# Curriculum Vitae

## Dennis Fok

July 13, 2022

## Personal details

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|---|---|
| Name: | Dennis Fok |
| Date of birth: | April 2, 1977 |
| Born: | Dordrecht, The Netherlands |
| Nationality: | Dutch |
| Marital status: | Married |
| Business address: | Erasmus University Rotterdam |
| | Burg. Oudlaan 50 |
| | NL-3062 PA Rotterdam |
| | The Netherlands |
| Business telephone nr.: | +31 (0)10 408 1333 |
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## Academic positions and research experience

May 2020 - present: Director of the Econometric Institute, Erasmus University Rotterdam.

Oct. 2016 - present: Professor of Econometrics and Data Science, Econometric Institute, Erasmus University Rotterdam

Jan. 2016 - Mar. 2018: Director Transformation Educational Programme at the Tinbergen Institute

Jan. 2014 - Mar. 2018: Associate Director of Erasmus Research Institute of Management (ERIM), Erasmus University Rotterdam

Jul. 2012 - Sep. 2016: Endowed Professor of Applied Econometrics, Econometric Institute, Erasmus University Rotterdam

Jan. 2008 - Jun. 2012: Associate Professor, Econometric Institute, Erasmus University Rotterdam

Sep. 2003 - Dec. 2007: Assistant Professor, Econometric Institute, Erasmus University Rotterdam

Sep. 1999 - Oct. 2003: PhD. project at the Erasmus Research Institute of Management

1997 - 1999: Various research assistantships/internships: Robeco Groep, Royal Netherlands Insurance company (currently Allianz Netherlands), Econometric Institute, Finance department (Erasmus Universtity Rotterdam)

## Education

1999-2003: PhD. in Economics, Erasmus University Rotterdam
Thesis: "Advanced Econometric Marketing Models"
Supervisor: Prof.dr. P.H.B.F. Franses
Defense: November 6, 2003 (with appellation *cum laude*)

1995-1999: MSc. Econometrics at the Erasmus University Rotterdam
(with appellation *cum laude*)

## Language skills

Dutch (native) and English (fluent)

## Current research interests

- Applied econometrics in general, in particular the combination of econometrics and marketing, this includes modeling decisions at the level of the individual as well as at the aggregate level.

- Models and techniques that are applicable to (large-scale) problems in economics/business in which individual-level inference is needed (eg. modeling online decision-making by individuals).

- Technical research interests: the development and application of new models and techniques, examples are non-linear panels, simulation methods (Bayesian models as well as simulated maximum likelihood) and dynamic models.

## Affiliations

Member of the Erasmus Research Institute of Management (ERIM)
Research Fellow of the Tinbergen Institute
(both based on publication record)

# Consulting projects

I have contributed to research projects for or in cooperation with commercial companies or other organizations, such as

  – ACM (Authority for Consumers & Markets) and its predecessor NMa

   (The Netherlands Competition Authority)

   *Project*: external advice on research projects dealing with time series modeling and price formation.

  – Dutch Customs

   *Project*: selection of targets for inspection.

  – Amsterdam Airport Schiphol

   *Project*: building simulation tool to investigate impact of price changes on number of flights

   and destinations.

  – Dutch Ministry of Finance

   *Project*: predicting financial balance at the end of the day using high-frequency time series methods.

  – Dutch Ministry of Defense

   *Project*: measuring the impact of campaigns meant to increase the interest for military jobs.

  – European Commission (Economic and Financial Affairs)

   *Project*: comparison of seasonal adjustment methods.

  – Dutch Ministry of Agriculture, Nature and Food Quality

   *Project*: advice on a study to measure price sensitivity of and demand for organic food.

  – Philips Netherlands

   *Project*: predicting the demand for new consumer products across various countries.

