & Hall/CRC The R Series) (pp. 511-542). Boca Raton: CRC Press.

Antonio, K. & Zhang, Y. (2014). Nonlinear mixed models. In E.W. Frees, R.A. Derrig & G. Meyers (Eds.), *Predictive modeling applications in actuarial science - Vol. 1: predictive modeling techniques* (International Series on Actuarial Science) (pp. 398-426). New York: Cambridge University Press.

Conference organiser

Antonio, K. (2014). Organizer of IA|BE Summer School on Pricing and hedging insurance liabilities in incomplete markets, September 11&12 2014, Leuven, Belgium.

Antonio, K. (2014). Member of the scientific committee of R in insurance, July 14 2014, Cass Business School, City University, London, UK.

Kaas, R. (2014). Scientific committee, conference on Insurance: Mathematics and Economics, July 2014, Shanghai, China.

Laeven, Roger J. A.: Organizer of a Mini Symposium on Insurers vs. Banks vs. Pension Funds, Koninklijke Industriële Groote Club, September 5, 2014.

Recognition: Awards and grants

Laeven, Roger J. A.: Australian Securities Exchange Research Prize 2014 (with Servaas van Bilsen and Theo E. Nijman).

Laeven, Roger J. A.: Van Ameyde-UvA PhD Research Grant: Economic and Statistical Aspects of Insurance Fraud. [EUR 150,000]

Laeven, Roger J. A.: APG-UvA PhD Research Grant: Contagion and Portfolio Choice. [EUR 103,000]

Laeven, Roger J. A.: Sponsorship Chair of Risk and Insurance by the Dutch Association of Insurers. [EUR 400,000]

Laeven, Roger J. A.: VIDI Research Grant 2009 awarded by the Netherlands Organization for Scientific Research (NWO). [EUR 800,000]

Vellekoop, M.H.: Netspar Theme Grant 2013-2016 (project leader). [EUR 500,000]

Vellekoop, M.H.: EDEEM Research Grant for PhD student Marko Petrov (jointly with Universidade Nova de Lisboa) . [\pm EUR 150,000]

Media appearance

Laeven, Roger J. A.: Interview in Eureka on Financial Contagion, January 2014.

Editorship

Doff, R. "*Solvency II Handbook: practical approaches to implementation*" RiskBooks 2014

Kaas, R.. (2014). Managing editor: *Insurance: Mathematics and Economics*.

Laeven, Roger J. A.: Dependence Modelling, Associate Editor.

Laeven, Roger J. A.: Insurance Markets and Companies: Analyses and Actuarial Computations, Associate Editor.

Laeven, Roger J. A.: Insurance: Mathematics and Economics, Associate Editor.

Keynote/invited talk

Antonio, K. (2014, July 16). Loss modelling with mixtures of Erlang distributions. Workshop on risk management in insurance, University of Barcelona, Barcelona, Spain.

Antonio, K. (2014, June 5). Reserving methods for individual claim data. Statistics seminar, University of Bologna, Bologna, Italy.

Antonio, K. (2014, February 28). Live long and prosper: actuaries and mortality forecasts. Colloquium for the department of mathematics, KU Leuven, Leuven, Belgium.

- Can, S.U. (2014, November 19). “Asymptotically Distribution-Free Goodness-of-Fit Testing for Tail Copulas.” Talk in the Stochastic Colloquium of the Institute for Mathematical Stochastics, University of Göttingen. Host: Andrea Krajina.
- Can, S.U. (2014, December 16). “Asymptotically Distribution-Free Goodness-of-Fit Testing for Tail Copulas.” Talk in the conference *Extreme Events in Finance*, organized by ESSEC Business School in Paris.
- Kaas, R. (2014, July 17). Teaching Actuarial Risk Theory --- Using R. Huangda-Mundell Lecture, at Renmin University of China, Beijing, China.
- Laeven, Roger J. A.: September 5, 2014. Verzekeraars vs. Banken vs. Pensioenfondsen: Overeenkomsten en Verschillen, Invited Speaker, Koninklijke Industriële Groote Club, Amsterdam, The Netherlands.
- Laeven, Roger J. A.: July 1-3, 2014. Asymptotically distribution-free goodness-of-fit testing for tail copulas, Invited Speaker, Institute of Mathematical Statistics-APRM Meeting 2014, Taipei, Taiwan.
- Laeven, Roger J. A.: June 23, 2014. Prudence, temperance and other virtues: The dual story, Invited Speaker, KAFEE Seminar, University of Amsterdam, The Netherlands.
- Laeven, Roger J. A.: June 15-19, 2014. Allocating systemic risk, Invited Speaker, International Workshop on Applied Probability, Antalya, Turkey.
- Laeven, Roger J. A.: June 10, 2014. Verzekeringsfraude Econom(etr)isch Belicht, Invited Speaker, ACIS Symposium, ABS University of Amsterdam, The Netherlands.
- Laeven, Roger J. A.: May 16-18, 2014. Prudence, temperance and other virtues: The dual story, Invited Speaker, Risk Theory Society, Munich, Germany.
- Vellekoop, M.H. (2014, Jan) Optimal investment and consumption when allowing terminal debts. Invited Talk, Universidade Nova de Lisboa, Lisbon, Portugal.
- Vellekoop, M.H. (2014, June) Wiskunde als hobby en als werk. Invited Talk, Lustrum-symposium Toegepaste Wiskunde, Enschede, the Netherlands.
- Vellekoop, M.H. (2014, Oct) Modelling long term interest rates for pension funds, Invited Lecture Actuarial and Risk Measures Workshop, Athens, Greece.

Other lectures

- Antonio, K. (2014, November 27). The AG 2014 mortality projection model: a bridge between actuarial theory and practice. Brown bag seminar, KU Leuven, Leuven, Belgium.
- Antonio, K. (2014, April 3). Individual loss reserving using paid-incurred data. Brown bag seminar, KU Leuven, Leuven, Belgium.
- Boonen, T. (2014, May 29th). Bargaining for Over-The-Counter insurance risk redistributions. Conference on actuarial science and finance, Samos.
- Boonen, T. (2014, July 11th). Intergenerational Risk Sharing within a closing Pension Fund. IME Workshop, Shanghai.
- Boonen, T. (2014, August 4th). Risk redistribution with distortion risk measures. ARIA annual meeting Seattle.
- Boonen, T. (2014, September 17th). Intergenerational Risk Sharing within a closing Pension Fund. EGRIE annual meeting, St. Gallen.
- Boonen, T. (2014, November 28th) Solvency II Solvency Capital Requirement based on Expected Shortfall. Netspar Pension Day, Utrecht.
- Fan, Zhenzhen. (2014, Jan). Excitation asymmetry the Dominant Excitor Bias in international portfolio choice. 13th Winter School of Mathematical Finance, Lunteren, the Netherlands.
- Fan, Zhenzhen. (2014, July). Excitation asymmetry the Dominant Excitor Bias in international portfolio choice. The 18th International Congress on Insurance: Mathematics & Economics, Shanghai, China.
- Fan, Zhenzhen. (2014, Dec). Excitation asymmetry the Dominant Excitor Bias in international portfolio choice. The 2014 Quantitative Methods in Finance Conference, Sydney, Australia.
- Kaas, R. (2014, July 14). Teaching Actuarial Risk Theory --- Using R. Zhejiang Gongshang University, Hangzhou, China.

- De Kort J. (2014, June 3) Optimal investment under stochastic mortality and stochastic interest rates. Talk at the Bachelier World Congress, Brussels.
- De Kort, J. (2014, January 20) Optimal investment under uncertain lifetime with stochastic mortality and stochastic interest rates. Talk at the Winter School Mathematical Finance, Lunteren.
- Laeven, Roger J. A.: July 10-12, 2014. Robust portfolio choice and indifference valuation, 18th International IME Conference, Shanghai, China.
- Laeven, Roger J. A.: June 2-6, 2014. Robust portfolio choice and indifference valuation, Bachelier Finance Society Meeting 2014, Brussels, Belgium.
- Yang, X. : Aug 2014. Testing for Self-Excitation in Jumps. Econometric Society European Meeting (ESEM), Toulouse, France.
- Yang, X. : July 2014. Testing for Self-Excitation in Jumps. Econometric Society Australasian Meeting (ESAM), Hobart, Australia.
- Yang, X. : June 2014. Testing for Self-Excitation in Jumps. China Meeting of the Econometric Society (CMES), Xiamen, China.
- Yang, X. : Dec 2014. Specification Test for Option Pricing Models with a Delta-Hedging Interpretation. European Winter Meeting of the Econometric Society, Spain.
- Yang, X. : Dec 2014. Specification Test for Option Pricing Models with a Delta-Hedging Interpretation. Simposio de la Asociacion Espanola de Economia (SAEe), Spain.
- Vellekoop, M.H. (2014, Apr) Toekomstperspectief voor aanvullend pensioen: Doorontwikkeling van premieovereenkomsten, Discussie. Netspar Anniversary Meeting 2014.
- Vellekoop, M.H. (2014, July) Term Structures with Converging Forward rates: A variational approach. 18th International IME Conference, Shanghai, China.
- Vellekoop, M.H. (2014, Nov) Term Structures with Converging Forward rates. Netspar Pension Day, Utrecht.

Membership academies

- Antonio, K. (2014). Member of the PhD committee of Ying Yang (promoter: prof. Anja de Waegenaere & prof. Bertrand Melenberg), Tilburg University, The Netherlands.
- Antonio, K. (2014). Member of the PhD committee of Mathieu Pigeon (promoter: prof. Michel Denuit), Université Catholique de Louvain-la-Neuve, Belgium.
- Boonen, T. (2014). Netspar Research Fellow.
- Laeven, Roger J. A.: PhD Committee of Yanbin Shen, Technical University of Delft, 2014. (Promoters: prof. dr.ir. C.W. Oosterlee, dr. J.A.M. van der Weide)
- Laeven, Roger J. A.: Academisch Gesprekspartner van de Ministeriële Commissie Verzekeraars, najaar 2014.
- Vellekoop, M.H. (2014). Netspar Research Fellow.
- Vellekoop, M.H.: (2014, Jan) PhD Committee of Tim Boonen, Universiteit van Tilburg. (Promotores: prof. dr. A. De Waegenaere and prof. dr. H. Norde)
- Vellekoop, M.H.: (2014, Feb) PhD Committee of Shashi Jain, Technische Universiteit Delft . (Promotor: prof. dr. C.W. Oosterlee)
- Vellekoop, M.H.: (2014, May) PhD Committee of Ove Göttsche, Universiteit Twente. (Promotores: prof. dr.ir. M.H. Vellekoop, prof. dr. A. Bagchi)
- Vellekoop, M.H.: (2014, May) PhD Committee of Xiaoyu Shen, Vrije Universiteit. (Promotor: prof. dr. A.C.F. Vorst)

Relevant position

- Antonio, K. (2014). Referee for: Insurance: Mathematics and Economics, ASTIN Bulletin, Scandinavian Actuarial Journal.
- Antonio, K. (2014). Member of the Werkgroep Prognosetafels, Koninklijk Actuarieel Genootschap, Utrecht, The Netherlands.
- Antonio, K. (2014). Lead researcher Werkgroep Sterfte, Institute of Actuaries in Belgium, Brussels, Belgium.

- Boonen, T. (2013). Referee for: European Journal of Operational Research (2), ASTIN Bulletin, Geneva papers on risk and insurance: Papers & Practice.
- Laeven, Roger J. A.: Visiting Professor at the Bendheim Center for Finance, Princeton University, US, August 2014.
- Laeven, Roger J. A.: Co-Director of the Research Focal Area of Risk and Macro Finance at the University of Amsterdam.
- Laeven, Roger J. A.: Advisor and Co-Director of the Multivariate Risk Modeling Group, Eurandom, the European Institute for Statistics, Probability, Stochastic Operations Research and Its Applications, Eindhoven, The Netherlands.
- Laeven, Roger J. A.: Fellow and Director of the Insurance Supervision Research Program of the Amsterdam Centre for Insurance Studies (ACIS).
- Laeven, Roger J. A.: Extramural Fellow of CentER.
- Laeven, Roger J. A.: Fellow of the cluster Stochastics --- Theoretical and Applied Research (STAR).
- Laeven, Roger J. A.: Fellow of the Network for Studies on Pensions, Aging and Retirement (Netspar).
- Vellekoop, M.H. (2014). Member of the Werkgroep Prognose Tafels, Koninklijk Actuarieel Genootschap, Utrecht, The Netherlands.

9. MINT - MACRO AND INTERNATIONAL ECONOMICS

Programme director: Prof. dr. F.J.G.M. Klaassen
 METIS-code: uva/feb/ase/mint
 JEL-classification: E, F, H
 Starting date: 2001
 Website: www.aseri.uva.nl/mint
 VSNU-scores 2001-2007: Quality: 4, Productivity: 4, Relevance: 5,
 Viability: 4.5

9.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Fundin g</i>
Beetsma, R.	prof. dr.	hgl	0,50	0,25	0,25	1
Beetsma, R.	prof. dr.	hgl	-	0,25	0,25	3
Bonthuis, B.	msc	phd	0,23	0,47	-	3
Bonthuis, B.	msc	guest	-	0,00	0,00	1
Chan, S.	msc	phd	-	0,27	0,80	1
Chen, D.	msc	phd	0,27	0,80	0,80	3
Ciurila, N.	msc	phd	-	-	0,27	1
Ewijk, C. van	prof. dr.	hgl	0,11	0,14	0,08	1
Ewijk, C. van	prof. dr.	hgl	-	-	0,05	2
Ewijk, C. van	prof. dr.	hgl	-	-	0,30	3
Furtuna, O.	msc	phd	-	-	0,27	1
Giuliodori, M.	dr.	uhd	0,50	-	-	1
Giuliodori, M.	prof. dr.	hgl	-	0,50	0,50	1
Gornicka, L.	msc	phd	0,27	0,80	0,60	2
Haan, W.J. den	prof. dr.	hgl	0,00	-	-	2
Hanson, J.	msc	guest	-	0,00	0,00	1
Hoogduin, L.	prof. dr.	hgl	0,00	0,00	0,00	1
Jakucyonite, E.	msc	phd	-	-	0,27	1
Jager, H.	prof. dr.	hgl	0,18	-	-	1
Jager, H.	prof. dr.	guest	-	0,00	0,00	1
Klaassen, F.J.G.M.	prof. dr.	hgl	0,50	0,50	0,50	1
Kwaak, C. van der	msc	phd	0,27	-	-	1
Kwaak, C. van der	msc	phd	-	0,80	0,80	2
Leefmans, N.	drs.	docent	0,00	0,00	0,00	1
Lekniute, Z.	msc	guest	0,00	0,00	0,00	1
Lorié, J.A.	dr.	guest	0,00	0,00	0,00	1
Maurik, R. van	msc	phd	-	0,27	0,80	3
Mavromatis, K.	dr.	ud	0,21	0,50	0,50	1
Micevska Scharf, M.	dr.	postdoc	-	0,77	0,80	2
Omeno Sanchez, A.I.	dr.	postdoc	0,33	-	-	2
Parlevliet, J.	msc	guest	-	-	0,00	1
Pinter, J.	msc	guest	-	0,00	0,00	1

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Romp, W.E.	dr.	postdoc	0,27	-	-	3
Romp, W.E.	dr.	ud	0,13	-	-	3
Romp, W.E.	dr.	ud	0,10	0,50	0,50	1
Sedláček, P.	dr.	postdoc	0,58	-	-	3
Singh, S.	msc	phd	-	0,27	0,80	1
Stoltenberg, C.A.	dr.	ud	0,50	0,50	0,50	1
Teulings, C.N.	prof dr	hgl	0,10	0,10	0,10	1
Teulings, R.	msc	phd	-	0,13	0,80	1
Vestraeten, D.	dr.	ud	0,00	0,08	0,24	1
Vermeylen, K.	dr.	ud	0,00	0,00	-	1
Vos, S.J.	drs.	guest	0,00	0,00	0,00	1
Westerhout, E.	dr.	guest	0,00	-	-	1
Westerhout, E.	dr.	ud	-	0,08	0,25	1
Wijnbergen, S.J.G.	prof dr	hgl	0,45	0,49	0,50	1
Willems, T.	drs.	phd	0,47	-	-	1
Wind, J. de	drs.	phd	0,00	-	-	1
Zaheer, S.	drs.	guest	0,00	0,00	-	1
Zhao, L.	msc.	phd	0,27	0,80	0,80	3
Total 1st flow of funds			3,89	4,31	7,13	
Total 2nd flow of funds			0,60	2,37	2,25	
Total 3rd flow of funds			1,75	2,59	2,95	
Total 1st f.o.f. excl. Ph.D.'s			3,15	3,64	3,92	
Total 1st-3rd flow of funds			6,24	9,27	12,33	
Ph.D. students			1,78	4,61	7,01	

9.2 PROGRAMME DESIGN

Objective

The programme uses empirical and theoretical methods to analyse important economic issues in the areas of macroeconomics and international economics. Special emphasis is given to the evaluation of existing fiscal and monetary policies and the question how these policies can be improved upon. Dissemination of the results takes place mainly via international, refereed scientific journals, but also via more policy-oriented outlets.

Motivation

The economic growth that a country experiences not only has direct effects on the available resources, it can also have important indirect effects through, for example, the stability of the social and political environment. Similarly, the business cycle fluctuations countries face can have far-reaching consequences to many, especially if these fluctuations mainly fall on subgroups within the population. It is therefore crucial to thoroughly understand the characteristics of economic developments, the factors behind them, and to what extent and how governments can affect these developments. The recent international sovereign debt crisis and discussions on the sustainability of pension systems exemplify this.

Themes

Major international economic developments and policy debates generate a continuous stream of research ideas for our group. The resulting projects are often intertwined, but we choose to categorize them into the following (interrelated) themes. Only a selection of all projects will be discussed.

Fiscal policy and sovereign debt

Fiscal policy is a crucial aspect of macroeconomics. Given that government expenditures are a substantial fraction of GDP, they play an important role in welfare redistribution, and financing these expenditures through debt and taxes is likely to have important effects on, for example, financial markets, labour force participation, and investment. Roel Beetsma, Oana Furtuna, and Massimo Giuliadori find that fiscal consolidations lower consumer confidence. If confidence is a concern and consolidation is unavoidable, spending-based measures seem preferable. Slump periods are not necessarily bad moments for such measures. Coen Teulings studies optimal fiscal policy in the aftermath of a financial crisis. Fiscal policy is a matter of timing: when to do the inevitable austerity when a crisis hits the economy. Roel Beetsma and Kostas Mavromatis study debt repayment guarantees in a union of countries. They explore the “blue-red” Eurobonds proposal, under which blue debt is guaranteed, while red debt is not guaranteed. They find that only a suitably chosen limited guarantee induces the government to reduce debt and raises union welfare. Christiaan van der Kwaak and Sweder van Wijnbergen study the intermingling of financial crises and sovereign default risk. The current Eurozone crisis shows the interconnection between problems in the financial sector, which can start a recession, and fiscal problems, which are exacerbated by a recession and may complicate financial bail outs necessary to resolve the initial financial sector problems.

Financial fragility and macroeconomics

This theme was also stimulated by the recent crises, showing the interaction between banking distress, fiscal policy to mitigate financial crisis, public debt, sovereign risk, international spill overs, and banking supervision. Stephanie Chan and Sweder van Wijnbergen study contingent convertible capital (CoCos), which are debt instruments issued by banks that can be written off or converted to equity when the issuer’s equity ratio falls below a certain level. Contrary to popular opinion, they argue that CoCo conversion may trigger depositor bank runs. This is important, because Basel III Additional Tier 1 capital is comprised mainly of instruments that sound like CoCos. Lucyna Gornicka and Sweder van Wijnbergen examine the interconnectedness of financial institutions. While bringing several benefits, it makes financial institutions more sensitive to the same shocks, and the global financial system as a whole more fragile. They find that early capital injections and liquidity provision reduce negative effects of a system-wide shock the most.

Monetary economics and policy

Monetary policy is used throughout the world to accomplish important macroeconomic objectives such as price stability, exchange rate stability, and/or full employment. In one project Christian Stoltenberg has studied monetary policy in the United States. Since the mid-1980s the interest-rate policy of the Federal Reserve System has been more aggressive in fighting inflation than in the past. He explains this with a decreasing role of cash in transactions. Kostas Mavromatis has investigated how one country should react when monetary policy of another country changes. Indeed, a time-invariant interest rate rule is suboptimal for the home central bank because of international spill-overs.

Foreign exchange market

The foreign exchange market is the largest financial market in the world. Many countries have managed or fixed exchange rates. Speculative attacks on them can have serious economic and societal consequences. Franc Klaassen and Kostas Mavromatis study exchange market pressure, that is, the pressure on a currency to depreciate, and the consequences for monetary policy. Dirk Veestraeten has examined currency option pricing within a credible target zone arrangement, for which interest again is growing when looking at the recent experiences of Switzerland and China, for instance. The traditional approach of Garman and Kohlhagen substantially overestimates the price of currency options, which renders this type of insurance more expensive and may lead to lower hedging efforts.

Pensions and macroeconomic developments

Research projects of Roel Beetsma, Boele Bonthuis, Damiaan Chen, Nicoleta Ciurila, Casper van Ewijk, Ron van Maurik, Ward Romp, Siert Jan Vos, and Ed Westerhout focus on the optimal design of pensions systems, as is heavily debated at present, and their sustainability and the consequences of changing them. For example, Damiaan Chen, Roel Beetsma, and Ward Romp focus on risk-sharing between generations. Risks are absorbed by the collective pension fund through funding rate fluctuations, and by public debt when retirement benefits are taxed. Their paper is about optimal intergenerational risk-sharing using these two channels. Casper van Ewijk investigates the relation between pension wealth and GDP and concludes that funded pensions contribute to economic growth. In particular, funded pensions create deeper capital markets and make it easier for firm to finance their investment.

Labour economics

Coen Teulings has worked on an extension of his *Econometrica* paper. An implication of the model in that paper is that the return to seniority is higher in industries with a lot of firm-specific human capital. He derives this implication in his new paper and provides evidence on it. Maja Micevska Scharf and Casper van Ewijk have worked on the effects of Social Security Contributions (SSCs) on earnings, using large administrative panel data in France, Germany, the Netherlands and the UK that have never been used in a cross-country analysis. This is particularly relevant now that many countries have increased, or are considering increasing, SSCs to deal with large budget deficits.

