

Contents

3 Editorial



4 New SOM director Recently appointed SOM director

Tammo Bijmolt presents himself and his plans for SOM.



6 Duisenberg Chair: Frank Smets

Frank Smets is honored to have been asked for the Duisenberg Chair. The Chair is a tribute to one of the most famous alumni of the faculty.



10 Winning Supply Chain Team

Declining the offer to get a new customer resulted in victory for the FEB supply chain team.



New in Groningen

14 Bernard Nijstad introduces himself and his research.

16 Society and Research: 4 million grant for WIOD

Second major European Framework Project to be led by Groningen researchers.



20 Journal Publications and PhD theses

An overview of interesting publications

23 Colophon and Facts & Figures

Short news

New appointments

Per April, 2009 Bernard Nijstad has started in Groningen as professor in Decision Making and Organizational Behaviour in Business and Economics.

Jan Willem Velthuijsen has been appointed as professor at FEB. He holds the honorary chair in Finance and Controlling in the Energy Sector.

Per February 1, 2009, Irene Burgers has joined the FEB as professor in Economics of Taxation. She is also professor at the Faculty of Law in Groningen.

Last but not least per June 1, 2009 Ruud Teunter will start in Groningen as professor in Operations Research.

NWO-grant for project European Capitalism

Dr Herman de Jong of the FEB was granted more than half a million euros by the Netherlands Organisation for Scientific Research (NWO) for his project: Modern Times. European Capitalism in the Second Industrial Revolution 1900-1950. The 540,000 euros will be spent on the appointment of two PhD students and a post-doc.

Brakman co-editor Journal of Regional Science

Steven Brakman, professor of International Economics at FEB and honorary professor at the University of Antwerp, has been appointed as co-editor of the Journal of Regional Science.

The Journal of Regional Science, recently celebrating its 50th anniversary, is one of the leading journals in the field of Regional Economics.

and Conference on Mathematics and Sports

From June 17-19, 2009, SOM and IMA (The Institute of Mathematics and its Applications) will organise the 2nd Conference on Mathematics and Sports in Groningen.

Sports is interpreted liberally and includes: Games and pastimes; gambling and on-line gaming; lotteries; and general fitness and health-related activities. For information please see http://online. ima.org.uk/

Varadarajan Award for Koen Pauwels

Koen Pauwels, honorary professor of Research on Marketing Dynamics at the FEB, has won the 2009 Varadarajan Award for Early Career Contributions to Marketing Strategy Research. It is awarded by the American Marketing Association (AMA). Pauwels is co-winner with professor Werner Reinartz of the University of Cologne (Germany). The award will be presented at the Summer AMA meeting in Chicago in August.

On front page:

left: Erik Dietzenbacher, project leader WIOD

right: Bart van Ark, project leader EU KLEMS



Editorial

Popular opinion often still sees researchers as hermits that inhabit ivory towers. And this stereotype is not wholly inaccurate either: much published research is still written by a single author. But the 'hermit' is no longer the dominant model amongst successful researchers. The spider seems a better metaphor: a researcher sitting in the middle of a large web of collaborators. For example, one prolific researcher in Groningen has had at least 30 different co-authors. Another Groningen researcher, professor José Luis Moraga-González, recently showed that in economics, 'the average number of co-authors is very small but increasing' and 'there exist a number of 'spiders', individuals who have a large number of co-authors.' And indeed, he had two co-authors himself on this paper. Whether you call them 'spiders' or 'stars', the average economic researcher nowadays is clearly not an island unto himself.

But a third model is gaining a more prominent position in economics amongst the hermits and spiders, namely the 'hive' model: a coherent research group where cooperation is not just with a central 'spider'-like figure, but also between the other researchers in the group. In Groningen, we have seen such a hive-like group emerge for the EU KLEMS project and the WIOD project, both funded by the European Commission (see page 16). To organize the data on the performance and structure of dozens of economies and make them ready for analysis takes such large costs that no single hermit or spider can bear them. Indeed, while Groningen is a coordinator of both projects, more than a dozen research institutes across Europe play an integral role.

This is not to say that the hermits and spiders have had their day and are doomed for extinction, but it does mean that the organization will have to make room for the hives: it takes time and effort to set up the infrastructure for such projects. Research assistants may also be needed continuously to keep this infrastructure running. And the publications by the leader of the hive may not be his only or most relevant measure of success. But for now, let us celebrate that the research profession is no longer as insular or isolated from the outside world as it once was. In economics just as in ecology, bio-diversity is a good thing.

Reference: Goyal, S., M. van der Leij and J.L. Moraga-González (2006), Economics: An emerging small world, *Journal of Political Economy*, 114, 2, 403-412.

Robert Inklaar



Starting March 1 2009, Tammo Bijmolt is the scientific director of SOM, the research institute and graduate school of the Faculty of Economics and Business. He is the successor of Jakob de Haan, who stepped down after a directorship of more than 10 years. Tammo Bijmolt is also professor in marketing.

Career

Tammo Bijmolt (1967) studied Business Economics in Groningen in the period 1986-1991 with majors in marketing, market research, and psychometrics. After graduating cum laude he proceeded with his PhD, also in Groningen. He defended his thesis (cum laude) on September 26, 1996. Bijmolt: "My thesis was supervised by Michel Wedel (currently Pepsico Professor of Consumer Science at the Department of Marketing of the Robert H. Smith School of Business, University of Maryland). Already before my defence I left for Tilburg University to become an assistant professor. In 2001, Tilburg offered me a full professorship, which I gladly accepted. However, around 2004, the marketing group in Groningen contacted me and asked me if I would be interested to return to Groningen. In principle, I took over the chair that became available when my PhD advisor left Groningen. Working again in the strong marketing group in Groningen was a very interesting opportunity, though I very much enjoyed working in the department in Tilburg. The challenge to help strengthening the group in Groningen, especially after some key researchers had left, was appealing to me, although family reasons played an important role in the decision also. Within the department. I took up the role of coordinator of the research theme within SOM, which later on changed into director of the marketing research institute. As, you will know by now, I recently took up a new challenge as director of SOM."

Research

Tammo Bijmolt's research deals with various subjects in the field of marketing, like loyalty programmes, but also ownership of financial products and the effects of marketing mix instruments. He is one of the fellows of the marketing research institute. The institute obtained the highest possible score (a five on all four dimensions) in the previous research evaluation. This evaluation is currently

updated and new scores will be available soon. The marketing research institute is closely related to CIC (the Customer Insights Center), one of the faculty's centers of expertise.