I have supervised student theses on new and relevant practical issues for companies such as

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|---|---|
| – Allianz Netherlands | – EIM |
| – Coolblue | – SKIM |
| – Nielsen – Sundio/Sunweb | – Bloemers Nassau Groep |
| – Bol.com | – Erasmus Medical Center |
| – IRI, Netherlands | – Interpolis |
| – Unilever | – KPN |
| – Sanoma Publishers | – Market Response |

# Publications

## Articles*

Jacobs, B., D. Fok and, B. Donkers (2021), "Understanding Large-Scale Dynamic Purchase Behavior". Marketing Science, 40 (5), 844–870, https://dx.doi.org/10.1287/mksc.2020.1279

Dorotic, M., D. Fok, P.C. Verhoef, and T.H.A. Bijmolt (2021), "Synergistic and cannibalization effects in a partnership loyalty program". Journal of the Academy of Marketing Science, 49 (5), 1021-1042, https://dx.doi.org/10.1007/s11747-020-00759-7

Ruseckaite, A., D. Fok and, P.P. Goos, 2020, "Flexible Mixture-Amount Models Using Multivariate Gaussian Processes". Journal of Business & Economic Statistics, 38 (2), 257–271

Fok, D., A. van der Stel, A. Burke, and R. Thurik, 2019, "How entry crowds and grows markets: the gradual disaster management view of market dynamics in the retail industry". Annals of Operations Research, 283, 111–1138

Bel, K. D. Fok, and R. Paap, 2018, "Parameter Estimation in Multivariate Logit Models with Many Binary Choices", *Econometric Reviews*, forthcoming, https://dx.doi.org/10.1080/07474938.2015.1093780

Ruseckaite, A., P.P. Goos, and D. Fok, 2017, "Bayesian D-optimal choice designs for mixtures", Journal of the Royal Statistical Society: Series C (Applied Statistics), 66 (2), 363–386

Jacobs, B., B. Donkers, and D. Fok, 2016, "Model-based Purchase Predictions for Large Assortments", *Marketing Science*, 35(3), 389–404

Dorotic, M. P.C. Verhoef, D. Fok, and T.H.A. Bijmolt, 2014, "Reward redemption effects in a loyalty program when customers choose how much and when to redeem", *International Journal of Research in Marketing*, 31 (4), pp. 339-355 http://dx.doi.org/10.1016/j.ijresmar.2014.06.001

de Palma, A., M. Abdellaoui, G. Attanasi, M. Ben-Akiva, I. Erev, H. Fehr-Duda, D. Fok, C.R. Fox, R. Hertwig, N. Picard, P.P. Wakker, J.L. Walker, and M. Weber, 2014, "Beware of black swans: Taking stock of the description-experience gap in decision under uncertainty", *Marketing Letters*, 25 (3), pp. 269-280, http://link.springer.com/article/10.1007/s11002-014-9316-z

Fok, D., and R. Paap, and P.H. Franses, 2014, "Incorporating Responsiveness to Marketing Efforts in Brand Choice Modeling", *Econometrics*, 2, pp. 20-44

Fok, D., and P.H. Franses, 2013, "Testing Earnings Management", *Statistica Neerlandica*, 67 (3), pp. 281-292

Horváth, Cs., and D. Fok, 2013, "Moderating Factors of Immediate, Gross, and Net Cross-brand Effects of Price Promotions" *Marketing Science*, 32 (1), pp. 127-152

Peers, Y., D. Fok, and P.H. Franses, 2012, "Modeling Seasonality in New Product Diffusion", *Marketing Science*, 31(2), pp. 351-364

Fok, D., R. Paap, and B. van Dijk, 2012, "A Rank-Ordered Logit Model with Unobserved Heterogeneity in Ranking Capabilities", *Journal of Applied Econometrics*, 27(5), pp. 831-846

Fok, D., R. Paap, and P.H. Franses, 2012, "Modeling Dynamic Effects of Promotion on Interpurchase Times", *Computational Statistics & Data Analysis*, 56(11), pp. 3055-3069

Dorotic, M., D. Fok, P.C. Verhoef, and T.H.A. Bijmolt, 2011, "Do Vendors Benefit From Promotions in a Multi-Vendor Loyalty Program?", Marketing Letters, 22, pp. 341-356

van Everdingen, Y., D. Fok, and S. Stremersch, 2009, "Modeling Global Spill-Over of New Product Takeoff", *Journal of Marketing Research*, 46(5), pp. 637–652, *Winner of the 2010 ERIM Top Article Award*

Fok, D., R. Paap, 2009, "Modeling Category-Level Purchase Timing with Brand-level Marketing