9.3 PROGRAMME EVALUATION

In 2014 MInt published 13 articles in international refereed journals, including the *Econometrica* article by Coen Teulings and co-authors, and there are 5 of such publications forthcoming. The paper by Stephanie Chan and Sweder van Wijnbergen on CoCos, as discussed earlier, was discussed on Bloomberg, presented at the IMF, and listed on SSRN's Top Ten download list several times, reflecting the importance and topicality of their work. The group was very successful at the job market. Klaas Knot (President of the Dutch Central Bank, member of the ECB Governing Council, and a Governor of the IMF) and Alex Clymo (LSE) agreed to join MInt, and we received many applications from good international candidates to our tenure track vacancy (leading to the hiring of Marcelo Pedroni from the University of Minnesota).

The students of the group have also done well. Joris de Wind (supervised by Wouter den Haan) graduated cum laude. Lucyna Gornicka visited the University of Pompeu Fabra in Barcelona to work with prof. Xavier Freixas, and she also had a PhD Traineeship at the European Central Bank.

The year 2014 experienced some changes in the composition of the group, which grew as a whole. Several new students started their PhD research: Nicoleta Ciurila, Oana Furtuna, and Egle Jakucionyte joined from the Tinbergen Institute MPhil program, and Jante Parlevliet from the Dutch Central Bank. Lex Hoogduin moved from MInt to Groningen. MInt members are currently in contact with external partners to attract additional funding to further strengthen the group. We continue to stimulate the coherence of the group by seminars, joint lunches, drinks, and other activities.

The visibility of the group and the interaction with the academic community have been further enhanced through joint papers, numerous external presentations, conference participations, contacts with renowned universities (including the University of Chicago, London School of Economics, New York University, and University of Oxford), and participation in networks such as Netspar (Casper van Ewijk as director, and Roel Beetsma as chairman of the editorial board) and MoPAct (multi-country EU project on ageing, where Casper van Ewijk is member of the Steering Committee). We have a seminar series with well-known speakers, which is organised jointly with the VU University Amsterdam and funded by the Tinbergen Institute. The programme is being noticed by the outside

world, for instance reflected by invitations for presentations, contributions to research volumes, referee activities, and the aforementioned discussion at Bloomberg.

There are intensive contacts with policy institutions via visitorships and joint research papers (Bank of Canada, Bank of England, BIS, Central Bank of Ireland, Deutsche Bundesbank, ECB, European Commission, Federal Reserve Bank of Minneapolis, German Ministry of Finance, IMF, OECD, World Bank, WTO, among others), via Preadviezen for the Koninklijke Vereniging voor de Staathuishoudkunde, via joint positions (Maja Micevska Scharf and Ed Westerhout are also affiliated to the CPB), consultancy work (ECB), seminars, teaching (by employees of the Dutch Central Bank), and memberships of several advisory committees for the Dutch government, such as the Social and Economic Council of the Netherlands (SER). There are also direct contacts with several Dutch ministers and members of parliament, also in parliamentary hearings, on topics such as pension reform, financial sector reform, and general macroeconomic policy.

MInt has collaborations with the business sector, such as APG, Atradius, BNG Vermogensbeheer, Energie Beheer Nederland (EBN), MN, and SEO Economisch Onderzoek. And MInt takes part in public debates on issues such as health care, pension reform and reform of the banking sector. Particularly Roel Beetsma, Casper van Ewijk, Coen Teulings, and Sweder van Wijnbergen are frequently asked by radio and television channels to comment on such topics, and they regularly write for opinion pages of quality newspapers. Another sign of the societal relevance is that many undergraduate students take our courses and write their theses at MInt. Those students also offer ways to disseminate insights from research on key (inter)national events and debates to society.

The 2009 QANU Research Review assessed the program over the 2001-2007 period (under its previous name “The Transformation of Europe”). The results of this research visitation were: Quality 4, Productivity 4, Relevance 5, and Viability 4.5. All productivity indicators were found to be highly satisfactory, with the possible exception of student numbers which had declined somewhat, despite a high number of theses defended. We can now say that after the review period we have continued in line with our strong points, and our efforts to recruit students through the Tinbergen Institute as well as external funding have paid off.

Strengths: Good and relevant productivity and good (inter)national reputation. Numerous contacts with policy makers, businesses, media, and so on. Solid funding base, not only because we serve many undergraduate students, but also because of our connections to the non-academic world. Coherent group. Good seminar series, jointly with the VU.

Weaknesses: We experience severe competition in the job market, especially from financial and policy institutions. Because of good outside options, it is easy to lose good researchers and not always easy to convince excellent undergraduate students to pursue a PhD.

Opportunities: We are trying to increase external funding so as to enlarge the group. Our expanding contacts with the financial industry generate opportunities in this regard. We have contacts with many BSc and MSc students and alumni, which creates opportunities for the research group, for example through their contacts at policy institutions and businesses. We wish to further exploit our international contacts.

Threats: Financial distress at FEB and the resulting faculty reorganisation with vacancy stop have substantially increased the teaching load and administrative duties for MInt researchers for a number of years, including 2014, resulting in less actual research time. This is particularly relevant due to the number of undergraduate students that we serve. The good news is that the situation has improved during 2014.

9.4 RESOURCES AND FUNDING

To finance our conferences, traveling, seminars, visitors, and so on, we use first-stream resources from the government, funds from the ASE Research Institute, the Tinbergen Institute, and the following other resources. The successful cooperation between Roel Beetsma and MN, one of the largest pension administrators and pension wealth managers in the Netherlands, has continued. The company sponsors the MN Chair in Pension Economics and two PhD students. Moreover, Casper van Ewijk has a grant from Netspar for their pension research. Casper van Ewijk uses a European (NWO-ORA) subsidy on social security contributions and wages (postdoc). His own research time is also to a large extent sponsored by Netspar. Risk and Macro Finance, the FEB acclaimed research focal area with Sweder van Wijnbergen as one of the directors, will finance the postdoc position of Alex Clymo. Sweder van Wijnbergen also supervises several PhD students who are financed externally: Lin Zhao has a grant from EBN, a Dutch holding company for national gas interests of the Dutch state, and the Duisenberg School of Finance; Christiaan van der Kwaak is funded by a three-year NWO Research Talent scholarship. Lucyna Gornicka has used the research grant from the National Bank of Poland. The group has applied for EU funding for 2 PhD positions within the European Training Network (ETN) part of the EU Horizon 2020 program, as part of a consortium of well-known European universities, policy institutions and businesses. Finally, the cooperation with Atradius Credit Insurance will hopefully lead to funding for a postdoc.

9.5 OUTPUT

Key publications

- Buhai, S.I., Portela, M.A. Teulings, C.N. & Van Vuuren, A. (2014). Returns to tenure or seniority? *Econometrica*, 82, 705-730.
- Covas, F. & Den Haan, W.J. (2011). The cyclical behavior of debt and equity finance. *American Economic Review* 101, 877-899.
- Beetsma, R.M.W.J. & Giuliadori, M. (2010). The Macroeconomic Costs and Benefits of the EMU and other Monetary Unions: An Overview of Recent Research, *Journal of Economic Literature* 48, 603-641.
- Beetsma, R.M.W.J. & Giuliadori, M. (2011). The Effects of Government Spending Shocks: Review and Estimates for the EU. *Economic Journal* 121, F4-32.
- Daniëls, T.R., Jager, H. & Klaassen, F.J.G.M. (2011). Currency Crises with the Threat of an Interest Rate Defence. *Journal of International Economics* 85, 14-24.
- Schabert, A. & Van Wijnbergen, S.J.G. (2014). Sovereign default and the stability of inflation targeting regimes. *IMF Economic Review*, IMF Econ Rev, 62, 261-287.
- Stoltenberg, C.A. (2013). Policy Announcements and Welfare. *Economic Journal* 123, 962-997.

Forthcoming

- Beetsma, R.M.W.J., Giuliadori, M., Jong, F.C.J.M. de & Widijanto, D. (in press). Price effects of sovereign debt auctions in the Euro-zone: The role of the crisis. *Journal of Financial Intermediation*. doi: 10.1016/j.jfi.2014.11.004
- Chen, D.H.J., Beetsma, R.M.W.J., Ponds, E.H.M. & Romp, W.E. (in press). Intergenerational risk-sharing through funded pensions and public debt. *Journal of Pension Economics and Finance*. doi: 10.1017/S1474747214000365
- Gautier, P.A. & Teulings, C.N. (in press). Sorting and the output loss due to search frictions. *Journal of the European Economic Association*.
- Stoltenberg, C.A. & Kriwoluzky, A. (2015). Monetary Policy and the Transaction Role of Money in the United States. *Economic Journal*.
- Stoltenberg, C.A. & Kriwoluzky, A. (2015). Nested Models and Model Uncertainty. *The Scandinavian Journal of Economics*.

- Stoltenberg, C.A. & Kriwoluzky, A. (in press). Nested models and model uncertainty. *The Scandinavian Journal of Economics*.
- Van Wijnbergen, S.J.G. & Willems, T. (2015). Optimal Learning on Climate Change: Why Climate Skeptics Should Reduce Emissions. *Journal of Environmental Economics and Management*.
- Van Wijnbergen, S.J.G. & Willems, T. (2014). Learning Dynamics and Support for Economic Reforms: Why Good News can be Bad. *The World Bank Economic Review*.
- Veestraeten, D. (2015). A recursion formula for the moments of the first-passage time of the Ornstein-Uhlenbeck process. *Journal of Applied Probability*.

Publications in numbers

Output type	Classification	#
Articles	Refereed	15
	Non-refereed	2
	Professional	8
	Popular	4
Books or book chapters	Refereed	2
	Non-refereed	2
	Professional	0
	Popular	1
Conference proceedings		1
PhD theses		1
Working papers		6
Total		46

Article in journal - refereed

- Buhai, I.S. & Teulings, C.N. (2014). Tenure Profiles and Efficient Separation in a Stochastic Productivity Model. *Journal of Business & Economic Statistics*, 32 (2), 245-258. doi: 10.1080/07350015.2013.866568
- Beetsma, R. & Mavromatis, K. (2014). An analysis of eurobonds. *Journal of international Money and Finance*, 45, 91-111. doi: 10.1016/j.jimonfin.2014.03.002
- Beetsma, R., Lekniute, Z. & Ponds, E. (2014). Reforming American public-sector pension plans: truths and consequences. *Rotman International Journal of Pension Management*, 7 (2), 66-74. doi: 10.3138/ripjm.7.2.66
- Bikker, J.A., Knaap, T. & Romp, W.E. (2014). Measuring and explaining implicit risk sharing in defined benefit pension funds. *Applied Economics*, 46 (17), 1996-2009. doi: 10.1080/00036846.2014.889804
- Bonenkamp, J. & Westerhout, E. (2014). Intergenerational risk sharing and endogenous labour supply within funded pension schemes. *Economica*, 81 (323), 566-592. doi: 10.1111/ecca.12092
- Buhai, I.S., Portela, M.A., Teulings, C.N. & Vuuren, A. van (2014). Returns to tenure or seniority? *Econometrica*, 82 (2), 705-730. doi: 10.3982/ECTA8688
- Cai, X., Gautier, P.A., Teulings, C.N. & Watanabe, M. (2014). Collective versus decentralized wage bargaining and the efficient allocation of resources. *Labour Economics*, 26, 34-42. doi: 10.1016/j.labeco.2013.11.003
- Draper, N., Ewijk, C. van, Lever, M. & Mehlkopf, R. (2014). Stochastic generational accounting applied to reforms of Dutch occupational pensions. *De Economist*, 162 (3), 287-307. doi: 10.1007/s10645-014-9232-x
- Kwaak, C.G.F. van der & Wijnbergen, S.J.G. van (2014). Financial fragility, sovereign default risk and the limits to commercial bank bail-outs. *Journal of Economic Dynamics & Control*, 43, 218-240. doi: 10.1016/j.jedc.2014.03.011

- Micevska Scharf, M. & Rahut, D.B. (2014). Nonfarm employment and rural welfare: evidence from the Himalayas. *American Journal of Agricultural Economics*, 96 (4), 1183-1197. doi: 10.1093/ajae/aa040
- Schabert, A. & Wijnbergen, S.J.G. van (2014). Sovereign default and the stability of inflation targeting regimes. *IMF Economic Review*, 62 (2), 261-287. doi: 10.1057/imfer.2014.8
- Teulings, C.N. & Zubanov, N. (2014). Is economic recovery a myth? Robust estimation of impulse responses. *Journal of Applied Econometrics*, 29 (3), 497-514. doi: 10.1002/jae.2333
- Teulings, C.N. (2014). Unemployment and house price crises: lessons for fiscal policy from the Dutch recession. *IZA Journal of European Labor Studies*, 3, 20. doi: 10.1186/2193-9012-3-20
- Veestraeten, D. (2014). On transition and first hitting time densities and moments of the Ornstein-Uhlenbeck process. *Stochastic Models*, 30 (2), 143-161. doi: 10.1080/15326349.2014.900376
- Wijnbergen, S.J.G. van & Willems, T. (2015). Learning dynamics and support for economic reforms: Why good news can be bad. *The World Bank Economic Review*. doi: 10.1093/wber/lhu005

Article in journal – non-refereed

- Besseling, P. & Ewijk, C. van (2014). Toekomst voor de zorg in viervoud. *TPEdigitaal*, 8 (2), 31-48.
- Teulings, C. (2014). Wat kunnen we leren van de Nederlandse recessie? *TPEdigitaal*, 8 (3), 8-28.

Article in journal – professional

- Beetsma, R. & Ponds, E. (2014). Opsplitsing pensioenfondsen inefficiënt. *Economisch-Statistische Berichten*, 99 (4681), 173-174.
- Chan, S. & Wijnbergen, S. van (2014). CoCo's en het risico van een nieuwe crisis. *Economisch-Statistische Berichten*, 99 (4695), 612-615.
- Ewijk, C. van (2014). Funded pensions can strengthen European economic growth. *Pension Background*, 2014 (2), 14-19.
- Ewijk, C. van (2014). The promise of occupational pensions: lessons from the Netherlands. *Boao Review*, 7, 52-54.
- Homar, T., Kwaak, C. van der & Wijnbergen, S. van (2013). Bankherkapitalisatie schept ruimte voor stimuleringsbeleid. *Economisch-Statistische Berichten*, 98 (4664&4665), 422-425.
- Klaassen, F.J.G.M. & Magnus, J.R. (2014). Analyzing Wimbledon. *ITF Coaching & Sport Science Review*, 22 (62), 6-7. doi: en.coaching.itftennis.com/media/176908/176908.pdf
- Lukkezen, J. & Teulings, C. (2013). Het pad naar begrotingsevenwicht. *Economisch-Statistische Berichten*, 98 (4664/4665), 426-429.
- Wijnbergen, S. van (2014). Witteveen, het IMF en de mondiale liquiditeitscrisis van de zeventiger jaren. *Economisch-Statistische Berichten*, 99 (4685), 302.

Article in magazine or newspaper – popular scientific

- Beetsma, R.M.W.J. & Wijnbergen, S.J.G. van (2014, Maart 11). Discussie over doorsneepremie misleidend. *Het Financieele Dagblad*.
- Beetsma, R.M.W.J. & Gradus, R.H.J.M. (.). Valt mee, die ongelijkheid in inkomen en vermogen. *NRC Handelsblad*.
- Pinter, J.M.A. (2014, Juni 27). Le taux négatif n'incitera pas davantage au crédit. *Le Monde*, pp. 6.
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Internet article - professional

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10. HUMAN CAPITAL

Subprogrammes:	TIER & AIID
Programme director:	Prof. dr. E. Plug
METIS code:	uva/feb/ase/hum
JEL-classification:	I, J, L
Starting date:	2001
Website:	www.aseri.uva.nl/hum
VSNU-scores 2001-2007:	Quality: 4.5, Productivity: 4, Relevance: 5, Viability: 4,5

10.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Albrecht, S.	msc	phd	-	-	0,17	1
Buser, T.	msc	phd	0,53	-	-	1
Buser, T.	dr.	oz	0,27	0,47	-	1
Geijtenbeek, L.	msc	phd	0,22	0,67	0,42	1
Hartog, J.	prof. dr.	guest	0,00	0,00	0,00	1
Kastoryano, S.P.	msc	phd	0,53	-	-	1
Kastoryano, S.P.	dr.	guest	0,00	-	-	1
Ketel, N.	msc	guest	-	-	0,00	1
Ketel, N.	msc	phd	0,80	0,27	-	1
Mazza, J.	msc	guest	0,00	-	-	1
Oosterbeek, H.	prof. dr.	hgl	0,56	0,68	0,62	1
Peter, N.	msc	guest	-	-	0,00	1
Peter, N.	msc	phd	0,60	0,42	0,20	1
Plug, E.J.S.	dr.	hgl	0,65	0,65	0,60	1
Praag, B.M.S. van	prof. dr.	guest	0,00	0,00	0,00	1
Rosero Moncayo, J.A.	msc	phd	0,53	-	-	1
Rosero Moncayo, J.A.	dr.	guest	0,00	0,00	-	1
Welie, E.A.A.M. van	dr.	guest	0,00	0,00	-	1
Ziegler, L.	msc	phd	-	0,13	0,40	1
<u>Subprogramme TIER</u>						
Booij, A.S.	dr.	oz	-	0,12	-	1
Booij, A.S.	dr	oz	0,80	0,70	0,80	2
Cornelisse, I.	dr	oz	-	-	0,42	2
Haan, F. de	msc	phd	-	-	0,40	2
Haan, M. de	msc	phd	0,53	-	-	2
Hidalgo, D.	drs	phd	0,80	0,78	-	2
Huang, J.	msc	guest	0,00	-	-	2
Linde, J.	dr	oz	0,80	0,63	-	2
Maassen van den Brink, H.	prof. dr.	hgl	0,53	0,53	0,53	2
Ruijs, N.	msc	phd	0,40	0,74	0,43	2
Ruijs, N.	dr	guest	-	-	0,00	1

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
<u>Subprogramme AIID</u>						
Gaag, J. van der	prof. dr.	hgl	0,40	0,05	-	3
Gaag, J. van der	prof. dr.	guest	-	0,00	0,00	1
Pradhan, M.P.	prof. dr.	hgl	0,15	0,19	0,25	1
Total 1st flow of funds			4,84	3,60	2,66	
Total 2nd flow of funds			3,86	3,38	2,58	
Total 3rd flow of funds			0,40	0,05	0,00	
Total 1st f.o.f. excl. Ph.D.'s			1,63	2,11	1,47	
Total all flows of funds			9,10	7,03	5,24	
Ph.D. students			4,94	3,01	2,02	

10.2 PROGRAMME DESIGN

Objective

The program is an empirically driven research program which relies on microeconomic techniques to study important microeconomic issues in the areas of labour economics, economics of education, family economics, health economics and development economics. Particular emphasis is paid to the identification of causal mechanisms, the analysis of existing policies and policy changes on a variety of microeconomic outcomes, and the design and implementation of experiments to carefully test predictions of microeconomic/behavioral theories and regularities evaluate policy interventions and their microeconomic consequences.

Motivation

Microeconomic models play an important role in understanding individual behavior in many economic areas; that is, predictions taken from microeconomic theories are often used to explain and understand individual economic circumstances, how differences between individuals can possibly account for differences in economic outcomes, and to what extent policies can influence individual economic circumstances. But predictions are not easily verified and possibly false, with huge consequences for (the development of) microeconomic theory, policy and policy design. It is therefore crucial to test predictions of individual economic behavior with careful empirical work, using the most rigorous methods in applied microeconomics.

Themes

Labour economics

The human capital group is originally a labour orientated economics program which investigates various aspects of labour economics, including the determinants of labour supply and demand, personnel economics, distribution of income, labour market policies, the intersection between labour markets and demographics. Over the years, however, the labour economics program has expanded and today it is less clear what is exactly covered by labour economics and what is not. There is substantial overlap with the other themes in the human capital group.

The labour economic topics that are currently addressed in the human capital group include the genetic and environmental origins of economic inequality (Erik Plug, Lennart Ziegler), team composition and team performance (Hessel Oosterbeek), occupational segregation and sexual minorities (Erik Plug), the labour market of medical specialists (Nadine Ketel, Hessel Oosterbeek), fertility and labour supply (Erik Plug), the labour earnings of transgender workers (Lydia Geijtenbeek, Erik Plug), social networks and labour market outcomes (Erik Plug, Lennart Ziegler).

Economics of Education

The economics of education program is the most active and prominent research area. In it, we study a variety of aspects of the intersection between economics and education: human capital formation, human capital returns, school choice, education and markets, inputs and education production, evaluations of education reforms.

Recent educational topics analyzed in the human capital group include the long-term consequences of class size, and why does it work (Hessel Oosterbeek), the role of school size and school competition (Hessel Oosterbeek), peers and the education production function (Hessel Oosterbeek, Adam Booij), sunk costs and study effort (Nadine Ketel, Hessel Oosterbeek), returns to medical school (Nadine Ketel, Hessel Oosterbeek), matching primary school students to secondary schools (Hessel Oosterbeek, Nienke Ruijsch), information, overconfidence and student achievement (Adam Booij), the consequences of contextual shifts in math education (Diane Hidalgo and Ferry Haan), teacher quality and student achievement (Erik Plug), the effectiveness of excellent programs in secondary education (Adam Booij, Ferry Haan and Erik Plug), the consequences of Montessorie education (Nienke Ruijsch), competitiveness and school choice (Hessel Oosterbeek), drop outs in lower secondary education (Henriette Maassen van den Brink), student compensation, school resources and student achievement (Hessel Oosterbeek, Noemi Peter), education and cancer risk (Erik Plug), school assignment models (Hessel Oosterbeek).

Family economics

The family economics program covers empirical research on the economic behaviour of families, including labour supply and other related sources of time use, family formation and dissolution, fertility and child investment decisions, and intergenerational mobility of economic outcomes. The recent availability of large administrative data sources combined with family driven identification strategies (relying on twins, siblings and adoptees) has spurred family research considerably.

