Annual Research Report 2013
Preface

The 2013 annual research report of the University of Amsterdam School of Economics (ASE) provides information on the organisation, activities and results of 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.

After a decline in research input and output (number of publications in international A and B journals) in the years following the faculty reorganisation, both have started to increase again in 2013. Moreover, some researchers managed to get their work published or accepted for publication in top journals. Relative to the large number of completed dissertations in recent years, 2013 has seen a decline, which can be partly explained by the small number of students appointed in 2010. Since then, the ASE has attracted a larger number of new PhD students, and this continues to be the case in 2013; not only from the MPhil programme of the Tinbergen Institute, but also from the European Doctorate in Economics program funded by Erasmus Mundus (EDEEM). Because this is a continuation of a trend, this implies that we may expect the number of completed dissertations to rise again after 2014.

As in previous years, a large proportion of the ASE research input was funded externally. Furthermore, researchers from the ASE continue to be highly visible in public debates on issues such as pension reform and the financial and sovereign debt crisis. Our research priority area on Behavioural Economics has continued to flourish, and various researchers continue to develop new initiatives to apply for large national and European research funds. I would like to end in thanking 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 is the successor of RESAM (Research in Economics and econometrics Amsterdam), which was established in 1998 after the MUB (Wet Modernisering Universitair Bestuur: law on the modernization of university management) came into effect. ASE-RI covers the wide area of economics and econometrics.

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.

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.

Faculty members in the Amsterdam School of Economics are assigned time annually for research based on their publication records in the past three years. In this way ASE-RI provides incentives to increase the quality and quantity of output. Publications are graded by quality level of the outlet. For journals, ASE-RI distinguishes:

- **A**: excellent, international top level. Publications set directions for research, by approach and by method, select topics and set standards for analytical and methodological level.
- **B**: good international level. Publications meet high analytic and methodological standards but have far less influence on direction and standards for future research.
• **Other refereed and non-refereed journals.** Journals satisfy the minimum norm of aiming for an international or national audience, applying blind refereeing, and publish in an accessible language. Analytical and methodological standards satisfy a generally accepted minimum level.

ASE-RI has drawn up a list of rankings of publication outlets (journals, publishing houses, conference proceedings (see the ASE-RI website www.aseri.uva.nl). The minimum norm for adequate research performance is formulated as 100 points over the past three years. An A-level publication counts for 100 points and a B-level publication counts for 50 points. Other publications are worth no points. Individual authors of a publication with N authors each get a share of 2/(1+N) points of the publication. Research time assigned to individuals is related to publication points over the past three years as follows:

<table>
<thead>
<tr>
<th>Points Range</th>
<th>Research Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 or more</td>
<td>0.5 fte</td>
</tr>
<tr>
<td>50-99</td>
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<td>0-49</td>
<td>0.125 fte</td>
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<tr>
<td>0</td>
<td>0 fte</td>
</tr>
</tbody>
</table>

For faculty members with part-time positions, norms and research time are adjusted proportionally. Fellows of the Tinbergen Institute, the graduate research school in which UvA, EUR and VU cooperate, are allotted the maximum research time for a period of three years, at 0.5 of their working hours. Admission as a TI Fellow is based on A- and B-level publications only (TI has its own grading of publications).

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. Tenured positions are only awarded to people who meet the admission requirements for fellowship of an accredited research school (preferably the Tinbergen Institute).

The tables below give information on ASE-RI faculty. Table I shows that the overall research capacity dropped 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 kept increasing.

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

<table>
<thead>
<tr>
<th></th>
<th>fte</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td>WP 1 (first flow of funds, excl. Ph.D.’s)</td>
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<tr>
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<td>18,91</td>
<td>22,13</td>
<td>28,25</td>
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<td>Total Research staff</td>
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<tr>
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Table II: Input research staff at programme level (FTE)

<table>
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<th>2010</th>
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<th>2013</th>
</tr>
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<td>2,09</td>
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<td>Field</td>
<td>fte</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
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</tr>
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<td><strong>History &amp; Methodology of Economics</strong></td>
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<tr>
<td><strong>Total Research staff</strong></td>
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<td>7.89</td>
<td>8.80</td>
<td>10.38</td>
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</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Market &amp; Organizations</th>
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<th>2011</th>
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<th>2013</th>
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<tr>
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<td>0.80</td>
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<td>2.73</td>
<td>8.40</td>
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<td>Ph.D. students</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Total Research staff</td>
<td>28.88</td>
<td>21.38</td>
<td>28.92</td>
<td>30.12</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research programme</th>
<th>Hgl</th>
<th>Uhd</th>
<th>Ud</th>
<th>Oz</th>
<th>Pdoc</th>
<th>Ph.D.</th>
<th>Guest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># fte</td>
<td># fte</td>
<td># fte</td>
<td># fte</td>
<td># fte</td>
<td># fte</td>
<td># fte</td>
<td># fte</td>
</tr>
<tr>
<td>UvA- Econometrics</td>
<td>5</td>
<td>0.63</td>
<td>3</td>
<td>1.30</td>
<td>4</td>
<td>0.96</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Equilibrium, expectations &amp;</td>
<td>3</td>
<td>2.00</td>
<td>1</td>
<td>0.50</td>
<td>2</td>
<td>0.75</td>
<td>1</td>
<td>0.80</td>
</tr>
<tr>
<td>dynamics</td>
<td>3</td>
<td>1.97</td>
<td>1</td>
<td>0.00</td>
<td>2</td>
<td>1.08</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Actuarial science</td>
<td>3</td>
<td>0.80</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>2</td>
<td>0.80</td>
</tr>
<tr>
<td>Industrial Statistics</td>
<td>7</td>
<td>2.23</td>
<td>0</td>
<td>0.00</td>
<td>5</td>
<td>1.66</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Mlut</td>
<td>5</td>
<td>2.10</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>3</td>
<td>1.92</td>
</tr>
<tr>
<td>Human Capital</td>
<td>5</td>
<td>2.10</td>
<td>0</td>
<td>0.00</td>
<td>5</td>
<td>0.00</td>
<td>2</td>
<td>0.80</td>
</tr>
<tr>
<td>Experimental &amp; political economic</td>
<td>4</td>
<td>1.66</td>
<td>1</td>
<td>0.50</td>
<td>3</td>
<td>0.88</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>Markets &amp; Organizations</td>
<td>5</td>
<td>0.08</td>
<td>1</td>
<td>0.08</td>
<td>8</td>
<td>3.51</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>SEO economic research</td>
<td>1</td>
<td>0.80</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>34</td>
<td>29.32</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
<td><strong>12.27</strong></td>
<td><strong>6</strong></td>
<td><strong>2.38</strong></td>
<td><strong>24</strong></td>
<td><strong>8.84</strong></td>
<td><strong>41</strong></td>
<td><strong>32.92</strong></td>
</tr>
</tbody>
</table>

* hgl=professor, uhd=associate professor, ud=assistant professor, oz=researcher, pdoc=postdoctoral fellow

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, 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: Lydia Geijtenbeek and Mark Kagan

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: Domenico Massaro and Marco van der Leij

KAFFE Lunch seminar
Organisation: Lucyna Górnicka, Dávid Kopányi and Matthias Weber

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 and 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 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: Inflow 2004-2013 (ASE-RI)

<table>
<thead>
<tr>
<th>Cohort</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st flow of fund projects</td>
<td>6</td>
<td>1</td>
<td>4,5</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>2nd flow of fund projects</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3rd flow of fund projects</td>
<td>0</td>
<td>2</td>
<td>1,5</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total projects started</td>
<td>10</td>
<td>4</td>
<td>9</td>
<td>9</td>
<td>12</td>
<td>10</td>
<td>5</td>
<td>12</td>
<td>14</td>
<td>14</td>
</tr>
</tbody>
</table>

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. The inflow increased to 14 in 2012 and 2013. As can be seen from Table IV, there are major differences between the flows of fund.

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

Table V: graduations by cohort (FEB)*

<table>
<thead>
<tr>
<th>Cohort</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>Total/Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects started</td>
<td>6</td>
<td>13</td>
<td>9</td>
<td>17</td>
<td>16</td>
<td>20</td>
<td>15</td>
<td>93</td>
</tr>
<tr>
<td>Graduated/Total</td>
<td>5/6</td>
<td>8/13</td>
<td>6/9</td>
<td>14/17</td>
<td>12/16</td>
<td>15/20</td>
<td>8/15</td>
<td>72/93</td>
</tr>
<tr>
<td>Fraction graduated from total</td>
<td>83%</td>
<td>62%</td>
<td>67%</td>
<td>82%</td>
<td>75%</td>
<td>75%</td>
<td>53%</td>
<td>74%</td>
</tr>
<tr>
<td>Graduated within 60 months</td>
<td>2/5</td>
<td>4/8</td>
<td>4/6</td>
<td>7/14</td>
<td>6/12</td>
<td>11/15</td>
<td>8/8</td>
<td>44/72</td>
</tr>
<tr>
<td>Fraction grad. within 60 month</td>
<td>40%</td>
<td>50%</td>
<td>67%</td>
<td>50%</td>
<td>50%</td>
<td>73%</td>
<td>100%</td>
<td>55%</td>
</tr>
<tr>
<td>Av. duration to completion in m</td>
<td>67</td>
<td>61</td>
<td>56</td>
<td>57</td>
<td>59</td>
<td>48</td>
<td>45</td>
<td>60</td>
</tr>
</tbody>
</table>

* Including all FEB students (also those now under the Amsterdam Business School Research Institute)

Table VI: graduations by cohort (ASE-RI)