Variables", *Journal of Applied Econometrics*, 24, pp. 469–489

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

Fok, D., and P.H. Franses, 2007, "Modeling the Diffusion of Scientific Publications", *Journal of Econometrics*, 139 (2), pp. 376–390

Fok, D., P.H. Franses, and R. Paap, 2007, "Seasonality and Non-linear Price Effects in Scanner-data based Market-response Models", *Journal of Econometrics*, 138, pp. 231 – 251

Fok, D., Cs. Horváth, R. Paap, and P.H. Franses, 2006, "A Hierarchical Bayes Error Correction Model to Explain Dynamic Effects of Price Changes", *Journal of Marketing Research*, 43(3), pp. 443 – 461

Sloot, L.M., D. Fok, and P.C. Verhoef, 2006, "The Short- and Long-term Impact of an Assortment Reduction on Category Sales", *Journal of Marketing Research*, 43(4), pp. 536 – 548

Fok, D., D. van Dijk, and P.H. Franses, 2005, "Forecasting Aggregates Using Panels of Nonlinear Time Series", *International Journal of Forecasting*, 21(4), pp. 785–794

van Everdingen, Y.M., W.B. Aghina, and D. Fok, 2005, "Forecasting international innovation diffusion: A Bayesian approach", *International Journal of Research in Marketing*, 22(3), pp. 293 – 308

Fok, D., D. van Dijk, and P.H. Franses, 2005, "A Multi-level Panel STAR model for US Manufacturing Sectors", *Journal of Applied Econometrics*, 20(6), pp. 811–827

Fok, D., and P.H. Franses, 2004, "Analyzing the Effects of a Brand Introduction on Competitive Structure using a Market Share Attraction Model", *International Journal of Research in Marketing*, 21(2), pp. 159–177

Fok, D., and P.H. Franses, 2002, "Ordered Logit Analysis for Selectively Sampled Data", *Computational Statistics & Data Analysis*, 40, pp. 477–497

Fok, D., and P.H. Franses, 2001, "Forecasting Market Shares from Models for Sales", *International Journal of Forecasting*, 17(1), pp. 121–128

## Book contributions

Fok, D. 2017, "Advanced Individual Demand Models" In P.S.H Leeflang, J.E. Wieringa, T.H.A. Bijmolt, and K.H. Pauwels (Eds.), Advanced Methods for Modeling Markets (International Series in Quantitative Marketing), 31-86, Switzerland: Springer

Fok, D., P.H. Franses and R. Paap, 2006, "Performance of Seasonal Adjustment Procedures: Simulation and Empirical Analysis", Palgrave Handbook of Econometrics, vol. 1, Econometric Theory by T.C. Mills & K. Patterson, Palgrave MacMillan, Part X, pp. 1035 – 1055

Fok, D., P.H. Franses and R. Paap, 2002, "Econometric Analysis of the Market Share Attraction

Model", in P.H. Franses and A. Montgomery (eds.), *"Advances in Econometrics"*, vol. 16, "Econometric Models in Marketing", chapter 10, pp. 223–256

## PhD thesis

Fok, D., *"Advanced Econometric Marketing Models"*, 2003, ERIM PhD Series in Management, 27, 189 pages

## Proceedings

Fok, D., P.H. Franses and R. Paap, 2000, *"Forecasting Market Shares from Attraction Models: Some First Simulation Results"*, Proceedings of the 29th EMAC Conference, May 2000, Rotterdam, 6 pages

## Non-refereed papers (trade journals)

Sloot, L,. D. Fok, and P. Verhoef, 2006, "Assortment Unavailability: The Impact of Assortment Reduction on Consumer Behaviour", *Elsevier Food International: Executive Outlook*, 6 (2), pp.8 - 16

## Publications in Dutch

Sloot, L,. D. Fok, and P. Verhoef, 2007, "Consumentenreacties bij Assortimentsreducties", in *Ontwikkelingen in het Marktonderzoek*, Jaarboek 2007, MarkOnderzoekAssociatie, pp. 31–52

## Working papers

Jacobs, B., B. Donkers, and D. Fok, 2016, "Model-based Purchase Predictions for Large Assortments", ERIM Report Series Research in Management, ERS-2014-007-MKT, Erasmus University Rotterdam (hdl.handle.net/1765/51434)