Current examples include the nature and nurture of economic outcomes (Thomas Buser, Erik Plug), the origins of gender differences in education (Ferry Haan, Hessel Oosterbeek), gender roles in twins (Noemi Peter), time allocation within families (Henriette Maassen van den Brink), competitiveness and sexual orientation (Thomas Buser, Lydia Geijtenbeek, Erik Plug), fertility, labour supply and marital stability (Erik Plug), assortative mating in dating markets (Erik Plug), parental investments and children (Thomas Buser, Hessel Oosterbeek, Erik Plug) and the heritability of cancer (Erik Plug).

Development economics

The development economics program focuses on microeconomic issues in low income countries. In particular, the program tries to uncover the micro-economic causes of poverty and to provide the means and tools to alleviate it.

Recent issues addressed include the evaluation of a variety of school interventions on student outcomes including the allocation of free school uniforms, the introduction of child care centers (Diana Hidalgo, Hessel Oosterbeek), birth order effects on child schooling and child labour (Erik Plug), the consequences of a cash transfer program change on a variety of child and adult outcomes (Hessel Oosterbeek and Erik Plug), the impact of public health spending (Menno Pradhan), utility and price dependence in equivalence scales (Menno Pradhan), the evaluation of a preschool intervention in Indonesia (Menno Pradhan), teacher pay and student performance (Menno Pradhan), targeting micro-credit to poor family enterprise (Diana Hidalgo and Hessel Oosterbeek).

Organization

As already mentioned, we are an applied microeconometrics group, covering various themes of research, with scope for individual research projects, internal and external joint work and cooperation and more formal cooperations.

There are currently two more formally defined research groups. The education and labour economists in the human capital group were integrated into TIER (Top Institute for Evidence Based Education Research) in 2008. Henriette Maassen van den Brink, director of TIER Amsterdam, saw the successful blend of scientific quality with policy relevance recognized through a large grant from NWO. TIER is funded by the Ministry of Education (and matching by participating universities), but the grant is fully administered by NWO. The Institute is joint with RU Groningen and RU Maastricht. Research focuses on the effectiveness of policy interventions in education. While TIER resources have expired in 2014, running TIER projects are still funded.

And from 2015 onwards, Henriette Maassen van den Brink has received a large grant from local municipality of Amsterdam to study the linkage between local education and labour markets.

TIER has ambitious goals: it wants to contribute to the improvement of the quality of education in the Netherlands by promoting the evidence based approach as a guiding principle in education policy and practice. It intends to accomplish this by developing (cost) effective education interventions that are grounded in scientific research and scientific insights. The research is funded through the NWO and must comply with the NWO formulated rules of evaluation.

The aim of the institute is to conduct excellent scientific research, to operationalise the results of this research and to put the results at the disposal of education policy and practice. The institute wants to develop knowledge of evidence based education that can be applied by: 1) the Ministry of Education, Culture and Science, in policy preparation and evaluation; 2) the educational practice - such as teachers and educational institutions - in the allocation of means and when making educational choices; 3) parents and students, when choosing a school or training. TIER aims to be an element that binds research, practice and policy in the field of education.

AIID (Amsterdam Institute for International Development) is a joint initiative of the University of Amsterdam and the VU University Amsterdam. AIID is a multidisciplinary research network with a strong focus on generating evidence to improve the design of policies to reduce poverty. Menno Pradhan is one of the AIID researchers who examines aspects of human capital and health through impact evaluations of sector-wide development programmes.

The two institutes, TIER and AIID, share the same ambition to perform research at the highest academic standards on issues with high societal relevance: education, labour, economic development of poor nations.

10.3 PROGRAMME EVALUATION

The human capital group is a small-scale research programme. Four of our PhD students are in their final year. Three of them have successfully entered the (international) job market and already accepted offers from Gothenburg University (Nadine Ketel), University of Bern (Noemi Peter) and University of Amsterdam (Nienke Ruijsch). These students will be scheduled to defend their PhD thesis in 2015. We welcome one two new human capital member; that is, Sabina Albrecht has joined us in September as a first year PhD student and Ilja Cornelisse started a postdoc position at TIER.

Despite its small size, the group keeps on delivering high quality research; that is, 2014 has been an exceptionally good year in terms of scientific output. The human capital group has published 14 articles in international refereed journals. Of the published articles, 4 articles were published in A level journals. Highlights include the exceptional performance of Hessel Oosterbeek. This year Hessel Oosterbeek has again a paper published in the Quarterly Journal of Economics, which is one of the most prestigious journals in economics with the highest article influence score among all economics journals. Having one published QJE paper is already a very rare achievement, let alone two published QJE papers, unique among Dutch economists. Less exceptional, but nonetheless, very good

performance comes from Erik Plug and Menno Pradhan. Erik Plug has publications in the *Journal of Labor Economics* and *Journal of Human Resources* which are both esteemed field journals with high article influence scores among all economics journals. Menno Pradhan has a publication in the *American Economic Journal: Applied Economics*, which is one of the most successful journals among the four field journals recently started by the American Economic Association.

The human capital group provides a stimulating research environment. This environment is partially shaped through national and international connections, external seminar series, internal work-in-progress meetings, and international visitors. Human capital members have close research contacts with researchers at ASE, Free University Amsterdam and Tinbergen Institute, work together with researchers from Europe and US, and are regularly invited to give seminars and (keynote) speeches throughout the world. Members of the human capital group organize a successful weekly seminar series at Tinbergen Institute. The seminar series is internationally renowned, and, in 2014, included presentations of Guido Imbens (Stanford), Scott Carrell (UC Davis), Holger Sieg (University of Pennsylvania), Lance Lochner (Michigan) and Andrea Weber (Mannheim). Members of the human capital group (including senior researchers, PhD students and visitors) also come together weekly to discuss their work in various stages. The human capital group has been attractive to visiting professors, post-doc researchers and PhD students. In 2014 the human capital group has welcomed Jan Soon.

The human capital group attracts and delivers many good PhD students. This year Sabina Albrecht has joined us. Our PhD students are generally doing well in terms of performance and placements (at among others University of Mannheim, Gothenburg University, University of Oslo and Purdue University). One of our PhD students (Thomas Buser) received the Allard Pierson medal for writing the best PhD thesis in The Netherlands in the last three years. There are currently 8 PhD students working at the human capital group.

Apart from scientific relevance, the work of human capital members addresses practical policy issues with societal relevance. In addition, most research is empirically orientated and can be formulated such that it is relatively easy to comprehend for policy makers. Members of the human capital group are in close contact with the Ministry of Education, Culture and Science and regularly come together to communicate their scientific work with insights and recommendations. Members are also frequently invited to consult on a variety of governmental policy issues. Henriette Maassen van den Brink is member of the Amsterdam Economic Board which strives to stimulate and support sustainable collaboration, innovation and growth in the Amsterdam region, and strengthen international competitiveness. Henriette Maassen van den Brink has also been appointed chair of the Education Council (Onderwijsraad) which is an independent governmental advisory board that advises the ministers, parliament and local authorities. Hessel Oosterbeek is advising the municipalities of Amsterdam and Utrecht on how to re-organize school assignment procedures.

In sum, the human capital group experienced a good year in terms of academic output. While small, the group's interests and scientific methods are internally coherent and clear; that is, the human capital research programme covers mainstream topics in applied microeconomics (including the economics of education, family and demographic economics, health economics, labor economics and development economics) with a strong focus on microeconometrics.

But at the same time there are serious concerns about group size and structure. In particular, the group is an unbalanced research group with only PhD students, two postdoctoral researchers and full professors; a viable and serious research programme requires at least one or two tenured assistant/associate professor positions.

To maintain the high level of research in future years, our aim is to resolve the unbalancedness in staff. One way is to find additional funding. Resources to finance extra staff should come from internal and external sources. Internal funds come largely from teaching core courses, which are currently not allocated to the human capital group. External funds are uncertain. The human capital

group therefore faces the challenge to raise extra funds: (i) we can teach extra core courses (such as for example statistics and/or econometrics) in bachelor curriculum and closer collaboration with other micro-economic orientated groups at our department; (ii) we can improve our research grant applications through closer collaboration with the labour economics group at Free University, which research programme closely relates to ours.

This evaluation can be summarized in the following SWOT analysis:

Strengths: high quality research addressing issues of societal relevance; stimulating research environment; good reputation; healthy inflow and outflow of PhD students; successful history in attracting external funds; internal coherent and visible research theme.

Weaknesses: unbalanced research staff; largely dependent on external funding.

Opportunities: to raise extra funds either through teaching core courses in bachelor curriculum or through research grant applications; seek closer collaboration with labour economics group at Free University Amsterdam, and other micro-economics orientated groups at University of Amsterdam.

Threats: human capital group has turned into small-scale and unbalanced research programme.

10.4 RESOURCES AND FUNDING

TIER-research is funded through NWO and must comply with NWO formulated rules of evaluation. Over a period of 5 years (2008-2013) TIER will receive €5.3 million. TIER funding is still available for running projects. Erik Plug has received a 3-year grant for research on gifted students in secondary education by PROO-NWO. In this project one PhD student and one postdoc are partly financed. Two PhD students (Nadine Ketel and Lennart Ziegler) are being cofinanced with Free University Amsterdam (VU). Two PhD students (Nadine Ketel and Sabina Albrecht) have received NWO talent grants. Several visiting researchers participate in the program, without financial compensation. AIID also receives substantial external funding.

10.5 OUTPUT

Key publications

- | |
|--|
| <p>Buser T., M. Niederle & H. Oosterbeek. Gender, Competitiveness and career choices (2014). <i>Quarterly Journal of Economics</i>, 129, 1409-1447.</p> <p>De Haan, M., E. Plug & J. Rosero (2014). Birth order and human capital development: Evidence from Ecuador. <i>Journal of Human Resources</i>. 49, 359-392.</p> <p>Plug, E., D. Webbink & N. Martin (2014). Sexual orientation, prejudice and segregation. <i>Journal of Labor Economics</i>, 32, 123-159</p> <p>Pradhan, M., D. Suryadarma, A. Beatty, M. Wong, A. Gaduh, A. Alishjabana & R.P. Artha. (2014) Improving educational quality through enhancing community participation : results from a randomized field experiment in Indonesia. <i>American Economic Journal, Applied Economics</i>, 6, 105-126.</p> |
|--|

Forthcoming

Ketel, N., J. Linde, H. Oosterbeek & B. van der Klaauw. Tuition fees and sunk-cost effects. *Economic Journal*.

Heers, M., Ghysels, J., Groot, W.J.N. & Maassen van den Brink, H. (in press). Differentiated effects of community schooling on cognitive and social-emotional learning outcomes. *School Effectiveness and School Improvement*. doi: 10.1080/09243453.2014.975138

Publications in numbers

Output type	Classification	#
Articles	Refereed	13
	Non-refereed	0
	Professional	3
	Popular	5
Books or book chapters	Refereed	2
	Non-refereed	1
	Professional	0
	Popular	0
Conference proceedings		0
PhD theses		0
Working papers		9
Total		30

Article in journal - refereed

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- Hartog, J., Ding, X. & Liao, J. (2014). Is earnings uncertainty relevant for educational choice? An empirical analysis for China. *Education Economics*, 22 (5), 471-483. doi: 10.1080/09645292.2012.688580
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- Rud, I., Klaveren, C. van, Groot, W. & Maassen van den Brink, H. (2014). The externalities of crime: the effect of criminal involvement of parents on the educational attainment of their children. *Economics of Education Review*, 38, 89-103. doi: 10.1016/j.econedurev.2013.11.006
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Article in journal – professional

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- Gautier, P., De Haan, M., Van der Klaauw, B, and Oosterbeek, H.,(2014). Schoolkeuze Voorgezet Onderwijs in Amsterdam: Verslag van een Simulatiestudie. Report (in Dutch) to OSVO. URL: <http://www.verenigingosvo.nl/wp-content/uploads/2014/04/RapportSimulaties.pdf>
- Groot, W. & Maassen van den Brink, H. (2014). Hollebolle Gijs op dieet: uitgavenbeheer in de zorg. *Tijdschrift voor Politieke Economie*, 8 (2), 7-17.
- Groot, W.J.N. & Maassen van den Brink, H. (2014). Niet te vroeg juigen: financiële gevolgen ontmanteling AWBZ lastig te voorspellen. *Zorgvisie*, 43 (9), 34-35.
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Article in magazine or newspaper – popular scientific

- Groot, W.J.N. & Maassen van den Brink, H. (2014, Oktober 01). Herverdeling geld langdurige zorg is ondeugdelijk. *Het Financieele Dagblad*
- Groot, W.J.N. & Maassen van den Brink, H. (2014, December 05). Zorgverzekeraar moet verzekerde beter informeren. *Friesch Dagblad*
- Haan, F. (2014) #onderwijs2032. In *OnderwijsInnovatie*, Open University. December 2014
- Haan, F. (2014) HBO innovatiefste sector. In *OnderwijsInnovatie*, Open University. September 2014
- Haan, F. (2014) Microcontent wijst Afrika (en ons) de weg. In *OnderwijsInnovatie*, Open University. Juni 2014
- Haan, F. (2014) Kritische vrienden van de lerarenagenda. In *OnderwijsInnovatie*, Open University. Maart 2014
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- Haan, F. (2014) Gelijkheidscultuur maakt het ambitieuze leerling lastig. In *de Volkskrant* 03-07-14
- Haan, F. (2014) Zonder alcohol geen schoolfeesten. In *de Volkskrant* 20-6-14
- Haan, F. (2014) Gameverslaving, doe er iets aan! In *de Volkskrant* 7-1-2014
- Hartog, J. (2014a), *Onderwijs, een riskante investering*, in W.Boonstra, H. Groeneveld en E. Versteegh (redactie), *Nieuw vertrouwen na de crisis*, Amsterdam: VU University Press, 169 – 181
- Praag, B.M.S. van (2014, November 01). Dialoog in pensioendebat verwordt tot toneelspel, omdat overheid niet opschuift; Voorgesteld beleid dreigt desastreus te worden voor beroepsbevolking van nu en in de toekomst. *Het Financieele Dagblad - Opinie & Dialoog*, pp. 12.
- Praag, B.M.S. van (2014, Maart 04). Discussie over de doorsneepremie bij pensioenen wordt nogal opgeblazen. *Het Financieele Dagblad*
- Praag, B.M.S. van (2014, Oktober 08). Met deze wet wordt ons pensioenstelsel vernietigd. *NRC Handelsblad*, pp. 16.

Internet article – popular scientific

- Groot, W.J.N. & Maassen van den Brink, H. (2014). Pas op voor kat in de zak bij keuze zorgverzekeraar. (blog). Amsterdam: *Zorgvisie*. (last update: 30 nov 2014).

Book / book chapter – refereed

- García, E. & Cornelisz, I. (2014). Public-private partnerships in education. In D.J. Brewer & L.O. Picus (Eds.), *Encyclopedia of education economics & finance* (pp. 583-588). Thousand Oaks, CA: SAGE Publications.
- Geronimo Terkla and P. Gibbs, *Using data to improve higher education*, Rotterdam: Sense Publishers, 165-180.
- Iokanimidis, M. & Hartog, J. (2014). Determinants of the gender gap in annual earnings among college graduates: data from OECD countries. In M.E. Menon, D.G. Terkla & P. Gibbs (Eds.), *Using data to improve higher education: research, policy and practice (Global Perspectives on Higher Education, 29)* (pp. 165-180). Rotterdam: Sense Publishers.

Book / book chapter –non-refereed

- Hartog, J. (2014). Onderwijs, een riskante investering. In W. Boonstra, H. Groeneveld & E. Versteegh (Eds.), *Nieuw vertrouwen na de crisis: over bancaire leiderschap, toezicht, onderwijs en Europa* (pp. 169-181). Amsterdam: VU University Press.

Report – working- and discussion papers

- Bartelet, D., Haelermans, C., Ghysels, J., Groot, W.J.N. & Maassen van den Brink, H. (2014). The differential effect of a non-compulsory basic mathematics skills practice tool across achievement subgroups and mathematical skills practice tools across achievement subgroups and mathematics domains- a randomized field experiment. (Preprints). Maastricht: TIER Maastricht University.
- Bartelet, D., Haelermans, C., Groot, W. & Maassen van den Brink, H. (2013). The variability in the effect of additional education on different mathematics skills in primary school - A regression discontinuity analysis. (Preprints, TIER Working Paper Series, no 13/12). TIER.
- Booij, A.S., E. Leuven & H.Oosterbeek. Optimal ability grouping in university.
- Booij, A.S., F. Haan & E. Plug. Enriching excellent students. Evidence from a gifted and talented program in secondary education.
- Buser, T., Oosterbeek, H., Plug, E., Ponce, J. & Rosero, J. (2014). The impact of positive and negative income changes on the height and weight of young children. (Preprints, IZA Discussion Paper, no 8130). Bonn: IZA.
- Coenen, J., Klaveren, C. van, Groot, W. & Maassen van den Brink, H. (2014). The effects of ability tracking of future primary school teachers on student performance. (Preprints, TIER Working Paper Series, no 14/07). : TIER.
- Fredriksson, P., Öckert, B., and Oosterbeek, H.,. Inside the black box of class size: Mechanisms, behavioral responses, and social background. IZA DP 8019 (March 2014).
- Ketel, N., Linde, J., Oosterbeek, H. and Van der Klaauw, B. Tuition fees as a commitment device. IZA working paper series, IZA DP 7951 (February 2014).
- Plug, E., Lundborg, P. and Rasmussen, A.W. Fertility effects on female labor supply: IV evidence from IVF treatments. October 2014, IZA working paper series IZA DP 8609, Bonn Germany
- Plug, E., Leuven, E. and Rønning, M. Education and cancer risk. February 2014, IZA working paper series IZA DP 7956, Bonn Germany.
- Plug, E., Leuven, E. and Rønning, M. The relative contribution of genetic and environmental factors to cancer risk and cancer mortality in Norway. Memorandum 05/2014. University of Oslo, Norway.
- Rud, I., Klaveren, C. van, Groot, W. & Maassen van den Brink, H. (2014). The effect of restorative juvenile justice on future educational outcomes. (Preprints, TIER Working Paper Series, no 14/01). : TIER.
- Ruijs, N. & Oosterbeek, H. (2014). School choice in Amsterdam: which schools are chosen when school choice is free? (Preprints, TIER Working Paper Series, no WP 14/21). Amsterdam: TIER.
- Ruijs, N. (2014). Special needs students in regular education: do they affect their classmates? (Preprints, TIER Working Paper Series, no WP 14/23). Amsterdam: TIER.

- Ruijs, N. (2014). The effects of Montessori education: evidence from admission lotteries. (Preprints, TIER Working Paper Series, no WP 14/22). Amsterdam: TIER.
- Tirivayi, N., Maassen van den Brink, H. & Groot, W. (2014). Size and economies of scale in higher education and the implications for mergers. (Preprints, UNU-MERIT Working Papers, no 2014-066). Maastricht: UNU-MERIT.
- Van Veldhuizen, R., Oosterbeek, H. and Sonnemans, J. (2014). Peers at work: from the field to the lab. TI 2014-051/I Tinbergen Institute Discussion Paper.

Recognition

- Booij, A, F. Haan & E. Plug: NOW-PROO Excellence in education grant (budget 220.000 Euro, 2012-2015). Estimating the impact of an enrichment program on educational achievement of excellent students using two experiment.
- Oosterbeek, H. NWO MAGW Open competition grant (nr 404-10-457, budget 208,193 Euro) for Ph.D. project titled “Likelihood-based inference in dynamic panel data models with endogenous covariates”.

Editorship

- Hartog, J. (2014). Member editorial boards *Economics of Education Review*, *International Journal of Happiness and Development* and *ISRN Education*.
- Oosterbeek, H. (2014). Member editorial boards *Economics of Education Review* and *Effective Education*.

Keynote/invited talk

- Plug E. (2014, December). Fertility effects on parental labor supply: IV evidence from IVF treatments. Seminar. University of Hamburg.
- Plug E. (2014, October). Fertility effects on parental labor supply: IV evidence from IVF treatments. Seminar. University of Copenhagen.
- Plug E. (2014, October). Fertility effects on parental labor supply: IV evidence from IVF treatments. Seminar. University of Helsinki.
- Plug E. (2014, September). Enriching excellent students: Evidence from a gifted and talented program in secondary. EALE conference. University of Lubljana.
- Plug E. (2014, June). Education and cancer risk. ESPE conference. University of Braga.
- Plug E. (2014, May). Fertility effects on parental labor supply: IV evidence from IVF treatments. Seminar. University of Bath.
- Plug E. (2014, May). Enriching excellent students: Evidence from a gifted and talented program in secondary. Workshop Warwick in Venice. University of Lubljana.
- Plug E. (2014, April). Fertility effects on parental labor supply: IV evidence from IVF treatments. Seminar. University of Braga.
- Plug E. (2014, January). Enriching excellent students: Evidence from a gifted and talented program in secondary education. Workshop. NRO, Utrecht.

Membership academies

- Booij, A. (2014). Junior Fellow Tinbergen Instituut.
- Oosterbeek, H. (2014). Tinbergen Institute Research Fellow, CESifo Research Fellow, Munich, Germany.
- Plug, E. (2014). Tinbergen Institute Research Fellow; Institute for Labour Studies Research Fellow, IZA, Bonn, Germany; Uppsala Center for Labor Studies, UCLS Research Fellow, Uppsala, Sweden.
- Plug, E. (2014). Krzysztof Karbownik (Uppsala University, December), Sofie Cabus (Maastricht University, September).

- Plug, E. (2014). Expert member Expert Network of Economics of Education EENEE; Board member European Association of Labour Economics EALE; president European Society of Population Economics ESPE.
- Pradhan, M. (2014). Tinbergen Institute Research Fellow.

Relevant position

- Oosterbeek, H. (2014). Referee for: Economics of Education Review, QJE AER, Economic Journal, Journal of Development Economics, Journal of Population Economics, Journal of Public Economics.
- Plug, E. (2014). Referee for: Economics of Education Review, Economic Journal, Journal of Human Resources, Journal of Political Economy, Economica, Labour Economics, Scandinavian Journal of Economics, Quantitative Economics.