Bijmolt: "The research on loyalty programs, for example, focuses on why companies and their customers use these programs and to what extent consumers change their behaviour when using a customer card. In an award-winning paper, we found that consumers indeed do spend more at supermarkets due to the factor of owning a card of that company. Moreover, customer cards provide marketeers with information about their customers. Nearly all the research is practically relevant. Almost all my research projects are done in collaboration with a firm and/or market research agency. For example, together with Jannie Hoekstra and the companies TNT and MetrixLab, I work on a project about the effectiveness of Direct Mail campaigns. We exploit a huge database, which contains thousands of interviews pertaining to hundreds of standardized tests conducted on numerous direct mail campaigns. The project is beneficial, both for the companies and for us. That is one of the reasons why CIC is so successful and interesting to companies. Companies received new insights based on academic research, while we have access to data that we otherwise would not be able to collect. Furthermore, our contacts with the business world can also result in paid PhD positions and interesting internships. But, the faculty is not a research bureau. Our research must have a scientific basis and should not just be conducted to make money, in which case we would be competing with research bureaus".

SOM

In the first issue of Feb Research, former director Jakob de Haan and dean Elmer Sterken explained the recent changes in the Faculty's research policy. As one of the directors of the underlying institutes Tammo Bijmolt was closely involved in those changes.

Bijmolt: "I fully agree with the policy changes and directions as discussed in the interview with Jakob de Haan and Elmer Sterken. One should not expect dramatic changes in the research policy of SOM. It is important to have a consistent policy, and to make only small improvements of the current system.

Next to the points raised by Jakob de Haan

and Elmer Sterken, I would like to focus on obtaining more external funding, NWO, the EU and companies, etc. It is crucial that we manage to "sell" our work better to the outside world, both for increasing visibility and impact and simply for increasing our funds. Another crucial challenge for the upcoming years is to increase the number of research master and PhD students, especially the number of research master students in the business disciplines. Compared to Jakob de Haan, I might be somewhat more tempted to decentralize decisions and responsibilities from SOM to the underlying institutes, though the basic rules and goals will remain the same. I plan to further strenghten the role of SOM and the research institutes in supporting research by, for instance, increasing the quality of facilities and funds. Currently, together with Bart Los, Rina Koning and Jakob de Haan, I work on the re-accreditation of the research master, which is essential for SOM. In addition, as mentioned before, in the next few months, the new evaluation of the research institutes will become available. This will, in different ways, be very important for the five recognized institutes and the three institutes under development. Of course, in future FEB research issues and other media, you will be informed about these outcomes."

Key publications

Melnyk, V., S.M.J. van Osselaer and T.H.A. Bijmolt (2009). Are women more loyal customers than men? Gender differences in loyalty to firms and individual service providers, *Journal of Marketing*, forthcoming.

Leenheer, J., H.J. van Heerde, T.H.A. Bijmolt and A. Smidts (2007). Do loyalty programs really enhance behavioral loyalty? An empirical analysis accounting for self-selecting members, *International Journal of Research in Marketing*, 24(1), 31-47. Winner of the best paper award 2007.

Bijmolt, T.H.A., H.J. van Heerde and F.G.M. Pieters (2005). Determinants of price elasticity: New empirical generalizations, *Journal of Marketing Research*, 42, 141-156.



7

On March 16, 2009 Frank Smets gave his inaugural lecture, entitled 'Ten years EMU and economic research: Outcome and Challenge'. Smets, who has Belgian nationality, is director of research of the European Central Bank (ECB). Nout Wellink, president of the Netherlands Bank, introduced him. Smets holds the Duisenberg chair at the Faculty of Economics and Business, named after Wim Duisenberg, the first president of the ECB.

Frank R. Smets (Belgium, 1964) studied in Ghent and obtained his PhD at Yale University in 1993. His dissertation on Topics in foreign direct investment was supervised by professor Buiter and professor Srinivasan. Afterwards, he became a lecturer at the University of Basel and researcher at the Bank For International Settlements in Switzerland. Smets has been connected to the ECB since 1998; as from 2005, he has been Deputy Director General van het Directorate General Research. He is head of the research department (with 56 staff members, out of which 40 researchers) that carries out economic research for the support of policymakers. Since 2000, Smets has been a visiting professor in monetary economics at the University of Ghent.

Duisenberg Chair:

Frank Smets

Honour

"It is a great honour for me to be asked for this chair that bears the name of Wim Duisenberg", says Smets. "As the first chairman of the European Central Bank (ECB), Duisenberg obviously played a crucial role in establishing the ECB and the introduction of the euro. When I joined the ECB, Wim Duisenberg would still be chairman for five more years. He really put his mark on the economic research at ECB; he was one of the people who insisted on having a separate research department at ECB, of which I am now the director."

Economic background

"My decision to study economics reflects my desire to understand the world in which we live. And I discovered that economics plays a crucial role. In addition, my family background influenced me as well. My grandfather was a journalist specialised in economics, while one of my uncles works at the central bank in Belgium. After finishing my PhD at Yale, my wife and I wanted to go back to Europe and that is why I started working at the Bank for International Settlements (BIS) in Basel, Switzerland."

Perfect job at the European Central Bank

"I specialised in monetary theory and monetary policy. A month before the introduction of the euro (in December 1998), I got the opportunity to switch to the ECB. I started as head of the section Monetary Policy. In the course of time, I got more management responsibilities. Currently, I am head of the Research Department that consists of three sections. One of the sections deals with econometric models and predictions, quite



a challenge in these days of insecurity. Another department specializes in monetary policy and investigates monetary policy strategies and the effect of interest changes on the economy in the euro zone. The third department concentrates on how the financial markets and the bank sector work, on problems concerning financial stability and on payment systems.

This is a perfect job for me. There are many research questions coming from policymaking. I manage research activities, but also do research myself."

Research

At the moment Smets works together with a network of research economists from several Central Banks. He has quite a large research network focusing on the wage base determination in the various EMU countries (the Wage Dynamics Network). The network has written 17,000 companies, which has led to a unique new set of data. He looks forward to share this research project with students, in his role as holder of the Duisenberg chair.

Groningen

One of Smets' tasks at ECB is to improve the communication and interaction with the academic world of research. "Therefore I think it is good and important for me to remain active in the academic world. The Duisenberg chair is an ideal platform in this respect. As from 16 March, I will visit Groningen a number of times each semester. One of my plans is to teach a course in building and estimating dynamic general equilibrium models for the analysis of monetary policy. I will also supervise students and deliver a number of seminars."