Korkmaz, E., D. Fok, and R. Kuik, 2014, "The Need for Market Segmentation in Buy-Till-You-Defect Models", ERIM Report Series Research in Management, ERS-2014-006-LIS, Erasmus University Rotterdam (hdl.handle.net/1765/51244)

Ruseckaite, A., P. Goos, and D. Fok, 2014, "Bayesian D-Optimal Choice Designs for Mixtures", Tinbergen Institute Working Paper, 14-057/III, Erasmus University Rotterdam

Korkmaz, E., R. Kuik, and D. Fok, 2013, ""Counting Your Customers": When will they buy next? An empirical validation of probabilistic customer base analysis models based on purchase timing", ERIM Report Series Research in Management, ERS-2013-001-LIS, Erasmus University Rotterdam (hdl.handle.net/1765/38235)

Peers, Y., D. Fok, and P.H. Franses, 2010, "Modeling Seasonality in New Product Diffusion", ERIM Report Series Research in Management, ERS-2010-07-15-MKT, Erasmus University Rotterdam

Hernández-Mireles, C., and D. Fok, "Random Coefficient Logit Model for Large Datasets", ERIM Report Series Research in Management, ERS-2010-05-31-MKT, Erasmus University Rotterdam

Fok, D., A. van Stel, A.E. Burke, and R. Thurik, 2010, "Industry Dynamics and Entrpreneurship: An Equilibium Model", TI Discussion paper, TI2010-012/3

Fok, D., and P.H. Franses, 2009, "Testing Earnings Management", Econometric Institute Reports, EI-2009-31, Erasmus University Rotterdam

Fok, D., A. van Stel, A.E. Burke, and R. Thurik, 2009, "The Dynamics of Entry and Exit", Scales Research Reports 200907, EIM Business and Policy Research

Horváth, Cs., and D. Fok, 2008, *"Moderating Factors of Immediate, Dynamic, and Long-Run Cross-Price Effects"*, ERIM Report Series Research in Management, ERS-2008-42-MKT, Erasmus University Rotterdam, 39 pages

Hernández-Mireles, C., D. Fok, and P.H. Franses, 2008, *"Why, How and When Do Prices Land? Evidence from the Videogame Industry"*, ERIM Report Series Research in Management, ERS-2008-44-MKT, Erasmus University Rotterdam, 55 pages

Fok, D., R. Paap, and P.H. Franses, 2008, *"Incorporating Responsiveness to Marketing Efforts in Brand Choice Modeling"*, Econometric Institute Report, EI-2008-15, Erasmus University Rotterdam, 32 pages

Fok, D., R. Paap and P.H. Franses, 2003, *"Modeling Dynamic Effects of the Marketing Mix on Market Shares"*, ERIM Report Series Research in Management, ERS-2003-44-MKT, Erasmus University Rotterdam, 28 pages

van Nierop, E., D. Fok and P.H. Franses, 2002, *"Sales Models for Many Items using Attribute Data"*, ERIM Report Series in Management ERS-2002-65-MKT, Erasmus University Rotterdam, 28 pages

Fok, D., P.H. Franses, 1999, *"Impulse-Response Analysis of the Market Share Attraction Model"*, Econometric Institute Report EI-9955/A, Erasmus University Rotterdam, 15 pages

## Unpublished working papers

Fok, D., P.H. Franses and R. Paap, 2000, *"Forecasting Market Shares from Attraction Models"*

# Presentations

## International conferences

*"Modeling Large-Scale Dynamic Purchase Behavior"*, European Bayesians in Marketing Summit, 2020, Paris, France

*"Model-based Project Discovery"*, Marketing Dynamics, 2016, Hamburg, Germany

*"Proactive Churn Management"*, Marketing Science, 2012, Boston, USA.

*"Estimating and Explaining Immediate, Dynamic, and Long-run Cross-price Effects"*, Marketing Science, 2009, Ann-Arbor, USA.