11. EXPERIMENTAL & POLITICAL ECONOMICS (CREED)

Programme Director Prof. dr. A.J.H.C. Schram
 METIS-code: uva/feb/ase/epe
 JEL-classification: D7, D8
 Starting date: 1991
 Websites: www.aseri.uva.nl/creed
 www.creedexperiment.nl/creed
 VSNU-scores 2001-2007: Quality: 5, Productivity: 4.5, Relevance: 5, Viability: 4.5

11.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Bault, N.G.J.	dr.	postdoc	0,79	-	-	1
Bault, N.G.J.	dr.	guest	0,00	0,00	0,00	1
Dogan, G.	dr.	ud	0,29	0,43	0,48	1
Gago Guerriero de Brito Robalo, P.M.	msc	guest	0,00	-	-	1
Gago Guerriero de Brito Robalo, P.M.	msc	phd	0,27	0,80	-	1
Gneezy, U.	prof. dr.	guest	0,00	0,00	-	1
Gneezy, U.	prof. dr.	hgl	-	-	0,20	1
Gomez Martinez, F.	msc	phd	-	0,27	0,80	1
Haan, Th. de	msc	guest	0,00	-	-	1
He, S.	msc	phd	-	0,27	0,80	1
Hoyer, M.	msc	phd	0,27	0,80	0,80	1
Hu, A.	dr.	oz	-	0,08	0,80	2
Kamm, A.	msc	phd	0,27	0,80	0,80	1
Kopányi-Peuker, A.	msc	phd	0,33	-	-	1
Kopányi-Peuker, A.	msc	phd	0,47	0,55	0,80	2
Leeuwen, B. van	msc	phd	0,80	0,80	0,53	1
Loerakker, B.	msc	phd	0,27	0,80	0,80	1
Offerman, T.J.S.	prof. dr.	hgl	0,50	0,50	0,50	1
Onderstal, A.M.	dr.	ud	0,20	0,20	0,20	1
Rilovic, A.	msc	phd	-	-	0,27	1
Schram, A.J.H.C.	prof. dr.	hgl	0,50	0,50	0,50	1
Smerdon, D.	msc	phd	-	0,27	0,60	1
Sonnemans, J.	prof. dr.	hgl	0,50	0,50	0,50	1
Tsutsui, Y.		guest	-	-	-	1
Tyszler, M.	msc	phd	-	-	-	1
Ule, A.	dr.	oz	0,28	-	-	2
Ule, A.	dr.	ud	0,22	0,25	0,25	1
Veelen, C.M. van	dr.	ud	0,25	-	-	1
Veelen, C.M. van	dr.	uhd	0,25	0,50	0,50	1

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Veldhuizen, R.R. van	msc	phd	0,53	-	-	1
Veldhuizen, R.R. van	dr.	guest	0,00	0,00	-	1
Weber, M.	msc	phd	0,33	-	-	1
Weber, M.	msc	phd	0,47	0,80	0,80	2
Weele, J. van der Winden, F.A.A.M. van	dr.	postdoc	-	0,27	0,80	1
	prof. dr.	hgl	0,21	0,16	0,11	1
Yang, Y.	msc	phd	0,80	0,56	0,09	1
Zheng, J.	msc	phd	0,80	0,27	0,80	1
Total 1st flow of funds			7,58	8,68	10,33	
Total 2nd flow of funds			1,22	1,70	2,40	
Total 3rd flow of funds			0,00	0,00	0,00	
Total 1st f.o.f. excl. Ph.D.'s			3,71	3,04	4,04	
Total 1st-3rd flow of funds			8,80	10,38	12,73	
Ph.D. students			4,81	6,99	7,89	

11.2 PROGRAMME DESIGN

Objective

Improving the understanding of the behavioural determinants and consequences of economic decision making by (a) focusing on political economic issues, (b) allowing for bounded rationality, and (c) using laboratory experimentation as research method.

Motivation

Political decision making plays an important role in economies. Governments, for example, are essential for the functioning of markets, may be called upon to correct for market failures, but also have their own dynamics. Positive welfare effects of policies cannot be taken for granted. It is, therefore, important to study political decision making and the way in which policies can be applied beneficially. These observations provide the motivation for the first project: “Economics of political decision making”, a long standing project at the FEB dating back to 1983. It is related to public choice and the more recent upsurge in political economics.

Economic models, also when concerned with political decision making, typically make strong assumptions about the rationality, sophistication, and selfishness of individual behaviour. Experimental and other empirical evidence suggests, however, that the predictive power of the standard ‘homo economicus’ model is often disappointing and depends on the institutional character of the decision making environment. There is a need for greater knowledge and a more satisfactory treatment of the bounds on rationality generated by the nature of cognition and emotion, and the influence of institutions. This motivates the second project: “Bounded rationality and institutions”, which fits into the emerging field of behavioural economics.

For the advancement of theory, empirical feedback is crucial. This may hold in particular for new research areas, when sorting out the most promising ways to go. Empirical analysis is seen as an important ingredient of this programme. For many of the issues studied in the aforementioned two projects, however, adequate field data are hard to come by or even nonexistent. Laboratory experimentation is a helpful complementary research method, especially in these cases, for

exploration or the testing of models focusing on fundamental behavioural aspects or mechanisms. This motivates the third project: “Experimental economics”, which is stimulated by, and provides feedback for, the other two projects.

Institutional embedding

The research of this programme is carried out within the Center for Research in Experimental Economics and political Decision-making (CREED), a research institute of the FEB. CREED was established in 1991 by a PIONIER-grant from the Netherlands Organisation for the Advancement of Scientific Research (NWO) for the development of experimental economics in the Netherlands. An important facility is the CREED-laboratory for experimental economics, one of the few dedicated computer laboratories in Europe. Its focus on political decision making and experimental economics distinguishes CREED internationally.

Projects

I Economics of political decision making

This project is concerned with the demand for and the endogenous supply of government policies, the ways in which coordination takes place through the political decision-making process, and the effects thereof on the economy. Major research topics are:

- Political participation and influence (voting, activity and influence of interest groups);
- Interaction between the public sector and the private sector (e.g. the development of social capital and its importance for the provision of public goods);
- Political economy of public and private institutions (e.g. issues of fiscal federalism).

II Bounded rationality and institutions

In this project fundamental aspects of individual decision making, with economic relevance, are investigated. More particularly, attention is focused on the impact of cognitive limitations and emotions. In addition, responses to the complexity and institutional characteristics of the decision environment are studied. Among the topics investigated are:

- Group formation in complex environments (e.g. development of political preferences through social interaction, development of interest groups);
- Economic significance and modelling of emotions (e.g. anger, anxiety, happiness);
- Performance of various auction formats;
- Irrationalities in risk attitudes, and efficiency gains by avoiding or reckoning with these.

III Experimental economics

The main purpose of laboratory experiments in economic research is to create a (political) economic process in a laboratory environment which allows for sufficient control and accurate measurement. Experiments are used for three purposes: (a) the testing of behavioural assumptions and predictions of existing (competing) theories; (b) the searching for facts that are instrumental in the construction of descriptive and explanatory theories; and (c) the evaluation of (new) institutions to assist policy makers. Research in this project is particularly stimulated by, and provides feedback for, the aforementioned two projects. Major lines of research are:

- Voting and electoral competition (behaviour of voters and political candidates/parties);
- Lobbying and political pressure (ways and means, and determinants of effectiveness);
- Emotions and economic behaviour (impact, and modelling);
- Markets and institutions (functioning of markets and, the design of, institutions);
- Evolution of cooperation (development of cooperative behaviour over time);
- Biases in risk attitudes.

11.3 PROGRAMME EVALUATION

2014 was a good year for CREED. We again witnessed a good set of high-level publications, successful PhD defenses and welcomed promising new members.

We welcomed three new members to CREED, this year. Carsten de Dreu joined us from the psychology department to participate in the new communication laboratory (more about that, below) for one day a week. Ailko van der Veen returned to CREED to work as a programmer and researcher. Andro Rilovic joined as a PhD student (supervised by Joep Sonnemans and Randolph Sloof). We look forward to working with all three in the next few years. In addition, Arthur Schram returned from his sabbatical in Barcelona. In 2014 we also said goodbye to our PhD students Pedro Robalo (who found a job at the Max Planck Institute in Bonn), Yang Yang (Sun Yat-Sen University) and Boris van Leeuwen (Toulouse School of Economics).

2014 was a very good year in terms of research output. Three PhD theses were successfully defended by graduate students (Eva van den Broek, Yang Yang and Pedro Robalo). A series of top-level publications (18 published plus 11 accepted for publication) include articles in *Science*, the *Proceedings of the National Academy of Sciences*, the *Economic Journal*, *Management Science* and *The American Economic Journal: Microeconomics*. The diversity and multi-disciplinarity of research at CREED also shows from publications in the *Journal of Law, Economics, and Organization*, *Journal of Theoretical Biology* and *Psychological Bulletin*.

A great achievement in 2014 was the successful application for additional research priority funding. With the money that has been allocated (starting in 2015) we will be able to hire new top-notch researchers and set-up a communications laboratory. It also allows us to add Carsten de Dreu to our team. The driving forces behind this acquisition were CREED members Uri Gneezy and Theo Offerman as well as Jeroen van de Ven of the Management and Organization group.

External recognition of the research undertaken at CREED was received in various other ways as well. These include 24 invitations to present seminars or keynote lectures, various associate editorships, continued funding from the research priority area Brain and Cognition (to support PhD candidate Ben Loerakker) and a continued membership of the Junior Academy of the Royal Netherlands Academy of Arts and Sciences for Matthijs van Veelen.

Research contacts were continued, i.a., by a successful seminar series that included presentations by renowned scholars such as Subhasish Chowdhury, David Cooper, Andreas Leibbrandt, Jon Levin, Rebecca Morton, Ragan Petrie, Alex Peysakhovich Bettina Rockenbach, Martin Sefton, Joel Sobel, and Roberto Weber. CREED also co-organized the Amsterdam workshop on Behavioral and Experimental Economics (ABEE 2014: “Communication and Cues: The role of verbal and nonverbal cues in social interactions.”), which falls within the framework of the faculty’s Research Priority Area Behavioral Economics. CREED’s participation in the Cognitive Science Center Amsterdam (CSCA) continued, as did our yearly PhD exchanges with the Universities of Nottingham and East Anglia and with New York University. These exchanges provide excellent opportunities for CREED PhD students to present their work (at all stages of the project) to an audience consisting of PhD students and world-renowned professors of the participating institutes. Finally, together with Jeroen van de Ven, Arthur Schram organized a summer school on Experimental Economics.

11.4 RESOURCES AND FUNDING

The program again received modest funding from the research institute RESAM, which was largely spent to cover (part of the) traveling costs to attend conferences. Additional means were obtained from external funding and the Tinbergen Institute (for PhD-students).

Substantial additional means came from the UvA-Research Priority Area Behavioral Economics. This provides a solid foundation for paying participants in experiments at the CREED laboratory. As mentioned above, in 2015 this will be complemented with additional Central Research Priority funds (€301,000, yearly).

As for NWO funding, Audrey Hu's NWO-VENI grant continued.

CREED also continued to receive funding from contracted research for governmental institutions and business. For example, Theo Offerman, Sander Onderstal and Arthur Schram received €30,201 for advising the Dutch Ministry of Economic Affairs on the auction of spectrum licenses in the 1200 MHz band.

11.5 OUTPUT

Key publications

- Andersen, S., S. Ertac, U. Gneezy, M. Hoffman and J.A. List (2011). Stakes matter in the ultimatum game. *American Economic Review*, 101, 3427-3439.
- Brandts, J., Riedl, A. & Winden, F.A.A.M. van (2009). Competitive Rivalry, Social Disposition, and Subjective Well-being: An Experiment. *Journal of Public Economics*, 93, 1158-1167.
- Gneezy, U. and A. Imas (2014) Materazzi effect and the strategic use of anger in competitive interactions *Proceedings of the National Academy of Sciences of the United States of America* 111, 1334–1337.
- Gneezy, U., E. Keenan and A. Gneezy (2014). Avoiding overhead aversion in charity *Science* 346, 632-635.
- Grosser, J., & A. Schram (2010). Public Opinion Polls, Voter Turnout and Welfare: An Experimental Study. *the American Journal of Political Science* 54, 2010; 700-717.
- Offerman, T.J.S., Sonnemans, J.H., Kuilen, G. van de, & Wakker, P.P. (2009). A Truth-Serum for Non-Bayesians: Correcting Proper Scoring Rules for Risk Attitudes. *Review of Economic Studies* 76, 1461-1489.
- Ule, A., Schram, A.J.H.C., Riedl, A. & Cason, T. (2009). Indirect Punishment and Generosity Towards Strangers. *Science* 326, 1701-1703.
- Veelen, M. van, García, J., Rand, D. & Nowak, M. (2012). Direct reciprocity in structured populations *Proceedings of the National Academy of Sciences* 109, 9929-9934.

Forthcoming

- Bault, N., B. Pelloux, J.J. Fahrenfort, K.R. Ridderinkhof & F. van Winden. Neural dynamics of social tie formation in economic decision-making. *Social, Cognitive and Affective Neuroscience*.
- De Dreu, C.K.W., H.S. Scholte, F.A.A.M. van Winden & K.R. Ridderinkhof. Oxytocin tempers calculated greed but not impulsive defense in predator-prey contests. *Social Cognitive and Affective Neuroscience*.
- Haan, Th. de, Th. Offerman and R. Sloof. 'Money Talks? An Experimental Investigation of Cheap Talk and Burned Money'. *International Economic Review*.
- Kurz, S., N. Maaser, S. Napel and M. Weber. Mostly sunny: A forecast of tomorrow power index research. *Homo Oeconomicus* 32(1), 2015; 411–419.
- Nosenzo, D., Th. Offerman, M. Sefton and A. van der Veen. Discretionary Sanctions and Rewards in the Repeated Inspection Game. *Management Science*.
- Offerman, Th. and A. Palley. Losses in Translation: An Off-the-Shelf Method to Recover Probabilistic Beliefs from Loss-Averse Agents. *Experimental Economics*.
- Offerman, Th. and A. van der Veen. 'How to Subsidize Contributions to Public Goods – Does the Frog Jump Out of the Boiling Water?'. *European Economic Review*.

Schlag, K.H., J. Tremewan & J.J. van der Weele. A penny for your thoughts: A survey of incentives and belief elicitation. *Experimental Economics*.

Schram, A. and G. Charness. Inducing Social Norms in Laboratory Allocation Choices. *Management Science*.

Publications in numbers

Output type	Classification	#
Articles	Refereed	19
	Non-refereed	1
	Professional	1
	Popular	0
Books or book chapters	Refereed	1
	Non-refereed	0
	Professional	0
	Popular	0
Conference proceedings		1
PhD theses		3
Working papers		1
Total		29

Article in journal - refereed

- Brandts, J., Reynolds, S.S. & Schram, A. (2014). Pivotal Suppliers and Market Power in Experimental Supply Function Competition. *Economic Journal*, 124 (579), 887-916. doi: 10.1111/eoj.12058
- Brunner, C., Hu, A. & Oechssler, J. (2014). Premium auctions and risk preferences: an experimental study. *Games and Economic Behavior*, 87, 467-484. doi: 10.1016/j.geb.2014.06.002
- Dijk, F. van, Sonnemans, J. & Bauw, E. (2014). Judicial error by groups and individuals. *Journal of Economic Behavior & Organization*, 108, 224-235. doi: 10.1016/j.jebo.2014.09.013
- Durante, R., Putterman, L. & Weele, J. van der (2014). Preferences for redistribution and perceptions of fairness: An experimental study. *Journal of the European Economic Association*, 12 (4), 1059-1086. doi: 10.1111/jeea.12082
- García, J., Veelen, M. van & Traulsen, A. (2014). Evil green beards: tag recognition can also be used to withhold cooperation in structured populations. *Journal of Theoretical Biology*, 360, 181-186. doi: 10.1016/j.jtbi.2014.07.002
- Gneezy, A., Gneezy, U. & Lauga, D.O. (2014). A reference-dependent model of the price-quality heuristic. *Journal of Marketing Research*, 51 (2), 153-164. doi: 10.1509/jmr.12.0407
- Gneezy, U., Keenan, E.A. & Gneezy, A. (2014). Avoiding overhead aversion in charity. *Science*, 346 (6209), 632-635. doi: 10.1126/science.1253932
- Gneezy, U., Imas, A. & Madarász, K. (2014). Conscience accounting: emotion dynamics and social behavior. *Management Science*, 60 (11), 2645-2658. doi: 10.1287/mnsc.2014.1942
- Gneezy, U. & Imas, A. (2014). Materazzi effect and the strategic use of anger in competitive interactions. *Proceedings of the National Academy of Sciences of the United States of America*, 111 (4), 1334-1337. doi: 10.1073/pnas.1313789111
- Groot Ruiz, A. de, Offerman, T. & Onderstal, S. (2014). For those about to talk we salute you: an experimental study of credible deviations and ACDC. *Experimental Economics*, 17 (2), 173-199. doi: 10.1007/s10683-013-9362-z
- Hinlopen, J. & Onderstal, S. (2014). Going once, going twice, reported! Cartel activity and the effectiveness of antitrust policies in experimental auctions. *European Economic Review*, 70, 317-336. doi: 10.1016/j.euroecorev.2014.06.002

- Hoyer, M., Bault, N., Loerakker, B. & Winden, F. van (2014). Destructive behavior in a Fragile Public Good game. *Economics Letters*, 123 (3), 295-299. doi: 10.1016/j.econlet.2014.02.023
- Kocher, M.G., Krawczyk, M. & Winden, F. van (2014). 'Let me dream on!' Anticipatory emotions and preference for timing in lotteries. *Journal of Economic Behavior & Organization*, 98, 29-40. doi: 10.1016/j.jebo.2013.12.006
- Lacomba, J.A., Lagos, F., Reuben, E. & Winden, F. van (2014). On the escalation and de-escalation of conflict. *Games and Economic Behavior*, 86, 40-57. doi: 10.1016/j.geb.2014.03.006
- Linde, J., Sonnemans, J. & Tuinstra, J. (2014). Strategies and evolution in the minority game: a multi-round strategy experiment. *Games and Economic Behavior*, 86, 77-95. doi: 10.1016/j.geb.2014.03.001
- Nosenzo, D., Offerman, T., Sefton, M. & Veen, A. van der (2014). Encouraging compliance: bonuses versus fines in inspection games. *Journal of Law, Economics, & Organization*, 30 (3), 623-648. doi: 10.1093/jleo/ewt001
- Onderstal, S., Schram, A.J.H.C. & Soetevent, A.R. (2014). Reprint of: Bidding to give in the field. *Journal of Public Economics*, 114, 87-100. doi: 10.1016/j.jpubeco.2013.11.009
- Weelen, M. van, Luo, S. & Simon, B. (2014). A simple model of group selection that cannot be analyzed with inclusive fitness. *Journal of Theoretical Biology*, 360, 279-289. doi: 10.1016/j.jtbi.2014.07.004
- Weele, J. van der, Kulisa, J., Kosfeld, M. & Friebe, G. (2014). Resisting moral wiggle room: How robust is reciprocal behavior? *American Economic Journal. Microeconomics*, 6 (3), 256-264. doi: 10.1257/mic.6.3.256

Article in journal – non-refereed

- Bauw, E., Dijk, F. van & Sonnemans, J. (2013). De waarde van meervoud: de bijdrage van meervoudig beslissen aan de kwaliteit van rechtspraak. *Nederlands Juristenblad*, 88 (6), 356-363.

Article in journal – professional

- Weele, J. van der (2014). Herverdeling in het laboratorium. *Economisch-Statistische Berichten*, 99 (4698), 729-731.

Book –refereed

- Onderstal, S. (2014). *Economics of organizations and markets*. Amsterdam: Pearson.

Conference paper (proceedings) –refereed

- Goossens, D.R., Onderstal, S. & Spijksma, F.C.R. (2012). Solids: a combinatorial auction for a housing corporation. In P. Coles, S. Das, S. Lahaie & B. Szymanski (Eds.), *Auctions, Market Mechanisms, and Their Applications: Second International ICST Conference, AMMA 2011, New York, NY, USA, August 22-23, 2011, Revised Selected Papers Vol. 80. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering* (pp. 76-87). Heidelberg: Springer.

Working- and discussion papers

- Kamm, A. (2014). Plurality voting versus proportional representation in the citizen-candidate model. (Preprints, CREED Working Paper). Amsterdam: University of Amsterdam.

UvA Dissertation – internally prepared

- Broek, E.M.F. van den (2014, Januari 24). Keeping up appearances: Experiments on cooperation in social dilemmas. Universiteit van Amsterdam (135 pag.) (Amsterdam: Rozenberg). Prom./coprom.: prof.dr. A.J.H.C. Schram, prof.dr. M. Sabelis & dr. M. Egas.
- Gago Guerreiro de Brito Robalo, P.M. (2014, December 03). Understanding political behavior: Essays in experimental political economy. Universiteit van Amsterdam (xviii, 178 pag.). Prom./coprom.: prof.dr. A.J.H.C. Schram.
- Yang, Y. (2014, Oktober 23). Laboratory tests of theories of strategic interaction. Universiteit van Amsterdam (viii, 138 pag.) (Amsterdam: Tinbergen Institute). Prom./coprom.: prof.dr. A.J.H.C. Schram & dr. A.M. Onderstal.

Conference organiser

- Offerman, T.J.S. (2014, January 6). ‘UvA PhD students present at NYU’, Workshop Organizer (joint with Guillaume Frechette) NYU, New York.
- Offerman, T.J.S. (2014, May 2). ‘NYU PhD students present at UvA’, Workshop Organizer (joint with Guillaume Frechette) UvA, Amsterdam.
- van Winden, F. (2014, December 18). Organizer of a workshop on Neuroeconomics, Amsterdam.

Recognition

- Ule, A. (2014). ARRS grant (Slovenian research council ARRS nr J76828, budget 150,000 Euro) for a research project titled “Bounded rationality and economic performance”.

