Curriculum Vitae of Bram De Rock

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Contact information

Address: ECARES, SBS-EM

Université libre de Bruxelles Av. Roosevelt, 50, CP 114/04 1050 Brussels, Belgium

Office: Building R42, No 6.218

Phone: +32 2 650 42 14 Fax: +32 2 659 33 75

ORCID: https://orcid.org/0000-0002-5114-1386

E-mail: bram.de.rock@ulb.be or bram.derock@kuleuven.be

Website: https://sites.google.com/site/bramderock/

Personal details

Born: April 25, 1977, Bruges

Nationality: Belgian Marital status: Married

Children: Daan, Anna and Klara

Fields of interest

Household decision making, Consumer behaviour, Individual well-being, Non parametric production analysis, Revealed preference theory.

Teaching

Currently I am teaching the following courses:

Microeconomic theory: consumer and producer choice (ECONS202, ULB), Statistics (X0A14B and D0W48A, KU Leuven), Introduction to Mathematics (DOW10A, KU Leuven).

In the past I also taught Mathematics and Economic Modelling (Math-S400, ULB) and Dynamic Optimization (Math-S401, ULB)

Current and past positions

2021 - ..., Visiting professor at the College of Europe.

2018 - ..., Regional representative of the Centre for Economic Policy Research (CEPR).

2011 - ..., Honorary Senior Research Associate at University College London (UCL) and International research fellow at the Institute for Fiscal Studies (IFS).

 $2009 - \dots$, Professor in mathematics and statistics at KU Leuven, Campus Kortrijk. Tenured since 2015, full professor since 2013.

2007 - ..., Professor in economics at ULB, SBS-EM, ECARES. Tenured since 2010, full professor since 2013.

2006 - 2009, Postdoctoral researcher at KU Leuven, Campus Kortrijk.

2006 - 2007, Researcher in the European sixth framework project called Accurate Income Measurement for the Assessment of Public Policies (AIM-AP); contract no 028412.

2000 - 2006, Research and teaching assistant in Mathematics at KU Leuven, Campus Kortrijk.

Education

2005-2007, PhD in Economics, KU Leuven.

Thesis title: "Collective choice behavior: nonparametric characterization".

Supervisor: L. Cherchye.

Committee: M. Browning, P.-A. Chiappori, I. Crawford, A. Decoster, F. Spinnewyn, F.

Vermeulen.

2005-2007, Master in advanced studies in Economics (doctum colloquium), KU Leuven.

Thesis title: "Opening the black box of intrahousehold decision making: theory and nonparametric empirical tests of general collective consumption models" (supervisor: L. Cherchye).

2002-2003, Post graduate in Business Administration, KU Leuven.

2000-2006, PhD in Mathematics, KU Leuven.

Thesis title: "The Anosov relation for Nielsen numbers of maps of infra-nilmanifolds".

Supervisors: K. Dekimpe and W. Malfait.

Committee: F. Dillen, P. Igodt, W. Veys, P. Wong, A. Szczepanski.

1995-2000, Master in Mathematics (undergraduate studies), KU Leuven.

Thesis title: "Hilbert's tenth problem" (supervisor: J. Denef).

Awards and recognition

2019: Winner (together with Laurens Cherchye and Frederic Vermeulen) of the Francqui prize in human sciences. This prize, sometimes referred to as the Belgian Nobel prize, is awarded every three years to recognise pathbreaking research at Belgian universities.

2019: Winner (together with Thomas Demuynck and Marjorie Gassner) of the Teaching Award of SBS-EM. This award recognises our efforts as a team for training the quantitative skills of our undergraduate students.

2015: Winner (together with Laurens Cherchye and Frederic Vermeulen) of the Pioneer Price of the KU Leuven. This award is for a research group that has initiated and conducted research that is scientifically innovative and opened a completely new avenue of research.

2015: Francqui chair at the University of Namur.

2012: Winner of the Research Council Award of the KU Leuven. This award is a recognition and stimulation of promising young researchers (i.e. 5 years after PhD) from KU Leuven.

2010: Receiver of a starting grant of the European Research Council (ERC).

2010: The paper "Degrees of cooperation in household consumption models: A revealed preference analysis" was selected as the best paper, written by economists under the age of 35, presented at the conference "International Conference in memoriam of Maria Concetta Chiuri on Household, Labour and Migration Economics" in Bari.

