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Curriculum Vitae: Otto Toivanen

Professor Otto Toivanen
Department of Economics, Aalto University School of Business
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ORCID: 0000-0003-4857-7733
Nationality: Finnish
Born: 3 October 1965, Turku, Finland
Marital status: Married, three children

EDUCATION

1995 Ph.D. Economics, University of Warwick
1993 Lic. Sc. Economics, Turku School of Economics and Business Administration
1990 M.Sc. Economics, Turku School of Economics and Business Administration

PROFESSIONAL EXPERIENCE

2025– Aalto Distinguished Professor, Aalto University
2017– Professor, Department of Economics, Aalto University School of Business
2018–2025 Academic Director, Helsinki Graduate School of Economics
2010–2016 Professor, Department of Managerial Economics, Strategy and Innovation, KU Leuven
2004–2010 Director, Helsinki Center of Economic Research, University of Helsinki, and Finnish Doctoral Programme in Economics
2003–2004 Professor of Technology Management and Policy, Helsinki School of Economics
1999–2003 Acting Professor of Technology Management and Policy, Helsinki School of Economics
1998–2003 Assistant Professor of Economics, Helsinki School of Economics
1997–1999 Senior Research Fellow, Academy of Finland and Helsinki School of Economics
1994–1997 Research Fellow, Warwick Business School

VISITING POSITIONS

2018–2020 Visiting Professor, Department of Economics, KU Leuven
2016–2018 Visiting Professor, Department of Managerial Economics, Strategy and Innovation, KU Leuven
2015–2017 Visiting Professor, Department of Economics, Aalto University School of Business
2003–2004 Visiting Scholar, Department of Economics, University of California, Berkeley
1999 Visiting Fellow, National Bureau of Economic Research
1998–1999 Visiting Scholar, Department of Economics, Massachusetts Institute of Technology

OTHER ACADEMIC POSITIONS

3/2020–12/2021 Director, Helsinki GSE Situation Room
2017– MaCCI Research Associate
2013– ZEW Research Associate
2011–2016 Bank of Finland Research Fellow
2009– CEPR Research Fellow
2002– Associate/Senior Research Fellow, Research Institute of the Finnish Economy
2001– Docent, Turku School of Economics and Business Administration
1997– Research Fellow, Warwick Business School, University of Warwick

TEACHING

Ph.D.: Empirical Industrial Organization; Applied Microeconometrics; Microeconometrics.
M.Sc.: Economics of Technological Innovation; Microeconomics of Banking; Economics of Network Industries; Network Economics and Digital Markets.
B.A.: Economics of Strategy/Industrial Organization; Management of Technology; Managerial Economics; Econometrics.