Media appearance

- Veelen, M. van (2014). Parool, 25 januari, interview.
- Veelen, M. van (2014). OBA Live, Radio 5, 12 maart, interview.
- Veelen, M. van (2014). Volkskrant, 16 oktober, kort citaat in "Helden denken niet - ze doen", door Margreet Vermeulen.
- Veelen, M. van (2014). RTV NH Radio, 16 oktober, gesprekje over onderzoek naar heldendaden van Dave Rand et al.
- Veelen, M. van (2014). Wetenschap op woensdag, EenVandaag, Radio 1, 22 oktober: altruïsm.
- Veelen, M. van (2014). Wetenschap op woensdag, EenVandaag, Radio 1, 26 november: nut van liefde en seks.
- Veelen, M. van (2014). Wetenschap op woensdag, EenVandaag, Radio 1, 7 december: zorgen over wetenschapsvisie cabinet.

Editorship

- Offerman, T.J.S. (2014). Associate Editor: Games and Economic Behavior.
- Offerman, T.J.S. (2014). Editorial Board Member: Experimental Economics.
- Schram, A. (2014). Advisory Editor: Experimental Economics.
- Sonnemans, J. (2014). Editorial Board Member: Quantitative Finance.
- Sonnemans, J. (2014). Editorial Board Member: Journal of Economic Psychology.
- van Winden, F. (2014). Editorial Board Member: Public Choice.

Keynote/invited talk

- Hu, A. X. (2014, June 11). How Risk Sharing May Enhance Efficiency in English Auctions. Invited talk at Shanghai University of Economics and Finance, Shanghai, China.
- Offerman, T.J.S. (2014, March 12). The Angry Button, Invited Lecture, Springschool, UCSD, San Diego.

- Offerman, T.J.S. (2013, November 26). Competition for Status Creates Superstars: An Experiment on Public Good Provision and Network Formation. Invited Seminar. WZB Berlin and Humboldt University, Berlin.
- Schram, A. (2014, March 27-29). A Simultaneous Analysis of Turnout and Voting under Proportional Representation: Theory and Experiments. Montreal Voting Experiments Workshop, Montreal, Canada.
- Schram, A. (2014, May 9). A Simultaneous Analysis of Turnout and Voting under Proportional Representation: Theory and Experiments. Invited seminar. University of Barcelona.
- Schram, A. (2014, November 17). Status Anxiety Makes Women Under-Perform. Invited seminar. Ca' Foscari University of Venice.
- Schram, A. (2014, November 18). Status Anxiety Makes Women Under-Perform. Invited seminar. University of Padua.
- Sonnemans, J. (2014, February 10). Learning and Evolution in a Multi-Round Strategy-Method Minority-Game Experiment. Invited Seminar. Radboud Universiteit Nijmegen.
- Sonnemans, J. (2014, October 1). Learning and Evolution in a Multi-Round Strategy-Method Minority-Game Experiment. Invited Seminar. University of Birmingham.
- Ule, A. (2014, May 27). Experiments and models of boundedly rational cooperation on networks. Talk at the workshop on Spatial Human Cooperation at the Max Planck institute in Plön, Germany.
- Van Veelen, M. (2014, January 8). Goed en Kwaad. Diesrede UvA.
- Van Veelen, M. (2014, March 27). In and out of equilibrium: evolution in repeated games. Toulouse School of Economics.
- Van Veelen, M. (2014, June 26). In and out of equilibrium: evolution in repeated games. Annual Tinbergen Institute Conference 2014: 70 years theory of games and economic behavior.
- Weber, M. (2014, November 13). Choosing Voting Systems behind the Veil of Ignorance: A Two-Tier Voting Experiment. Rady Seminar (host: prof. Uri Gneezy), UCSD, San Diego, USA.
- Van der Weele, J. (2014, January). Gender and redistributive decisions. Invited Seminar. Marburg University, Germany.
- Van der Weele, J. (2014, January). Strategic ignorance and self image in social decisions. Invited Seminar. Cologne University, Germany.
- Van der Weele, J. (2014, April). Peer effects and risk sharing in experimental asset markets. Invited Seminar. UC Santa Barbara, USA.
- Van der Weele, J. (2014, April). Strategic ignorance and self image in social decisions. Invited Seminar. Rady School of Management, UC San Diego, USA.
- Van der Weele, J. (2014, November). Peer effects and risk sharing in experimental asset markets. Invited Seminar. Copenhagen University, Denmark.
- Van der Weele, J. (2014, November). Peer effects and risk sharing in experimental asset markets. Invited Seminar. Aarhus University, Denmark.
- Van Winden, F. (2014, February 28). Affective social ties, missing link in governance theory. Seminar "Citizenship and cooperation - Trend or hype?", KNAW, Amsterdam.
- Van Winden, F. (2014, June 17). Missing link in governance. Economics department research seminar, Universität Köln.
- Van Winden, F. (2014, June 18). On the development of prosocial and antisocial behavior: model, estimation, and neurobiology. Amsterdam Brain Day, Amsterdam Brain and Cognition opening conference, Brakke Grond, Amsterdam.
- Van Winden, F. (2014, July 21). Political economy with affect: on the role of emotions and relationships. CESifo Venice Summer Institute Workshop on Behavioral Political Economy, Venice.

Other lectures

- Hu, A.X. (2014, December 15-16). Sequential Auctions with Background Risks and Heterogeneous Bidders. European Winter Meeting of the Econometric Society, Madrid, Spain.
- Hu, A.X. (2014, August 25-29). English Auctions with Ensuing Risks and Heterogeneous Bidders. European Meeting of the Econometric Society, Toulouse, France.

- Hu, A.X. (2014, June 25-27). How Risk Sharing May Enhance Efficiency in English Auctions. China Meeting of the Econometric Society, Xiamen, China.
- Hu, A.X. (2014, June 13-15.). Sequential Auctions with Background Risk and Limited Liability. 5th Shanghai Microeconomics Workshop, Shanghai, China.
- Kamm, A. (2014, January 16). Winter Experimental Social Sciences Institute, NYU Abu Dhabi
- Kamm, A. (2014, March 11). IMEBESS, Oxford
- Kamm, A. (2014, June 12). Politicologenetmaal 2014, Maastricht
- Kamm, A. (2014, June 20). 4th General Conference of the European Political Science Association, Edinburgh
- Kamm, A. (2014, August 21). 23rd World Congress of the International Political Science Association, Montreal
- Schram, A. (2014, April 3-6). A Simultaneous Analysis of Turnout and Voting under Proportional Representation: Theory and Experiments. Meetings of the European Public Choice Society, Cambridge, UK.
- Schram, A. (2014, June 26-29). Indirect Reciprocity: A Field Experiment. World Meetings of the Economic Science Association, Honolulu, Hawaii.
- Ule, A. (2014, August 29). Emergence of meaning through experimental games with symbols. ABEE Workshop "Communication and Cues: The role of verbal and nonverbal cues in social interactions", Amsterdam.
- Weber, M. (2014, January 6). Choosing Voting Systems behind the Veil of Ignorance: A Two-Tier Voting Experiment. NYU-UvA Meeting, New York, USA.
- Weber, M. (2014, January 30). Choosing Voting Systems behind the Veil of Ignorance: A Two-Tier Voting Experiment. Southern European Experimentalists Meeting, Sesimbra, Portugal.
- Weber, M. (2014, June 2). Choosing Voting Systems behind the Veil of Ignorance: A Two-Tier Voting Experiment. Maastricht Behavioral and Experimental Economics Symposium, Maastricht, The Netherlands.
- Weber, M. (2014, October 17). Monetary Policy under Behavioral Expectations: Theory and Experiment. Economic Science Association North American Meetings, Fort Lauderdale, USA.
- Van der Weele, J. (2014, August). Bracelets of Pride and Guilt? A test of self-signaling in giving. Conference presentation, Tiber 13 (Tilburg).
- Van der Weele, J. (2014, September). Bracelets of Pride and Guilt? A test of self-signaling in giving. Conference presentation, Nordic Conference on Behavioral and Experimental Economics (Aarhus).
- Van der Weele, J. (2014, September). Bracelets of Pride and Guilt? A test of self-signaling in giving. Conference presentation, ESA (Prague).
- Van Well, S. and F. van Winden (2014, September 27). Unrelated fear reduces financial risk taking. Poster Spotlight presentation, Society for Neuroeconomics 2014 Annual Meeting, Miami.

Membership academies

- Hu, A. X. (2014.) Tinbergen Institute Research Fellow.
- Offerman, T.J.S. (2014). Tinbergen Institute Research Fellow.
- Offerman, T.J.S. (2014). Fellow of CESS, NYU.
- Offerman, T.J.S. (2014). External fellow of CeDEX, University of Nottingham.
- Offerman, T.J.S. (2014, December 19). Member of PhD committee of Sanne Blaauw. Erasmus University, Rotterdam.
- Schram, A. (2014). Tinbergen Institute Research Fellow.
- Schram, A. (2013, July 15). Chair of PhD committee of Christina Rott. Autonomia University, Barcelona.
- Schram, A. (2013, July 24). Chair of PhD committee of Andrej Angelovsky. Autonomia University, Barcelona.
- Schram, A. (2013, November 14). Member of PhD committee of Rei Sayag. Erasmus University, Rotterdam.
- Sonnemans, J. (2014). Tinbergen Institute Research Fellow.

- Sonnemans, J. (2014, October). Viva Voce for PhD candidate Zahra Murad, University of Nottingham.
- Ule, A. (2014). Member of the Faculty of Mathematics, Natural Sciences and Information Technologies at the University of Primorska, Slovenia.
- Van Veelen, M. (2014). De Jonge Akademie.
- Van Veelen, M. (2014). Tinbergen Institute Research Fellow.
- Van der Weele, J. (2014). Tinbergen Institute Research Fellow.
- Van der Weele, J. (2014). Center for Financial Studies (Frankfurt am Main), Fellow.
- Van der Weele, J. (2014). Center for Leadership and Behavior in Organizations (Frankfurt am Main), Fellow.
- Van Winden, F. (2014). CEPR fellow.
- Van Winden, F. (2014). CESifo fellow.
- Van Winden, F. (2014). Member Academic Advisory Council, Max Planck Institute for Research on Collective Goods, Bonn.
- Van Winden, F. (2014). Member International Mentor PhD program "Evidence-Based Economics", Munich Graduate School of Economics.
- Van Winden, F. (2014). Tinbergen Institute Research Fellow.
- Van Winden, F. (2014). Member Koninklijke Hollandse Maatschappij der Wetenschappen.

Relevant position

- Doğan, G. (2014). Referee for: Journal of Economic Behavior and Organization (2).
- Hu, A.X. (2014). Referee for RAND, Mathematical Social Science.
- Kamm, A. (2014). Referee for: Journal of Applied Mathematics.
- Kamm, A. (2014, May 19-21). Visitor, Center for Advanced Studies. LMU, München.
- Offerman, T.J.S.(2014). Referee for Econometrica, Economic Journal, Experimental Economics, Games and Economic Behavior, Journal of Economic Theory, Journal of the European Economic Association, Management Science, Review of Economic Studies.
- Schram, A. (2014, May 19-21). Visitor, Center for Advanced Studies. LMU, München.
- Schram, A. (2014). Referee for American Economic Review, American Journal of Political Science, Economic Journal, European Journal of Political Economy, European Research Council, Experimental Economics (4x), German Science Foundation, Journal of Economic Behavior and Organization (2x), Public Choice (2x), Review of Economic Studies, The Social Science Journal.
- Sonnemans, J. (2014) Referee for Econometrica, Experimental Economics, Journal of Economic Psychology, Journal of Economic Behavior and Organization, European Economic Review, Games and Economic Behavior, Journal of Experimental Political Science, ILRreview, Management Science, Theory and Decision.
- Ule, A. (2014). Referee for Games and Economic Behavior, JEBO, Journal of Economic Theory, Journal of Applied Mathematics, Experimental Economics.
- Van Veelen, M. (2014). Referee for: Evolution and Human Behaviour, Journal of Economic Theory, Journal of Theoretical Biology (2), Journal of Bioeconomics, Technology Foundation STW.
- Van der Weele, J. (2014). Referee for: Quarterly Journal of Economics, Journal of Economic Behavior and Organization (2), Experimental Economics (2), Journal of Behavioral and Experimental Economics, Economic Inquiry, Journal of Public Economics, Scandinavian Journal of Economics.
- Van Winden, F. (2014). Referee for: American Economic Review, Management Science, European Journal of Political Economy, Public Choice, Max Planck Society.

12. MARKETS & ORGANIZATIONS

Programme director:	Prof. dr. R. Sloof & Prof. dr. J. Hinloopen
METIS-code:	uva/feb/ase/mo
JEL-classification:	L
Starting date:	2005
Website:	www.aseri.uva.nl/mo
VSNU-scores 2001-2007:	Quality: 5, Productivity: 4.5, Relevance: 5, Viability: 4,5

12.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Buser, T.	dr.	ud	-	0,21	0,33	1
Buser, T.	dr.	ud	-	-	0,27	2
Czibor, E.	msc	phd	0,27	0,80	0,80	1
Dominguez Martinez, S.	dr.	ud	0,50	0,50	0,41	1
Guerriero, C.	dr.	ud	-	0,50	0,50	1
Hinloopen, J.	prof. dr.	hgl	0,50	0,50	0,50	1
Hoogendoorn, S.	msc	phd	0,80	0,07	-	3
Hsieh, C.	dr.	ud	0,50	0,50	-	1
Koudstaal, M.	msc	phd	-	0,53	0,80	1
Onderstal, S.	dr.	ud	0,30	0,30	0,30	1
Praag, C.M. van	prof. dr.	hgl	0,25	0,25	-	1
Rosendahl Huber, L.	msc	phd	0,80	0,19	-	3
Rosendahl Huber, L.	msc	phd	-	-	0,67	1
Schinkel, M.P.	prof. dr.	hgl	0,19	0,19	0,25	1
Seldeslachts, J.	dr.	ud	0,80	0,53	-	2
Seldeslachts, J.	dr.	ud	-	0,17	0,46	1
Siemens, F. van	dr.	ud	0,33	-	-	1
Sloof, R.	prof. dr.	hgl	0,50	0,50	0,50	1
Smrkolj, G.	msc	phd	0,53	-	-	1
Smrkolj, G.	dr.	docent	-	0,00	-	1
Soetevent, A.R.	prof. dr.	hgl	0,50	0,29	-	1
Soetevent, A.R.	prof. dr.	guest	-	0,00	0,00	1
Sol, J.	dr.	ud	0,50	0,50	-	1
Toth, L.	msc	phd	0,23	0,80	0,80	1
Ven, J. van de	dr.	ud	0,10	0,30	-	1
Ven, J. van de	dr.	uhd	-	0,08	0,50	1
Zhou, L.	msc	phd	0,80	0,80	0,53	1
Zhou, L.	msc	guest	-	-	0,00	1
Total 1st flow of funds			6,00	7,42	7,35	
Total 2nd flow of funds			0,80	0,53	0,27	
Total 3rd flow of funds			1,60	0,26	0,00	
Total 1st f.o.f. excl. Ph.D.'s			4,17	4,49	3,75	
Total all flows of funds			8,40	8,21	7,62	
Ph.D. students			3,43	3,19	3,60	

12.2 PROGRAMME DESIGN

Objectives

Broadly defined, the research program on Markets & Organizations aims to improve our understanding of the working of markets and organizations in capturing the economic benefits from collective action and to identify as well as evaluate (policy) interventions that may improve market or organizational performance.

Motivation

The field of Markets and Organizations is broad. Research within the programme is centered around both Industrial Organization, Competition Policy & Regulation (i.e. “markets”), and Organizational Economics. Moreover, given the historical origin of the organizational economics group, there is a close and well-established link with research on the Economics of Entrepreneurship. Three different, but closely interrelated lines of research can thus be delineated.

The first line of research studies the working of imperfectly competitive markets, in particular how firms compete with each other on these markets and what the effects are of policy interventions aimed at affecting market performance. The natural focus is on oligopolies where firms have some market power. Topics of interest include (but are not restricted to) pricing strategies, (tacit) collusion, locational choice, research and development, inter-firm relationships, competition policy, market design, auctions, two-sided markets, network industries, regulatory design and enforcement tools (including detection, fines, leniency programs and settlement).

Within economics organizations can be viewed as a means of achieving the benefits of collective action in situations where the price system fails. The second strand of research within M&O on Organizational Economics is concerned with studying the effective internal functioning of organizations in capturing these benefits. The key focus is on problems that may arise from coordinating and motivating the members of an organization to create economic value through superior organizational performance and to study potential remedies for these problems.

The third line of research on the Economics of Entrepreneurship is concerned with studying the effective functioning of labor and financial markets in terms of entrepreneurship outcomes. Entrepreneurs are often credited (by policy makers and academics alike) with innovating new products, discovering new markets, and displacing aging incumbents in a process of “creative destruction”. Yet it is also recognized that if entrepreneurs face constraints in terms of human or financial capital, then these economic benefits might not be realized. This has prompted governments to devise public programs –like entrepreneurship education or tax reliefs– to encourage entrepreneurship. Within this line of research our focus is on studying (the determinants of) the choices, behavior and performance of entrepreneurs and on whether and how government policy may be effective in fostering entrepreneurship.

Methods

Within the M&O program there is an emphasis on both sound empirical work and on applied theory. Empirical analyses primarily focus on the detection and measurement of unbiased effects, either through the use of naturally occurring field data (by means of ‘quasi experiments’ and instrumental variables techniques), field experiments or laboratory experiments. Applied theory typically concerns using the tools from microeconomics and applied game theory to evaluate the impact of either government policy or organizational interventions intended to improve efficiency. Often these models are enriched by incorporating insights from behavioural economics, as empirical evidence has mounted that people do not always satisfy the rationality assumptions made in traditional economic models. Research within the M&O group is always done with a keen eye towards societal relevance, ranging from competition policy, practical auction design in procurement, to the effectiveness of entrepreneurship education in stimulating entrepreneurial intentions.

Projects

A wide variety of topics and questions are studied within the M&O research programme, which by and large can be divided along the three different lines of research outlined above. Each of these can be further subdivided into a number of different research projects.

1. Industrial Organization, Competition Policy & Regulation

1.1 Competition policy & Regulation

Since 2005, group members have collected detailed price information on the Dutch market for retail gasoline. With these data, the competitive effects of the governmental program of auctioning licenses to operate gasoline sites at highways have been quantified. Currently, the data are used to develop an automated procedure to identify regional clusters of low price variation, an indicator of possible collusive practices. Other current empirical projects on competition policy deal with potential deterrence effects of merger policy tools, based on data from the U.S. Department of Justice and the U.S. Federal Trade Commission. Furthermore, group members investigate whether firms that collaborate in research joint ventures, use these collaborations to collude in product markets. In another project, a series of experiments is set up to study the relationship between competition, the size of a loss and firm profits in insurance markets. Also the impact of antitrust policy at large was investigated. This was done by further refining the methodologies to estimate price cost margins and by applying the methodology to data from the Indonesian economy. In addition to the nation-wide impact of the introduction of antitrust policy, also the change in the behaviour of targeted firms was investigated by a difference in difference method.

1.2 Research and development

Research cooperation is key for businesses to successfully innovate and prosper, and firms increasingly rely on extensive networks to achieve their goals. It is, however, still poorly understood how these R&D cooperatives are formed, how they evolve, what their impact is on R&D activities, and what should constitute an optimal R&D policy. These questions drive several research lines. For instance, group members are developing a theoretical framework of research network formation. This framework is tested against a database that includes all large research collaborations in the U.S. Other group members work on dynamic models of R&D, the novelty being here the application of bifurcation methods. This allows for a global analysis, including (transitory) parameter configurations that preclude single-stage equilibria. Yet other group members assess the welfare implications of sustaining R&D cooperatives. Again, the fundamental trade-off between static and dynamic efficiency is addressed, giving additional insights as to what should constitute an optimal R&D-stimulating policy.

1.3 Auctions

In the past few decades, the study of auctions has become one of the most active research areas in economic sciences. We aim at answering questions such as: How to prevent cartel formation in auctions? What is the effect of limited liability on bidding behaviour? How to design auctions of multiple objects? What are optimal mechanisms in quasi-markets such as welfare-to-work markets and health care markets? What is the effect of license auctions on the performance of markets? For example, groups members have studied experimentally the impact leniency programmes on the collusive properties of different auction types. Others have studied fundraising mechanisms on charitable giving in a door-to-door fundraising field experiment. The starting point here is that people are not purely selfish because if they were they would donate nothing to charity.

1.4 Economic analysis in competition cases

Increasingly does economic analysis play a decisive role in competition law enforcement. In competition cases, economic arguments in market definition, for example in two-sided markets, the theory of harm, or an efficiency defense can be decisive in the finding of an infringement and the design of remedies. Since business strategies constantly evolve, the thinking about possible anticompetitive aspects of them is under constant development as well. Topics studies in this research

focus range from quantifying the efficiency defense in merger control and the identification of abuse of dominance strategies, to analyzing the effects of State aid remedies and the calculation of cartel damages.

2. Organizational Economics

2.1 Decision rights and internal organization

A key feature of organizational architecture is the division of tasks and responsibilities within organizations: who does and decides on what? Employees lower in the organizational chart typically have better knowledge to take operational decisions, but at the same time have objectives that (may) differ from the interests of the firm. Within this project the tradeoffs that arise in delegating decision authority –like a loss of control versus a loss of initiative– are studied. The focus is in particular on behavioural biases that may affect these tradeoffs; especially when it comes to authority and monitoring non-monetary motives have been found to play a prominent role. Another topic concerns whether (procedural) preferences regarding the way in which decisions are taken affects how efficiently these taken decisions are subsequently implemented.

2.2 Performance measurement and reward systems

A second set of projects within the domain of Organizational Economics is concerned with the design of good performance measures and of appropriate reward systems. Performance measures are for instance evaluated empirically in terms of their noise and their distortions. The research on reward systems focuses predominantly on (among other things) pay-for-performance contracts, career opportunities and promotions, returns to investments in skills acquisition and the interaction between explicit and implicit incentives. Also here a behavioural approach is typically taken, as people often care about how well they fare relative to others.