*"Interaction between shelf layout and marketing effectiveness and its impact on optimizing shelf arrangements"*, GFA Conference, 2007, Cergy-Pontoise, France

*"A Rank-Ordered Logit Model with Unobserved Heterogeneity in Ranking Capabilities"*, European Meeting of the Econometric Society 2007, Budapest, Hungary

*"Cross-Country Effects of New Product Takeoff"*, Marketing Science, 2007, Singapore

*"A Multi-Level Panel Smooth Transition Autoregression for US Sectoral Production"*, Australasian Meeting of the Econometric Society, 2004, Melbourne, Australia **and** Econometric Society Winter Meeting, 2004, Stockholm, Sweden (on invitation)

*"A HB-ECM to Explain the Long-run and Short-run Effects of Promotions on Sales"*, Marketing Science, 2004, Rotterdam, Netherlands

*"Forecasting Aggregate Output using a Nonlinear Multi-level Model for Disaggregate Data"*, Annual Research Seminar of the Netherlands Econometrics Study Group, 2004, Rotterdam, Netherlands

*"Modeling Long-Run Price Elasticities on Market Shares"*, Marketing Science, 2003, Maryland

*"A Panel Smooth Transistion Autoregression for US Sectoral Production"*, Tinbergen week, 2003, Rotterdam, Netherlands

*"Estimating Dynamic Effects of Promotion on Interpurchase Time"*, European Meeting of the Econometric Society 2002, Venice, Italy

*"Estimating Dynamic Effects of Promotion on Interpurchase Times"*, Marketing Science 2002, Edmonton, Canada

*"Modeling Responsiveness to Marketing Efforts"*, Marketing Science 2001, Wiesbaden, Germany

*"Estimating the Effects of a Brand Introduction on Competitive Structure using a Market Share Attraction Model"*, A/R/T Forum 2001, Amelia Island, Florida (Poster presentation)

*"Impulse-Response Analysis of the Market Share Attraction Model"*, Marketing Science 2000, Los Angeles

*"Forecasting Market Shares from Attraction Models: Some First Simulation Results"*, EMAC 2000, Rotterdam, Netherlands

**Invited seminars/workshops**

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|---|---|
| 2018 | University of Groningen, Netherlands |
| 2014 | BI Business School, Olso, Norway |
| 2013 | Erasmus University Rotterdam, Netherlands |
| 2012 | Invited speaker at Belgian Statistical Society, Belgium |
| 2009 | K.U. Leuven, Belgium |
| 2008 | University of Amsterdam, Netherlands |
| | Erasmus University Rotterdam, Netherlands |
| | University of Groningen, Netherlands |
| 2007 | Radboud Universiteit Nijmegen, Netherlands |
| | Tilburg University, Netherlands |
| 2006 | NAKE Day |
| 2003 | Tilburg University, Netherlands |
| 2002 | University of Chicago, USA |
| | Erasmus Research Institute of Management, Netherlands |
| 2001 | Erasmus Research Institute of Management, Netherlands |
| | Tinbergen Institute Amsterdam, Netherlands |
| 2000 | Tinbergen Institute Rotterdam, Netherlands |
| | Erasmus University Rotterdam, Netherlands |

# Research visits

BI Business School, Oslo, Norway, April/May 2014 and 2015
University of Chicago, Graduate School of Business, March 2002 - June 2002

# Teaching experience

## Bachelor and Master level

| Present | Past |
|---|---|
| Advanced (Econometric) Marketing Models | Forecasting in Marketing |
| Advanced Econometrics (PhD course) | Advanced Time Series Models |
| Master's Thesis supervisor | Minor program in Econometrics (program coordinator) |
| Bachelor's Thesis supervisor | |
| Marketing Case studies | Econometric Marketing Models |
| | Programming in Matlab |
| | Numerical Methods |
| | Statistics for undergraduate students in econometrics |

### Executive/post-experience level

Advanced modeling (part of the MIAcademy programme)
Advanced technologies for data analysis in the "Leadership Challenges with Big Data" programme (Erasmus Center for Data Science and Business Analytics)
Statistics for Data Science in the "Data & Business Analytics" track of Erasmus Quantitative Intelligence

### Other

Major contribution to the Massive Open Online Course "Econometrics: Methods and Applications" at Coursera