Wim Duisenberg (1935-2005) studied economics at the Faculty of Economics of the University of Groningen and graduated cum laude in 1961. He continued his PhD in Groningen and wrote his dissertation on "The Economic Consequences of the Disarmament" (1965). Duisenberg subsequently worked for the IMF in Washington, the Dutch Central Bank and the University of Amsterdam. From 1973 to 1977, Duisenberg was Minister of Finance under Prime Minister Joop den Uyl. He became vice president of the Rabobank and in 1982 president of the Dutch Central Bank. In 1998 he was appointed first president of the new European Central Bank, from which he retired in 2003.

Duisenberg has been highly praised for his record of service by politicians and financial experts from the past and the present. He has become known as the driving force in the realization of the European monetary union and the introduction of the common European currency. The Faculty honours and commemorates Duisenberg with the establishment of the chair. According to Elmer Sterken, dean of the Faculty of Economics and Business, "Wim Duisenberg was probably the most famous alumnus of our faculty. It is wonderful that his name lives on in this chair. It is even more wonderful that this chair connects Groningen to Europe, and more specifically, to Duisenberg's beloved ECB."



As from 1 November 2008, over a thousand Supply Chain professionals competed in the national competition "The Fresh Connection"

(www.thefreshconnection.nl). The goal was to save an ailing fruit juice producer from bankruptcy. In nine rounds, the teams had to lead the company to the biggest possible profit. A team of young researchers from the Faculty of Economics and Business consisting of Boyana Petkova, Tim van Kampen, Erik Soepenberg and Remo Germs, won the title 'Supply Chain Team 2008/9'. An excellent performance, since they beat experienced managers.

Turbulent markets

In the first six rounds of the game, the market for sales and suppliers was very turbulent. The teams had to adjust their strategy and at the same time reduce the costs by production improvements. On the basis of the average scores over six rounds, 28 out of 250 teams were selected for the final in Utrecht.

Race against the clock

In the final rounds, the organization of The Fresh Connection surprised the teams with the introduction of a new production line. In a race against the clock, the teams had to optimise their existing production lines and at the same time set up the purchasing, production, and sales for their new products. The five best teams made it to the decisive final round.

Cuts

The last round of the final was even more exciting: only one team could acquire a new customer to generate more profit. The teams from the University of Groningen, Philips, Beaufort Business Partners and CQM team 1 and 2 were instructed to explain to 400 managers why they had to be the team that should acquire the customer. While the other teams were competing with each other to acquire the extra customer, the RUG team's strategy was "Thanks but no thanks". There was a burst of applause in the room. CEO Unilever Peter Ernsting and CEO Refresco Hans Roelofs agreed: "This strategy shows guts". The strategy based on remaining faithful to existing customers eventually brought victory to the RUG team. "We gave everything", team member Erik Soepenberg says. "Although we had little practical experience,

compared to managers, our enthusiasm and analytical approach were the deciding factors."

The four PhD students are part of the SOM research institute OPERA (Operations Management and Operations Research). In the following they shortly introduce their research and ambitions.

Key publications OPERA

Bokhorst, J., J. Slomp and E. Molleman (2004). Development and evaluation of cross-training policies for manufacturing teams. *IIE Transactions*, 36(10), 969-984.

Zee, D.J. van der and J.G.A.J. van der Vorst (2005). A modeling framework for supply chain simulation: opportunities for improved decision-making, *Decision Sciences*, 36(1), 65-95.

Klein Haneveld, W.K., L. Stougie and M.H. van der Vlerk (2006). Simple Integer Recourse Models: *Convexity and Convex Approximations, Mathematical Programming*, 108(2-3), 435-473.

Vaart, T. van der and D.P. van Donk (2006). Buyer-focused operations as a supply chain strategy: Identifying the influence of business characteristics, *International Journal of Operations & Production Management*, 26(1), pp. 8-23.

Wezel, W.M.C. van, D.P. van Donk and G.J.C. Gaalman (2006). The Planning Flexibility Bottleneck in Food Processing Industries, *Journal of Operations Management*, 24(3), 287-300.



Tim van Kampen

Position
Second year PhD candidate
Research project
Dynamics of planning and control in a food processing company

The food processing industry has specific characteristics leading to specific operation management problems, which differ from those of other industries. Specific product and production characteristics (e.g. perishability, shared resources and limited storage capacity) increase the complexity of these systems and make them more difficult to control. In this project, we investigate the dynamics of planning and control in a large and complex food processing plant in Leeuwarden, which is one of the largest production plants of Friesland Campina. We aim to contribute to theory and practice by in-depth investigation, combining empirical methods and modelling techniques.

Research questions include:

- What are the benefits of either using safety stock or safety time as a buffer between two departments to cope with uncertainty in demand and supply?
- How can demand patterns be classified to determine the needed inventory levels and production strategy of products and how is this influenced by industry specific characteristics?
- How can long-term production capacities of departments and storage points in the food processing industry be aligned to each other for different scenarios?

"The combination of staying close to practice in Leeuwarden and the thorough thinking process in Groningen makes this project a fantastic journey. Working on this project is a learning experience in different areas that greatly exceeds my expectations. My aim for the future is to continue this learning experience either in the academic world or in the industry. But first things first: I want to successfully finish my PhD in 2011.



Erik Soepenberg

Position
Final year PhD candidate
Research project
An empirical investigation into workload control (WLC) elements

Within OPERA, knowledge has been developed on the workload control (WLC) concept. WLC is a production planning and control (PPC) concept for the make-to-order (MTO) industry. Previous research has distinguished and theoretically analysed the core elements of the concept. Using these core elements in PPC decisions helps attaining high logistical performance in MTO companies.

I investigate the influence of the use of these core elements on the logistical performance in practice. The first part of the project focuses on the development of a framework and supportive analysis techniques in order to be able to link logistical performance to PPC decisions. The main part of the research project consists of empirical projects in several MTO companies in the northern part of the Netherlands. In each company a baseline measurement is performed, after which the company starts using the WLC core elements. The research design enables gaining valuable insights into the effects of using the core elements in practice. Improvements to and refinements of the elements are proposed, which contributes to enhancing the theory of the WLC concept.