3. Economics of Entrepreneurship

3.1 The selection and performance of entrepreneurs

Are entrepreneurs born or made? And if entrepreneurs can be ‘nurtured’, what are the (human capital) factors that enhance the likelihood of (successful) entrepreneurship? Moreover, nowadays the majority of entrepreneurial ventures are started up by teams, rather than by single individuals. What is the effective composition of teams with broad and complex tasks such as is the case for ventures? In our studies, we try to measure and understand the impact on selection and performance of, for instance, parental background, cognitive and non-cognitive skills, education, gender, ethnicity or role models for individuals and teams. Theories are tested empirically based on the results of ‘quasi’, field or laboratory experiments.

3.2 Evaluation of entrepreneurship programs

Public policy has increasingly proposed and implemented programmes to encourage entrepreneurship. Most of these programmes are designed to decrease human and financial capital constraints. We aim at measuring the causal effect of these programmes, with a focus on entrepreneurship education, on the intended outcomes by using field experiments.

3.3 The behavioural traits of entrepreneurs

This research aims to identify the defining behavioural traits of entrepreneurs and to establish to what extent these differ from managers. The relevant traits studied include, among other things, attitudes towards risk and losses, overconfidence, intuitive and rational thinking, optimism, willingness to compete and willingness to cooperate in a team. Established entrepreneurs and managers participate in online incentivized tasks designed to measure the relevant traits. We are building a database of entrepreneurs and managers that can be approached for this purpose bi-annually.

12.3 PROGRAMME EVALUATION

Turnover

As of January 2014, the Amsterdam Center for Entrepreneurship (ACE) moved from ASE to ABS. As a result, the research programme lost some highly qualified researchers in the field of entrepreneurship (Hsieh, Sol). Moreover, Mirjam van Praag took up a full professorship at the Copenhagen Business School. This has substantially reduced the size (in terms of #fte) of the research group. Nevertheless, contacts with the entrepreneurship scholars remain strong, also because PhD students within this field (Rosendahl-Huber, Koudstaal) stayed within the M&O research group, being supervised by Van Praag and Sloof.

On his own request Jo Seldeslachts (temporarily) reduced his appointment at the UvA to spend time at the DIW in Berlin. Thomas Buser was extremely successful this year, receiving a VENI grant, a best paper award and the KVS medal for best economics PhD thesis 2011-2014. The VENI grant provided him more research time. Laura Rosendahl Huber finished her PhD research project and will formally defend her thesis in April 2015. Also Czibor, Tóth and Zhou are expected to defend their theses in 2015. The temporary (tenure track) contract of Carmine Guerriero expires in September 2015 and in a careful tenure-track procedure it was decided not to prolong this contract afterwards.

For 2015 the programme expects an inflow of one tenure track ud and two PhD students (jointly supervised with members from the CREED research programme).

Strengths: The group has a very broad orientation, both in terms of the choice of research topics as in terms of methodologies used (theoretical/[lab/field]experimental/empirical). Group members are each other's complements, which regularly yields papers that are co-authored by several group members. The group is well-embedded in ASE and in Tinbergen Institute; group members thus have coauthored papers with members from other ASE research groups. The research performed by the group is not only of high quality (with key publications appearing in top journals), but also very visible and of great practical importance. Group members have close links with governmental bodies such as ministries and antitrust agencies. The group is relatively young, hosts highly qualified researchers, and has a high growth potential.

Weaknesses: There is too little coherence in the broad research programme. The group is not prominent in the arena of theoretical industrial organization and contract theory, except for the field of auction theory.

Opportunities: Joint physical location to stimulate regional spillovers; cross-fertilization of research fields; the creation of an M&O major at TI. Within Europe, the group has close contacts with research groups in industrial organization at other universities. The challenge is to establish a more formal network with these other departments in order to pool research projects and resources.

Threats: Uncertain corporate governance by the faculty and the departure of excellent researchers. The group has a small-scale, with only a few PhD students and no postdocs; a viable research programme needs a continuous inflow and outflow of PhD students.

Societal relevance

Research by the group on the deterrence effects of merger policy tools and the effectiveness of leniency programs is directly relevant to competition agencies and governmental bodies such as the ACM. Besides, the group's empirical projects target specific markets the functioning of which is of major importance to social welfare, such as the banking sector, insurance markets, retail gasoline pricing and public procurement. For this reason, research by the group regularly features in national newspapers and international magazines. Group members also appear on television to contribute to the debate by commenting on the developments in specific markets and the effects of these on

competition. Maarten Pieter Schinkel, for instance, is frequently asked for media appearances commenting on the (non)competitiveness of the Dutch mortgage market. Group members also participate in governmental expert committees and provide targeted advice for particular policy issues. For instance, Sander Onderstal advised the Ministry of Economic Affairs on the design of the auction for mobile telecommunications, and Jo Seldeslachts was a member of the expert committee “Toekomst van toezicht” of the Dutch Wetenschappelijke Raad voor het Regeringsbeleid (WRR).

12.4 RESOURCES AND FUNDING

- Standard funding from TI and ASE-RI;
- ACLE receives additional funding directly from the FEB-Dean; some group members (Schinkel, Guerriero) are partly financed by ACLE;
- Funding from research priority area ‘Behavioural Economics’;
- VENI-grant Buser;
- Use CREED lab (excellent).

12.5 OUTPUT

Key publications

- Buser T., Niederle, M. & Oosterbeek, H. (2014). Gender, Competitiveness and Career Choices. *Quarterly Journal of Economics* 129(3), 1409-1447.
- Belot, M., Bhaskar, V. & Ven, J. v.d. (2012). Can Observers Predict Trustworthiness? *Review of Economics and Statistics* 94(1), 246-259.
- Delfgaauw, J., Dur, R., Sol, J., & Verbeke, W. (2013). Tournament Incentives in the Field: Gender Differences in the Workplace. *Journal of Labor Economics* 31(2), 305-326.
- Duso T, Roeller H, & Seldeslachts J. (2014). R&D collaborations as a collusive tool: Empirical evidence, *Review of Economics and Statistics* 96, 349 - 370.
- Kuhn, P., Kooreman P., Soetevent, A.R. & Kapteyn, A. (2011). The Effects of Lottery Prizes on Winners and their Neighbors: Evidence from the Dutch Postcode Lottery. *American Economic Review*, 101(5), 2226-2247.

Forthcoming

- Buser, T. (in press). The effect of income on religiousness. *American Economic Journal: Applied Economics*.

Publications in numbers

Output type	Classification	#
Articles	Refereed	14
	Non-refereed	0
	Professional	1
	Popular	0
Books or book chapters	Refereed	1
	Non-refereed	0
	Professional	0
	Popular	0
Conference proceedings		1
PhD theses		0
Working papers		12
Total		

Article in journal – refereed

- Buser, T., Niederle, M. & Oosterbeek, H. (2014). Gender, competitiveness and career choices. *The Quarterly Journal of Economics*, 129 (3), 1409-1447. doi: 10.1093/qje/qju009
- Dijkstra, M.A., Randag, F. & Schinkel, M.P. (2014). High mortgage rates in the low countries: an introduction. *Journal of Competition Law and Economics*, 10 (4), 773-777. doi: 10.1093/joclec/nhu027
- Dijkstra, M.A., Randag, F. & Schinkel, M.P. (2014). High mortgage rates in the Low Countries: what happened in the spring of 2009? *Journal of Competition Law and Economics*, 10 (4), 843-859. doi: 10.1093/joclec/nhu031
- Dominguez Martinez, S., Sloof, R. & Siemens, F.A. von (2014). Monitored by your friends, not your foes: strategic ignorance and the delegation of real authority. *Games and Economic Behavior*, 85, 289-305. doi: 10.1016/j.geb.2014.02.003
- Duso, T., Röller, L.H. & Seldeslachts, J. (2014). Collusion through joint R&D: an empirical assessment. *Review of Economics and Statistics*, 96 (2), 349-370. doi: 10.1162/REST_a_00367
- Goossens, D.R., Onderstal, S., Pijnacker, J. & Spieksma, F.C.R. (2014). Solids: a combinatorial auction for real estate. *Interfaces*, 44 (4), 351-363. doi: 10.1287/inte.2014.0749
- Groot Ruiz, A. de, Offerman, T. & Onderstal, S. (2014). For those about to talk we salute you: an experimental study of credible deviations and ACDC. *Experimental Economics*, 17 (2), 173-199. doi: 10.1007/s10683-013-9362-z
- Hinloopen, J. & Onderstal, S. (2014). Going once, going twice, reported! Cartel activity and the effectiveness of antitrust policies in experimental auctions. *European Economic Review*, 70, 317-336. doi: 10.1016/j.eurocorev.2014.06.002
- Hinloopen, J. & Wagenvoort, R.J.L.M. (2014). On the exact finite sample distribution of the L1-FCvM test statistic. *Communications in Statistics: Simulation and Computation*, 43 (6), 1304-1317. doi: 10.1080/03610918.2012.733470
- Hinloopen, J., Müller, W. & Normann, H.T. (2014). Output commitment through product bundling: experimental evidence. *European Economic Review*, 65, 164-180. doi: 10.1016/j.eurocorev.2013.11.006
- Koch, A.K., Nafziger, J., Suvorov, A. & Ven, J. van de (2014). Self-rewards and personal motivation. *European Economic Review*, 68, 151-167. doi: 10.1016/j.eurocorev.2014.03.002
- Onderstal, S., Schram, A.J.H.C. & Soetevent, A.R. (2014). Reprint of: Bidding to give in the field. *Journal of Public Economics*, 114, 87-100. doi: 10.1016/j.jpubeco.2013.11.009
- Rosendahl Huber, L., Sloof, R. & Praag, M. van (2014). The effect of early entrepreneurship education: evidence from a field experiment. *European Economic Review*, 72, 76-97. doi: 10.1016/j.eurocorev.2014.09.002

Soetevent, A.R., Haan, M.A. & Heijnen, P. (2014). Do auctions and forced divestitures increase competition? Evidence for retail gasoline markets. *The Journal of Industrial Economics*, 62 (3), 467-502. doi: 10.1111/joie.12054

Article in journal – professional

Schinkel, M.P. (2014). Balancing proactive and reactive cartel detection tools: some observations. In *Policy roundtables: ex officio cartel investigations and the use of screens to detect cartels* (pp. 257-262). Paris: OECD.

Conference proceedings – refereed

Goossens, D.R., Onderstal, S. & Spieksma, F.C.R. (2012). Solids: a combinatorial auction for a housing corporation. In P. Coles, S. Das, S. Lahaie & B. Szymanski (Eds.), *Auctions, Market Mechanisms, and Their Applications: Second International ICST Conference, AMMA 2011, New York, NY, USA, August 22-23, 2011, Revised Selected Papers Vol. 80. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering* (pp. 76-87). Heidelberg: Springer.

Book/book chapter – refereed

Onderstal, S. (2014). *Economics of organizations and markets*. Amsterdam: Pearson.

Report – working- and discussion papers

Boranbay, S. & Guerriero, C. (2014). Endogenous (in)formal institutions. (Preprints). Amsterdam: University of Amsterdam.

Buser, T. (2014). The impact of losing in a competition on the willingness to seek further challenges. (Preprints, Tinbergen Institute Discussion Paper, no TI 2014-083/I). Amsterdam: Tinbergen Institute.

Buser, T., Oosterbeek, H., Plug, E., Ponce, J. & Rosero, J. (2014). The impact of positive and negative income changes on the height and weight of young children. (Preprints, IZA Discussion Paper, no 8130). Bonn: IZA.

Czibor, E., Onderstal, S., Sloof, R. & Praag, C.M. van (2014). Does relative grading help male students? Evidence from a field experiment in the classroom. (Preprints, IZA Discussion Paper, no 8429). Bonn: IZA.

De Oliveira, G. & Guerriero, C. (2014). Extractive states: the case of the Italian unification. (Preprints, ACLE Working Papers, no 2014-03). Amsterdam: ACLE, University of Amsterdam.

Dijkstra, M.A., Randag, F. & Schinkel, M.P. (2014). High mortgage rates in the Low Countries: what happened in the Spring of 2009? (Preprints, Amsterdam Center for Law & Economics Working Paper, no 2014-05). Amsterdam: University of Amsterdam.

Koudstaal, M., Sloof, R. & Praag, M. van (2014). Risk, uncertainty and entrepreneurship: evidence from a lab-in-the-field experiment. (Preprints, Tinbergen Institute Discussion Paper, no TI 2014-136/VII). Amsterdam: Tinbergen Institute.

Rampa, G. & Saraceno, M. (2014). Beliefs and precedent: the dynamics of access to justice. (Preprints, DEM Working Paper Series, no 84 (07-14)). Pavia (I): Department of Economics and Management, Università di Pavia.

Rosendahl Huber, L., Sloof, R. & Praag, M. van (2014). Jacks-of-all-trades? The effect of balanced skills on team performance. (Preprints, IZA Discussion Paper, no 8237). Bonn: IZA.

Saraceno, M. (2014). Justice: greater access, lower costs. (Preprints, Amsterdam Center for Law & Economics Working Paper, no 2014-01). Amsterdam: University of Amsterdam.

Schinkel, M.P., Tóth, L. & Tuinstra, J. (2014). Discretionary authority and prioritizing in government agencies. (Preprints, Amsterdam Center for Law & Economics Working Paper, no 2014-06). Amsterdam: University of Amsterdam.

Sloof, R. & Siemens, F.A. von (2014). Illusion of control and the pursuit of authority. (Preprints, CESifo Working Paper, no 4764). Munich: CESifo Group Munich.

Conference organiser

Guerriero, C. (2014). Member of the program committee of the 18th ISNIE (International Society for New Institutional Economics), Firenze, 19-21 June.

Onderstal, S. (2014). Organizer of the TI Organizations and Markets seminar series

Schinkel, M.P. (2014). Organizer symposium in honour of Jean Tirole, University of Amsterdam, Authority for Consumers & Markets, TILEC, The Hague, 9 December.

Recognition

Buser T. (2014). NWO Veni grant.

Buser T. (2014). KVS Medal (Penning) for best economics PhD thesis at a Dutch university 2011-2014.

Buser T. and Peter N. (2014): Editors' award for best paper published in *Experimental Economics* in 2012.

Tóth, L. (2014). Selected as the 2015 International Scholar in Residence by the American Bar Association Section Antitrust Law. Awarded a scholarship to support the stay Washington, D.C. for a period of three months, starting April 2015 as a visiting researcher with William Kovacic at George Washington University.

Tóth, L. (2014). Visiting researcher position at The Centre for Competition Policy at the University of East Anglia.

Media appearance

Buser, T. (2014). TV-interview 'gender and competition', *Altijd Wat* (NPO 2), 02/12/2014.

Hinloopen, J. (December 17, 2014), Radio interview on "The economics of the Top 2000", Sleutelstad FM: Science.

Schinkel, M.P. (2014). Various commentaries and interviews for radio, TV and printed media, both nationally and internationally.

Sloof, R. (2014). Two page discussion titled (in Dutch) "Risicohonger. Uniek onderzoek naar de verschillen tussen ondernemers en managers" of the research project joint with Koudstaal and Van Praag in: *Het Financieele Dagblad*, July 26, 2014.

Editorship

Guerriero, C. (2014). Associate editor *International Review of Law and Economics*.

Hinloopen, J. (2014). Associate Editor *Review of Industrial Organization*

Onderstal, S. (2014). Editor *TPEdigitaal*

Key note/invited talk

Buser, T. (2014, 12 February). Seminar, Insper São Paulo

Buser, T. (2014, 26 February). Seminar, Fundação Getulio Vargas São Paulo

Buser, T. (2014, 23 April). Seminar, Aarhus University

Buser, T. (2014, 16 May). Incentives and Behavior Change Workshop, Amsterdam

Buser, T. (2014, 21 May). Seminar, Goethe University Frankfurt

Buser, T. (2014, 2 July). Seminar, WZB Berlin

Buser, T. (2014, 22 September). Conference on the Economics of Study Choices, Marbach Castle Switzerland, September 2014

Guerriero, C. (2014). Origins and Impact of a Culture of Cooperation, 2014 ISNIE (International Society for New Institutional Economics) Meeting, Durham.

Hinloopen, J. (January 2014), "Costly location in Hotelling duopoly". ASSA meetings, Philadelphia.

- Hinloopen, J. (April 2014), “Costly location in Hotelling duopoly”. IIOC conference, Chicago.
- Hinloopen, J. (September 2014), “Costly location in Hotelling duopoly”. EARIE conference, Milan.
- Hinloopen, J. (April 15, 2014). “Risk aversion, insurance, and risk manipulation.” Purdue University, West Lafayette.
- Hinloopen, J. (November, 2014). “Risk aversion, insurance, and risk manipulation.” IO Workshop, University of Salento.
- Hinloopen, J. (November, 2014). “Risk aversion, insurance, and risk manipulation.” FUR conference, Rotterdam.
- Hinloopen, J. (November, 2014). “Risk aversion, insurance, and risk manipulation.” Newcastle Business School.
- Hinloopen, J. (November 25, 2014). “Risk aversion, insurance, and risk manipulation.” University of Aarhus.
- Hinloopen, J. (December 25, 2014). “Risk aversion, insurance, and risk manipulation.” CEAR/MRIC, Munich
- Onderstal, S. (August 29, 2014). “Endogenous cartel formation: A laboratory experiment.” ABEE workshop, Amsterdam
- Onderstal, S., (September 4, 2014) “Trading places: Experimental evidence on priority auctions in queuing systems.” ESA conference, Prague
- Onderstal, S., (October 31, 2014) “Does Relative Grading Help Male Students? Evidence from a Field Experiment in the Classroom.” NED workshop Amsterdam
- Onderstal, S., (November 11, 2014) “Does Relative Grading Help Male Students? Evidence from a Field Experiment in the Classroom.” Seminar Tilburg University
- Saraceno, M. (2014). Seminars “Beliefs and Precedent”. The Rise and Fall of Access to Justice Department of Economics, Marco Biagi, University of Modena, Modena, March.
- Saraceno, M. (2014). Beliefs and Precedent. Workshop “The Rise and Fall of Access to Justice”, Economics of Litigation, University of Catania., 20 June.
- Seldeslachts J. (2014, 14 March) The Deterrence Effects of EU Merger Policy. MACCI Conference, Mannheim.
- Seldeslachts J. (2014, 2 September) Success and Failure in Strategic Alliances: Cooperation versus Coordination. EARIE, Milan.
- Seldeslachts J. (2014, 16 September) The Deterrence Effects of EU Merger Policy. Jornadas de Economia Industrial, Barcelona.

Other lectures

- Guerriero, C. (2014). Endogenous Institutions and Economic Outcomes, NBER Summer Institute, Boston.
- Guerriero, C. (2014). Extractive States: The Case of the Italian Unification, seminar: CSEF, Federico II University, Naples.
- Guerriero, C. (2014). Extractive States: The Case of the Italian Unification, seminar: IMT Lucca.
- Guerriero, C. (2014). Extractive States: The Case of the Italian Unification, Econometric Society European Winter Meeting, Madrid, 15 December.
- Hinloopen, J. (2014, 8 oktober), Masterclass on “Classroom experiments”, Fontys Hogeschool Tilburg.
- Hinloopen, J. (2014, 24 november), Masterclass on “The Theory of Harm”, ACM, The Hague.
- Onderstal, S. (April 11, 2014). “Mechanism design voor het goede doel.” Workshop Speltheorie en Mechanism Design, Utrecht University
- Onderstal, S. (June 5, 2014). “Beatles for Sale: Behavioral Engineering for Cultural Markets.” Workshop Crowdfunding Amsterdam
- Schinkel, M.P. (2014). Antitrust Damages: the European Commission’s Proposal, competition workshop “Effective Cartel Deterrence”, Tilburg University, TILEC, Ministry of Economic Affairs, The Hague, 29 January.
- Schinkel, M.P. (2014). Hollands hoge hypotheekrentes, lecture at IIR’s 23ste “Hypotheek Event,” Almere, The Netherlands, 12 February.

- Schinkel, M.P. (2014). State-aided Price Coordination in the Dutch Mortgage Market, lecture at College of Europe, Bruges, Belgium, 13 February.
- Schinkel, M.P. (2014). Quantifying Cartel Damages: Some Notes, contribution to 2nd E.CA Competition Law and Economics Expert Forum, Berlin, Germany, 14 March.
- Schinkel, M.P. (2014). State-aided Price Coordination in the Dutch Mortgage Market, lectures on Economic Policy, ZEW, Mannheim, Germany, 16 April.
- Schinkel, M.P. (2014). Discretionary Spending and Prioritizing in Government Agencies, presentation in the Haifa-Loyola joint workshop on “Recent Challenges to Antitrust,” Haifa University, Israel, 8-9 May.
- Schinkel, M.P. (2014). Discussant of Lily Samkharadze, “Monopolization Conduct by Cartels” (joint work with Robert Marshall and Leslie Marx), CRESSE, 9th International Conference on Competition and Regulation, Corfu, Greece, 4 July.
- Schinkel, M.P. (2014). Presentation of Cartel Dating using Endogenous Break Tests, CRESSE, 9th International Conference on Competition and Regulation, Corfu, Greece. 5 July.
- Schinkel, M.P. (2014). Discussant of Anna-Louise Hinds, “Cartel Settlements in EU Competition Law: A Potential Compliance Impact?”, CRESSE, 9th International Conference on Competition and Regulation, Corfu, Greece, 6 July.
- Schinkel, M.P. (2014). Discretionary Authority and Prioritizing in Government Agencies (with Lukas Tóth and Jan Tuinstra), presentation at “Symposium in Honour of Jean Tirole”, Authority for Consumers & Markets (ACM), The Hague, 9 October.
- Schinkel, M.P. (2014). State-aided Price Coordination in Dutch Mortgage Banking, presentation at De Rijksacademie voor Financiën, Economie en Bedrijfsvoering, The Hague, The Netherlands, 9 December.
- Seldeslachts J. (2014, 17 January) What Clients Want: Choices between Lawyers’ Offerings. Netherlands Bureau for Economic Policy Analysis (CPB).
- Seldeslachts J. (2014, November) Economics of Information, PhD. Lectures at Business Dept. KU Leuven
- Sloof, R. (2014, April 17)) Presentation for the general public on online experiments with managers and entrepreneurs, Amsterdamse Academische Club, the Netherlands.
- Tóth, L. (2014). Public Goods as a Compensation in Cartel Offenses (with M.P. Schinkel), Tinbergen Institute Lunch Seminar, Amsterdam, Netherlands, June 2014.
- Vala Elias Pimentel de Oliveir, G. & Guerriero, C. (2014). Extractive States: The Case of the Italian Unification. In 13th Session of the European School on New Institutional Economics. Amsterdam Law School Research Paper No. 2014-04/Amsterdam Center for Law & Economics No. 2014-03.
- Vala Elias Pimentel de Oliveir, G. & Guerriero, C. (2014). Extractive States: The Case of the Italian Unification. In 10th Annual Conference of the Italian Society of Law and Economics. Amsterdam Law School Research Paper No. 2014-04/Amsterdam Center for Law & Economics Working Paper No. 2014-03.