<table>
<thead>
<tr>
<th>Cohort</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>Total/Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects started</td>
<td>2</td>
<td>10</td>
<td>4</td>
<td>9</td>
<td>9</td>
<td>12</td>
<td>10</td>
<td>53</td>
</tr>
<tr>
<td>Graduated/Total</td>
<td>2/2</td>
<td>6/10</td>
<td>2/4</td>
<td>7/9</td>
<td>8/9</td>
<td>9/12</td>
<td>6/10</td>
<td>39/53</td>
</tr>
<tr>
<td>Fraction graduated from total</td>
<td>100%</td>
<td>60%</td>
<td>50%</td>
<td>78%</td>
<td>89%</td>
<td>75%</td>
<td>60%</td>
<td>78%</td>
</tr>
<tr>
<td>Graduated within 60 months</td>
<td>0/2</td>
<td>3/6</td>
<td>2/2</td>
<td>2/7</td>
<td>3/8</td>
<td>8/9</td>
<td>6/6</td>
<td>24/39</td>
</tr>
<tr>
<td>Fraction grad. within 60 month</td>
<td>0%</td>
<td>50%</td>
<td>100%</td>
<td>29%</td>
<td>38%</td>
<td>89%</td>
<td>100%</td>
<td>51%</td>
</tr>
<tr>
<td>Av. duration to completion in m</td>
<td>79</td>
<td>67</td>
<td>53</td>
<td>60</td>
<td>62</td>
<td>46</td>
<td>43</td>
<td>62</td>
</tr>
</tbody>
</table>

As can be seen in Table V, on average, PhD students at the FEB needed 60 months from start of the contract to actual graduation. From Table VI, we see ASE-RI PhD students needed on average 62 months. It is expected that the percentage of graduations (75%) will rise in the near future, when a larger proportion of projects started are carried out by PhD students with a completed two-year research-training programme. Also, the average duration of these students to complete the PhD has been decreasing in recent years.
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. This differs from the results of the ESB Economen-top 40 of 2013, where UvA ranked 5th in the Netherlands. The 2013 QS World University Rankings by Subject puts FEB between ranks 51-100 for the discipline Economics and Econometrics.

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.

Table VII: Editorial positions in academic international journals

<table>
<thead>
<tr>
<th>Name</th>
<th>Editorship</th>
<th>Journal</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assenza, T.</td>
<td>Guest editor</td>
<td>Special Issue of the Journal of Economic Dynamics and Control on</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Rethinking Economic Policies in a Landscape of Heterogeneous Agents’</td>
<td></td>
</tr>
<tr>
<td>Beetsma, R.M.W.J.</td>
<td>Chairman editorial board</td>
<td>Netspar</td>
<td></td>
</tr>
<tr>
<td>Beetsma, R.M.W.J.</td>
<td>Associate editor</td>
<td>De Economist</td>
<td>B</td>
</tr>
<tr>
<td>Beetsma, R.M.W.J.</td>
<td>Associate editor</td>
<td>CESifo Economic Studies</td>
<td></td>
</tr>
<tr>
<td>Boswijik, H.P.</td>
<td>Associate editor</td>
<td>Journal of Time Series Analysis</td>
<td></td>
</tr>
<tr>
<td>Boswijik, H.P.</td>
<td>Guest editor</td>
<td>Computational Statistics and Data Analysis</td>
<td>B</td>
</tr>
<tr>
<td>Burgheorges,</td>
<td>Member editorial board</td>
<td>Journal of Air Transport Management</td>
<td></td>
</tr>
<tr>
<td>Diks, C.G.H.</td>
<td>Associate editor</td>
<td>Studies in Nonlinear Dynamics and Econometrics</td>
<td>B</td>
</tr>
<tr>
<td>Does, R.J.M.M.</td>
<td>Member editorial advisory board</td>
<td>International Journal of Lean Six Sigma</td>
<td></td>
</tr>
<tr>
<td>Does, R.J.M.M.</td>
<td>advisory board</td>
<td>Quality Engineering</td>
<td>B</td>
</tr>
<tr>
<td>Does, R.J.M.M.</td>
<td>Column editor</td>
<td>Quality Engineering</td>
<td>B</td>
</tr>
<tr>
<td>Does, R.J.M.M.</td>
<td>Member editorial board</td>
<td>Quality Technology and Quantitative Management</td>
<td></td>
</tr>
<tr>
<td>Does, R.J.M.M.</td>
<td>Member publication management board</td>
<td>American Society for Quality</td>
<td>B</td>
</tr>
<tr>
<td>Ewijk, C. van</td>
<td>Editor</td>
<td>De Economist</td>
<td>B</td>
</tr>
<tr>
<td>Goovaerts, M.J.</td>
<td>Editor</td>
<td>Insurance: Mathematics and Economics</td>
<td>A</td>
</tr>
<tr>
<td>Goovaerts, M.J.</td>
<td>Editor</td>
<td>Journal of Computational and Applied Mathematics</td>
<td>B</td>
</tr>
<tr>
<td>Guerriero,</td>
<td>Associate editor</td>
<td>International Review of Law and Economics</td>
<td>B</td>
</tr>
<tr>
<td>Hartog, J.</td>
<td>Member editorial board</td>
<td>Economics of Education Review</td>
<td>B</td>
</tr>
<tr>
<td>Hartog, J.</td>
<td>Member editorial board</td>
<td>International Journal of Happiness and Development</td>
<td></td>
</tr>
<tr>
<td>Hartog, J.</td>
<td>Member editorial board</td>
<td>ISRN Education</td>
<td></td>
</tr>
<tr>
<td>Hinooppen, J.</td>
<td>Associate editor</td>
<td>Review of Industrial Organization</td>
<td>B</td>
</tr>
<tr>
<td>Hommes, C.</td>
<td>Member editorial board</td>
<td>Complexity Economics</td>
<td></td>
</tr>
<tr>
<td>Hommes, C.</td>
<td>Associate editor</td>
<td>Computational Economics</td>
<td>B</td>
</tr>
<tr>
<td>Hommes, C.</td>
<td>Advisory editor</td>
<td>Journal of Economic Dynamics and Control</td>
<td>A</td>
</tr>
<tr>
<td>Hommes, C.</td>
<td>Associate editor</td>
<td>Journal of Economic Interaction and Coordination</td>
<td></td>
</tr>
<tr>
<td>Hommes, C.</td>
<td>Associate editor</td>
<td>Macroeconomic Dynamics</td>
<td>B</td>
</tr>
<tr>
<td>Kaas, R.</td>
<td>Managing editor</td>
<td>Insurance: Mathematics and Economics</td>
<td>A</td>
</tr>
<tr>
<td>Kiviet, J.F.</td>
<td>Member editorial board</td>
<td>Foundations and Trends in Econometrics</td>
<td></td>
</tr>
<tr>
<td>Laeven, R.J.A.</td>
<td>Member editorial board</td>
<td>Defence Modelling</td>
<td>A</td>
</tr>
<tr>
<td>Laeven, R.J.A.</td>
<td>Associate editor</td>
<td>Insurance Markets and Companies: Analyses and Actuarial Computations</td>
<td></td>
</tr>
<tr>
<td>Laeven, R.J.A.</td>
<td>Associate editor</td>
<td>Insurance: Mathematics and Economics</td>
<td>A</td>
</tr>
<tr>
<td>Leij, M. van der</td>
<td>Associate editor</td>
<td>Network Science</td>
<td></td>
</tr>
<tr>
<td>Mast, J. de</td>
<td>Member editorial board</td>
<td>Quality Engineering</td>
<td>B</td>
</tr>
<tr>
<td>Mast, J. de</td>
<td>Guest editor</td>
<td>Special Issue Quality Engineering for Stu Hunter Research Conference</td>
<td>B</td>
</tr>
<tr>
<td>Offerman, T.J.S.</td>
<td>Associate editor</td>
<td>Games and Economic Behavior</td>
<td>A</td>
</tr>
<tr>
<td>Offerman, T.J.S.</td>
<td>Member editorial board</td>
<td>Experimental Economics</td>
<td>B</td>
</tr>
<tr>
<td>Onderstal, A.R.</td>
<td>Associate editor</td>
<td>TPEdigital</td>
<td></td>
</tr>
<tr>
<td>Oosterbeek, H.</td>
<td>Member editorial board</td>
<td>Economics of Education Review</td>
<td>B</td>
</tr>
<tr>
<td>Oosterbeek, H.</td>
<td>Member editorial board</td>
<td>Effective Education</td>
<td></td>
</tr>
<tr>
<td>Schram, A.</td>
<td>Advisory editor</td>
<td>Experimental Economics</td>
<td>B</td>
</tr>
<tr>
<td>Soetevent, A.R.</td>
<td>Associate editor</td>
<td>De Economist</td>
<td>B</td>
</tr>
<tr>
<td>Sonnenmann, J.</td>
<td>Member editorial board</td>
<td>Journal of Economic Psychology</td>
<td>B</td>
</tr>
<tr>
<td>Sonnenmann, J.</td>
<td>Member editorial board</td>
<td>Quantitative Finance</td>
<td>B</td>
</tr>
<tr>
<td>Tuijnman, J.</td>
<td>Associate editor</td>
<td>Journal of Economic Dynamics and Control</td>
<td>A</td>
</tr>
<tr>
<td>Tuijnman, J.</td>
<td>Guest editor</td>
<td>Special Issue of the Journal of Economic Dynamics and Control</td>
<td>A</td>
</tr>
<tr>
<td>Winder, F.A.A.M. van</td>
<td>Member editorial board</td>
<td>Public Choice</td>
<td>B</td>
</tr>
</tbody>
</table>

3.3 OVERVIEW OF RESULTS

Figure I: Publications 2008-2013

Table VIII: Publications 2008-2013

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>7y Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A= publications in A-journals</td>
<td>32</td>
<td>59</td>
<td>47</td>
<td>41</td>
<td>25</td>
<td>40</td>
<td>39</td>
</tr>
<tr>
<td>B= publications in B-journals</td>
<td>49</td>
<td>49</td>
<td>56</td>
<td>48</td>
<td>49</td>
<td>51</td>
<td>54</td>
</tr>
<tr>
<td>Other = publications in other refereed journals</td>
<td>43</td>
<td>45</td>
<td>58</td>
<td>33</td>
<td>33</td>
<td>27</td>
<td>39</td>
</tr>
<tr>
<td>B = publications in/of books</td>
<td>44</td>
<td>44</td>
<td>41</td>
<td>42</td>
<td>17</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>168</td>
<td>197</td>
<td>202</td>
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Figure I and Table VIII show an increasing total output up to 2010. In 2011 the output decreased, which was partly due to a reorganization in the Faculty of Economics and Business. This reorganization led to a decrease in scientific staff from 88.35 research fte in 2010 to 72.27 research fte in 2011, as can be seen in 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. 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.
The year 2012 showed a particular high increase of completed dissertations compared to previous years. There was a slight decrease from 25 in 2012 to 23 in 2013. 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 already had a standing tradition in laboratory experiments (CREED was founded in 1991) 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 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 2013, the committee dealing with the allocation of resources, consisting of Theo Offerman, Erik Plug, Randolph Sloof, Joep Sonnemans and Jan Tuinstra, funded 26 applications and the workshop ABEE Symposium 2013.