2008: Winner (together with Laurens Cherchye and Frederic Vermeulen) of the prize of the Association of Economics (Vereniging voor Economie) for the paper "The revealed preference approach to collective consumption behavior: testing, recovery and welfare analysis" (awarded every two year to Flemish authors under the age of 35).

Academic services and scientific advice

For the university:

Currently: member of the board of the research council of ULB, vice-dean of research of SBS-EM and coordinator of the Belgian interuniversity research group GARP (for more details see www.revealedpreferences.org).

In the past: director of ECARES from 2013-2021, (co-)director of the doctoral school of ECARES, seminar organizer for ECARES and ECORES.

For the academic community:

Associate editor for *Mathematical Social Sciences* and Regional CEPR representative.

Ad-hoc referee for Econometrica, American Economic Review, Journal of Political Economy, Review of Economic Studies, Journal of Econometrics, Review of Economics and Statis $tics,\ Economic\ Journal,\ Quantitative\ Economics, Theoretical\ Economics,\ Journal\ of\ Economic$ Theory, Games and Economic Behavior, International Economic Review, AER: Insights, Journal of Applied Econometrics, Canadian Journal of Economics, European Economic Review, European Journal of Operations Research, Journal of the Operational Research Society, Annals of Operations Research, International Journal of Production Economics, Econometrics Review, Econometric Theory, Environmental and Resource Economics, Journal of Economic Behavior and Organization, Journal of Mathematical Economics, Economics and Philosophy, Review of Income and Wealth, The Journal of Economic Inequality, Economica, Mathematical Social Sciences, Social Choice and Welfare, Journal of Public Economic Theory, Science of the Total Environment, Journal of Population Economics, Review of Economics of the Household, Women's Studies International Forum, Studies in Nonlinear Dynamics & Econometrics, Journal of Productivity Analysis, OR Spectrum, Journal of Strategic Marketing, Mathematical Problems in Engineering, Communications on Applied Mathematics and Computation Journal of Economics, Economic Research, European Research Council (ERC), National Science Foundation (NSF), Social Sciences and Humanities Research Council of Canada, National Science Centre Poland, Fonds voor Wetenschappelijk Onderzoek (FWO), Hiring committee of Aalto university school of business, Promotion committee of Bir Zeit University and the University of Luxembourg.

Research projects

Co-promoter (with M. Dewatripont and G. Magerman) of the exceptional FNRS grant on COVID-19 "The impact of COVID-19 and large economic shocks on the survival and reorganization of value chains", 2020-2022.

Co-promoter (with M. Dewatripont and G. Magerman) of the ULB grant on COVID-19 "Dealing with the societal and economic challenges of the COVID-19 crisis", 2020.

Co-promoter (with consortium of researchers from University of Antwerp, KU Leuven and ULB, main promoter André Decoster) of the Belspo grant "The PARADox of BElgian Inequality Studies: Belgium less unequal than others?", 2020-2024.

Co-promoter (with L. Cherchye and L. Merlino) of the FWO grant "Search behavior in the marriage market, household formation and economic decisions: a revealed preference analysis", 2019-2023.

Co-promoter (with T. Demuynck) of the ARC grant "A revealed preference analysis of the impact of marriage market dynamics on household decisions", 2018-2023.

Main promoter of the EOS grant "Individual Welfare Analysis based on Behavioural Economics", 2018-2021.

Promoter of the FNRS grant "Empirical revealed preferences", 2017-2018.

Co-promoter (with L. Cherchye and F. Vermeulen) of the FWO grant "Marriage markets and household decision behaviour", 2017-2021.

Co-promoter (with L. Cherchye) of the internal C1 KU Leuven grant "Empirical analysis of household consumption and marriage decisions: A structural approach based on revealed preferences", 2016-2021.

Co-promoter (with K. Decancq, F.Maniquet and E. Schokkaert) of the Belspo grant "Measuring equivalent incomes: The implementation of individual well-being measures from Belgian data (MEQIN)", 2013-2017.

Co-promoter (with L. Cherchye) of the FWO grant "Multi-output production with joint inputs", 2012-2016.

Co-promoter (with M. Hudon, P. Verwimp and A. Szafarz) of the FNRS grant "Microfinance and intrahousehold behavior", 2012-2015.