Membership academies

- Buser, T. (2014). Tinbergen Institute Research Fellow.
- Buser, T. (2014). Affiliate, CESifo.
- Guerriero, C. (2014). Research Fellow, Duisenberg School of Finance.
- Hinloopen, J. (2014). Tinbergen Institute Research Fellow.
- Hinloopen, J. (2014). ACLE Research Fellow.
- Hinloopen, J. (2014). Phd committee member, Ysuf Emre Akgunduz, Utrecht University, Analyzing maternal employment and child care quality, November 2014
- Onderstal, S. (2014). Tinbergen Institute Research Fellow.
- Onderstal, S. (2014). Member PhD committee Asli Selim (Erasmus University Rotterdam)
- Schinkel, M.P. (2014). Member of the Royal Holland Society of Sciences and Humanities (Koninklijke Hollandsche Maatschappij der Wetenschappen).
- Schinkel, M.P. (2014). Research Fellow Tinbergen Institute
- Schinkel, M.P. (2014). Research Fellow Duisenberg School of Finance

- Seldeslachts J. (2014). Research Fellow Tinbergen Institute
- Seldeslachts J. (2014). Member of the PhD committee of Simon Michielsen, KU Leuven, Title Essays on Information and Competition. Supervisor: Patrick Van Cayseele. Defense date: October 10, 2014.
- Seldeslachts J. (2014) Member of American Economic Association, European Economic Association, European Association for Research in Industrial Economics. Fellow of Tinbergen Institute and ACLE.
- Sloof, R. (2014). Tinbergen Institute Research Fellow.
- Sloof, R. (2014). ACLE research fellow.
- Sloof, R. (2014). Phd committee member, Ayse Mermer, University of Tilburg, Essays in Behavioral Economics: Applied Game Theory and Experiments, December 2014.
- Sloof, R. (2014). Phd committee member, Rei Sayag, Erasmus University Rotterdam, Communication and Learning in Decision Making, November 2014.
- Tóth, L. (2014). Visiting Researcher with The Centre for Competition Policy at the University of East Anglia, Norwich, UK June 2014.
- Ven, J. van de, (2014). Tinbergen Institute Research Fellow.
- Ven, J. van de, (2014). ACLE Research Fellow.

Relevant position

- Buser, T. (2014). Referee for: American Economic Review (2), Review of Economic Studies, Management Science (3), Journal of the European Economic Association (2), European Economic Review, Journal of Economic Behavior & Organization, Experimental Economics, Social Science Research, Journal of Economic Psychology, Games and Economic Behavior, Journal of Behavioral and Experimental Economics
- Guerriero, C. (2014). Referee for European Journal of Law and Economics, International Review of Law and Economics, Journal of Economic Growth.
- Hinlopen, J. (2014). Referee for: Bulletin of Economic Research, European Economic Review, Games & Economic Behaviour, International Journal of Industrial Organization, Journal of Economics, Journal of International Trade Law and Policy, Journal of Law, Economics & Organization, Review of Industrial Organization.
- Onderstal, S. (2014). Referee for: *Journal of the European Economic Association*, *RAND Journal of Economics*, *Journal of Economic Theory*, *Games and Economic Behavior*, *American Journal of Agricultural Economics*, *Mathematical Social Sciences*, *Journal of Public Economic Theory*, *Economic Inquiry*, *Economica*, *Journal of Economic Behavior & Organization*, *Experimental Economics*, and Canada Research Chairs.
- Seldeslachts J. (2014). Examiner for the Flemish Science Foundation Management Scholarships (FWO-ICM).
- Seldeslachts J. (2014). Referee for The Review of Economics and Statistics, The International Journal of Industrial Organization, *Economica*, Journal of Institutional and Theoretical Economics
- Sloof, R. (2014). Referee for: European Economic Review, Games and Economic Behavior, International Review of Law and Economics, Journal of Institutional and Theoretical Economics, Portuguese Economic Journal.
- Ven, J., van de (2014). Referee for American Economic Review, Management Science, Journal of Public Economics, European Economic Review, Experimental Economics, International Economic Review, RAND Journal of Economics, Journal of Behavior & Org

13. SEO ECONOMIC RESEARCH

Subprogrammes:	Labour & Education Health Care & Social Security Competition & Regulation SEO Aviation Economics Market & State
Programme director:	Prof. dr. B.E. Baarsma
METIS-code:	uva/feb/ase/seo
JEL-classification:	I, J, L, Q, R
Website:	www.seo.nl

13.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Scientific Staff SEO						
Baarsma, B.E.	dr.	oz	1,00	1,00	1,00	3
Koopmans, C.C.	prof. dr.	hgl	0,80	0,80	0,80	3
Theeuwes, J.J.M.	prof. dr.	hgl	0,48	-	-	3
Market & State						
Buiren, K.B. van	drs.	oz	1,00	1,00	1,00	3
Compernelle, P.	drs.	oz	-	0,70	0,20	3
Gerritsen, M.	drs.	oz	1,00	1,00	1,00	3
Leussink, L.	msc	oz	1,00	0,20	-	3
Smits, T.C.	msc	oz	-	0,50	1,00	3
Voort, J. van der	msc	oz	0,95	1,00	1,00	3
Competition & Regulation						
Akker, I.J.	MA	oz	-	-	-	3
Hof, B.J.F.	drs.	oz	0,95	0,84	0,95	3
Kerste, M.W.M.	drs.	oz	1,00	1,00	1,00	3
Kocsis, V.	dr.	oz	0,63	0,74	0,74	3
Noll, R. van der	dr.	oz	1,00	0,95	0,95	3
Rosenboom, N.	msc	oz	0,88	1,00	1,00	3
Rougour, W.	msc	oz	-	0,75	1,00	3
Tieben, L.A.W.	drs.	oz	1,00	1,00	1,00	3
Weda, J.N.T.	drs.	oz	1,00	1,00	0,95	3
Labour & Education						
Berg, E. van den	drs.	oz	1,00	1,00	1,00	3
Berkhout, E.E.	drs.	oz	1,00	1,00	1,00	3
Bisschop, P.	msc	oz	1,00	1,00	1,00	3
Heyma, A.O.J.	dr.	oz	1,00	1,00	1,00	3
Imandt, G.C.M.	msc	oz	-	-	0,33	3
Mulder, J.	drs.	oz	0,84	0,84	0,32	3

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2012</i>	<i>Total 2013</i>	<i>Total 2014</i>	<i>Funding</i>
Prins, J.	msc	oz	1,00	1,00	0,08	3
Volkerink, M.D.	msc	oz	1,00	1,00	1,00	3
Werff, S.G. van der	msc	oz	1,00	1,00	1,00	3
Health Care & Social Security						
Berden, C.B.	dr.	oz	0,89	0,84	0,84	3
Kok, L.M.	drs.	oz	0,84	0,84	0,84	3
Lammers, M.	msc	oz	1,00	1,00	1,00	3
Scholte, R.S.	drs.	oz	0,33	1,00	1,00	3
Tempelman, D.C.G.	drs.	oz	0,87	0,95	0,95	3
SEO Aviation Economics						
Burghouwt, G.	dr.	oz	1,00	1,00	1,00	3
Kempen, T.	drs.	oz	0,48	0,39	0,43	3
Krul, J.	drs.	oz	0,18	0,18	0,06	3
Lieshout, R.B.T.	drs.	oz	1,00	1,00	1,00	3
Veldhuis, J.G.	drs.	oz	0,80	0,60	0,20	3
Zuidberg, J.	msc	oz	1,00	1,00	1,00	3
Total 1st flow of funds			0,00	0,00	0,00	
Total 2nd flow of funds			0,00	0,00	0,00	
Total 3rd flow of funds			28,92	30,12	28,64	
Total 1st f.o.f. excl. Ph.D.'s			0,00	0,00	0,00	
Total all flows of funds			28,92	30,12	28,64	
Ph.D. students			0,00	0,00	0,00	

13.2 PROGRAMME DESIGN

SEO Economic Research was founded in 1949, as a research institute of the Faculty of Economics at the University of Amsterdam, to encourage applied research. Since the 1980s it has been financially independent from the university, while retaining close links with the academic community.

SEO carries out contract research for ministries and public organizations, private companies and non-profit institutions, nationally and internationally. SEO distinguishes itself from commercial research bureau's by its analytical approach. Modern economic analysis is applied to practical issues. Empirical questions are tackled with the econometrics toolkit.

SEO is not linked to vested interests or political parties and research questions are approached with an independent scientific mind-set.

SEO Economic Research is a medium-sized horizontal organisation. It has an academic staff of about 40 economists and econometricists. When a research question has multiple dimensions SEO can call upon specialists from other disciplines – often from within the University of Amsterdam - such as the Amsterdam Institute for Advanced Labour Studies (AIAS) and the Institute for Information Law (IViR).

Structure

SEO Economic Research consists of five research groups or sections organised along fields of economic research. A first section is Labour & Education which specialises in labour market, labour

market policy, schooling and training research. Research topics deal with employability, transition from school to work, temporary work, re-integration and exit from unemployment, wage differentials, employment benefits, migration, schooling and work and the evaluation of educational policies.

The section Health Care & Social Security analyses developments in healthcare and social security, with research often shaped by the highly regulated nature of these two sectors. This section specialises among others in market analyses, effectiveness and cost-benefit studies and budgeting and costing systems.

Research in the section Competition & Regulation concentrates on the design, analysis and evaluation of competition and government intervention. The section deals with issues related to the structure, conduct and performance of markets and sectors, regulation and deregulation, economic aspects of cartels, mergers, market dominance and other topics in the field of competition. It assesses new or established regulations and policy from the perspective of law and economics.

SEO Aviation Economics is a section specializing in aviation economics. It advises governments, airlines, airports, financial institutions and other interested parties on the economic issues related to aviation. Aviation Economics activities include operations research, econometric analyses and forecasting, feasibility studies and research into competition and market issues, as well as work in transport and regional economics.

The Market & State section specialises in the economic analysis of state aid and public tenders. Economic organization and the boundaries between public and private economic activity are other issues that are dealt with in this section.

Organisation

SEO Economic Research is governed by a six-member Executive Board. Day-to-day policy is in the hands of the general director and the management team, which consists of the director and the section heads. SEO Economic Research also has an Advisory Board which meets yearly to review its research programme.

13.3 PROGRAMME EVALUATION

Academic publications by researchers at SEO Economic Research are often a spin-off from contract research which is SEO's core activity. This year 20 articles were published in refereed journals or refereed books. The number of non-refereed academic publications was substantial.

In 2014 SEO researchers published 52 commissioned reports and 94 other publication such as popular publications and newspaper articles.

13.4 RESOURCES AND FUNDING

SEO Economic Research has set up an internal fund for scientific research (WEO) which allots time to researchers working at SEO and which enables them to prepare papers for scientific publications and to participate in (international) economic conferences. This fund has also a provision to finance time spend on preparing a doctoral dissertation. Researchers at SEO Economic Research publish regularly in national and international professional journals. Only by publishing and lecturing, a research institute stays 'alert' and keeps abreast of the newest developments in applied economic research. Core activity is contract research and the majority of research funding originates from contract parties.

SEO holds an NEN-EN ISO 9001:2008 quality certificate for Applied Economic Research and Consulting.

13.5 OUTPUT

Key publications

- Burghouwt, G. & Dobruszkes, F. (2014). The (mis)fortunes of exceeding a small local air market: Comparing Amsterdam and Brussels. *Tijdschrift voor economische en sociale geografie*. 105(5), 604-621.
- Burghouwt, G. (2014). Long-haul specialization patterns in European multihub airline networks-An exploratory analysis. *Journal of Air Transport Management*. 34(2014), 30-41.
- Heyma, A., Van der Werff, S., Nauta, A. & Van Sloten, G. (2014, 12 August). What Makes Older Job-Seekers Attractive to Employers? *De Economist*, 2014(162), 397-414.
- Kok, L., Berden, C. & Sadiraj, K. (2014). Costs and Benefits of home care for the elderly versus residential care: a comparison using propensity scores. *The European Journal of Health Economics*. published online <http://link.springer.com/article/10.1007/s10198-013-0557-1>
- Lammers, M. (2014). The effects of savings on reservation wages and search effort. *Labour Economics*, 27(2014), 83-98.
- Zuidberg, J. (2014) Identifying airline cost economies: An econometric analysis of the factors affecting aircraft operating costs. *Journal of Air Transport Management*. 40(August), 86-95.

Forthcoming

- Annema, J.A. & Koopmans, C. (in press). The practice of valuing the environment in cost-benefit analyses in transport and spatial projects. *Journal of Environmental Planning and Management*. doi: 10.1080/09640568.2014.941975
- Kerste, M., Gerritsen, M. , Weda, J. & Tieben, B. (2015). Systemic risk in the energy sector—Is there need for financial regulation? *Energy Policy*, 78, 22-30.
<http://www.sciencedirect.com/science/article/pii/S0301421514006831>
- Poort, J.P. & Weda, J.N.T. (in press). Elvis is returning to the building: Understanding a decline in unauthorized file sharing. *Journal of Media Economics*.
- Poort, J. & Kerste, M. (in press). Setting licence fees for renewing telecommunication spectrum based on an auction. *Telecommunications Policy*, <http://dx.doi.org/10.1016/j.telpol.2014.08.006>.
- Scholte, R., Van den Berg, G.J., Lindeboom, M., (2015). Long-run effects of gestation during the Dutch Hunger Winter famine on labor market and hospitalization outcomes. *Journal of Health Economics*, 39(2015), 17-30.

Publications in numbers

Output type	Classification	#
Articles	Refereed	13
	Non-refereed	3
	Professional	9
	Popular	18
Books or book chapters	Refereed	2
	Non-refereed	1
	Professional	2
	Popular	1
Conference proceedings		3
PhD theses		0
Working papers		8
Total		60

Article in journal – refereed

- Annema, J.A. & Koopmans, C.C. (2014). The practice of valuing the environment in cost-benefit analyses in transport and spatial projects, *Journal of Environmental Planning and Management* (published online: <http://www.tandfonline.com/doi/full/10.1080/09640568.2014.941975>).
- Buiren, K.H.S. van, Gerritsen, M. & Van der Voort, J. (2014). The Prohibition of Services of General Economic Interest. *European State Aid Law Quarterly*, 12(1), 61-66.
- Burghouwt, G. & Dobruszkes, F. (2014). The (mis)fortunes of exceeding a small local air market: Comparing Amsterdam and Brussels. *Tijdschrift voor economische en sociale geografie*. 105(5), 604-621.
- Burghouwt, G., Poort, J. & Ritsema, H. (2014, October). Lessons learnt from the market for air freight ground handling at Amsterdam Airport Schiphol. *Journal of Air Transport Management*. 2014(41), 56–63
- Burghouwt, G. (2014). Long-haul specialization patterns in European multihub airline networks-An exploratory analysis. *Journal of Air Transport Management*. 34(2014), 30-41.
- Clark J., Koopmans, C., Hof, B., Knee, P., Lieshout, R., Simmonds, P. & Wokke, F. Assessing the full effects of public investment in space. *Space Policy* , 30(3), 121–134.
- Koopmans, C. & Volkerink, M. (2014). Zorgen overheidsbestedingen voor extra banen? *Tijdschrift voor Arbeidsvraagstukken*, 30(1), 40-52.
- Kroes, E. & Koopmans, C. (2014). De baten van comfort in het openbaar vervoer; een overzicht van literatuur. *Tijdschrift Vervoerswetenschap*. 50(2), 36-51.
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- Suau-Sanchez, P., Burghouwt, G. & Pallarres-Barbera, M. (2014). An appraisal of the CORINE land cover database in airport catchment area analysis using a GIS approach. *Journal of Air Transport Management*. 34(2014), 12-16.
- Zuidberg, J. (2014) Identifying airline cost economies: An econometric analysis of the factors affecting aircraft operating costs. *Journal of Air Transport Management*. 40(August 2014), 86-95.
- Zuidberg, J. (2014). Key drivers for differentiated airport passenger service charges. *Journal of Transport Economics and Policy*, 48(2), 279-295.

Article in journal – non-refereed

- Erken, H., Klokkenburg, L. & Van der Werff, S. (2014). Kan arbeidsmarktbeleid de positie van ouderen veranderen? *TPEdigitaal*, 8(1), 45-64.
- Kok, L. & Berden, C. (2014, 4 December). Richtlijn Sedatie kost meer dan hij oplevert. *Medisch Contact*, 69(49), 2464-2467.
- Koopmans, C., Marlet, G. & Willebrands, D. (2014). Naar de bollen. *TPEdigitaal*, 8(1), 99-108.

Article in journal – professional

- Baarsma, B. (2014, 23 October), *Advocatuur in crisistijd*, *Statistiek: Economie en samenleving*. Economisch Statistische Berichten, 99(4696), 655.
- Baarsma, B. (2014, 28 August). Kraamzorg uit het basispakket. *Economisch Statistische Berichten*, 99(4692), 525.
- Baarsma, B. (2014, 18 April). Het economische doel van het mededingingsrecht. *Economisch Statistische Berichten Dossier: ‘Consumentenwelvaart als beleidsdoelstelling’*, 99(4683S).
- Baarsma, B. (2014, 4 April). Het raadsel van de gesubsidieerde kinderopvang. *Economisch Statistische Bericht*, 99(4682).
- Berden, C. (2014, 18 December). Preventieve voetzorg diabetespatiënten snel kosteneffectief. *Economische Statistische Berichten*, 99(4699&4700), 765.

- Koopmans, C, Koning, P. & Webbink, D. (2014). Effectenonderzoek en welvaartsanalyse bij arbeidsmarkt- en onderwijsbeleid. *Economisch Statistische Berichten* 99(4696S), 25-30.
- Lammers, M. & Kok, L. (2014, 21 February) Lange termijneffecten van re-integratie, *Economisch Statistische Berichten*, 99(4679), 122-124.
- Rosenboom, N. (2014). 'Naschrift bij: Beoordeling van duurzaamheidsinitiatieven onder het kartelverbod', *Markt en Mededinging*, 17(3),116-119.
- Voort, J. van der (2014). Omvang en samenstelling Nederlandse wagenpark, *Economische Statistische Berichten*, 99, (4689 & 4690).

Internet article – professional

- Baarsma, B. & Heyma, A. (2014, 2 April). De prijs van doorgeschoten verschuiving risico's naar werkgevers. Me Judice. <http://www.mejudice.nl/artikelen/detail/de-prijs-van-doorgeschoten-verschuiving-risicos-naar-werkgevers> .
- Baarsma, B. (2014, 1 July). Arbeidsmarkt uit het slot door afschaffen permanente contracten. Me Judice, <http://www.mejudice.nl/artikelen/detail/arbeidsmarkt-uit-het-slot-door-afschaffen-permanente-contracten>.
- Baarsma, B. & Heyma, A. (2014, 18 March). Bestrijd de werkloosheid. NRC Next. Ook verschenen op MeJudice.nl: <http://www.mejudice.nl/artikelen/detail/de-prijs-van-doorgeschoten-verschuiving-risicos-naar-werkgevers>.
- Kok, L. & Tempelman, C. (2014, 23 June). Sturen op kwaliteit: zo kan het ook. Skipr. <http://www.skipr.nl/blogs/id1897-sturen-op-kwaliteit-zo-kan-het-ook.html>
- Rosenboom, N. (2014, 22 September). “Wijziging toezicht stimuleert afwachtende houding kartelverklidders”, Me Judice, <http://www.mejudice.nl/artikelen/detail/wijziging-toezicht-stimuleert-afwachtende-houding-kartelverklidders>.
- Tieben, B. & Imandt, M. (2014, 31 October). “Onderwijsfinanciering via student: leren door experimenteren”, Me Judice. <http://www.mejudice.nl/artikelen/detail/onderwijsfinanciering-via-student-leren-door-experimenteren>

Internet article – popular scientific

- Tieben, B. (2014, 10 December). “Windmolens en Welvaart”. *Energie Actueel*. <http://www.energieactueel.nl/column-tieben-windmolens-en-welvaart/>
- Tieben, B. (2014, 13 October). “Energiebesparing? Catch 22!”. *Energie Actueel*. <http://www.energieactueel.nl/energiebesparing-catch-22/>
- Tieben, B. (2014, 14 July). Windenergie op zee kan goedkoper. *Energie Actueel*. <http://www.energieactueel.nl/windenergie-op-zee-kan-goedkoper/>
- Tieben, B. (2014, 26 May). De laatste aansluiting. *Energie actueel*. <http://www.energieactueel.nl/column-tieben-de-laatste-aansluiting/>
- Tieben, B. (2014, 17 February), *Modern industriebeleid*, *Energieactueel*, <http://www.energieactueel.nl/column-tieben-modern-industriebeleid/>

Article in magazine or newspaper – popular scientific

- Baarsma, B. (2014, 8 November), *Economen zijn geen harteloze misantropen*, *Volkskrant*, 31.
- Baarsma, B.E. (2014, September 05). "Is bierwaterfiets bootje te veel?". *de Volkskrant*, pp. 3.
- Baarsma, B. (2014, 17 June). Verdeel de banen en geef alleen nog contract voor 5 jaar. *NRC*, 16-17.
- Baarsma, B. (2014, June). Risico's en kansen voor de afvalsector. *GRAM*, #5, 22-23.
- Baarsma, B. (2014, April). Financial transaction tax is geen free lunch. *KAS Selections*, 21(1), 26-28.
- Baarsma, B.E. & Heyma, A.O.J. (2014, Maart 19). Bestrijd de werkloosheid. *NRC Next*
- Baarsma, B. (2014, 17 February). Activeer werkloze lager opgeleiden. *Parool*, 30.
- Baarsma, B. (2014, 18/19 January). “Moeders zijn geen willoze wezens!”. *NRC Handelsblad*, 5 (Opinie & Debat).
- Baarsma, B. (2014, February). ‘Regeren is vooruitzien’. *Continu*, 1-3.
- Baarsma, B. (2014), *Nature versus nurture*, *SEO Topics*, 3(10).