PUBLICATIONS AND RESEARCH

A. Articles in Refereed Journals

1. Tuomas Takalo, O. Toivanen and Tanja Wahlberg. 2026. Welfare effects of R&D support policies. *RAND Journal of Economics*, forthcoming.
2. Philippe Aghion, Ufuk Akcigit, Ari Hyytinen and O. Toivanen. 2024. A year older, a year wiser and farther from frontier: Invention rents and human capital depreciation. *The Review of Economics and Statistics*, 106(4), 974–982.
3. Philippe Aghion, Ufuk Akcigit, Ari Hyytinen and Otto Toivanen. 2023. Parental education and invention: The Finnish enigma. *International Economic Review*, 64(2), 453–490.
4. Yossi Spiegel and O. Toivanen. 2022. From conference submissions to publication and citations: Evidence from the EARIE conference. *International Journal of Industrial Organization*, 84.
5. Norman Maier, Julie Runge Jørgensen, Asger Lunde and O. Toivanen. 2021. Ex-post analysis of the TeliaSonera–Chess 2005 merger. *De Economist*, 169(2), 141–178.
6. A. Hyytinen, Pekka Ilmakunnas, Edvard Johansson and O. Toivanen. 2019. Heritability of lifetime earnings. *The Journal of Economic Inequality*, 17, 319–335.
7. A. Hyytinen, Frode Steen and O. Toivanen. 2019. Anatomy of cartel contracts. *Economic Journal*, 129(621), 2155–2191.
8. A. Hyytinen, F. Steen and O. Toivanen. 2018. Cartels uncovered. *American Economic Journal: Microeconomics*, 10(4), 190–222.
9. A. Hyytinen, Jaakko Meriläinen, Tuukka Saarimaa, O. Toivanen and Janne Tukiainen. 2018. When does regression discontinuity design work? Evidence from random election outcomes. *Quantitative Economics*, 9(2).
10. Ari Hyytinen, Sofia Lundberg and O. Toivanen. 2018. Design of public procurement auctions: Evidence from cleaning contracts. *RAND Journal of Economics*, 49(2), 398–426.
11. A. Hyytinen, J. Meriläinen, T. Saarimaa, O. Toivanen and J. Tukiainen. 2018. Public employees as politicians: Evidence from close elections. *American Political Science Review*, 112(1), 68–81.
12. O. Toivanen and Lotta Väänänen. 2016. Education and invention. *The Review of Economics and Statistics*, 98(2), 382–396.
13. Maija Gao, A. Hyytinen and O. Toivanen. 2014. Problems in launching the mobile internet: Evidence from a pricing experiment. *Journal of Economics and Management Strategy*, 23(3), 483–506.
14. T. Takalo, T. Tanayama and O. Toivanen. 2013. Market failures and the additionality effects of public support to private R&D: Theory and empirical implications. *International Journal of Industrial Organization*, 31, 634–642.
15. T. Takalo, T. Tanayama and O. Toivanen. 2013. Estimating the benefits of targeted R&D subsidies. *The Review of Economics and Statistics*, 95(1), 255–272.
16. A. Hyytinen, P. Ilmakunnas and O. Toivanen. 2013. The return-to-entrepreneurship puzzle. *Labour Economics*, 20, 57–67.
17. O. Toivanen and L. Väänänen. 2012. Returns to inventors. *The Review of Economics and Statistics*, 94(4), 1173–1190.
18. T. Takalo and O. Toivanen. 2012. Entrepreneurship, financiership, and selection. *Scandinavian Journal of Economics*, 114(2), 601–628.
19. A. Hyytinen and O. Toivanen. 2011. Income inequality and technology diffusion: Evidence from

developing countries. *Scandinavian Journal of Economics*, 113(2), 364–387.

20. A. Hyytinen and O. Toivanen. 2005. Do financial constraints hold back innovation and growth? Evidence on the role of public policy. *Research Policy*, 34(9), 1385–1403.
21. O. Toivanen and Michael Waterson. 2005. Market structure and entry: Where's the beef? *RAND Journal of Economics*, 36(3), 680–699.
22. Jukka Liikanen, Paul Stoneman and O. Toivanen. 2004. Intergenerational effects in the diffusion of new technology: The case of mobile phones. *International Journal of Industrial Organization*, 22(8–9), 1137–1154.
23. A. Hyytinen and O. Toivanen. 2004. Monitoring and market power in credit markets. *International Journal of Industrial Organization*, 22(2), 269–288.
24. A. Hyytinen and O. Toivanen. 2004. Vertical differentiation, asymmetric information and endogenous bank screening. *B.E. Journals in Economics: Topics in Theoretical Economics*, 4(1), Article 5. Link.
25. A. Hyytinen and O. Toivanen. 2003. Asymmetric information and the market structure in the venture capital industry. *Journal of Financial Services Research*, 23(3), 241–249.
26. O. Toivanen, P. Stoneman and Derek Bosworth. 2002. Innovation and the market value of UK firms, 1989–1995. *Oxford Bulletin of Economics and Statistics*, 64(1), 39–62.
27. Robert Cressy and O. Toivanen. 2001. Is there adverse selection in the credit market? *Venture Capital: An International Journal of Entrepreneurial Finance*, 3(3), 215–238.
28. P. Stoneman and O. Toivanen. 2001. The impact of revised recommended accounting practices on R&D reporting by UK firms. *International Journal of the Economics of Business*, 8(1), 123–136.
29. O. Toivanen and M. Waterson. 2000. Empirical research on discrete choice game-theoretic models of entry: An illustration. *European Economic Review, Papers and Proceedings*, 44(4–6), 985–992. Reprinted in Joskow, P. and Waterson, M., eds., *Empirical Industrial Organization*, vol. 1, 2004, 107–114, Edward Elgar.
30. O. Toivanen and P. Stoneman. 1998. Dynamics of R&D and investment: UK evidence. *Economics Letters*, 58, 119–126.
31. O. Toivanen. 1997. Economies of scale and scope in the Finnish non-life insurance industry. *Journal of Banking and Finance*, 21, 759–779.
32. P. Stoneman and O. Toivanen. 1997. Diffusion of multiple technologies: An empirical study. *Economics of Innovation and New Technology*, 5, 1–17.