Co-promoter (with L. Cherchye and T. Demuynck) of the FWO grant "A revealed preference analysis of household consumption models", 2011-2014.

Promoter of the ERC starting grant "A revealed preference analysis of household consumption models", 2010-2015.

Promoter of the BNB-grant "Degrees of cooperation in the collective household consumption model: a revealed preference analysis", 2010-2011.

Co-promoter (with L. Cherchye and F. Spieksma) of the FWO grant "Methods and models for testing the rationality of revealed preferences", 2010-2013.

Promoter of the FNRS-grant "A revealed preference analysis of collective consumption behavior", 2009-2010.

Co-promoter (with S. Bruyneel, L. Cherchye and S. Dewitte) of the FWO grant "Experimental analysis of collective consumption decisions", 2009-2012.

Co-promoter (with C. Dehon and M. Dewatripont) of the FNRS grant "Rankings of Higher Education Institutions: Pertinent Non-Parametric and Robust Approaches", 2008-2011.

Promoter of the BNB-grant "The revealed preference approach to collective consumption behavior: Steps towards a powerful welfare analysis", 2008-2009.

Current and past PhD students

I am the (co)-supervisor of the following PhD students.

- 1. Florine Le Henaff: PhD in progress on global warming and consumption decisions.
- 2. Mariia Kovaleva: PhD in progress on intertemporal collective models.
- 3. Domenico Moramarco: PhD in progress on measuring well-being.
- 4. Sarah Rosenberg: PhD obtained in XXX 2022, ULB, "Essays on family decisions", first job: postdoc position at Lund University.
- 5. Guillaume Perilleux: PhD obtained in January 2022, ULB, "Essays on the Well-Being and Time Use of Households and their Members", first job: assistant professor at the Université de Mons.
- 6. Tom Potoms: PhD obtained in June 2019, ULB, "Essays on Intertemporal Household Behavior", first job: tenure track position as lecturer at the University of Sussex.
- 7. Denni Tommasi: PhD obtained in October 2017, ULB, "On Couples and Decisions", first job: tenure track position at Monash University.
- 8. Pieter Jan Kerstens: PhD obtained in September 2017, KU Leuven, "Beyond black box modeling in production: methodological advances in nonparametric methods", first job: postdoc position at the Copenhagen Business School.
- 9. Alex Wolf: PhD obtained in July 2017, ULB, "What Men Want, What They Get and How to Find Out", first job: postdoc position at the Institute of Fiscal Studies.
- 10. Rama Lionel Ngenzebuke: PhD obtained in February 2017, ULB, "Essays on Intrahousehold Decision-making, Gender and Socio-Economic Development", first job: post-doc position at the Harvard Center for Population and Development Studies.
- 11. Barnabé Walheer: PhD obtained in November 2016, ULB, "Efficiency analysis: a multi-output nonparametric approach", first job: assistant professor at Xi'an Jiaotong-Liverpool University.
- 12. Veerle Hennebel: PhD obtained in June 2016, KU Leuven, "Nonparametric analysis of production and consumption behavior", first job: postdoc position at KU Leuven.
- 13. Olivia D'Aoust: PhD obtained in April 2015, ULB, "Post-War Economics: Micro-level Evidence from the African Great Lakes Region", first job: development economist at the World Bank.
- 14. Bart Smeulders: PhD obtained in March 2015, KU Leuven, "Testing theories of choice behaviour", first job: FNRS postdoct position at University of Liege.
- 15. Christopher Bruffaerts: PhD obtained in September 2014, ULB, "Contributions to robust methods in non parametric frontier methods", first job: BNP Paribas-Fortis.
- 16. Thomas Bury: PhD obtained in February 2014, ULB, "Collective behaviors in the stock market: a maximum entropy approach", first job: Belfius.

17. Jeroen Sabbe: PhD obtained in December 2010, KU Leuven, "Revealed preference analysis of consumption and production behavior: applications of the collective model", first job: Bain & Co.

Publications in international peer reviewed journals

For more information about my research profile, please see my page on Google scholar (http://scholar.google.com/citations?user=GUWT5l8AAAAJ&hl=en), on Ideas (http://ideas.repec.org/f/pde305.html) or on Orcid (https://orcid.org/0000-0002-5114-1386).