"During my PhD period, I really liked sharing and discussing my gained insights with other researchers. Therefore, I definitely want to continue to develop myself in this field. I want to become an expert in PPC and related subjects. I prefer a mixture of research and practice to achieve this aim."



Remco Germs

Position
Second-year PhD student
Research project
Throughput time control in a make-toorder environment by means of production
authorization cards.

For the competitive position of make-to-order (MTO) firms it is of crucial importance that the time to complete a product (throughput time) is short and predictable. Controlling the throughput time in an MTO environment is a complex task, because of the high diversity of end-products and the implied high level of variability with respect to routing and the processing times of orders. Different orders with distinct processing requirements compete on the shop floor for the capacity of the same set of resources (e.g., machines or workers).

The limited capacities of the manufacturing resources cause orders to wait for the availability of these resources, resulting in queues of orders. In an MTO firm, orders typically spend up to 90% of the throughput time waiting in these queues. Controlling the length of these queues is therefore crucial for controlling the throughput time of orders. Production control mechanisms can influence the length of queues by regulating the amount of work that is allowed to flow into the production system, onto the shop floor or into a particular queue.

Production authorization cards (PACs) are a popular way of controlling the workload. The simplest example of a PAC system is the constant work-in-process system that imposes a cap on the total work that may be present on the shop floor. Each time an order leaves the shop floor, the first workstation on the shop floor receives a (card) signal to authorize the release of a new order. I develop analytical (i.e. queueing) models to obtain insight into the effectiveness of using PACs for controlling throughput times in an MTO environment.

"My ambition as a researcher is to develop and apply (new) models from the area of applied probability and queuing theory to manufacturing and service processes."



Boyana Petkova

Position
Second Year PhD student
Research project
Power imbalance and interdependence in supply chains

Managers across industries complain that billions of dollars are lost annually due to poor coordination within supply chains. They advocate that firms in supply chains should collaborate more intensively to gain a better competitive position and provide more value to the end-consumer. Benefits of coordinating activities across firms are reduced transaction costs of producing and distributing a good or service, increased revenue through the reduction of uncertainty for buyer and supplier, and enhanced supply chain responsiveness. The academic community has found empirical evidence that these benefits indeed exist in business practice. Scientists have also offered many analytical solutions to coordination problems to further facilitate integration in supply chains.

Despite all these good reasons, not all firms are willing to collaborate. "My ambition is to understand why there is such a large gap between 'the wise thing to do' and how we behave in real life. I am especially interested in understanding how these processes work at the level of the backbone of our economy: the interaction between firms." A possible explanation for this seemingly irrational behaviour is given by resource dependence theory. Research on collaboration behaviour between individuals and in teams has shown that dependence upon others and vice versa shapes our mindset and consciously and subconsciously influences our behaviour. I investigate how integration in supply chains is influenced by two concepts that are derived from the dependence of two entities on each other: power imbalance (difference of dependencies) and interdependence (sum of dependencies).



Taco van der Vaart

Associate Professor and Director of OPERA

"Of course, we are very proud of our PhD students. It shows that academic research is not detached from business practices. Within our institute we have around 20 PhD students. They play a crucial role in our research activities. The research institute focuses on decision-making relating to production, services and logistic operations within profit as well as non-profit organizations. The decision making deals with modelling, analysis, design and improvement, development and planning & control at several levels. The cooperation between Operations Management and Operations Research will generate synergy in combining domain knowledge of OM and the decision support of OR. The setting is multidisciplinary and gives attention to the points of view of quality, timely delivery, costs, and organization. Behavioural, HRM, and ICT aspects are covered by cooperation with neighbouring research groups.

The institute has three research tracks: Operations Management, Industrial Engineering & Industrial Services, and Operations Research.

In the first track, research focuses on

planning and control of production and services in the supply chain. Within this track, health care operations (one of the spearheads of the University of Groningen) is a promising field of research. In the second track, research focuses on the design of production systems and industrial services and covers all phases from design to implementation; technological aspects are included and covered by close co-operation with the faculty of Mathematics and Natural

Maintenance is seen as a promising research field in service operations. In the third track, research focuses on decision support using modelling, mathematical analysis, and applying algorithms & heuristics and simulation."

Science.



Bernard Nijstad

New in Groningen

As of 1 April 2009, Bernard Nijstad has been appointed as professor at the Faculty of Economics and Business. He will hold the chair in Decision Making and Organizational Behavior in Business and Economics. Nijstad is a specialist in research into creativity and (group) decisionmaking. His works connects well with the research themes leadership, diversity, creativity and teams of SOM's research institute Human Resource Management and Organizational Behavior (HRM&OB).

Career

Nijstad has worked at the University of Utrecht where he has done his PhD. His dissertation on group idea generation (i.e., brainstorming) received a dissertation award from ASPO (the Association for Social Psychological Researchers in the Netherlands) and SESP (Society for Experimental Social Psychology). "The basic question of my dissertation was how people influence each other when generating ideas in a group: does collaboration stimulate or inhibit idea generation? To understand this, I developed a model of idea generation, called SIAM (Search for Ideas in Associative Memory), aimed at uncovering how communication among group members influences their cognitive processes." After his graduation in 2000, Nijstad moved to the University of Amsterdam (UvA), where he stayed for two and a half years, first as a post-doc, later as an assistant professor. He collaborated with Carsten de Dreu and Daan van Knippenberg on a NWO project on group decision-making. And with Carsten de Dreu, he started working on individuallevel creativity, a project that is still going on. In 2004 Nijstad received a NWO VIDI grant to study indecision of individuals and groups, a research project he is still working on, together with two PhD students.

Moving to Groningen

"Two years ago, I visited the HRM&OB department here to give a seminar, and I very much liked the atmosphere and the people. I also knew some of the faculty of

the department (like Gerben van der Vegt, Onne Janssen and Floor Rink), and knew that they worked on topics that are very close to the topics I study, including creativity and innovation and team processes. It seemed an interesting group to work with.

When my partner applied for a position in Groningen, it was an easy decision to come to Groningen as well. First, I had been in Amsterdam for quite a while, and a change can be stimulating. The idea of moving to a smaller city and have some more living space was very attractive. And, most importantly, I like the people in Groningen, both in the HRM&OB department and in the psychology department."