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 at al., 2013), the *Review of Economic Studies* (Offerman et al, 2009) and *Science* (Ule et al., 2009).

The topic of the ABEE Symposium 2013 was ‘A Dialogue Between Laboratory Experiments and Neuroeconomics’. Presentations were held by Nadege Bault, Isabelle Brocas, Carsten de Dreu, Charles Noussair, John O’Doherty, Arno Riedl and Jack Vromen. Also Amsterdam-based researchers presented their work.
B

THE RESEARCH PROGRAMMES
5. 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

5.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

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5.2 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.

5.3 PROGRAMME EVALUATION

The (partial) early retirement of three full professors (Bethlehem, de Gooijer and Kiviet) has led to a decline in research time available to the programme in recent years. This decline is further amplified by the fact that not all members of the research programme have realised sufficient publications in recent years to qualify for a Tinbergen Institute research fellowship, or for the maximal research time awarded by the ASE-RI. Because of publication lags, this situation is not easy to remedy in the short run, and threatens the programme’s viability. In 2013, Simon Broda became research fellow of the Tinbergen Institute and obtained tenure, which strengthens the group. More importantly, plans to appoint a new full professor in econometrics have been developed further, which will lead to a substantial increase in research input and output of the group.

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 September 2013, Frank Kleibergen (Brown University and University of Amsterdam) started a 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 2013 one new PhD student (Yang Liu) was appointed in the UvA-Econometrics group, another student (Andrei Lalu) started his PhD in the Actuarial Science and Mathematical Finance group, co-supervised by Peter Boswijk. Both are subsidised by the Duisenberg School of Finance. This shows that the UvA-Econometrics programme continues to attract graduates from the Tinbergen Institute’s MPhil programme in Econometrics for a PhD position.

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 a new full professor in econometrics.

**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.

5.4 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).

5.5 OUTPUT

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Publications in numbers

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Article in journal - refereed

A


B


27


**Article in journal – professional**


**Report – professional**


**Working- and discussion papers**


Conference organiser

Editorship

Keynote/invited talk

Other lectures


Kleibergen, F. (2013, 12 April). “Unexplained factors and their effects on second pass R-squared's and t-tests”, Concordia University, Montreal.


Pua, A. (2013, 18 October). “The role of sparsity in panel data”, Amsterdam-Bonn workshop, Tinbergen Institute, Amsterdam.

Membership academies
Boswijk, H.P. (2013). Member of PhD committee of Karim Bannouh (Erasmus University Rotterdam, 11 January 2013).
Bun, M.J.G. (2013). Member of Ph.D. committee of Stephen Kastoryano, University of Amsterdam & VU University Amsterdam.
Garderen, K.J. van (2012). Member Doctoral Board of EDEEM (European Doctorate in Economics-Erasmus Mundus).

Relevant position
Boswijk, H.P. (2013). Member of the Board of the Tinbergen Institute.
Kiviet, J.F. (2013, 3–7 June). Visitor at University of Salamanca (Spain) to teach a 20 hours course in Dynamic Panel Data Analysis.
Pua, A. (2013, 7–10 September). Guest lecturer, De La Salle University, Manila.
6. 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

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6.2 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.

### 6.3 PROGRAMME EVALUATION

This programme grew out of a mathematical economics programme 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 Pioneer grant awarded to Hommes, to set up the Center for Nonlinear Dynamics in Economics and Finance (CeNDEF). At that time the programme changed from a small specialized mathematical economics programme into a multi-disciplinary research programme 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 programme. At the end of 2003, the CeNDEF postdocs Diks, Tuinstra and Wagener obtained tenured positions, ensuring the continuation of the research programme. In 2009 the research programme was ranked as one of the three top programmes 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 2013 is excellent. The output was 19 articles in international refereed journals (of which 9 A and 7 B publications) and 2 A publications and 1 B publication in books. Two PhD students who had a co-supervisor from the group, Elenenna Dugundji and Grega Smrkolj, defended their thesis successfully.

The programme is internationally established, as is shown by excellent citation statistics (e.g. according to the Science Citation Index (SCI) in 2013 almost 400 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 12, one position up from last year. This ranking contains faculties of economics and departments; among the small institutes of the order of a research group (about 10 researchers) CeNDEF ranks 2rd on the list, only trailing the UvA Finance Group.

In 2013, Isabelle Salle joined the group as postdoctoral researcher in the EU FP7 Collaborative Project RASTANEWS, Zhenxing Huang as postdoctoral researcher in the INET HEXFiCs project and Hsien-Mien Wang as a EDE-EM PhD student.

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 400 times, 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 macroeconomics 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 monodisciplinary environment; and the complexity of the tools used may turn out to be an impediment at disseminating the research approach.

### 6.4 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 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 a post-doc and a PhD student respectively through this grant. Tomasz Makarewicz is PhD student funded by the NWO Talent project Learning to Forecast with Evolutionary Models.

CeNDEF is part of several European consortia which obtained grants: the EU FP7-ICT collaborative project (between 10 European partners) “Complexity Research Initiative for Systemic InstabilityS” (CRISIS), 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. Zenhxing Huang has been appointed as postdoc in this project. A newly funded EU FP7 Collaborative project (with 12 European partners) Macro-Risk Assessment and StabilizationPolicies with New Early Warning Signals (RASTANEWS) started in February 2013. Isabelle Salle has been appointed as a postdoc in this project.

6.5 OUTPUT

Key publications

Forthcoming
Salle I. & Yildizoglu, M. Efficient Sampling and Metamodeling in Computational Economic Models, Computational Economics.
Publications in numbers

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Article in journal - refereed

A


B


**Other**


**Article in journal - non-refereed**


**Article in journal – professional**


**Book / book chapter – refereed**


Conference paper (proceedings) – non-refereed

Working- and discussion papers


**UvA Dissertation – internally prepared**


**Inaugural Lecture**


**Conference organiser**


**Recognition**


Sniekers, F.J.T. (2013). NWO MAGW Onderzoekstalent grant (nr 406-12-078, budget 158 735 Euro) for Ph.D. project titled “Search frictions and endogenous cycles in the labor and housing market”, applied for by Pieter Gautier and Jan Tuinstra.


Hommes, C. (2013, 22 Juni). Er is geen houden aan die chaos. Volkskrant interview door Martijn van Calmthout met Ferdinand Verhulst, Henk Broer, Cars Hommes, etc.

**Other**

Wagener, F.O.O. (2013). Brochure CeNDEF@15. 15th Anniversary of CeNDEF. University of Amsterdam.

**Editorship**


Tuinstra, J. (2013). Guest editor (jointly with P. Commendatore and S. Sordi) of a special issue of the *Journal of Economic Dynamics and Control* on “Complex Nonlinear Dynamics in Economic and Spatial Structures”.

**Keynote/invited talk**


Assenza T. (2013, 24-25 October). Emergent Dynamic Behavior of a Macroeconomic Agent Based Model. Symposium CeNDEF@15, University of Amsterdam.


Hommes, C.H. (2013, 4-6 April). ‘What is the role of psychological considerations in economics?’, INET Conference Hong Kong.


Other lectures


Assenza T. (2013, 7-8 November). Emergent Dynamic Behavior of a Macroeconomic Agent Based Model. First Bordeaux Workshop on Agent-Based Macroeconomics, Université Montesquieu Bordeaux IV, France.


Ochea, M.I (2013, July 7-12). Evolution of Reciprocity in n-person, Asymmetric Social Dilemmas, Game Theory Festival, Stony Brook, USA.


Tuinstra, J. (2013, 5 July). Positive welfare effects of barriers to entry in a dynamic equilibrium model, NED 2013, University of Siena, Siena, Italy.


Membership academies
Diks, C.G.H. (2013). Member of Ph.D. committee of Matthijs Lof, University of Helsinki, Finland.
Diks, C.G.H. (2013, April 18). Member of the Ph.D. Committee of Vitalie Spinu, Erasmus University Rotterdam.
Hommes, C.H. (2013). Member Advisory Board Center for Applied Macroeconomic Analysis (CAMA) Australian National University, Canberra Australia.
Relevant position


7. 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

7.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

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7.2 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 & Mathematical Finance 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.
7.3 PROGRAMME EVALUATION

The research group Actuarial Science & Mathematical Finance has been growing steadily in the last couple of years. Our PhD student Julien Tomas successfully defended his PhD thesis in January before taking up a position as a postdoc in France and dr. Jiajia Cui has left the group to work full-time for a Dutch pension fund. However, two new PhD students have arrived in September: Andrei Lalu and Jitze Hooijsma. Mr. Lalu is a full time PhD student who will work on a joint research project with the econometrics group (in particular, prof. Peter Boswijk) in which he will investigate econometric estimation techniques and financial applications of point processes in continuous time stochastic models. Mr. Hooijsma will work as a part-time PhD student on the modelling of inflation risk and its consequences for asset and liability management problems in pension funds and insurance companies. In 2013 we also started an international PhD project: Marko Petrov will work as a PhD student on a fully sponsored EDEEM (European Doctorate in Economics of Erasmus Mundus) research project under joint supervision of our group and a group at the Universidade Nova de Lisboa. This research will consider the problem of derivatives pricing in illiquid markets.

The group has also started two tenure tracks, one for dr. Umut Can, who was already a member of the group as a postdoc and one for dr. Tim Boonen, who joined us from Tilburg University where he wrote his PhD thesis on game theoretic approaches to optimal risk sharing problems. These two young researchers provide an excellent fit for the profile of our research group, with a strong focus on the development of quantitative methods which keep concrete applications in the financial industry in mind. This is also an important characteristic of the work done by dr. Leendert van Gastel who won the Dutch Actuarial Society’s award for the best thesis in Actuarial Science and who has joined our group for part-time research into the convergence of valuation operators in incomplete markets while working at the Dutch central bank (DNB) for the rest of the time.