- 1. "Revealed Preference Analysis of Expected Utility Maximization under Prize-Probability Trade-Offs" (2022), with L. Cherchye, T. Demuynck and M. Freer. Replaces the previous version entitled: "Equilibrium play in first pay auctions: Revealed preference analysis". *Journal of Mathematical Economics*, 99, 102607. Published version; Working paper.
- 2. "Household responses to cash transfers" (2022), with T. Potoms and D. Tommasi. *Economic Development and Cultural Change*, 70, p. 625-652.

 Published version; Working paper.
- 3. "Nonparametric Analysis of Random Utility Models: Computational Tools for Statistical Testing" (2021), with L. Cherchye and B. Smeulders. *Econometrica*, 89, p.437-455. The code can be found here. Published version; Working paper.
- 4. "Where did it go wrong? Marriage and divorce in Malawi" (2021), with L. Cherchye, S. Telalagic Walther and F. Vermeulen. *Quantitative Economics*, 12. p. 505-545. Published version; Working paper.
- 5. "Verbal aptitude hurts children's economic decision making competence" (2021), with S. Bruyneel, L. Cherchye, S. Cosaert and S. Dewitte. Journal of Behavioral Decision Making, 34, p. 199-212. Replaces the previous version entitled: "Are the smart kids more rational?".
 - Replaces the previous version entitled: "Are the smart kids more rational?". Published version; Working paper.
- 6. "Comparative analysis of different techniques to impute expenditures into an income data set" (2020), with A. Decoster, K. De Swerdt, J. Loughrey, C. O'Donoghue and D. Verwerft. International Journal of Microsimulation, 13, p. 70-94. Published version; Working paper.
- 7. "Marital matching, economies of scale and intrahousehold allocations" (2020), with L. Cherchye, K. Surana and F. Vermeulen. Review of Economics and Statistics, 102, p. 823-837.
 - Published version; Working paper.
- 8. "Revealed preference analysis with normal goods: Application to cost of living indices" (2020), with L. Cherchye, T. Demuynck and K. Surana. American Economic Journal: Microeconomics, 12, p. 165-188.

 Published version; Working paper.

9. "A new year, a new you? A two-selves model of within-individual variation in food purchases" (2020), with L. Cherchye, R. Griffith, M. O'Connel, K. Smith and F. Vermeulen. *European Economic Review*, 127, 103478.

Featured in a VoxEU column and a Leuven Economisch Standpunt Published version; Working paper.

10. "Group consumption with caring individuals" (2020), with S. Cosaert, L. Cherchye and T. Demuynck. *Economic Journal*, 130, p. 587-622.

Replaces the previous version entitled: "Noncooperative household consumption with caring".

Published version; Working paper.

11. "Bounding counterfactual demand with unobserved heterogeneity and endogenous expenditures" (2019), with L. Cherchye and T. Demuynck. *Journal of Econometrics*, 211, p. 483-506.

Published version; Working paper.

- 12. "Transitivity of preferences: when does it matter?" (2018), with L. Cherchye and T. Demuynck. *Theoretical Economics*, 13, p. 1043-1076. Published version; Working paper.
- 13. "Individual welfare analysis for collective households" (2018), with L. Cherchye, S. Cosaert, P.J. Kerstens and F. Vermeulen. *Journal of Public Economics*, 166, p.98-114. Published version; Working paper.
- 14. "Normality of demand in a two-goods setting" (2018), with L. Cherchye and T. Demuynck. *Journal of Economic Theory*, 173, p. 361-382. Published version; Working paper.
- 15. "Production with storable and durable inputs: nonparametric analysis of intertemporal efficiency" (2018), with L. Cherchye and P.J. Kerstens. European Journal of Operational Research, 270, p. 498-513.

 Published version; Working paper.
- 16. "The Power of the Family: Kinship and Intra-Household Decision-Making in Rural Burundi" (2018), with R. L. Ngenzebuke and Ph. Verwimp. *Review of Economics of the Household*, 16, p. 323-346.