Research

Nijstad's research focuses on decisionmaking and creativity and innovation. In both these areas, he studies individuals as well as groups. For his research, he uses the 'behavioral decision making' approach, which studies how people actually take decisions. "I am especially interested in the question why people do not take a decision. Which factors lead to indecision, what makes a decision difficult, how do people deal with doubts, what consequences does this have eventually? In groups this becomes a bit more complicated, because group members have to exchange their information, and negotiate their (sometimes diverging) preferences. How do they accomplish this?"

For his work in the field of creativity and innovation Nijstad examines how people can be creative: do they need to relax and let their mind wander, or does creativity require focused attention and hard work? "In work groups we consider, for example, the effects of group climate, and the effects of conflict on creativity and innovation. Does conflict trigger creativity or harm it, and what group climate is best for creative performance?"

Teamwork

Nijstad's work is of great relevance to companies. "Nowadays, many people work in teams, and we need to understand what makes teams effective or not. Also, creativity and innovation become increasingly important, and companies

need to know more about the factors that stimulate or kill creativity. Finally, many people often have a tendency to avoid and delay important decisions, and this may sometimes have detrimental effects (e.g., missing an opportunity or continuing a course of action while it would be better to change). Knowing when this happens is a start when considering remedies."

Future

Apart from his teaching, Nijstad plans to continue his research on creativity and decision-making. "What I am particularly looking forward to is starting new research collaborations with other faculties as well as with students. Much of my research so far (although not all) has been done in a lab. Working in a business school is a good opportunity to do more fieldwork and run studies in companies.

The new behavioral lab of the faculty that will soon be operational will definitely be useful as well. There may be interesting connections with both people in the HRM&OB group as well as the marketing group, which I intend to explore. And there might be some opportunities to start an even more extensive research collaboration, perhaps including people from psychology and sociology."

Key publications

Baas, M., C.K.W. de Dreu and B.A. Nijstad (2008). The mood-creativity link reconsidered: A meta-analysis of 25 years of research. *Psychological Bulletin*, 134, 779-806.

Nijstad, B.A. and S.C. Kaps (2008). Taking the easy way out: Preference diversity, decision strategies, and decision refusal in groups. *Journal of Personality and Social Psychology*, 94, 860-870.

Nijstad, B.A. and W. Stroebe (2006). How the group affects the mind: A cognitive model of idea generation in groups. Personality and Social Psychology Review, 10, 186-213.



On May 1, work has started in Groningen on a large, new project for the European Commission. "World Input-Output Database: Construction and Applications," or WIOD for short, is a project that will span three years and costs a total of €4 million. It represents a large undertaking in which Groningen is coordinating a pan-European consortium of ten research institutes. After EU KLEMS, which was successfully completed last year, this is the second major European Framework Project led by our faculty. We talk to Erik Dietzenbacher, scientific coordinator of WIOD and full professor at the FEB, and Bart van Ark, scientific coordinator of EU KLEMS and also full professor at the FEB but nowadays mostly Chief Economist of The Conference Board.

17

From left to right: Marcel Timmer, Erik Dietzenbacher, Bart van Ark and Bart Los.

What will be done with the money?

Dietzenbacher: "The short answer to that question is: analyzing the structure and performance of the major economies in the world and building the database that allows us to do so. Together with Marcel Timmer and Bart Los, both also at the FEB, I will manage and coordinate the research efforts in Groningen and at the other participating institutes. Making sure that, for instance, the database is finished in time so that further analyses can take place is obviously not straightforward. Just as an indication, €4 million means three years of full-time work for twelve people. In practice, however, the project includes some 50 people working part-time. Luckily, WIOD can rely on ample institutional experience as both Timmer and Los contributed substantially to EU KLEMS." Van Ark: "Also in another respect WIOD builds on EU KLEMS: the database constructed in the EU KLEMS project will be an integral part of the WIOD data."

Why this focus on data and what are those data about?

Van Ark: "The availability of high quality data is a frequent bottleneck in research. Partly that may be because we would always like to have a little more information than we actually have. But also because constructing databases is like a public good: you bear the cost but everyone else benefits. This explains why national databases are typically built by statistical offices." But constructing reliable datasets on economic performance that are internationally comparable is another thing. For more than 25 years, research in Groningen has focused on exactly that, which has led to the success and reputation of the Groningen Growth and Development Centre (GGDC). While data on overall



economic growth are generally not hard to come by, getting information about the economy's industrial structure or the growth performance of specific sectors is much harder. But such a more detailed perspective can be very important for both research and policy. For example, one of the key insights from the EU KLEMS database is that low productivity growth in the market services sector is the main reason for slower growth in Europe compared to the US since the mid-1990s. The US experience shows that better performance

in service industries like retail trade is quite feasible. This implies that Europe should focus on freeing up those industries rather than worry about losing its industrial edge to emerging economies like China.

And this is just the tip of the iceberg of what can be done with such a wealth of data. Van Ark: "The European Union declared in 2000 in the Lisbon agenda that Europe should become the most dynamic and competitive knowledge-based economy in the world. Many aspects of this agenda can be evaluated and monitored using the EU KLEMS database." And this is already well underway with published research on the importance of new information and communication technologies for economic growth and the contribution of university-educated workers to the economy. Van Ark: "Both EU

Participants in WIOD and EU KLEMS

University of Groningen Austrian Institute of Economic Research (WIFO, Vienna) Hochschule Konstanz (Konstanz) Netherlands Bureau for Economic Policy Analysis (CPB, The Hague) The Conference Board Europe (TCB, Brussels) Vienna Institute for International Economic Studies (WIIW, Vienna) Zentrum für Europäische Wirtschaftsforschung (ZEW, Mannheim) Centrale Recherche (Paris)	WIOD & EU KLEMS
Institute for Prospective Technological Studies (IPTS, Seville)	WIOD
Institute of Communication and Computer Systems (Athens)	WIOD
AMsterdam Institute for Business and Economic Research, Free University Amsterdam (AMBER) Centre d'études prospectives et d'informations internationales	EU KLEMS
(CEPII, Paris)	EU KLEMS
Centre for Economic and Business Research (CEBR, Copenhagen)	EU KLEMS
Deutsches Institut für Wirtschaftsforschung (DIW, Berlin)	EU KLEMS
Federaal Planbureau (FPB, Brussels)	EU KLEMS
Helsinki School of Economics (HSE, Helsinki)	EU KLEMS
Instituto di Studi e Analisi Economica (ISAE, Roma)	EU KLEMS
Instituto Valenciano de Investigationes Económicas (IVIE, Valencia)	EU KLEMS
National Institute of Economic and Social Research (NIESR, London)	EU KLEMS
Pellervo Economic Research Institute (PTT, Helsinki)	EU KLEMS
University of Birmingham (UNI-BHAM, Birmingham)	EU KLEMS



KLEMS and WIOD data are very valuable, not just for academic researchers but for business and policy makers too."