The solid and useful links with the financial industry have led to interesting joint initiatives such as symposia on long term guarantees embedded in insurance contracts and on the economic consequences of decreasing mortality rates in the Netherlands. The group is responsible for the Netspar research theme Risk Management for Funded Pension Systems and members participated frequently at Netspar events, where scientific results provide important guidance for policy decisions concerning the future of retirement provisions in the Netherlands. But apart from these more practically oriented events the focus has been mainly on the many scientific gatherings that group members have been involved in. The seminar series in Actuarial Sciences and Mathematical Finance has attracted many internationally renowned speakers and provides an extra impulse to the many international contacts that group members have with leading international actuarial research programmes in for example Edinburgh, Leuven, Waterloo and London. We also participated in the organization of international conferences in Brussels and Copenhagen and dr. Antonio acted as scientific chair of the highly successful international ASTIN conference that was held in the Hague in May. International ties were further strengthened by regular visits to Princeton (Laeven), a visiting professorship position at the KU Leuven (Vellekoop) and many invited talks.

Strengths: The two 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.

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 combination is very relevant for subjects such as pension reform and regulatory issues, which are expected to play an important role in the field the coming decade.
Threats: The group has been successful in attracting more Master students for both Executive and regular programmes but numbers are relatively small compared to other programmes in the faculty. This leads to further pressure on the time available for research.

7.4 RESOURCES AND FUNDING

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

01/2012 – 01/2015. Chair ‘Verzekeringseconomie’ sponsored by Verbond van Verzekeraars (Dutch Association of Insurers), €400.000.
01/2012 – 01/2014. Sponsored PhD Research Grant, APG (Position of Zhenzhen Fan).
2013. Sponsored PhD Research Grant, Van Ameyde (Position to be filled).

7.5 OUTPUT

Key publications

Forthcoming

Publications in numbers

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Article in journal – refereed

A


B


Other


**Article in journal – professional**

**Article in magazine or newspaper – popular scientific**
Laeven, R.J.A. Interview in Verzekerd!, Nummer 4, september 2013.
Laeven, R.J.A. Interview in De Leeuwerder Courant, 2 november 2013.
Laeven, R.J.A. Interview in De Actuaris, jubileumuitgave 2013.

**Report – professional**

**Book / book chapter – non-refereed**

**Book / book chapter – professional**

**Working papers**

UvA Dissertation – internally prepared

Tomas, J. (2013, 18 January). Quantifying Biometric Life Insurance Risks --- With Non-Parametric Smoothing Methods. Universiteit van Amsterdam. [Promotor: Prof. dr. R. Kaas, co-promotor: Prof. dr. F. Planchet, Overige leden sectie Act: Dr. K. Antonio (Universiteit van Amsterdam), Prof. dr. ir. M.J. Goovaerts (Universiteit van Amsterdam), Prof. dr. ir. M.H. Vellekoop (Universiteit van Amsterdam)]

Conference organiser


Recognition

Antonio, K., Bardoutsos, A. & Ouburg, W. (Fall 2013). Bocconi research grant for the project ‘Bayesian mortality models for two and more (sub)populations’.
Antonio, K. (2013). Best session award as voted by the participants at the Casualty Loss Reserve Seminar, Casualty Actuarial Society, September 15-17 (2013), Boston, USA.
Laeven, R.J.A. Fondation Banque de France Research Grant 2013; EUR 30.000,-. (with Yacine Aït-Sahalia and Loriana Pelizzon).
Laeven, R.J.A. Van Ameyde PhD Research Grant.
Laeven, R.J.A. APG PhD Research Grant.
Laeven, R.J.A. Sponsorship Chair of Risk and Insurance by the Dutch Association of Insurers.
Laeven, R.J.A. Netspar Theme Grant 2012 (one of eight participants).
Laeven, R.J.A. VIDI Research Grant 2009 awarded by the Netherlands Organization for Scientific Research (NWO).


Editorship
Laeven, R.J.A. (2013). Dependence Modelling, Associate Editor.

Keynote/invited talk
Goovaerts, M. (2013, April 2), Comparison of risk measures for decision principles, solvency capital and insurance premiums, University of St. Petersburg, St. Petersburg, Russia, Invited Talk.


Other lectures


Berkum, F. van (July 2013). Structural breaks in mortality rates, 17th International IME Conference, Copenhagen, Denmark.


Kort, J. de (July 2, 2013). Optimal investment with stochastic mortality and stochastic interest rates, 17th International IME Conference, Copenhagen, Denmark.

Laeven, R.J.A. (July 2, 2013). Transform analysis and insurance and financial mathematics for Lévy processes: A recursive approach, 17th International IME Conference, Copenhagen, Denmark.


Tamerus, J.H. (2013, September). De reele ambitieovereenkomst en de Tilburgse amendering op FTK 1+, study meeting pension fund boardmembers and professionals, Netspar.

Vellekoop, M.H. (July 1, 2013). Optimal investment and consumption when allowing for terminal debts, 17th International IME Conference, Copenhagen, Denmark.

Membership academies
Laeven, R.J.A. (2013). Fellow and Director of the Insurance Supervision Research Program of the Amsterdam Center for Insurance Studies (ACIS).
Laeven, R.J.A. (2013). Extramural Fellow of CentER.
Tamerus, J.H. (1992-). Member of the Pension Committee of the Dutch Labour Foundation on behalf of the Union for Middelclass and Higher Employees (MHP)

Relevant position
Laeven, R.J.A. (2013). Visiting Professor at the Bendheim Center for Finance, Princeton University, US.
Laeven, R.J.A. (2013). Co-Director of the Research Focal Area of Risk and Macro Finance at the University of Amsterdam.
8. INDUSTRIAL STATISTICS

Programme director:  Prof. dr. R.J.M.M. Does
METIS-code:    uva/feb/ase/ibis
JEL-Classification:  C1 (Econometric and Statistical Methods and Methodology: General)
Starting date:   1994
Website:    www.aseri.uva.nl/is

8.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

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8.2 PROGRAMME DESIGN

The research is tightly associated to the commercial activities of IBIS, which is an independent consulting firm owned by the UvA. The interaction of scientific research on the one hand, and its application in the service of IBIS UvA’s clients on the other, is seen as the crux of the institute. Industrial Statistics aims to develop techniques and methods, and build methodological knowledge in support of their effective application, for the pursuit of operational effectiveness in businesses and industry. Industrial statistics has strong ties with statistics, operations research, management science and industrial engineering.

Research focuses on four themes, elaborated as 8.2.1 through 8.2.4 below.
8.2.1 Statistical process control and control charting methodology

Statistical process control (SPC) offers methods for detecting when a system transits from a normal state to a disturbed state (named out-of-control). Methodology for SPC in the manufacturing industry has, in the previous two decades, reached a mature stage. Attention is now shifting to control chart methods for robust monitoring and for detecting small shifts in the parameters. Such applications require an integration of SPC with robust statistics and adding additional runs rules to the control charts.

8.2.2 Methodologies for improvement of operational effectiveness, especially in healthcare

Industry and consulting firms develop methodologies for process, quality and efficiency improvement, some of which are applied on an extremely wide scale. Examples include Six Sigma, Lean Manufacturing, Business Process Reengineering, and Statistical Process Control. A critical and scientific study of these commercially offered methodologies aims to assess their merits, and where possible suggest improvements.

In recent years, the research has focused on improvement of operational effectiveness in healthcare institutions in particular. Pressure on healthcare to improve quality, efficiency and safety is high. The consultancy activities of IBIS UvA, as well as the excellent network of contacts in healthcare, provide a good empirical basis for the research, and ample opportunities to test methods in practice.

Another special focus is on methodologies for diagnostic problem solving, including frameworks and prescriptions for exploratory data analysis, and the identification and specification of strategies for efficient diagnosis.

8.2.3 Measurement system analysis

The precision of measurement devices, as well as the reliability of diagnostic tests and quality inspections, can be established by means of a statistical evaluation. Especially the evaluation of measurements and tests that produce results on binary and categorical scales struggles with fundamental and practical hiatuses in insight, for which it is plausible that industrial statistics can make contributions and possibly even induce breakthroughs.

8.2.4 Stochastic scheduling in services and healthcare

Efficient scheduling of hearings in a court house, of patients in a dental practice, or in general: of customers waiting for a service, must deal with random variation in arrival times and availability of the servers. Research aims to expand and apply the theory of stochastic scheduling to improve efficiency, optimizing and improving the balance between utilization of the resources, and waiting time for the customers. The research aims to advance the mathematical treatment, stochastic analysis of queues, and the practical usefulness in service and healthcare systems.

8.3 PROGRAMME EVALUATION

8.3.1 Group, formation and activities

There are two chairs in Industrial Statistics: Industrial Statistics (prof. dr. Does) and Methods & Statistics for Operations Management (prof. dr. De Mast). Prof. dr. Mandjes, professor of Applied Probability at the Faculty of Science of the UvA, has accepted a 0.1 FTE position at IBIS starting January 1st, 2013. Further, the group has two senior researchers (dr. Erdmann and dr. Schoonhoven), and three junior researchers (drs. Akkerhuis, drs. Kuiper, drs. Zwetsloot). In addition, prof. dr. Steiner has joined the group for a period of 11 months (Sept 2012 through June 2013) as a visiting professor. Stefan Steiner is professor in the Dept. of Statistics & Actuarial Sciences in Waterloo University, Canada.

The group has collaborated extensively with researchers from other institutions, most notably: the University Medical Center in Groningen; the Faculty of Economics and Business, University of Groningen; the King Fahad University of Petroleum and Minerals, Dhahran, Saudi Arabia; the Quaid-
i-Azam University Islamabad, Pakistan; University of Sargodha, Sargodha, Pakistan. Waterloo University, Canada; and the Institute of Psychology, Leiden University. Also, the group has benefited from close collaborations with several hospitals and companies that allowed researchers of Industrial Statistics to do field tests and collect data for their research, and professionals from these organizations have co-authored several case studies with Industrial Statistics researchers.