 Published version; Working paper.
- 17. "A Dual-Process Model of Economic Decision Making: The Symmetric Effect of Intuitive and Cognitive Judgments on Optimal Budget Allocation" (2018), with S. Bruyneel, L. Cherchye, S. Dewitte and A. Stamos. *Journal of Neuroscience, Psychology, and Economics*, 11, p. 1027.
 - Published version; Working paper.
- 18. "Measuring the willingness-to-pay for others' consumption: An application to joint decisions of children." (2017), with S. Bruyneel, L. Cherchye. S. Cosaert and S. Dewitte. *Quantitative Economics*, 8, 1037-1082.

 Published version; Working paper.

- 19. "Household consumption when the marriage is stable" (2017), with L. Cherchye, T. Demuynck and F. Vermeulen. *American Economic Review*, 107, p. 1507-1534. Published version; Working paper.
- 20. "Coordination Efficiency in Multi-Output Settings: a DEA Approach," (2017), with L. Cherchye. and V. Hennebel. *Annals of Operations Research*, 250, p. 205-233. Published version; Working paper.
- 21. "Revealed preference tests of collectively rational consumption behavior: formulations and algorithms" (2016), with F. Nobibon, L. Cherchye, Y. Crama, T. Demuynck and F. Spieksma. *Operations Research*, 64, p. 1197-1216.

 Published version; Working paper.
- 22. "Gorman revisited: Nonparametric conditions for exact linear aggregation" (2016), with L. Cherchye, I. Crawford and F. Vermeulen. *SERIEs, Journal of the Spanish Economic Association*, 7, p. 203-220. Published version; Working paper.
- 23. "Multi-Output profit efficiency and directional distance functions" (2016), with L. Cherchye and B. Walheer. *Omega: International Journal of Management Science*, 61, p. 100-109.

 Published version; Working paper.
- 24. "The transfer paradox in welfare space" (2016), with T. Demuynck and V. Ginsburgh. Journal of Mathematical Economics, 62, p. 1-4. Published version; Working paper.
- 25. "A simple identification strategy for Gary Becker's time allocation model" (2015), with L. Cherchye and F. Vermeulen. *Economics Letters*, 137, p. 187-190. Published version; Working paper.
- 26. "Sharing rule identification for a general collective consumption model" (2015), with L. Cherchye, A. Lewbel and F. Vermeulen. *Econometrica*, 83, p. 2001-2041. Published version; Working paper.
- 27. "Transitive preferences in multi-member households" (2015), with B. Smeulders, L. Cherchye, F. Spieksma and F. Talla Nobibon. *Economic Theory Bulletin*, 3, p. 243-254. Published version; Working paper.
- 28. "Complexity results for the Weak Axiom of Revealed Preference for collective consumption models," (2015), with L. Cherchye, F. Spieksma, B. Smeulders and F. Talla Nobibon. *Journal of Mathematical Economics*, 58, p. 82-91.

 Published version; Working paper.
- 29. "Revealed preference tests for weak separability: an integer programming approach" (2015), with L. Cherchye, T. Demuynck and P. Hjertstrand. *Journal of Econometrics*, 186, p.129-141.

 Published version; Working paper.
- 30. "Is utility transferable: A revealed preference analysis" (2015), with L. Cherchye and T. Demuynck. *Theoretical Economics*, 10, p. 51-65. Published version; Working paper.

- 31. "Sharp for SARP: Nonparametric bounds on counterfactual demands" (2015), with R. Blundell, M. Browning, L. Cherchye, I. Crawford and F. Vermeulen. *American Economic Journal: Microeconomics*, 7, p. 43-60.

 Published version; Working paper.
- 32. "Multi-output efficiency with good and bad outputs" (2015), with L. Cherchye and B. Walheer. *European Journal of Operational Research*, 240, p. 872-881. Published version; Working paper.
- 33. "Consume Now or Later? Time Inconsistency, Collective Choice and Revealed Preference" (2014), with A. Adams, L. Cherchye and E. Verriest. *American Economic Review*, 104, p. 4147-4183.