B. Books

- Paul Diederen, P. Stoneman, O. Toivanen and Arjan Wolters. 1999. *Innovation and Research Policies: An International Comparative Analysis*. Edward Elgar Publishing.

C. Chapters in Books

- Jan Bonhage and O. Toivanen. 2025. Research, development and innovation aid, IPCEI. In P. Werner and V. Verhouden, eds., *EU State Aid Control: Law and Economic*, 2nd ed. Kluwer Law International.
- Richard Blundell, Xavier Jaravel and O. Toivanen. 2023. Inequality and creative destruction. In U. Akcigit and J. van Reenen, eds., *Economics of Creative Destruction: New Research on Themes from Aghion and Howitt*. Harvard University Press.
- O. Toivanen. 2011. Innovation policy, entrepreneurship, and development: A Finnish view. In M. Goedhuys, W. Naudé and E. Szirmai, eds., *Innovation, Entrepreneurship and Development*. Oxford University Press.
- P. Stoneman and O. Toivanen. 2007. Technological diffusion under uncertainty: A real options model applied to the international diffusion of robot technology. In C. Antonelli, D. Foray, E. Steinmuller and P. Swann, eds., *New Frontiers in the Economics of Innovation: Essays in Honour of Paul David*. Edward Elgar.

- O. Toivanen, P. Stoneman and P. Diederen. 1999. Uncertainty, macroeconomic volatility and investment in new technology. In C. Driver and P. Temple, eds., *Investment, Growth and Employment: Perspectives for Policy.* Routledge.

D. Selected Other Publications

- P. Aghion, U. Akcigit, A. Hyytinen and O. Toivanen. 2018. On the returns to invention within firms: Evidence from Finland. *American Economic Association Papers and Proceedings*, 108, 208–212.
- T. Takalo and O. Toivanen. 2015. Economics of innovation policy. *Nordic Economic Policy Review*, 2, 65–90.
- A. Hyytinen and O. Toivanen. 2011. Kartellivahinkojen arviointi. *Kilpailuoikeudellinen vuosikirja.*
- A. Hyytinen and O. Toivanen. 2010. Kilpailunrajoitukset Suomessa 1958–1992. *Kansantaloudellinen aikakauskirja*, 2, 127–140.
- O. Toivanen, Reinhilde Veugelers and T. Tanayama. 2009. Education, research and the economy. In *Evaluation of the Finnish National Innovation System – Full Report.* Taloustieto/Ministry of Education and Ministry of Employment and Industry.
- O. Toivanen. 2008. National innovation policy in an international world – perspectives from Finland. In M. Squiccarini and T. Loikkanen, eds., *Going Global: The Challenges for Knowledge-Based Economies.* Publications of the Ministry of Employment and the Economy, Innovation 20/2008.
- Luke Georghiou, Keith Smith, O. Toivanen and Pekka Ylä-Anttila. 2003. *Evaluation of the Finnish Innovation Support System.* Ministry of Trade and Industry Publications 5/2003.