## Referee activities

Journal of Econometrics                                Computational Statistics and Data Analysis
Journal of Applied Econometrics                        Studies in Nonlinear Dynamics & Econometrics
Management Science                                     Statistica Neerlandica
Marketing Science                                      Economic Modelling
Journal of Marketing Research                          Eastern Economic Journal
International Journal of Research in Marketing          Small Business Economics
Psychometrika                                          ERC Starting Grant
International Journal of Forecasting                    National Science Foundation (NSF)

## Editorial Review Board

Journal of Marketing Research (since September 2019)
Marketing Science (2014–2021)
International Journal of Research in Marketing (since October 2009)

## Awards/Grants

- *International Journal of Research in Marketing* Outstanding Editorial Review Board Member 2020

- Top Lecturer Award 2018, 2013 and 2011 (Tinbergen Institute, MPhil program)

- Invited for the *MSI Young Scholar Program*, 2011

- ERIM Top Article Award 2010

- NWO Open Competition 2010 (funding for a PhD student, co-applicant with R. Paap)

- Nominated for teacher of the year (2007/2008, 2008/2009 & 2009/2010)

- ERIM High Performance Researcher since 2007 (awarded yearly)

- Top Talent Researcher Erasmus School of Economics (2008, 2009)

- Top Researcher Erasmus School of Economics (2007)

- Research award ("Onderzoeksprijs") 2007, awarded by the Erasmus University Rotterdam

- Nominated for Christiaan Huygensprijs for the best PhD thesis in econometrics and actuarial sciences (2007)

- ERIM Young Researcher Award 2006

- Awarded EUR-fellowship 2005-2008

- Nominated for the SAP-PIM thesis award 2005

- ERIM thesis award 2004

- Nominated for KVS thesis award 2004 (Koninklijke Vereniging voor de Staathuishoudkunde)

## Other academic activities

- Director Transformation Educational Programme at the Tinbergen Institute (TI) (Jan 2016 – March 2018)

- Associate Director of Erasmus Research Institute of Management (ERIM) (January 2014 – March 2018)

- Academic Director of master programme "Business Analytics & Quantitative Marketing"

- Coordinator (with Philip Hans Franses) of the "Econometric Institute Lecture Series" in econometrics joint with the Princeton University Press

- Member of the Educational Board of Tinbergen Institute (February 2011 – December 2013)

- Member of the Educational Committee of the Econometrics program at Erasmus (September 2009 – December 2013)

- Co-organizer of the first ESOBE meeting (European Seminar on Bayesian Econometrics), Rotterdam 2010

- Organizer of the Econometric Institute Seminar Series (2006-2008)

- Co-organizer of the conferences *50 years of Econometrics* and *Future of Econometrics* celebrating the 50-th anniversary of the Econometric Institute (2006)

# PhD students

Current (co)supervisor of PhD students:

- Hong Deng on " Contextual bandit algorithms for recommender system" (planned data of defense 2024)

- Luuk van Maasakkers on "Marketing Modeling for Large-scale Assortments" (planned date of defense 2023)

Past (co)supervision:

- Anoek Castelein on "Models for Individual Responses: Explaining and predicting individual behavior" (Defended March 2021)

- Wei Li on "Competition in the Retail Market of Consumer Packaged Goods" (Defended Jan 2021)

- Bruno Jacobs on "Marketing Analytics for High-Dimensional Assortments" (Defended: December 2017)

- Aiste Ruseckaite on "New Flexible Models and Design Construction Algorithms for Mixtures and Binary Dependent Variables" (Defended: January 2016)

- Evşen Korkmaz on "Bridging Models and Business: Understanding Heterogeneity in hidden drivers of customer purchase behavior" (Defended: September 2014)

- Tim Salimans on "Essays in Likelihood-Based Computational Econometrics" (Defended: May 2013)

- Yuri Peers on "Econometric Advances in Diffusion Models" (Defended: December 2011)

- Carlos Hernández-Mireles on "Marketing Modeling for New Products" (Defended: June 2010)

# Member of PhD committee (outside Erasmus only)

Niels Holtrop (2017, University of Groningen, Netherlands)
Utami Dyah Syafitri (2015, University of Antwerp, Belgium)
Florian Deutzmann (2014, IESE Business School, Barcelona)
Li Zheng (2014, ESSEC Business School, Paris)
Matilda Dorotic (2010, University of Groningen, Netherlands)