 Published version; Working paper.
- 34. "Empirical Revealed Preference" (2014), with I. Crawford. Annual Review of Economics,
 6, p. 503-524.
 Published version; Working paper.
- 35. "Nonparametric analysis of multi-output production with joint inputs" (2014), with L. Cherchye, T. Demuynck and K. De Witte. *Economic Journal*, 124, p. 735-775. Published version; Working paper.
- 36. "Revealed preference analysis for convex rationalizations on nonlinear budget sets" (2014), with L. Cherchye and T. Demuynck. *Journal of Economic Theory*, 152, p. 224-236. Published version; Working paper.
- 37. "Goodness of fit measures for revealed preference tests: Complexity results and algorithms" (2014), with B. Smeulders, L. Cherchye and F. Spieksma. *Transactions on Economics and Computation*, 2 (1), Article 3. Pulished version; Working paper.
- 38. "The economic meaning of Data Envelopment Analysis: a 'behavioral' perspective" (2014), with L. Cherchye and V. Hennebel. *Socio-Economic Planning Sciences*, 48, p. 29-37. Published version; Working paper.
- 39. "The Money Pump as a Measure of Revealed Preference Violations: A Comment" (2013), with B. Smeulders, L. Cherchye and F. Spieksma. *Journal of Political Economy*, 121, p. 1248-1258.
 Published version; Working paper.
- 40. "Opening the 'Black Box' of Efficiency Measurement: Input Allocation in Multi-Output Settings" (2013), with L. Cherchye, B. Dierynck, F. Roodhooft and J. Sabbe. *Operations Research*, 61, p. 1148-1165.

 Published version; Working paper.
- 41. "Private versus public consumption within groups: testing the nature of goods from aggregate data" (2013), with L. Cherchye and V.Platino. *Economic Theory*, 54, p. 485-500.
 - Published version; Working paper.

- 42. "The empirical content of Cournot competition" (2013), with L. Cherchye and T. Demuynck. *Journal of Economic Theory*, 148, p. 1552-1581.

 Published version; Working paper.
- 43. "Nash bargained consumption decisions: A revealed preference analysis" (2013), with L. Cherchye and T. Demuynck. *Economic Journal*, 123, p.195-235. Published version; Working paper.
- 44. "The robustness of the hyperbolic efficiency estimator" (2013), with C. Bruffaerts and C. Dehon, *Computational Statistics and Data Analysis*, 57, p. 349-363. Published version; Working paper.
- 45. "Married with children. A collective labor supply model with detailed time use and intrahousehold expenditure information" (2012), with L. Cherchye and F. Vermeulen. *American Economic Review*, 102, p. 3377-3405.

 Published version; Working paper.
- 46. "Economic well-being and poverty among the elderly: an analysis based on a collective consumption model" (2012), with L. Cherchye and F. Vermeulen. *European Economic Review*, 56, p. 985-1000.

 Published version; Working paper.
- 47. "Collective consumption models with restricted bargaining weights: an empirical assessment on experimental data" (2012), with S. Bruyneel and L. Cherchye, *Review of Economics of the Household*, 10, p. 395-421.

 Published version; Working paper.
- 48. "Testable implications of general equilibrium models: An integer programming approach" (2011), with L. Cherchye and T. Demuynck, *Journal of Mathematical Economics*, 47, p. 564-575.

 Published version; Working paper.
- 49. "Revealed preference analysis of noncooperative household consumption" (2011), with L. Cherchye and T. Demuynck, *Economic Journal*, 121, p. 1073-1096. Published version; Working paper.
- 50. "Heuristics for deciding collectively rational consumption behavior" (2011), with F. Talla Nobibon, L. Cherchye, J. Sabbe and F. Spieksma, *Computational Economics*, 38, p. 173-204.
 - Published version; Working paper.
- 51. "The revealed preference approach to collective consumption behavior: nonparametric testing and sharing rule recovery" (2011), with L. Cherchye and F. Vermeulen. *Review of Economic Studies*, 78, p. 176-198.

 Published version; Working paper.
- 52. "The Anosov theorem for infra-nilmanifolds with a 2-perfect holonomy group" (2011), with K. Dekimpe and P. Penninckx. *Asian Journal of Mathematics*, 15, p. 539-548. Published version; Working paper.

- 53. "An Afriat theorem for the collective model of household consumption" (2010), with L. Cherchye and F. Vermeulen. *Journal of Economic Theory*, 145, p.1142-1163. Published version; Working paper.
- 54. "Store environment and advertising: investigating two manipulative forces from the supermarket" (2010), with J. Clochet, S. Cosaert and L. Cherchye, *Review of Business and Economics*, 55, p. 90-106.