Why is a World Input-Output Database needed?

Dietzenbacher: "This may sound like a highly technical exercise but it is expected to have important implications for another crucial policy area: climate change and international trade. Since climate change is a global problem, a global perspective is needed. National interventions can often have unintended consequences: when the Dutch government levied an extra 'pollution tax' on airplane tickets of flights taking off from Dutch airports, pricesensitive consumers quickly started flying from German and Belgian airports. This could happen on a larger scale as well as polluting industries moving from a country with stringent environmental regulations to one with laxer rules. A better understanding of such a process starts with a better understanding of our global production system."

Nowadays, a new German Mercedes may contain steel manufactured in China based on iron ore mined in Brazil. And the new iPod was designed in the United States and assembled in China using a hard drive from Japan and memory chips from Taiwan. Even for such specific products, it is hard to find out where all the components were produced and who produced their components in turn. But to be useful for economic and

environmental policy, the world economy needs to be covered. Dietzenbacher: "To chart the flows of goods and services throughout an economy, a so-called inputoutput table is a common but very powerful tool." To chart such flows throughout the world, the national input-output tables need to be linked together using data on imports and exports. The aim of the WIOD project is to do this linking of national input-output tables for a series of years in order to understand how global supply chains have evolved over time. A next step is to find out about pollution, for example: how much CO did Chinese industry emit in producing the steel for the German cars? And how have these emissions evolved over time? And can this information be used to design policies to reduce these emissions? Dietzenbacher: "In the aftermath of the Kyoto protocol, a huge discussion started about what it is that we should measure. Pollution as actually emitted in the Netherlands, or all emissions over the world for which the Netherlands are responsible? The latter comes close to the greenhouse gas footprint of our country and most people agree that this is the preferred measure. We know exactly how it should be calculated, the only problem is that the necessary data are only partially available. This is an example of a gap that we will try to fill with our database."

For now though, the main focus is on the foundations of this analysis. Mid-May saw the official kick-off meeting at Schiphol with all WIOD participants. In the upcoming months, Dietzenbacher, Timmer, Los and many others will be hard at work to bring together disparate data sources from Europe, but also from North America, Brazil, Russia, India and China. The main challenge in this undertaking is not just

that the project covers 40-plus countries, but in particular that data have to be constructed at a detailed industry level including the trade between each of those industries in each of those countries over more than a decade. Dietzenbacher: "There are fearsomely many nuts and bolts, but they will ultimately prove the value of this project."



FEB researchers in WIOD

Management Team

Erik Dietzenbacher, full professor at the FEB specialized in interindustry economics Marcel Timmer, associate professor at the FEB specialized in economic growth and development

Bart Los, associate professor at the FEB specialized in productivity and innovation

Researchers

Abdul Azeez Erumban Gaaitzen de Vries Umed Temurshoev

Administrative Support

Astrid Van der Veen-Mooij Reitze Gouma

More information www.wiod.org



Publications

Please find below an overview of publications in SOM's top and very good journals, books, PhD theses and reports in the SOM Research Report Series in the period December 2008 - April 2009.

Journal Publications

Adigüzel, F. & **Wedel, M.** (2008). Split questionnaire design for massive surveys. *Journal of Marketing Research*, 25(5), 608-617.

Akkermans, D.H.M., Castaldi, C. & Los, B. (2009). Do 'liberal market economies' really innovate more radically than 'coordinated market economies'? Hall and Soskice reconsidered. *Research Policy*, 38, 181-191.

Bezemer, D.J. & Bolt, J. (2009). Colonial institutions or colonial eduaction? Explaining long-term African growth. *Journal of Development Studies*, 45(1), 24-54.

Blinder, A.S., Ehrmann, M., Fratzscher, M., **Haan**, **J. de** & Jansen, D.J. (2008). Central bank communication and monetary policy: A survey of theory and evidence. *Journal of Economic Literature*, 46(4), 910-945.

Bos, J.W.B., **Koetter, M.**, Kolari, J. & Kool, C.J.M. (2009). Effects of heterogeneity on bank efficiency scores. *European Journal of Operational Research*, 195(1), 251-261.

Bosch-Sijtsema, P.M. & **Postma, T.J.B.M.** (2009). Cooperative innovation projects. *Journal of Product Innovation Management*, 26(1), 58-70.

Bosker, E.M. & Krugell, W. (2008). Regional income evolution in South Africa after Apartheid. *Journal of Regional Science*, 48(3), 493-524.

Cruz, I., Major, M. & **Scapens, R.W.** (2009). Institutionalization and practice variation in the management control of a global/local setting. *Accounting, Auditing & Accountability Journal*, 22(1), 91-117.

Dolfsma, W.A., Chaminade, C. & Vang, J. (2008). Knowledge dynamics out of balance: Knowledge biased, skewed and unmatched. *Research Policy*, 37(10), 1657-1658.

Dolfsma, W.A. & Panne, G. van der (2008). Sub-currents in the innovations river - Explaining innovativeness using new product announcements. *Research Policy*, 37(10), 1706-1716.

Erumban, A.A. (2008). Lifetimes of machinery and equipment: evidence from Dutch manufacturing. *Review of Income and Wealth*, 54(2), 237-268.

Feenstra, R., Heston, A., **Timmer, M.P.** & Deng, H. (2009). Estimating real production and expenditures across nations: a proposal for improving the Penn World Tables. *Review of Economics and Statistics*, 91(1), 201-212.

Fisher, W.H. & **Heijdra**, **B.J.** (2009). Keeping up with the ageing Joneses. *Journal of Economic Dynamics and Control*, 33, 53-64.

Goldengorin, B. (2009). Maximization of submodular functions: theory and enumeration algorithms. *European Journal of Operational Research*, 198, 102-112.