SWOT:
- Compared to previous years, we think the research group has managed to build sufficient critical mass to allow us to aim for high impact research projects.
- All senior and junior researchers of Industrial Statistics combine their academic work with a position as consultant in IBIS’s commercial activities; this combination represents a unique strength of the group, as research is inspired by and thoroughly grounded in its application context in the field, and consulting services provide an effective channel for research output to be of benefit for society.
- But the combination of highly professional work in consultancy and academic work represents a challenge for time management.

8.3.2 Achievements in 2013
Among the best achievements of 2013, the group considers:
- 18 refereed papers (2xA, 14xB), 6 non-refereed publications
- 1 MSc thesis: drs. Alex Kuiper.
- 16 forthcoming papers (1xA, 14xB)

SWOT:
- The research output of the group is good considered the limited size of the group, and it is impressive considered that the group is almost entirely funded (directly or indirectly) by revenues generated by group members themselves.
- The output is again high like previous years (2012: 6 refereed papers, 3 dissertations and 9 forthcoming papers). This is remarkable because prof. dr. Does is highly involved in the Executive Programmes, and prof. dr. De Mast has substantial teaching activities.

8.3.3 External evaluations
Most recent evaluation (note that the group was part of the KdV Institute for Mathematics in the period that was evaluated):

8.3.4 Relevance for society and valorization
The research is aimed at developing effective methods and techniques for various ambitions in operations improvement in commercial firms and nonprofit organizations:
- Quality control and improvement;
- Operational effectiveness and productivity;
- Safety and reliability of processes;
- Product development.

SWOT:
- The consulting activities of IBIS offer opportunities for cross-fertilization that are recognized internationally as unique.
- Much research is directly inspired by problems encountered in our consulting activities. These activities and the courses that we teach offer an effective outlet for the results of research.
- In its publication policy, IBIS aims to strike a balance between prestigious academic journal, and applied and professional journals.
8.4 RESOURCES AND FUNDING

Prof. dr. Does’s full professor position at the FEB is partially (0.2 fte) paid for by funds of the 1st flow and by funds of the 3rd flow of IBIS (0.2 fte). All other positions are paid for by funds of the 3rd flow. Prof.dr. De Mast has a 0.2 fte position as HGL and Prof.dr. Mandjes has a 0.1 fte position as HGL, which are paid for from the dividend of IBIS. Prof.dr. Steiner’s visiting professorship is paid by Waterloo University. The other personnel costs are directly paid by IBIS.

8.5 OUTPUT

Key publications

Forthcoming
Blom, J., Kella, O., Mandjes, M. & Thordsottir, H. Markov-modulated infinite-server queues with general service times. Queueing Systems. [A]
Huang, G., Mandjes, M. & Speijr, P. Limit theorems for reflected Ornstein-Uhlenbeck processes. Statistica Neerlandica. [B]


**Publications in numbers**

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A


B


**Other**


**Article in journal – non-refereed**


**Article in journal – professional**


**Article in journal – popular**


**Conference organiser**


**Editorship**
Does, R.J.M.M. (2013) Member Editorial Board, and Member Advisory Board, Quality Engineering.
Mast, J. de (2013) Guest Editor Quality Engineering (Special Issue for the Stu Hunter Research Conference).

**Keynote/invited talk**

**Other lectures**

**Membership academies**
Does, R.J.M.M. (2013) Member of the ASQ Shewhart Medal Nomination Committee.
Does, R.J.M.M. (2013) Member of the ASQ Statistics Division Hunter Award Nomination Committee.
Mast, J. de (2013) Associate Member, International Academy for Quality.
Mast, J. de (2013) Senior Member, American Society for Quality (ASQ).

**Relevant position**
Mast, J. de (2013). Visiting Professor, Boğaziçi University, Istanbul.
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

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### 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

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| Total 3rd flow of funds | 1,93 | 1,65 | 1,75 | 2,59 |
| Total 1st f.o.f. excl. Ph.D.'s | 2,95 | 2,97 | 3,15 | 3,64 |
| Total 1st-3rd flow of funds | 9,16 | 7,29 | 6,24 | 9,27 |
| Ph.D. students | 3,00 | 1,85 | 1,78 | 4,61 |
factors that are behind them, and to what extent and how governments can affect these developments. The current international sovereign debt crisis and discussions on the sustainability of pension systems exemplify this.

Themes
Major international economic developments and policy debates generate a constant 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.

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. Konstantinos 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.

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. Christiaan van der Kwaak and Sweder van Wijnbergen study fiscal policy and in particular 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. Roel Beetsma and Massimo Giuliodori show that new debt issues can cause an auction cycle in secondary-market debt, that is, an increase in debt yields in the run-up to an auction and a decrease in yields after the auction. 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.

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. Regarding the latter, there is widespread agreement that banks need tighter supervision and control, but there is an equally widespread concern that implementing higher capital requirements will abort the recovery before it has even started. Yet we know very little about the macroeconomic effects of bank regulation. Lucyna Gornicka and Sweder van Wijnbergen examine how banks adjust to more stringent regulation and find that stronger requirements lead to less leverage. Lex Hoogduin, in his capacity as adviser to the International Monetary Fund (IMF), works on the relation between micro and macroprudential policies to maintain financial stability. Of particular interest is the macro part, which concerns the financial system as a whole instead of only individual institutions, because that part is empirically very relevant, yet seriously under researched.

Foreign exchange market
The foreign exchange market is the largest financial market in the world. Many countries have managed or fixed exchange rates, and these are our research focus. Speculative attacks on them can have serious economic and societal consequences. Franc Klaassen has improved the measurement of pressure in the foreign exchange market, that is, the pressure on a currency to depreciate, and how to estimate the effectiveness of monetary policy to ward off pressure. Konstantinos Mavromatis has examined the real appreciation of currencies of transition economies, with particular focus on the composition of capital inflows: the larger inward foreign direct investment relative to portfolio investment, the more productivity increases and the stronger the real appreciation. 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, Casper van Ewijk, Ward Romp, Siert Jan Vos, and Ed Westerhout focus on the sustainability of pension systems and the consequences of changing them, and on the optimal design of pensions systems, as is heavily debated at present. For example, Roel Beetsma, Ward Romp and Siert Jan Vos have explored voluntary participation in pension arrangements. The benefit of participation is that risks can be shared with future generations. In a funded system buffers play a particularly interesting role, because compared to a system without buffer requirements, a system with buffers requires higher contributions when asset returns are low.

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 2013 MIIt published 10 articles in international refereed journals and there are 9 of such publications forthcoming, one of them in Econometrica by Coen Teulings and co-authors. Macro Finance Risk, with Sweder van Wijnbergen as one of the directors, became the faculty’s research focal area. This reflects the importance and topicality of his work, also witnessed by the fact that one of his papers on bank recapitalization was discussed in an ECB board meeting and cited in a speech by Benoît Coeuré, member of the Executive Board of the ECB.

The students of the group have also done well. Sajjad Zaheer (supervised by Sweder van Wijnbergen) graduated and went back to the State Bank of Pakistan, as Deputy Director. Lucyna Gornicka was awarded a research grant from the National Bank of Poland. Christiaan van der Kwaak received an NWO Research Talent grant for three years of research, being the only one of the FEB receiving it this round. Together with his supervisor Sweder van Wijnbergen he received the ESB Award 2013 for the best paper in the Economisch Statistische Berichten.

The year 2013 experienced some changes in the composition of the group, which grew as a whole. Boele Bonthuis gave up his PhD position sponsored by MN and moved to the ECB and the Deutsche Bundesbank, where he will continue to work on his PhD thesis, which will be defended at MInt. Ron van Maurik took over the PhD position. Massimo Giuliodori was appointed as Director of Graduate Studies, a prestigious position at the Tinbergen Institute. Coen Teulings came back from CPB Netherlands Bureau of Economic Policy Analysis, where he had been director, and he is now part-time affiliated to MIIt; the University of Cambridge is his main affiliation. Also Casper van Ewijk and Ed Westerhout, both from CPB, increased their positions at MIIt, and Maja Micevska Scharf started her postdoc position funded by NWO and partners. Several new students started their PhD research: Stephanie Chan, Swapnil Singh and Rutger Teulings from the Tinbergen Institute MPhil programme, Jesper Hanson from the Ministry of Finance, and Julien Pinter under the EDEEM (European Doctorate in Economics Erasmus Mundus) Programme (partner: Paris 1 University). MIIt members are 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, and participation in networks such as Netspar (Casper van Ewijk as director and Roel Beetsma as chairman of the editorial board). We have a seminar series with renowned 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 discussions by ECB Board members.

There are intensive contacts with policy institutions via visitorships and joint research papers (Bank of England, BIS, Deutsche Bundesbank, ECB, European Commission, Federal Reserve Bank of Minneapolis, IMF, OECD, World Bank, WTO, among others), via direct contacts with several Dutch ministers and members of parliament and via parliamentary hearings, joint positions (Maja Micevsk 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 Wijffels committee on banking reform, the committee on “doorsneesystematiek” in the Dutch pension system, and the Social and Economic Council of the Netherlands (SER). There are also collaborations with the business sector, such as APG, Atradius, BNG Vermogensbeheer, Energie Beheer Nederland (EBN), MN, and Rabobank. 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, Lex Hoogduin, 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 programme 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 raise 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 2013. This is particularly relevant due to the number of undergraduate students that we serve. To avoid a negative impact on research output, this situation needs to be improved.
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 (ORA) subsidy on social security contributions and wages (postdoc) and has obtained new Netspar funding. His own research time is also partly sponsored by Netspar. Sweder van Wijnbergen has grants for a PhD student 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-years NWO Research Talent scholarship. Lucyna Gornicka has a research grant from the National Bank of Poland for 2014. In addition, one PhD student was financed by the Pakistan government, and one by Rabobank.

9.5 OUTPUT

Key publications

Forthcoming

**Publications in numbers**

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**A**


**B**


**Other**


**Article in journal - non-refereed**

**Article in journal – professional**
Westerhout, E. (2013, 9 January), *De valkuil van een hogere rekenrente, Me Judice*.