- Baarsma, B. (2014), Dubbele belasting, dubbele moraal?, *Topics*, 3(9).
- Baarsma, B. & Kerste, M. (2014, 5 August), Dubbele belasting, dubbele moraal?, in de rubriek Het laatste woord; Pro/Contra: brievenbusmaatschappijen moeten worden afgeschaft: *Parool*, 18
- Burghouwt, G. (2014, 12 June). Te vroeg voor conclusies Lelystad Airport. *Het Financieele Dagblad*, 219(136), 11.
- Burghouwt, G. & Veldhuis, J. (2014, 3 February). Vliegen goedkoop dankzij Brussel. *Parool*.
- Kok, L. & Tieben, B. (2014, 27 December). Wildgroei zorgpolissen maakt overstappen lastiger. *Het Financieele Dagblad*, sectie weekend, 219(304), 11.
- Koopmans, C. (2014, 9 December). Overheid, schrap publicatieverbod. *de Volkskrant*, <http://www.volkskrant.nl/opinie/overheid-schrap-het-publicatieverbod~a3806696/>.
- Van Buiren, K. (2014, 29 March). Overheden mogen alleen nog onder strenge voorwaarden de markt op. *Het Financieele Dagblad*, p. 12. (Opinie & Dialoog).
- Van der Werff, S. (2014, December). Hoe meer kortingskaarten, hoe beter? *Museumvisie* 2014(4), 35-37.

Book / book chapter – refereed

- Matsumoto, H. & Lieshout, R. (2014). Effects of South Korean air carriers' network developments on route choice behaviour of travellers departing from Japan. In Duval, D.T. (eds). *Air Transport in the Asia Pacific*. Ashgate.
- Wit, J. de & Zuidberg, J. (2014). The growth limits of the low cost carrier model. In: L. Budd & S. Ison (eds.), *Low Cost Carriers: Emergence, Expansion and Evolution*. Ashgate, United Kingdom.

Book / book chapter – non-refereed

- Baarsma, B., Kerste, M. & Weda, J. (2014). *Brievenbusmaatschappij – De impact van bijzondere financiële instellingen op de Nederlandse economie*. Amsterdam: SEO & Uitgeverij Business Contact.

Book / book chapter – professional

- De Graaf, D. & Heyma, A. (2014), De arbeidsmarkt voor leraren, in R. Klarus, L. Borghans en I. Waterreus (red.), *Wat is goed onderwijs? Bijdragen uit de onderwijseconomie*, Amsterdam: Boom Lemma uitgevers.
- Heyma, A. & Berkhout, E. (2014). Wat verklaart loonverschillen tussen economische sectoren?, in: M. Trappenburg, W. Scholten & Th. Jansen, 'Loon fatsoen; Eerlijk verdienen of graaicultuur', Amsterdam: Boom Lemma uitgevers.

Book / book chapter – popular scientific

- Baarsma, B. (2014). Voorwoord, in: J. van der Boon, *Het Baarsma imperium; een handelsfamilie uit een ventersdorp*, Leeuwarden: Wijdemeer.

Conference proceedings – non-refereed

- Baruffaldi, S. & Burghouwt, G. (2014, 16-18 June). Fly to learn: Interregional integration and firms innovative productivity. DRUID Society Conference 2014, CBS, Copenhagen.
- Burghouwt, G., De Wit, J.G. & De Leon, P.M. (2014, 17-20 July). EU air transport liberalization. Process, impacts and future considerations. Paper presented at the OECD/International Transport Forum workshop at the Air Transport Research Society Conference, Bordeaux.
- Burghouwt, G. (2014). Airport capacity expansion strategies in the era of airline multi-hub networks. OECD/International Transport Forum, Discussion Paper 2013-05.

Report – professional

- Baarsma, B., Weda, J. & Van der Werff, S. (2014). Keuzemogelijkheden en overstapgedrag zakelijk postvervoer. SEO-rapport 2014-42. Amsterdam: SEO.
- Berden, C. (2014). Afbouw van het Wsw-bestand. SEO-rapport 2014-40. Amsterdam: SEO.
- Berden, C. & Kok, L. (2014). Effecten van preventieve voetzorg door de medisch pedicure, Literatuuronderzoek & breakeven analyse. SEO-rapport 2014-28. Amsterdam: SEO.
- Berkhout, E. (2014). Waardering van baankermerken. SEO-rapport 2014-54. Amsterdam: SEO.
- Berkhout, E. & Van der Werff, S. (2014) Studie & Werk 2014, Hbo'ers en academici van afstudeerjaar 2011/12 op de arbeidsmarkt. SEO-rapport 2014-26. Amsterdam: SEO.
- Berkhout, E., Bisschop, P. & Volkerink, M. (2014). Grensoverschrijdend aanbod van personeel. SEO-rapport 2014-49. Amsterdam: SEO.
- Burghouwt, G., Krul, J., Veldhuis, J., De Wit, J. & Jamotta, J. (2014). Expanding Airport Capacity: Competition and Connectivity. SEO-rapport 2014-64. Amsterdam: SEO.
- Burghouwt, G., Veldhuis, J., Boonekamp, T. & Lieshout, R. (2014). Impacts of Expanding Airport Capacity on Competition and Connectivity. The case of Gatwick and Heathrow. SEO-rapport 2014-65. Amsterdam: SEO.
- Compernelle, P. & Rijckenberg, H. (2014) Best of both worlds. SEO-rapport 2014-07. Amsterdam: SEO.
- Gerritsen, M., Van der Voort, J., Rougoor, W., Smits, T. & Huizer, S. (2014). Economische effecten beperken verkooppunten, omzet- en werkgelegenheidseffecten verkooppunten als gevolg van verbod tabakverkoop. SEO-rapport 2014-30. Amsterdam: SEO.
- Heyma, A., Van der Werff, S., Brekelmans, J. & Smulders, H. (2014). Quicksan 1 – Evaluatie Sectorplannen. SEO rapport 2014-59. Amsterdam: SEO.
- Heyma, A., Van den Berg, E., Slighte, H., Verbeek, F. & Snoek, M. (2014). Effecten van een masteropleiding op leraren en hun omgeving. SEO-rapport 2014-52. Amsterdam: SEO.
- Heyma, A., Bisschop, P., Van der Werff, S. & Imandt, M. (2014). Verkenning effect studievoorschot op instroom meerjarige masters in tekortsectoren. SEO-rapport 2014-45. Amsterdam: SEO.
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Keynote/invited talk

- Baarsma, B. (2014, 8 December). Over het belang van arbeidsproductiviteitsgroei voor economische groei, Female leadership bijeenkomst 'Conferentie: de Nederlandse concurrentiekracht; halve kracht of op volle kracht vooruit?', 8 december 2014, Amsterdam.
- Baarsma, B. (2014, 3 December). Van macro naar meso: Nederland en de glastuinbouw, GlastuinbouwEvent 2014, Maarssen.
- Baarsma, B. (2014, 22 November). Vlaanderen heeft, net als Nederland, baat bij fundamentele hervorming van de arbeidsmarkt, Antwerpen.
- Baarsma, B. (2014, 20 November). Naar het einde van het vaste contract?; Over nut en noodzaak van hervorming van de arbeidsmarkt, 20-jarig jubileumcongres van de NBBU, Amersfoort.

- Baarsma, B. (2014, 20 November). Macro-economische ontwikkelingen; en de betekenis voor de advocatuur, Lezing tijdens het advocatencongres, Houten.
- Baarsma, B. (2014, 7 November). Economics as an Unorchestrated Orchestrator. 32e Van Der LeeuwLezing, Groningen, Martinikerk.
- Baarsma, B. (2014, 6 November). Naar het einde van het vaste contract? Detailhandel Nederland, Den Haag.
- Baarsma, B. (2014, 3 October). Van focus op overheidsfinanciën naar focus op werkloosheid; Over nut en noodzaak van hervorming van de arbeidsmarkt, Heijmans, Rosmalen.
- Baarsma, B. (2014, 2 October). Bespiegelingen bij de inleiding van Chris Fonteijn; vanuit economisch perspectief, het Jaarcongres Ontwikkelingen Mededingingsrecht 2014, Amsterdam.
- Baarsma, B. (2014, 30 September). Toekomst pensioenen, Inleiding voor MN Services, Den Haag.
- Baarsma, B. (2014, 30 September). Uit de schaduw van Prinsjesdag; Over nut en noodzaak van economische groei, Brabants Zeeuwse Werkgeversvereniging, Eindhoven.
- Baarsma, B. (2014, 25 September). Van focus op overheidsfinanciën naar focus op werkloosheid, Lezing voor SIS Finance, Amsterdam.
- Baarsma, B. (2014, 22 September). Bijzondere financiële instellingen, de Staat van Nederland, 22 september 2014, Amsterdam.
- Baarsma, B. (2014, 20 September). Nurture versus Nature, Preken voor eigen Parochie, Kleine Komedie.
- Baarsma, B. (2014, 5 June). Over nut en noodzaak van economische groei - en over het belang van het oplossen van een aantal prangende herverdelingskwesties. Lezing voor Vierdaagsefeesten Ontbijtbijeenkomst Ambassadors Club, Nijmegen: Museum het Valkhof.
- Baarsma, B. (2014, 4 June). Aan't werk: Over de economie van de arbeidsmarkt: participatie en re-integratie. Lezing bij de presentatie van de Atlas voor Gemeenten 2014, Stadstheater Zoetermeer.
- Baarsma, B. (2014, 22 May). Ziel en zakelijkheid, Een economisch perspectief op de afvalsector. Lezing in het kader van het jaarcongres van de Koninklijke Vereniging voor Afval- en Reinigingsmanagement, Tiel.
- Baarsma, B. (2014, 7 May). Over nut en noodzaak van economische groei - en over het belang van het oplossen van een aantal prangende herverdelingskwesties. Lezing voor NRC / food for thought, Amsterdam: NRC Restaurant Café.
- Baarsma, B. (2014, 25 April). Hoe moet Nederland zijn geld verdienen? Wat voor invloed hebben de economische ontwikkelingen en overheidsbeleid op uw toekomstige welvaart?. Lezing tijdens congres Grip op je Vermogen, Utrecht: Beatrixtheater.
- Baarsma, B. (2014, 16/23 April). Structureel herstel in zicht? Dan moeten we wel eerst prangende herverdelingskwesties adresseren. Lezing georganiseerd door Bank ten Cate & Cie, Santpoort: Duin & Kruidberg.
- Baarsma, B. (2014, 2 April). Structureel herstel in zicht? Wat zijn de vooruitzichten voor de verzekeringssector. Lezing voor Allianz, Hilversum: Studio 21.
- Baarsma, B. (2014, 26 March). Structureel herstel in zicht? Wat zijn de vooruitzichten voor de financiële professional. Lezing voor MarkusVerbeekPrehaep, Zeist: Woudschoten.
- Baarsma, B. (2014, 13 March). Lezing tijdens ING IM Retail Seminar 'De Wereld van Nu'. Amsterdam: ING House.
- Baarsma, B. (2014, 26 February). Stadsgesprek Eindhoven: De ronde van Eindhoven, een economisch perspectief. Natlab Eindhoven.
- Baarsma, B. (2014, 17 February). Het gaat goed, maar het kan beter; Modernisering van instituties in Amsterdam. Amsterdamlezing, Amsterdam: Crea.
- Burghouwt, G. (2014, 27 November). Gastcollege Worms University, Worms, Germany.
- Burghouwt, G. (2014, 3 November). Gastcollege Cranfield University, Department of Air Transport.
- Burghouwt, G. (2014, 13/14 and 20/21 May). Gastcollege Universiteit van Bergamo.
- Burghouwt, G. (2014, 16 May). Gastcollege Universiteit Utrecht.
- Burghouwt, G. (2014, 18 March). Gastcollege University of Westminster.
- Heyma, A. (2014, 17 November), 'Een goed gesprek werkt; (Kosten)effectiviteit van re-integratiedienstverlening UWV voor de WW-instroompopulatie 2008-2010'. KWI-congres (Kennisplatform Werk en Inkomen) 'Investeren in participeren', Utrecht.

- Heyma, A. (2014, 28 October), 'Wordt Noord-Holland Noord het nieuwe Oost-Groningen? STAN Arbeidsmarktbarometer Noord-Holland', Haarlem.
- Heyma, A. (2014, 13 October). '(Cost-)effectiveness of job seekers support services in the Netherlands'. Congres Pôle Emploi (Franse arbeidsvoorziening), Parijs.
- Heyma, A. (2014, 1 October). 'Monitor Vakmanschap- en Technologieroute; Toelichting op onderzoeks-aanpak'. Kick-off meeting scholen, Utrecht.
- Heyma, A. (2014, 30 September). 'Een goed gesprek werkt; (Kosten)effectiviteit van re-integratiedienstverlening UWV voor de WW-instroompopulatie 2008-2010'. Workshop SBK-UWV, Amsterdam.
- Heyma, A. (2014, 11 June). 'What makes older job seekers attractive to employers?' Small group meeting on age policies in organizations, Universiteit Antwerpen.
- Heyma, A. (2014, 23 January). Presentation 'Een goed gesprek werkt'. Kennisplatform Werk en Inkomen (KWI), Rotterdam.

Other lectures

- Baarsma, B. (2014, 7 March). Concentratietoezicht in de ziekenhuiszorg. College in het kader van de MBA Health management, vak: External environment of Healthcare Organisations, Universiteit van Amsterdam.
- Baarsma, B. (2014, 4, 11 and 18 March). 'Economisch perspectief op overheidsingrijpen – Wat is publiek belang' en 'Maatschappelijke kosten-batenanalyses', Cursus in drie dagdelen voor de Academie voor Wetgeving, Den Haag.
- Baarsma, B. (2014, 28 February). Nederland misbruikparadijs? College voor Bofeb, Erasmus School of Economics, Amsterdam.
- Baarsma, B. (2014, 28 February). Mededingingstoezicht en publieke belangen. College voor Bofeb, Erasmus School of Economics, Amsterdam
- Baarsma, B. Het gaat goed, maar het kan beter; Modernisering van instituties in Amsterdam, Amsterdamlezing. Amsterdam. <http://www.uva.nl/nieuws-agenda/nieuws/amsterdamplezingen/amsterdamplezingen.html>
- Baarsma, B. (2014). Deelname aan 'Volkskrant op zondag - Het Europese Verkiezingsdebat'. met: Bart de Wever, Arnoud Boot, Frits Bolkestein en Derk-Jan Eppink, Amsterdam: Rode Hoed.
- Burghouwt, G. (2014, 4 December). Keynote speaker Air Transport Colloquium 2014, Antwerp. 'Airport Connectivity and Airline Network Dynamics in Europe'.
- Burghouwt, G. (2014, 26 November). Lezing voor Directie en MT-leden Schiphol Group over 'dehubbing', Schiphol.
- Burghouwt, G. (2014, 14 October). Presentatie voor de UK Airports Commission (Sir Howard Davies), Londen.
- Burghouwt, G. (2014, 17-19 July). Presentatie ATRS conferentie, Bordeaux.
- Burghouwt, G. (2014, 18 March). Lezing voor London Gatwick Airport, Londen.
- Burghouwt, G. (2014, 6 March). Lezing 'connectivity is key to competitiveness', European Policy Center Seminar, Brussel.
- Hof, B. (2014, April 9-11). Importance of social cost-benefit analysis in fiscal programming. CEF workshop Integration of Structural Reforms into Fiscal Programming.
- Koopmans, C. (2014, 4 September). MKBA op het sociale domein. Divosa, Vrije Universiteit, Amsterdam.
- Koopmans, C. (2014, 26 May). Baten van monumentenzorg. Ministerie van Onderwijs, Cultuur en Wetenschap, Den Haag.
- Koopmans, C. (2014, 13 March). Het ministerie van welvaart. Het nut van de Algemene MKBA Leidraad voor EZ. Ministerie van Economische Zaken, Den Haag.
- Kocsis, V. & Weda, J. (2014, 8 April). Presentatie: "De innovatieversterkende werking van netneutraliteit". ACM Economenlunch, Den Haag.
- Kok, L. (2014, 27 November). Loondoorbetaling bij ziekte. Lezing tijdens Studiemiddag NISZ (Ned. instituut voor sociale zekerheid).
- Kok, L. (2014, 28 October). Loondoorbetaling bij ziekte. Lezing tijdens discussiebijeenkomst FNV.

- Kok, L. (2014, 7 March). Lange termijn effecten van re-integratie. Presentatie voor algemeen bestuur Divosa. Utrecht
- Kok, L. (2014, 5 March). Het trendmodel. Presentatie tijdens bestuurlijke conferentie VNG/SZW over verdeelmodel WWB. Den Haag
- Kok, L. (2014, 4 February). Lange termijn effecten van re-integratie. Presentatie voor lunchseminar SZW. Den Haag
- Kok, L. (2014, 23 January). Lange termijn effecten van re-integratie. Presentatie voor Kennisplatform Werk & Inkomen. Rotterdam.
- Noll, R. van der (2014, 4 March). News and Market, A welfare economic analysis of the government's role. ENPA seminar on press concerns over Public Servers broadcasting, Brussel.
- Tieben, B. (2014, 9 December). "Merchant Transmission Investment". Symposium in honour of Jean Tirole, ACM, Den Haag.
- Tieben, B. & Kocsis, V. (2014, 2 December). Gastcollege Telecomregulering voor de master Competition & Regulation, UVA.
- Tieben, B. (2014, 22 June). Presentation paper "Why is there entrepreneur in Mises' Human Action?". History of Economics Society, Montreal, Canada.
- Tieben, B. (2014, 14 May). Consumptie maakt (on)gelukkig. Technische Universiteit Eindhoven, Eindhoven.
- Van Buiren, K. (2014, 16 June). "Modernisering Europese Staatssteunregels". Airneth Symposium over staatssteun aan luchtvaart, Utrecht.
- Zuidberg, J. (2014, 1 October). 'Lowcost versus legacy carriers' Gastspreker op 17e editie TM Future Day. Travel Magazine, Brussel.

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Membership academies

Baarsma, B. (2014). Member of Ph.D. committee of Joost Poort. University of Amsterdam, Amsterdam.

- Burghouwt, G. (2014). Member Editorial Board Journal of Air Transport Management.
- Burghouwt, G. (2014). Deelname en statement Hoorzitting Tweede Kamer, uitbreiding Lelystad Airport, 25 juni 2014.
- Burghouwt, G. (2014). Member of PhD Commission of Ph.D. committee of Elien van de Vijver, Thesis: 'Exploring the mutual causal relationship between air passenger transport and economic development'. Universiteit Gent, Belgium.
- Burghouwt, G. (2014). Scientific Board Member of the European Aviation Conference (EAC).
- Burghouwt, G. (2014). Scientific Board Member of the International Centre for Competitiveness Studies in the Aviation Industry (ICCSAI, <http://www.iccsai.eu/about.htm>).
- Koopmans, C. (2014). Professor of Infrastructure and Economics at VU University Amsterdam, Amsterdam.
- Tieben, B. (2014). Member of the Quality Assessment Committee for capstones van het Amsterdam University College (AUC).

Relevant position

- Baarsma, B. (2014). Professor of Market Forces and Competition Issues at the Faculty of Economics and Business, University of Amsterdam, Crown member of the SER (The Social and Economic Council of the Netherlands), Member of the Supervisory Board of the Elisabeth-TweeSteden Ziekenhuis Tilburg, Vice-President of the Supervisory Board of Loyalis NV, Member of the Supervisory Board of Aon Groep Nederland bv, Member of the Supervisory Board of Espria, Member of the Board of the Foundation Preference Shares of Kasbank, Member of the Monitoring Commission Corporate Governance Code (Ministry of Economic Affairs), Member of the Committee Dienstverlening aan huis (to study the position of domestic workers), Member of the Advisory Board of Peak Invest (education), Committee of Recommendation of the Foundation 'Vier het leven'(celebrate life'), Member of the Supervisory Board of Woonzorg Nederland, Member of the Audit Committee of FNV Bondgenoten, Member of the Editorial Board of the Tijdschrift voor Toezicht (Koninklijke Boom uitgevers), Member of Scientific Advisory Council of the Institute for Information Law of University of Amsterdam, Member of the Academisch Genootschap aanbesteden (Academic society of Procurement), Member of the jury National Icon 2014, ministry of Economic Affairs.
- Burghouwt, G. (2014). Director Airneth. Worldwide scientific network for aviation research and policy. <http://www.airneth.nl/about-airneth/staff/>, Reviewer for: Transport Policy, Transportation Journal, Journal of Air Transport Management, Guest lecturer at the University of Bergamo, Cranfield University, University of Westminster, Worms University of Applied Sciences, Leiden University, Utrecht University.
- Heyma, A. (2014). Member of the Labour Expert group of the CBS (Statistics Netherlands).
- Koopmans, C. (2014). Member of the scientific Advisory Council of the journal TPE Digitaal and of the Review Committee of the journal Beleidsonderzoek Online. Chairman of the Advisory Committee on Economic analysis in the Delta Programme (investments in flood protection) and of an advisory Committee on government-backed loans for SME's (BMKB). Member of the Government Committee charged with advising on a new discount rate for social cost-benefit analysis and of the Scientific Advisory Committee on Efficient use of infrastructure (Beter Benutten).
- Tieben, B. (2014). Member of the editorial board of TPEdigitaal, Lecturer Economic Thought in Historical Perspective at Amsterdam University College, Member of the Quality Assessment Committee at Amsterdam University College, Columnist for Energie Actueel, Organisation NetNed: Symposium Netwerk Nederlands Economisch Denken (with Evert Schoorl), 12 December 2014.
- Van Buijen, K. (2014). Member of the Board of the Netherlands Petroleum Stockpiling Agency (COVA).

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