Pieter Jansen

Financial performance measurement is a key-issue in the management accounting literature. Financial performance measures are important in, for example, target setting, performance monitoring, performance evaluation, and incentive compensation practices. Ken Merchant, Wim Van der Stede and I compared the compensation packages of department managers in car dealerships in three field studies (one in the U.S. and two in the Netherlands). We found dramatic differences between the practices of the firms located in these countries. Compared to U.S. firms, Dutch firms are much less likely to provide their managers with incentive compensation in any form. Where Dutch firms offer incentive compensation, the payouts are smaller and their bonus awards are less likely to be based on profit measures of performance. But where the Dutch firms use incentive compensation, their performance/reward functions are more complex. Moreover, in Dutch firms the effects of the use of incentive compensation on net profit and pay satisfaction are negative. In the American firm, the compensation system places a high proportion of compensation at risk and managers strongly believed in the power of incentives. In the Dutch cases, managers emphasized the importance of non-monetary incentives, even in controlling salesmen.

Goyal, S., Konovalov, A. & **Moraga González, J.L.** (2008). Hybrid R&D. *Journal of the European Economic Association*, 6(6), 1309-1338.

Heijdra, B.J. & Romp, W. (2009). Human capital formation and macroeconomic performance in an ageing small open economy. *Journal of Economic Dynamics and Control*, 33, 725-744.

Heijdra, B.J. & Romp, W. (2009). Retirement, pensions, and ageing. *Journal of Public Economics*, 93(3/4), 586-604.

Jansen, E.P., Merchant, K.A. & Stede, W.A. van der (2009). National differences in incentive compensation packages: The differing roles of financial performance measurement in the United States and The Netherlands. Accounting, Organizations and Society, 34(1), 58-84.

Janssen, M.C.W. & **Non, M.C.** (2008). Advertising and consumer search in a duopoly market. *International Journal of Industrial Organization*, 26(1), 354-371.

Koetter, M., Hasan, I. & Wedow, M. (2009). Regional growth and finance in Europe: is there a quality effect of bank efficiency? *Journal of Banking and Finance*, 33(8), 1413–1422.

Koetter, M. & Poghosyan, T. (2009). The identification of technology regimes in banking: implications for the market power-fragility nexus. *Journal of Banking and Finance*, 33(8), 1446-1453.

Konus, U., Verhoef, P.C. & Neslin, S.A. (2008). Multichannel shopper segments and their covariates. *Journal of Retailing*, 84(4), 398-413.

Kremer, S.T.M., Bijmolt, T.H.A., Leeflang, P.S.H. & Wieringa, J.E. (2008). Generalizing the effectiveness of pharmaceutical promotional expenditures. International Journal of Research in Marketing, 25(4), 234-246.

Lans, R. van der, Pieters, R. & **Wedel, M.** (2008). Competitive brand salience. *Marketing Science*, 27(5), 922-931.

Lans, R. van der, Pieters, F.G.M. & **Wedel**, **M**. (2008). Eye movement analysis of search effectiveness. *Journal of the American Statistical Association*, 103(482), 452-461.

Leeflang, P.S.H., Bijmolt, T.H.A., Doorn, J. van, Hanssens, D.M., Heerde, H.J. van, Verhoef, P.C. & Wieringa, J.E. (2009). Creating lift versus building the base: Current trends in marketing dynamics. International Journal of Research in Marketing, 26(1), 13-20.

Leliveld, M.C., Dijk, E. van & Beest, I. van (2008). Initial ownership in bargaining: Introducing the giving, splitting, and taking ultimatum bargaining game. *Personality and Social Psychology Bulletin*, 34, 1214-1225.

Meer-Kooistra, J. van der & Scapens, R.W. (2008). The governance of lateral relations between and within organisations. *Management Accounting Research*, 19(4), 365-384.

Meyer, G.G., Främling, K. & Holmström, J. (2009). Intelligent products: A survey. *Computers in Industry*, 60(3), 137-148.

Naik, P., **Wedel, M.**, Bacon, L., Bodapati, A., Bradlow, E., Kamakura, W.A., Kreulen, J., Lenk, P., Madigan, D. & Montgomery, A. (2008). Challenges and opportunities in high dimensional choice data analyses. *Marketing Letters*, 19(3/4), 201-213.

Nierop, E. van, Fok, D. & Franses, P.H. (2008). Interaction between shelf layout and marketing effectiveness and its impact on optimizing shelf arrangements. *Marketing Science*, 27(6), 1065-1082.

Nomden, G., **Zee, D.J. van der** & **Slomp, J.** (2008). Family-based dispatching: Anticipating future jobs. *International Journal of Production Research*, 46(11), 73-97.

Péli, G. (2009). Fit by founding, fit by adaptation: reconciling conflicting organization theories with logical formalization. *Academy of Management Review*, 34(2), 343-360.

Riezebos, J. & Klingenberg, W. (2009). Advancing lean manufacturing, the role of IT. Computers in Industry, 60(4), 235-237.

Riezebos, J., Klingenberg, W. & Hicks, C. (2009). Lean production and information technology: Connection or contradiction? *Computers in Industry*, 60(4), 237-247.

Sahuc, J.G. & **Smets, F.R.** (2008). Differences in interest rate policy at the ECB and the Fed: An investigation with a medium-scale DSGE model. *Journal of Money, Credit, and Banking*, 40(2-3), 505-521.

Schoonbeek, L. (2009). Bribing potential entrants in a rent-seeking contest. *Public Choice*, 139(1/2), 153-158.

Seo, D. & La Paz, A.I. (2008). Exploring the dark side of information systems in achieving organizational agility. *Communications of the ACM*, 51(11), 136-139.

Six, F.E. & **Sorge**, **A.** (2008). Creating a high-trust organization: An exploration into policies that stimulate interpersonal trust building. *Journal of Management Studies*, 45(5), 857-884.

Tervonen, T.P., Figueira, J.R., Lahdelma, R., Almeida Dias, J. & Salminen, P. (2009). A stochastic method for robustness analysis in sorting problems. *European Journal of Operational Research*, 192(1), 236-242.

Torres, A. & **Bijmolt, T.H.A.** (2008). Assessing brand image through communalities and asymmetries in brand-to-attribute and attribute-to-brand associations. *European Journal of Operational Research*, 195(2), 628-640.

Tung, R. & **Witteloostuijn**, **A. van** (2008). Single-country studies in international business, Letter from the editors. *Journal of International Business Studies*, 39, 180-183.

Verhoef, P.C., Lemon, K.N., Parasuraman, A., Roggeveen, A., Tsiros, M.A. & Schlessinger, L.L. (2009). Customer experience: Determinants, dynamics and management strategies. *Journal of Retailing*, 85(1), 31-41.

Verhoef, P.C. & **Leeflang, P.S.H.** (2009). Understanding the marketing department's influence within the firm. *Journal of Marketing*, 73(2), 14-37.