**Article in magazine or newspaper – popular scientific**
Teulings, C.N. (2013, 2 October). Merkel is een succes voor Europa, *NRC Handelsblad*.

**Book / book chapter – non-refereed**

**Book / book chapter – professional**

**Report – professional**

**Working- and discussion papers**
**UvA Dissertation – internally prepared**

**UvA dissertation – externally prepared**

**Conference organiser**

**Recognition**
Beetsma, R.M.W.J. (2013). MN Chair in Pension Economics (total grant 900,000 Euro for a five-year period), sponsored by MN Services.
Wijnbergen, S.J.G. van & van der Kwaak, C.G.F. (2013): NWO MAGW Research talent (nr. 406-13-063, 3 year full time employment expenses, as well as smaller expenses for conferences etc. up to 10,000 Euro) for PhD project titled “Alternative Fiscal and Monetary Policies under Financial Fragility and Sovereign Default Risk in Currency Union (eurozone)”.

**Media appearance**
Beetsma, R.M.W.J. (2013, 28 February). Omroep MAX.

Hoogduin, L. (2013, 4 January). De Kijker aan zet. RTLZ.


Hoogduin, L. (2013, 19 March). Interview about Cyprus, RTLZ.

Hoogduin, L. (2013, 23 March). Interview about Cyprus in Nieuwsuur, Nederland 1.


Hoogduin, L. (2013, 19 August). Interview about conference Jackson Hole, RTLZ.

Hoogduin, L. (2013, 23 August). Interview about ABN Amro, RTLZ.


Hoogduin, L. (2013, 7 September). Debate on austerity with Bas Jacobs, Telegraaf.


Hoogduin, L. (2013, 14 October). Comments on Autumn Agreement on the Dutch budget, RTLZ.


Editorship

Keynote/invited talk
Other lectures


Beetsma, R.M.W.J. (2013, 4 November). Mandatory Participation in Occupational Pension Schemes in the Netherlands and other Countries. MN Chair meeting, University of Amsterdam.


Ewijk, C. van (2013, 7 February). Toekomst voor de zorg in viervoud, RVZ meeting, Utrecht.


Membership academies

Beetsma, R.M.W.J. (2013). Research Fellow CEPR.

Beetsma, R.M.W.J. (2013). Member of Supervisory Board of BNG Vermogensbeheer.
Beetsma, R.M.W.J. (2013). Member of the one-tier Board of the Sophia Stichting.
Beetsma, R.M.W.J. (2013). Member of Ph.D. committee of Caicai Du, Maastricht University.
Ewijk, C. van (2013). Member advisory board Dutch Health Authority (Nederlandse Zorg Autoriteit, Nza).
Ewijk, C. van (2013). Member Advisory Commissie Ulitmate Forward Rate (UFR), Ministry of Social Affairs.

**Relevant position**
Beetsma, R.M.W.J. (2013, 30 October). Meeting with Article IV delegation of the IMF.
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

10.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

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10.2 PROGRAMME DESIGN

Objective
The programme is an empirically driven research programme which relies on microeconometric 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 microeconometrics.

Themes

Labour economics
The Human Capital group is originally a labour orientated economics programme 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 programme 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), tax evasion (Stephen Kastoryano), labour market returns to uncertainty and risk (Joop Hartog), immigrants and labour market outcomes (Joop Hartog), 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 programme 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 (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), the influence of previous test taking on current test scores (Jona Linde), information, overconfidence and student achievement (Adam Booij), immigrants in primary and secondary education (Liebeth van Wely), the consequences of contextual shifts in math education (Diane Hidalgo and Ferry Haan), teacher quality and student achievement (Erik Plug), the effectiveness of excellent programmes in secondary education (Adam Booij, Ferry Haan and Erik Plug), the consequences of Montessorie education (Nienke Ruijsch), competitiveness and school choice (Thomas Buser, 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).

Family economics
The family economics programme 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 (Thomas Buser, Ferry Haan, Hessel Oosterbeek), gender roles in twins (Noemi Peter), time allocation within families (Henriette Maassen van den Brink),
The economics of sexual orientation (Thomas Buser, Lydia Geijtenbeek, Erik Plug), fertility, labour supply and marital stability (Erik Plug), parental investments and children (Thomas Buser, Hessel Oosterbeek, Erik Plug) and the heritability of cancer (Erik Plug).

Development economics

The development economics programme focuses on microeconomic issues in low income countries. In particular, the programme 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 programme change on a variety of child and adult outcomes (Thomas Buser, 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, the Human Capital group is 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 now 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. TIER resources expired at the end of 2012, but running TIER projects are still funded.

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 and Jacques van der Gaag are AIID researchers who with their research on human capital and health and with impact evaluation of sector-wide 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. In 2013 the Human Capital group became even smaller. Jaques van der Gaag has turned 65 and retired. Thomas Buser and Jona Linde, both talented and successful postdocs at TIER, faced an expiring contract and left our group. Thomas Buser has taken up the position of assistant professor at Markets and Organization group at our department. Jona Linde works currently as a postdoc at the Political Science department at the Free University Amsterdam. Also two PhD students faced the end of their PhD terms and left the group to take up positions elsewhere; Liesbeth van Welie is currently a supervisory board member at University of Leiden, and Stephen Kastoryano has a tenured track position at University of Mannheim. We welcome one new Human Capital member; that is, Lennart Ziegler has joined us as a first year PhD student.

Despite its small size, the group keeps on delivering high quality research; that is, 2013 has been an exceptionally good year in terms of scientific output. The Human Capital group has published 13 articles in international refereed journals and has 10 articles accepted for publication. Of the 11 published articles, 4 articles were published in A level journals. Of the 10 forthcoming articles, 4 of them will end up in A level journals. Highlights include the exceptional performance of Hessel Oosterbeek and Thomas Buser. This year Hessel Oosterbeek has two papers accepted 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. One paper, together with Peter Fredriksson and Bjorn Ockert, has been published. The other paper, together with Thomas Buser and Muriel Niederle, has been accepted. Having two accepted papers in an AA-level journal in the Tinbergen list is a very rare achievement, unique among Dutch economists. Also for Thomas Buser this is exceptional. There are only few PhD graduates with a thesis chapter published in a top-5 journal. Less exceptional, but nonetheless, very good performance comes from Erik Plug and Menno Pradhan. Erik Plug has forthcoming publications in the Journal of Labor Economics and Journal of Human Resources which are both esteemed field journals with a top-20 article influence score 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 2013, included presentations of Susan Dynarsky (Michigan), Petra Persson (Stanford) and Marco Manacorda (London LSE). 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 2013 the Human Capital group has welcomed Luis Diaz-Serrano and Sandra Nieto.

The Human Capital group attracts and delivers many PhD students. This year Lennart Ziegler has joined us. This year Stephen Kastoryano and Liebeth van Wely left us and are placed successfully elsewhere. Our PhD students are doing well in terms of performance and placements. Stephen Kastoryano is currently employed in tenured track position at the University of Mannheim, which
houses one of the best economics faculties in Germany. 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 Maasen van den Brink is member of the higher education committee of the KNAW which focuses on trends and developments in higher education that are relevant for science and society. Henriette Maassen van den Brink also chairs the division of social sciences (MaGW) at the Dutch science foundation (NWO).

In sum, the Human Capital group experienced a good year in terms of academic output. In addition, the large change in group composition has improved the internal coherency and visibility of the research programme; 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 large reduction in group size has lead to an unbalanced research group with only PhD students, postdocs 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 through teaching core courses (such as for example statistics and/or econometrics) in bachelor curriculum or through targeted research grant applications. Another way is collaborate (more) with closely related research programmes. The Human Capital group will therefore intensify its collaboration with the labour economics group at Free University.

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.

**Threats:** The 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 receives €5.3 million. All researchers at TIER are (in part) financed by TIER. 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 co-financed by Free University Amsterdam (VU). Several visiting researchers participate in the programme, without financial compensation. AIID also receives substantial external funding.

10.5 OUTPUT


**Forthcoming**


Publications in numbers

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**Article in journal - refereed**

A


B


Other


Indonesia: study protocol for a pragmatic cluster randomized controlled trial with supplementary matched control group. *Trials*, 14, 259.

**Article in journal – non-refereed**

**Article in journal – professional**


**Internet article (blog) – professional**

**Article in magazine or newspaper – popular scientific**
Groot, W. & H. Maassen van den Brink (2013, January 15). ‘Demotie is schadelijk voor bedrijven, want je toont je onbetrouwbaar’, *Volkskrant.nl*.
Groot, W., A. van Es, C. Gehrels & H. Maassen van den Brink (2013, April 4). ‘Scholingsfondsen beschikken over miljarden maar benutten hun vermogen onvoldoende’, *Het Financieele Dagblad*.

Book / book chapter – refereed


Other


Book / book chapter – non-refereed


Report – working- and discussion papers


Report- professional


UvA Dissertation – internally prepared


Van Welie, L. (2013, July 3). They will get there! Studies on Educational Performance of Immigrant Youth in the Netherlands. [Promotor: prof.dr. J. Hartog]

UvA Dissertation – externally prepared

Conference organiser

Recognition

Editorship
Oosterbeek, H. (2013). Member editorial boards Economics of Education Review & Effective Education

Keynote/invited talk
Plug E. (2013, November 1). Enriching the gifted: Evidence from a gifted program in secondary education. CBO, Radboud University, Nijmegen.

Other lectures


Plug E. (2013, October 13). Fertility effects on labor supply: IV evidence from IVF treatments. KAFFEE seminar, University of Amsterdam.


Membership academies


Oosterbeek, H. (2013). Tinbergen Institute Research Fellow, CESifo Research Fellow, Munich, Germany.


Plug, E. (2013). Krzysztof Karbownik (Uppsala University, December), Sofie Cabus (Maastricht University, September).


Relevant positions


Hartog J. (2013): member Curatorium Henri Polak Leerstoel, AIAS; chair Curatorium Randstad Leerstoel; member Landelijk Orgaan Wetenschappelijke Integriteit (LOWI); KNAW
(National Committee on Scientific Integrity, Royal Netherlands Academy of Sciences); member Conseil Scientifique de l’Instance Nationale d’Evaluation Royaume du Maroc; member Nederlands-Vlaamse Accreditatie Organisatie NVAO (Quality Assessment of Universities); standing committee Social Sciences.