OTHER ACADEMIC ACTIVITIES

Positions of Trust

- Lead Academic Researcher, Economic study on the dynamic effects of mergers, DG Competition, European Commission, 2025–2026.
- Member, evaluation of Bergen Centre for Competition Law and Economics, 2024.
- Member, evaluation of the Department of Economics, Århus University, 2024.
- Member, Advisory Board of Statistics Finland, 2023–.
- Member, Board of Association of Competition Economics, 2023–2025.
- Member, Steering Committee, VATT Dataroom, 2023–.
- Member, Steering Group, Nordic Microdata Database, 2022–.
- Member, Board of Centre for Competition Economics, 2022–.
- Member, evaluations of the Departments of Economics at NHH Bergen and European University Institute, 2022.
- Member, Program Committee, International Industrial Organization Conference, 2020–2021.
- Member, Research Council of European University Institute, 2018–2022.
- Member, Steering Committee, Nordic Initiative for Corporate Economics, 2017–.
- Chair, Scientific Council of VATT Institute for Economic Research, 2016–2024.
- Member, Scientific Committee, TILEC Conference on Competition, Standardization and Innovation, 2015–2017.
- Member, Organization Committee, CEPR Conference on Moving to the Innovation Frontier, 2015.
- Member, Scientific Committee, ZEW/Mannheim Conference on Economics of Innovation and Patenting, 2015–.
- Member, European Research Council, Panel for Consolidator Grants, 2014, 2016, 2018, 2020.
- Member, Organization Committee, CEPR and Bank of Finland Conference on Entrepreneurial Finance, Innovation and Growth, 2014.
- Member, Expert Group for Programme Monitoring and Evaluation, European Research Council, 2014–2015.
- Member, Economic Advisory Group on Competition Policy, European Commission, DG Competition,

2014–2020.
- Member, Evaluation Group for Economics Research Proposals, Yrjö Jahnsson Foundation, 2010–2015.
- Chair, Scientific Committee, EARIE, 2010.
- Member, Scientific Council of VATT Institute for Economic Research, 2010–2012.
- Member, Scientific Council of Statistics Finland, 2007–2011.
- Member, Economic Council of the Finnish Ministry of Finance, 2005–2010.
- Member, Scientific Council of the Research Institute of the Finnish Economy, 2005–2010.
- Member, Organization Committee, CEPR Conference on Industrial Economics, 2005–2016.
- Member, Scientific Committee of EARIE, 2004–2023; ESEM 2008, 2009; EEA 2001.
- Member, Executive Committee of EARIE, 2003–2009.
- Member, Local Organization Committee, EARIE 2003, Helsinki.

Memberships in Academic Societies

- Finnish Academy of Science and Letters, 2020–.

Editorial Service

- Associate Editor, *Journal of European Economic Association*, 2022–.
- Associate Editor, *International Journal of Industrial Organization*, 2017–.
- Editor, *Kansantaloudellinen Aikakauskirja* / Finnish Economic Journal, 2005–2010.
- Associate Editor, *Journal of Industrial Economics*, 2004–2009.
- Editor, *Finnish Economic Papers*, 2005–2006.
- Associate Editor, *Finnish Economic Papers*, 2002–2005.

Prizes

Jaakko Honko Medal, 2025, OP Group Research Foundation Prize, 2020, Aalto Education Impact Award, 2020, Societal Impact Award of HSE Support Foundation, 2020.

Evaluation of Research Proposals and Refereeing

NSF, EU FP7, ESRC, ERC, Riksbank Foundation, Finnish Cultural Foundation, Sloan Foundation, Yrjö Jahnsson Foundation. Referee for all top journals in economics and many others.

Keynotes and Invited Presentations

Simposio Analisis Economico 2019; Nordic Health Economics Study Group 2017; EARIE 2012; DRUID 2012; EEA 1999.

Other Professional Service

Examiner and/or pre-examiner on more than 10 Ph.D. theses, including Helsinki University of Technology, Uppsala University, NHH Bergen, Helsinki School of Economics, Åbo Akademi University, University of Helsinki, KU Leuven, University of Vaasa, Tor Vergata and Stockholm School of Economics.