 Published version; Working paper.
- 55. "Opening the black box of intrahousehold decision making: theory and nonparametric empirical tests of general collective consumption models" (2009), with L. Cherchye and F. Vermeulen, *Journal of Political Economy*, 117, p. 1074-1104. Published version; Working paper.
- 56. "The R_{∞} property for infra-nilmanifolds" (2009), with K. Dekimpe and P. Penninckx. Topological Methods in Nonlinear Analysis, 34, p. 353-373. Published version; Working paper.
- 57. "Nonparametric tests of collectively rational consumption behavior: an integer programming procedure" (2008), with L. Cherchye, J. Sabbe and F. Vermeulen, *Journal of Econometrics*, 147, p. 258-265.

 Published version; Working paper.
- 58. "Analyzing cost efficient behavior under economies of scope: a nonparametric methodology" (2008), with L. Cherchye and F. Vermeulen, *Operations Research*, 56, p. 204-221. Published version; Working paper.
- 59. "The Collective Model of Household Consumption: A nonparametric characterization" (2007), with L. Cherchye and F. Vermeulen, *Econometrica*, 75, p. 553-574. Published version; Working paper.
- 60. "The Anosov theorem for infra-nilmanifolds with cyclic holonomy group" (2007), with K. Dekimpe and W. Malfait, *Pacific Journal of Mathematics*, 229, p. 137-160. Published version; Working paper.
- 61. "The Anosov relation for Nielsen numbers of maps of infra-nilmanifolds" (2007), with K. Dekimpe and W. Malfait, *Monatshefte fur Mathematik*, 150, p. 1-10. Published version; Working paper.
- 62. "The Anosov theorem for infra-nilmanifolds with an odd order abelian holonomy group" (2006), with K. Dekimpe and H. Pouseele, Fixed Point Theory and Applications, article ID 63939, p. 1-12.

 Published version; Working paper.
- 63. "The Nielsen numbers of Anosov diffeomorphisms on flat Riemannian manifolds" (2005), with K. Dekimpe and W. Malfait, *Forum Mathematicum*, 17, p. 325-341. Published version; Working paper.
- 64. "The Anosov theorem for flat generalized Hantzsche-Wendt manifolds" (2004), with K. Dekimpe and W. Malfait, J. of Geometry and Physics 52, p. 174-185. Published version; Working paper.

Recent working papers

- "Productive efficiency analysis with incomplete output information" (2022) with L. Cherchye, D. Saelens and M. Verschelde.
 Working paper.
- 2. "Poor and wealthy hand-to-mouth households in Belgium" (2022) with L. Cherchye, T. Demuynck, M. De Sola Perea, M. Kovaleva and G. Minne.
- 3. "Performance analysis with unobserved inputs: An application to endogenous automation in railway traffic management" (2022) with L. Cherchye, B. Roets, D. Saelens and M. Verschelde.

 Working paper.
- 4. "Structural identification of productivity under biased technological change" (2021) with L. Cherchye, T. Demuynck, C. Duprez, G. Magerman and M. Verschelde. This is a substantial revision of an earlier paper that circulated under the title "Nonparametric production analysis with unobserved heteorgeneity in productivity" (National Bank of Belgium working paper 335). Working paper.
- 5. "Economics and family structures" (2021) with T. Baudin and P. Gobbi. Working paper.
- 6. "Stable marriage, household consumption and unobserved marital surplus" (2021) with M. Browning, L. Cherchye, T. Demuynck and F. Vermeulen. This paper integrates Ecares working paper 2017-30 "Stable marriage with and without transferable utility: nonparametric testable implications" (2017). Working paper; Online Appendix.
- "Feed the children" (2021) with L. Cherchye, P.-A. Chiappori, C. Ringdal and F. Vermeulen.
 Working paper.
- 8. "A DEA-based approach to customer value analysis" (2021), with L. Cherchye, B. Dierynck, P. J. Kerstens and F. Roodhooft.

 Working paper.
- 9. "Time use and life satisfaction within couples: A gender analysis for Belgium" (2021), with G. Perilleux.

 Working paper.
- "Are consumers rational? Shifting the burden of proof" (2020), with L. Cherchye, T. Demuynck and J. Lanier.
 Working paper.
- "Identifying financial constraints" (2020), with L. Cherchye, A. Ferrando, K. Mulier and M. Verschelde.
 Working paper, also appeared as ECB paper.

Books

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