## 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  

### 11.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

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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

2013 Was another good year for CREED. We again witnessed a good set of high-level publications, successful PhD defenses and welcomed promising new members.

We welcomed six new members to CREED. Audrey Hu was awarded the prestigious NWO-VENI grant and returned to CREED as a researcher. Joël van der Weele joined CREED as a postdoctoral researcher, funded by the research priority area Behavioural Economics. Simin He (supervised by Theo Offerman and Jeroen van de Ven); Francesco Gomez Martinez (supervised by Joep Sonnemans and Sander Onderstal); David Smerdon (supervised by Theo Offerman and Uri Gneezy) and Jindi Zheng (supervised by Arthur Schram) started as PhD students We welcome all of these new members and look forward to working with them in the next few years. Finally, three members temporarily left CREED for leaves at other places. Joep Sonnemans spent four months visiting universities in Australia and New Zealand, Matthijs van Veelen was a visitor at Harvard University for four months and Arthur Schram spent six months visiting the Institute of Economic Analysis in Barcelona.

Research output was high in 2013. We celebrated the PhD defence of Roel van Velthuizen, who is currently employed at the prestigious Wissenschaftszentrum für Socialforschung in Berlin. A series of top-level publications include articles in the Proceedings of the National Academy of Sciences, the Journal of Public Economics, Games and Economic Behavior, Experimental Economics, and the Journal of Economic Behavior and Organization. Other papers have been accepted for publication in excellent journals such as the Economic Journal, the Journal of the European Economic Association, Social Networks, and the American Economic Journal: Microeconomics. The diversity and multidisciplinarity of research at CREED also shows from publications in Auditing: A Journal of Practice and Theory; and Ecology and Evolution.

Aside from 14 publications in top-tier peer-reviewed journals and 7 papers accepted for publication in 2014, external recognition of the research undertaken at CREED was received in various ways. These include 31 invitations to present seminars or keynote lectures, various associate editorships, an NWO-VENI grant (for Audrey Hu), 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. In addition, a paper co-authored by CREED member Pedro Robalo was awarded the “Best paper award on Behavioral Organizational Economics” by the Unicredit and Universities Foundation as well as the best paper award at the 13th PREBEM conference.

Research contacts were continued, for example by a successful seminar series that included presentations by renowned scholars such as Gary Charness, Joan Esteban, Bernd Irlenbusch, Dan Levin, and Rosemarie Nagel. CREED also organized the Amsterdam workshop on Behavioral and Experimental Economics (ABEE 2013: “A Dialogue Between Laboratory Experiments and Neuroeconomics”), which falls within the framework of the faculty’s Research Priority Area Behavioural Economics. CREED also organized a meeting on “The Role of Uncertainty in Learning and Behavioral Control”. In collaboration with the Cognitive Science Center Amsterdam (CSCA). CREED’s participation in the 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 programme again received modest funding from the research institute ASE-RI, 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 Behavioural Economics. These provide a solid foundation for paying participants in experiments at the CREED laboratory.

As for NWO funding, an NWO-VENI grant was awarded to Audrey Hu.

CREED continued to receive funding from contracted research for governmental institutions and business.

11.5 OUTPUT

Key publications

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Forthcoming

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<td>The Emergence of Social Structure: Employer Information Networks in an Experimental Labor Market.</td>
<td>Social Networks</td>
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<td>Groot Ruiz, A. de, Offerman, T. and Onderstal, S. (2013)</td>
<td>For Those About to Talk We Salute You: An Experimental Study of Credible Deviations and ACDC.</td>
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**Article in magazine or newspaper – popular scientific**

**Book – non-refereed**

**Conference paper (proceedings) – non-refereed**

**Report – professional**

**Working- and discussion papers**


UvA Dissertation – internally prepared


Conference organiser


Recognition

Robalo, P. (2013, June 1). ‘Holanda ainda tem margem de manobra’ (‘Netherlands still has leeway’), interview, Expresso.


Robalo, P. (2013). Best paper award on Behavioral Organizational Economics for Paying is Believing: The Effect of Costly Information on Bayesian Updating, Unicredit & Universities Foundation.
Weele, J.J. (2013). Biweekly blog at political blog sargasso.nl.

**Editorship**

Sonnemans, J.S. (2013). Member Editorial Board *Journal of Economic Psychology*
Sonnemans, J.S. (2013). Member Editorial Board *Quantitative Finance*


**Keynote/invited talk**

Leeuwen, B. van (April 23 2013). *Centrality, Control and Exclusion in Social Dilemmas.* University of East Anglia, Norwich.
Leeuwen, B. van (October 2 2013). *In Search of the Angry Button.* Center for Economics and Neuroscience, University of Bonn.
Robalo, P. (June 18 2013). *Paying is Believing: The Effect of Costly Information on Bayesian Updating.* Workshop in Organizational Behavioral Economics, IZA, Bonn.
Robalo, P. (October 18 2013). *Participation, Mobilization and Reciprocity: Theory and Experiment.* Instituto de Ciências Sociais (Institute of Social Sciences), University of Lisbon, Lisbon.

Sonnemans, J. (April 17, 2013). *Individual decision making in a social context.* Seminar, Monash University, Melbourne, Australia.
Sonnemans, J. (May 14, 2013). *Individual decision making in a social context*. Seminar, University of Technology Sydney, Sydney, Australia.


Winden, F.A.A.M. van (June 26 2013). *On the social engineering of conflict and peace*. Workshop on Behavioral Decision Making in Memory of Gary Bornstein, Center for Rationality, Hebrew University, Jerusalem.


Other lectures


Kopányi-Peuker, A. (April 2 2013). Does the fear of exclusion improve team-production? PhD lunch seminar, Tinbergen Institute Amsterdam.


Kopányi-Peuker, A. (May 23 2013). Does the fear of exclusion improve team-production? CCC-meeting, Amsterdam.


Leeuwen, B. van (June 4 2013). In Search of the Angry Button. Tinbergen Institute Amsterdam.

Leeuwen, B. van (July 12 2013). In Search of the Angry Button. ESA World Meetings, Zurich.


Leeuwen, B. van (October 22 2013). In Search of the Angry Button. NHH PhD workshop “Behavioral Economics”, Bergen.


Loerakker, B. (June 4 2013). The formation of negative ties in an affective ties model and its predictive power. Tinbergen Institute Amsterdam.

Loerakker, B. (July 12 2013). The formation of negative ties in an affective ties model and its predictive power. ESA World Meetings, Zurich.


Ule, A. (January 28 2013). Investment with unstable regulation. KAFEE seminar, FEB.


Veelen, M. van (March 1, 2013). In and out of equilibrium: evolution in repeated games. University of Wisconsin at Madison, Theory seminar.

Veelen, M. van (March 7, 2013). In and out of equilibrium: evolution in repeated games. University of Colorado at Denver, Department of Mathematics.

Veelen, M. van (March 27, 2013). In and out of equilibrium: evolution in repeated games with population structure. University of British Columbia, Department of Zoology.

Veelen, M. van M (September 13, 2013). A simple model of group selection that cannot be analyzed with inclusive fitness. Ringberg Symposium “Significance of evolution for understanding the economy”.


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**Membership academies**


Offerman, T.J.S. (2013). Fellow of CESS, NYU.

Offerman, T.J.S. (2013). External fellow of CeDEX, University of Nottingham.


Schram, A.J.H.C. (2013). Member of VENI-grant evaluation committee, NWO.


Ule, A. (2013). Board member, Slovenian national agency for quality assurance in higher education.

Veenen, C.M. van (2013). Fellow of the Tinbergen Institute.

Veenen, C.M. van (2013). Member ‘De Jonge Academie’, KNAW.


Winden, F.A.A.M. van (2013). Member of the Koninklijke Hollandsche Maatschappij der Wetenschappen.

Winden, F.A.A.M. van (2013). Fellow of the Tinbergen Institute.

Winden, F.A.A.M. van (2013). Fellow of the CEPR.

Winden, F.A.A.M. van (2013). Fellow of CESifo.

**Relevant position**


Winden, F.A.A.M. van (2013). International Mentor PhD program “Evidence-Based Economics”, Munich Graduate School of Economics.


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


12.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

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Total all flows of funds 3,27 2,73 8,40 8,21
Ph.D. students 1,10 0,80 3,43 3,19
12.2 PROGRAMME DESIGN

Objective
Broadly defined, the research programme 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 three different –but closely interrelated– strands of research: (1) Industrial Organization, Competition Policy & Regulation, (2) Organizational Economics and (3) Economics of Entrepreneurship.

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 were 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. Our key 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 programme 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 (e.g. what is the effect of leniency programs on cartel detection?), 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 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 de 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, 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. Moreover, also students in entrepreneurship and management are included, as to determine whether the potential differences we find between entrepreneurs and managers are born or made.
12.3 PROGRAMME EVALUATION

Grega Smrkolj defended his Ph.D.-thesis in the Summer of 2013, which was written under the supervision of Jeroen Hinloopen (promoter). Sander Hoogendoorn defended his Ph.D.-thesis in the Spring of 2013, which was written under the supervision of Mirjam van Praag (promoter). Two researchers took up full professorships elsewhere (RUG, CBS).

**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 co-authored papers with members from other ASE research groups. The research performed by the group is very visible and of great practical importance. Group members have close links with governmental bodies such as ministries and antitrust agencies. The group is 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, except for the field of auction theory.

**Opportunities:** Joint physical location to stimulate regional spillovers; cross-fertilization research fields; the creation of an O&M 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. Group members have been requested to carry out heavy administrative duties. This may endanger the internal coherency of the research theme because of the reduced availability of these members. 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. Group members also participate in governmental expert committees and provide targeted advise 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;
- Use CREED lab (excellent);
- Funding from research priority area ‘Behavioural Economics’.