Jeltje van der Meer-Kooistra

Ed Vosselman, my colleague of the Radboud University, and I have been researching the control of inter-firm transactional relationships (e.g., outsourcing relationships, strategic alliances, and supplier-buyer relationships) for more than a decade. Recently, our paper 'Accounting for control and trust building in inter-firm transactional relationships' has been published in Accounting, Organizations and Society. In this theoretical paper, we analyse the accounting-control-trust nexus in interfirm transactional relationships. We argue that accounting not only plays a role in controlling such relationships, but also functions as a device for building trust between the parties involved. Control is underpinned by contractual arrangements, which align the parties' interests. Trust building is derived from the parties' commitments to the relationship, shown by relational signalling. We analyse how accounting can play a role in this relational signalling, claiming that control and trust are not substitutes or complements, but interact.

Vosselman, E.G.J. & Meer-Kooistra, J. van der (2009). Accounting for control and trust building in interfirm transactional relationships. *Accounting, Organizations and Society*, 34(2), 267-283.

Wuyts, S., **Verhoef, P.C.** & Prins, R. (2009). Partner selection in B2B information service markets. *International Journal of Research in Marketing*, 26(1), 41-51.

Books

2009

Haan, J. de, Oosterloo, S. & Schoenmaker, D. (2009). European Financial Markets and Institutions. Cambridge University Press: Cambridge.

Heijdra, B.J. (2009). Foundations of modern macroeconomics, second edition. Oxford University Press: Oxford.

PhD theses

2009

Marloes Cremers

Dynamic and Stochastic Planning
Problems with Online Decision Making A
Novel Class of Models
Prom./coprom.: Prof.dr. M.H. van der Vlerk
& Prof.dr. W.K. Klein Haneveld.
Defended on: April 9, 2009

Azeez Abdul Erumban

Measurement and analysis of capital, productivity and economic growth
Prom./coprom.: Prof.dr. H.H. van Ark &
Dr. M.P. Timmer
Defended on: December 4, 2008

Gerwin van der Laan

Behavioral corporate governance: Four empirical studies
Prom./coprom.: Prof.dr. H. van Ees &
Prof.dr. A. van Witteloostuijn
Defended on: January 22, 2009

Marian Oosterhuis

Communication in buyer-supplier relationships: The value of shared perceptions
Prom./coprom.: Prof.dr. E. Molleman & Dr. J.T. van der Vaart
Defended on: April 9, 2009

Lolke Schakel

The Logistic design of the LOFAR radio telescope an operations research approach to optimize imagining performance and construction costs Prom./coprom.: Prof.dr. G. Sierksma, Prof.dr. H.R. Butcher and Prof.dr. D. Ghosh Defended on: April 16, 2009

Publications

Larissa Sjarbaini

The knowledge dynamics of organizational innovation
Prom./coprom.: Prof.dr. R.J.J.M. Jorna & Dr. D.J. Kiewiet.
Defended on: March 26, 2009

Chaohong Zhou

Dynamics of organizational viability: New perspectives and evidence from China Prom./coprom.: Prof.dr. A. van

Witteloostuijn Defended on: March 26, 2009

Research Reports

09001:

Dorotic, M., Fok, D., **Verhoef, P.C.**, **Bijmolt, T.H.A.**, Do vendors benefit from marketing actions in a multi-vendor loyalty program?

Colophon

FEB Research is published twice a year by the Faculty of Economics & Business and the Research School SOM of the University of Groningen. A digital version of the magazine can be found at: www.rug.nl/feb/febresearch.

Address

FEB Research
Faculty of Economics & Business
Research School SOM
University of Groningen
P.O. Box 800
9700 AV Groningen
The Netherlands
e-mail: febresearch@rug.nl

Editorial Board

Jakob de Haan Robert Inklaar Annemiek Koning Rina Koning Elmer Sterken

Design

studio Tineke Wieringa

Photography

Reyer Boxem European Community and others

Printing

Het Grafisch Huis BV

Subscription

A change of address can be sent via e-mail to: febresearch@rug.nl. You can also use this e-mail address if you would like to receive your own copy of FEB Research in the future.

Organisation of Research

SOM research institutes www.rug.nl/feb/som

International Economics, Business & Management (IEB&M)
Prof Erik Dietzenbacher

Economics, Econometrics, Finance (IEEF) Prof José Luis Moraga González

Human Resource Management & Organizational Behaviour (HRM&OB) Prof Gerben van der Vegt

Marketing (Marketing)
Prof Peter Leeflang

Operations Management, Operations Research (OPERA) Dr Taco van der Vaart

Under development

Business & Information Systems (B&IS)
Prof Hans Wortmann

Management Accounting (MA) Prof Jeltje van der Meer-Kooistra

Innovation and Interaction (I&I)
Prof Roger Leenders

SOM Board

Prof Elmer Sterken, chairman Prof Eric Molleman, member Prof Frans Stokman, member Prof Tammo Bijmolt, advisory member Drs Teun van Duinen, advisory member

SOM Advisory Board

Prof Marnik Dekimpe Prof Roland van Dierdonck Prof Robert D. Galliers Prof Karen A. Jehn Prof Dale Jorgenson Prof Sue Llewellyn Prof Rick van der Ploeg Prof Jean-Claude Thoenig

SOM Office

Prof Tammo Bijmolt, Scientific Director Mrs Rina Koning, Research Coordinator Dr Martin Land, PhD coordinator Dr Bart Los, Research Master and Honours Bachelor Coordinator Mrs Astrid Beerta, Secretary Mr Arthur de Boer, Secretary Mrs Ellen Nienhuis, Secretary

Centres of Expertise www.rug.nl/feb/coe

Corporate Governance (CGIC) Prof Hans van Ees

Banking, Insurance, Finance (CIBIF) Prof Robert Lensink

Customer Insights (CIC) Prof Peter Verhoef

Local Government Economics (COELO)
Dr Maarten Allers

Input-Output Studies (EUNIOS)
Prof Erik Dietzenbacher

Economic Growth and Development (GGDC)
Prof Marcel Timmer

Human Resource Management, Organizational Behaviour (HRM&OB) Prof Gerben van der Vegt

Business and Information Systems (ICT Platform RUG) Prof Hans Wortmann

Lean Operations (LO-RC) Prof Jannes Slomp

Health Care Management (RHO) Prof Kees Ahaus

Faculty of Economics and Business