PH.D. STUDENTS

2026 Antto Jokelainen, Aalto University School of Business; (first placement: Geradin Partners).
Milla Hägg, University of Helsinki; (University of Vienna).
2025 Tuomas Markkula, Aalto University School of Business; (University of Hamburg).
Amin Mohazab, Aalto University School of Business; (Nordea).
Jan Jääskeläinen, Aalto University School of Business; (FCCA).
Jaakko Markkanen, Aalto University School of Business; (Etla).
2022 Alexis Stevenson, Hanken School of Economics.
Timo Autio, Aalto University School of Business; (CompassLexecon).
2019 Markku Siikanen, Aalto University School of Business; (VATT Institute for Economic Research).
2018 Wytse Joosten, KU Leuven; (ECOOM, KU Leuven).
Min Zhu, University of Helsinki; (University of Trento).
Johannes Bersch, KU Leuven; (ZEW).
2016 Hendrik Meder, KU Leuven; (CRA).
Hanna Virtanen, Aalto University School of Business; (Etla).
2015 Uli Laitenberger, KU Leuven; (ZEW).
Mila Köhler, KU Leuven; (ZEW).
2014 Nelli Valmari, Aalto University School of Business; (Etla).
Anni Heikkilä, Aalto University School of Business; (Sanoma).
Tanja Saxell, University of Helsinki; (VATT).
2011 Torsten Santavirta, Aalto University School of Business; (University of Stockholm).
Valtteri Ahti, University of Helsinki; (AIM Capital).
2010 Lotta Väänänen, Helsinki School of Economics; winner of Aalto University School of Business dissertation award; (University of Mannheim).
2009 Anni-Maria Pulkki-Brannström, Warwick Business School; (UCL Centre for International Health and Development).
Khondker Aktaruzzaman, University of Helsinki; (University of Helsinki and HECER).
Charlotta Grönqvist, Hanken; (Bank of Finland).
2008 Janne Tukiainen, University of Helsinki; (VATT and HECER).
2007 Tanja Tanayama, Helsinki School of Economics; (HECER).
Mikko Mäkinen, Helsinki School of Economics; (Etla).
2006 Xavier Carpentier, Helsinki School of Economics; (Nokia).
2000 Ari Hyytinen, Helsinki School of Economics; winner of HSE/Aalto University School of Business dissertation award; (Etla).

NON-ACADEMIC ACTIVITIES

- Public sector consulting: Finnish Technology Agency / Tekes; Finnish Economic Policy Council; Ministry of Trade and Industry / Ministry of Employment and Industry; Ministry of Social Affairs and Health; European Commission DG Industry and Enterprise, DG Economics and Finance, DG Competition; European Investment Bank.
- Private sector consulting on competition cases and pricing.

MAJOR RESEARCH GRANTS SINCE 2008

2021 EUR 130,000. "Women in science and technology: career impediments and the child penalty" / "Kvinnor inom vetenskap och teknik: karriärhinder och kostnader för barn". PI. FORTE grant no. 2021-01552_3, with O. Ejermo, K. Hoisl, A. Hyytinen, M. Mariani, H.C. Kongsted and V. Tartari.

2021 EUR 900,000. "Enhancing competition and efficiency in public procurement", with Ari Hyytinen, Kirsi-Maria Halonen and Janne Tukiainen. Academy of Finland.

2020 EUR 200,000. "What costs in pharmaceuticals?", with Markku Siikanen, Oskari Nokso-Koivisto, Tanja Saxell and Nelli Valmari. VN-TEAS.

2020 EUR 150,000. "Competition and regulation in the Nordic pharmaceutical markets", with Oskari Nokso-Koivisto, Mika Kortelainen and Tanja Saxell. Social Insurance Foundation of Finland / Kela.

2019 EUR 513,000. "Competition and provider incentives in health care markets", with Kaisa Kotakorpi and Mika Kortelainen. Academy of Finland.

2017 EUR 200,000. "Pharmaceutical prices, entry into pharmaceutical markets, and regulation", with Oskari Nokso-Koivisto, Mika Kortelainen and Tanja Saxell. Social Insurance Foundation of Finland / Kela.

2012 EUR 1.7 million. SIMPATIC, "Social Impact Policy Analysis of Technological Innovation Challenges", with Reinhilde Veugelers and Paul Zagame. EU FP7.

2008 EUR 400,000. "Economic studies using twin data", with Ari Hyytinen and Pekka Ilmakunnas. Academy of Finland.

2008 EUR 200,000. "Economics of public procurement", with Ari Hyytinen and Janne Tukiainen. Eemil Aaltonen Foundation.

Total value of major research grants prior to 2005: approximately EUR 1,000,000. Several smaller grants.