115
12.5 OUTPUT

**Key publications**


**Forthcoming**


Publications in numbers

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Article in journal – refereed

A


B


C.M. van Praag and A. van Stel (2013). The More Business Owners, the Merrier? The Role of Tertiary Education. Small Business Economics, 41(2) , 335-357.

Article in journal – professional


Hinloopen, Jeroen (2013). “It’s good if you’re bad, it’s bad if you’re good”, Tijdschrift voor het Economisch Onderwijs, No. 5 (September): 9.


Article in magazine or newspaper – popular scientific


Praag, C.M. van (2013). Interview Lieu de Memoire, Het Financieele Dagblad, 13/12/2013.

Report – academic

**Report – working- and discussion papers**


**UvA Dissertation – internally prepared**


Hoogendoorn, S.M. (2013, 8 March). Diversity and Team Performance: A Series of Field Experiments, Tinbergen Institute #555 [promotor prof. dr. C.M. van Praag]

**Conference organiser**


Praag, C.M. van (2013). Organizer of the Second Residence Week of Scholars in Entrepreneurship, Oxford, 8-14/07/13 (joint with Prof S. Estrin, LSE).V

Praag, C.M. van (2013). Organizer of the First European Workshop on Entrepreneurship Economic, the 8th Tinbergen Institute Conference, jointly with CEPR (coorganizer Roy Thurik), November 15-16, Hermitage, Amsterdam.

Praag, C.M. van (2012-2013). Organizer of the lecture/discussion series on Behavioral Economics in the AAC (Amsterdam Academic/Faculty Club), (joint with Prof J. Hartog).

Praag, C.M. van (2012-2013). Co-organizer of the ACE seminar series on entrepreneurship (external speakers, 6 per year) and the ACE mini workshops (internal speakers, twice per year) (joint with Elco van Burg, VU).


**Recognition**


Media appearance
Praag, C.M. van (2013). Interview in ‘Dit is de dag’, Radio 1, 9/12/2013.

Editorship
Onderstal, S. Editor TPEdigitaal.

Keynote/invited talk

120
Onderstal, S. (2013, August 31). Keeping Out Trojan Horses: Auctions and Bankruptcy in the Laboratory. EARIE conference Evora.
Praag, C.M. van (2013) Invited seminar Goethe University, Frankfurt, Germany, January 30 “Why do Entrepreneurial Parents have Entrepreneurial Children?“, (with Matthew Lindquist and Joeri Sol).
Praag, C.M. van (2013) Invited seminar University of Bergen, Norway, February 8 “Why do Entrepreneurial Parents have Entrepreneurial Children?“, (with Matthew Lindquist and Joeri Sol).
Praag, C.M. van (2013) Invited seminar Copenhagen Business School, Denmark, March 11 “Why do Entrepreneurial Parents have Entrepreneurial Children?“, (with Matthew Lindquist and Joeri Sol).
Praag, C.M. van (2013) Invited seminar Aalborg University, Denmark, May 7 “Ethnic diversity and team performance: a field experiment“, (with Sander Hoogendoorn).
Seldeslachts J. (2013, 27 November) The Deterrence Effects of EU Merger Policy. Economics Seminar, University of Alicante

**Other lectures**
Hinloopen J. (2013). Goning once, going twice, reported! Evidence on the effective of corporate leniency programs in experimental auctions. IIOC, Boston, USA.

121


Praag, C.M. van (2013). Invited lunch speaker Rotary Amsterdam, March 19 “Ondernemerschap, aangeboren of aangeleerd?".


Praag, C.M. van (2013). Institutions and the allocation of entrepreneurship, Workshop at Utrecht University co-organized by Lund University, April 19th, discussant of Henrekson & Sanandaji “Billionaire Entrepreneurs”.

Praag, C.M. van (2013). ACLE Spring Workshop, Amsterdam, May, 21, discussant of Thomsen & Hansmann “The Performance of Foundation-Owned Companies”.


Schinkel, M.P. (2013). Presentation The new Dutch Authority for Consumers & Markets (ACM) at the ESRC Centre for Competition Policy Annual Summer Conference on Institutions and Competition Policy, University of East-Anglia, Norwich, United Kingdom, 6-7 June.


Sloof, R. (2013, March 16). Discrimination in the labor market: The curse of competition between workers, Workshop presentation, European Workshop on Experimental and Behavioral Economics (EWBEB), Goethe University, Frankfurt am Main, Germany.

Sloof, R. (2013, January 8). Fostering cooperation through the enhancement of own vulnerability, Seminar presentation, University of Cologne, Germany.

**Membership academies**


Hinloopen (2001 -). Research Fellow Tinbergen Institute.

Hinloopen, J. (2013). Member of the Program Committee for the Annual Conference of the International Industrial Organization Society (IIOC).

Praag, C.M. van (2003-). Research Fellow Tinbergen Institute.

Praag, C.M. van (2005-). Research Fellow IZA Institute for Labour Market Research, Bonn.

Praag, C.M. van (2010-). Member of the Koninklijke Hollandsche Maatschappij der Wetenschappen.


Praag, C.M. van (2013). Member of the PhD Defense committee of Jeroen Maas, VU University Amsterdam, supervisor J. Bunders, Title: Transitions to social entrepreneurship. Defense date: November 15, 2013.

Praag, C.M. van (2013.) Member of the PhD Defense committee of Marie Lalanne, Université Toulouse 1 – Capitole, U.F.R de Sciences Economiques, supervisor Paul Seabright, Title: Essays on the economics of social networks and gender. Defense date: December 9, 2013.

**Relevant position**


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

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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 mindset. SEO Economic Research is a medium-sized horizontal organisation. It has an academic staff of about 40 economists and econometrists. 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 17 articles were published in refereed journals or refereed books. The number of non-refereed academic publications was substantial. In 2013 SEO researchers published 70 commissioned reports and 158 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 economic conferences. This fund has also a provision to finance time spend on preparing a doctoral dissertation and to participate in (international) economic conferences. 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.


13.5 OUTPUT

**Key publications**


**Forthcoming**


130
### Publications in numbers

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### Article in journal – refereed

**A**


**B**


### Other


Jorritsma, E. (2013, 12 April). Dit kabinet was dapper, nu laten ze het liggen. Interview met B. Baarsma. NRC Handelsblad, 6.


Ruhak, S. (2013, 5 March). Interview Koert van Buiren over marktwerking in OV. Baas ondernemersmagazine.


Book / book chapter – refereed


Book / book chapter – professional


Book / book chapter – popular scientific


Report – professional


Working- and discussion papers
Recognition

Kampen, A. van (2013, 11 June). ‘Brievenbusfirma’s leveren Nederland meer op dan gedacht’. B. Baarsma over brievenbusfirma’s. nrc.nl


Redactie Intermediair (2013, 28 September). Flexcontract ook goed voor oudere ambtenaar, Arjan Heyma over de toename van flexcontracten bij hoogopgeleide ouderen. *Intermediair*.


**Media appearance**


Baarsma, B. (2013, 1 April). Radio 1 Journaal. B. Baarsma over de fusie van NMa tot ACM. *Radio 1*.


Buiren, K., van (2013, 9 October). Interview Koert van Buiren over samenwerken voor effectief mededingingsbeleid in de Cariben. NTR Caribisch Netwerk.


Heyma, A. (2013, 16 July). De werkloosheid loop verder op onder jongeren en laaggeschoolden. A. Heyma over de werkloosheid onder jongeren en laaggeschoolden. RTL Z.


Veldhuis, J. (2012, 20 December). Maastricht-Schiphol, we gaan het weer proberen. NOS. J. Veldhuis over de nieuwe lijnvluchten tussen Maastricht en Schiphol.

**Keynote/invited talk**


Baarsma, B. (2013, 20 November). *In the long run we are all dead*. Lezing voor BNG, Geldmuseum Utrecht.


Baarsma, B. (2013, 8 October). *De hypotheekrenteaftrek en de macroeconomische stabiliteit van de Nederlandse economie*. Key note speech tijdens Jaarcongres Hypotheken, Circus theater, Scheveningen.

Baarsma, B. (2013, 20 September). In the long run we are all dead. Lezing bij Studiegezelschap voor Economische Politiek.


Baarsma, B. (2013, 20 June). *In the long run we are all dead*. Lezing ter ere van de opening van een vestiging van advocatenkantoor De Haan, Zwolle.


Baarsma, B. (2013, 17 April). *In the long run we are all dead*. Over de uitdagingen voor HR medewerkers van Rabo tegen de achtergrond van de Grote Recessie. Lezing voor de Rabobank, Amsterdam.

Baarsma, B. (2013, 20 March). *In the long run we are all dead; Over de uitdagingen en kansen van de financieel dienstverlener tegen de achtergrond van de Grote Recessie*. Lezing tijdens de Participantendag van de Finance Academy, 20 maart 2013, Den Helder.


Baarsma, B. (2013, 29 May). *In the long run we are all dead*. Lezing tijdens zakelijke beurs van HDC Media, Uitgeest.

Baarsma, B. (2013, 27 May). *In the long run we are all dead; Over de uitdagingen en kansen van de financieel dienstverlener tegen de achtergrond van de Grote Recessie*. Lezing tijdens de Jaarvergadering van het Verbond van Handelaren in Chemische Producten,, Wassenaar.


**Other lectures**


Burghouwt, G. (2013, 5 November). Guest lecture, University of Worms, Germany.

Burghouwt, G. (2013, 7 November). Guest lecture, Cranfield University, UK.


Membership academies
Baarsma, B. (2013). Member of Ph.D. committee of Joost Poort. Universiteit van Amsterdam, Amsterdam.


Relevant position
Baarsma, B. (2013). Crown member of the SER, Member of the Supervisory Board of Loyalis NV (member Audit Committee), Member of the Supervisory Board of the Elisabeth-TweeSteden Ziekenhuis Tilburg, Member of the Supervisory Board of BNN, Member of the Supervisory Board of Espria, Member of the Supervisory Board of Woonzorg Nederland, Member of the Audit Committee of FNV Bondgenoten, Member of the Advisory Board of Peak Invest, Member of the Supervisory Board of the G500 (political youth movement), Non-governmental expert on behalf of the Nederlands in the International Competition Network (ICN), Scientific Advisory Board of IViR.

