

NIVEN WINCHESTER
CURRICULUM VITAE

Joint Program on the Science and Policy of Global Change
Massachusetts Institute of Technology
77 Massachusetts Ave, E19-439L
Cambridge, MA 02139, USA

Telephone: + 1 617 253 6958

Email: niven@mit.edu

Citizenship: New Zealand, Australia, United Kingdom (U.S. permanent resident)

Home page: http://globalchange.mit.edu/about/our-people/personnel/all_id/180

EMPLOYMENT

Principal Research Scientist, Joint Program on the Science and Policy of Global Change,
Massachusetts Institute of Technology, 2016-present

Senior Fellow, Motu Economic and Public Policy Research, 2018-present

Associate Principal, Vivid Economics, 2017-present

Environmental Energy Economist, Joint Program on the Science and Policy of Global Change,
Massachusetts Institute of Technology, 2011-2015

Visiting Scientist, Joint Program on the Science and Policy of Global Change, Massachusetts Institute
of Technology, 2009-2011

Senior Lecturer, Department of Economics, University of Otago, 2008-2012

Lecturer, Department of Economics, University of Otago, 2002-2007

EDUCATION

Ph.D, Economics, University of Nottingham, 2002

Advisors: David Greenaway & Geoffrey Reed

Dissertation title: Trade, technology and rising wage inequality: A computable general equilibrium
analysis

M.Ec, Economics, Australian National University, 1997

B.Com (Hons I), Economics, University of Otago, 1996

RESEARCH INTERESTS

Environmental economics, energy economics, international trade, applied general equilibrium
modeling, sports economics

SABBATICAL VISITS

University of Nottingham (2007), University of Colorado at Boulder (2007), New Zealand Ministry of
Foreign Affairs and Trade (2007)

AWARDS AND HONOURS

Global Trade Analysis Project Research Fellow, 2013-2016 & 2017-2020

University of Otago School of Business Dean's Emerging Researcher Scholarship, 2007

University of Otago School of Business Emerging Researcher Award, 2007

RESEARCH GRANTS

General Motors, Principal Investigator, “The impact of climate policy in South Korea”, 2016-2017 (\$250,000)

Tata Center for Technology and Design, Principal Investigator, “Low carbon development pathways for India”, 2016-2017 (\$50,000)

BP, Principal investigator, “The commercial potential of biofuels in a resource constrained world”, 2012-2016 (\$1.6 million)

US Federal Aviation Administration, Co-investigator, “The sustainability of alternative fuels for aviation”, 2012-2013 (\$680,000)

US Federal Aviation Administration, Principal investigator, “The impact of short-term aviation biofuel goals”, 2012 (\$100,000)

US Federal Aviation Association, Co-investigator, “The relationship between aviation and the broader economy”, 2009-2012 (\$1.1 million)

New Zealand Foundation for Research, Science and Technology, Co-investigator, “Tourism and aviation: Critical linkages”, 2009-2012 (\$805,000)

EU Seventh Framework Programme, Co-investigator, “The impact of non-tariff measures on agri-food trade”, 2009-2011 (€2.4 million)

University of Otago Research Grant, Principal investigator, “Trade and rising wage inequality”, 2004 (\$20,000)

University of Otago School of Business Research Grant, Principal investigator, “The impact of trade liberalization on New Zealand”, 2004 (\$5,000)

PUBLICATIONS & PAPERS

Journal Articles [Australian Business Deans Council quality score] †

1. Winchester, N. (2018). Can tariffs be used to enforce Paris climate commitments? *World Economy*, <https://doi.org/10.1111/twec.12679>. [A]
2. Zhang, D., J. Caron, and N. Winchester (2018). Sectoral aggregation bias in the accounting of energy and emissions embodied in trade and consumption, *Journal of Industrial Ecology*, <https://doi.org/10.1111/jiec.12734>. [A]
3. Winchester, N., K. Ledvina, K. Strzepek, J.M. Reilly (2018). The impact of water scarcity on food, bioenergy and deforestation, *Australian Journal of Agricultural and Resource Economics*, 62 (3), 327-351. [A]
4. Ledvina, K, N. Winchester, K. Strzepek, and J.M. Reilly (2018). New data for representing irrigated agriculture in economy-wide models, *Journal of Global Economic Analysis*, 3(1), 122-155.
5. Winchester, N. and K. Ledvina (2017). The impact of oil prices on bioenergy, emissions and land use, *Energy Economics*, 65, 219-227. [A*]
6. Zhang, X., N. Winchester, and X. Zhang (2017). The future of coal in China, *Energy Policy*, 110, 644-652. [A]
7. Winchester, N. (2017). Is it time to shake up Nation Football League standings? *International Journal of Sports Finance*, 12, 32-48.

† Where possible, journals are classified according to the 2016 Australian Business Deans Council quality list. Journals not included in this list are rated using the 2010 Excellence in Research for Australia journal classifications. Journals not included in either list are unrated.

8. Gavard, C., Winchester, N. and S. Paltsev (2016). Limited trading of emissions permits as a climate cooperation mechanism? US-China and EU-China Examples, *Energy Economics*, 58, 95-104. [A*]
9. Qi, T., N. Winchester, D. Zhang, X. Zhang and V.J. Karplus (2016). An analysis of China's climate policy using the China-in-Global Energy Model, *Economic Modeling*, 52(B), 650-660. [A]
10. Winchester, N. and J.M. Reilly (2015). The feasibility, costs, and environmental implications of large-scale biomass energy, *Energy Economics*, 51, 188-203. [A*]
11. Lenten, L. and N. Winchester (2015). Secondary Behavioural incentives: bonus points and rugby professionals, *Economic Record*, 91, 386-398. [A]
12. Winchester, N., R. Malina, M. Staples and S.R.H. Barrett (2015). The impact of advanced biofuels on aviation emissions and operations in the United States, *Energy Economics*, 49, 482-491. [A*]
13. Caron, J., S. Rausch and N. Winchester (2015). Leakage from subnational climate initiatives: The case of California, *The Energy Journal*, 36(2), 167-190. [A]
14. Qi, T., N. Winchester, V.J. Karplus and X. Zhang (2014). Will economic restructuring in China reduce trade-embodied CO₂ emissions? *Energy Economics*, 42, 204-212. [A*]
15. Owen, D. and N. Winchester (2014). The impact of US fresh milk production standards on dairy trade, *Journal of Policy Modeling*, 36(6), 1008-1021. [A]
16. Winchester, N. (2014). Should bonus points be included in the Six Nations Championship? *New Zealand Economic Papers*, 48(1), 96-101. [B]
17. Winchester, N., D. McConnachie, C. Wollersheim, and I.A. Waitz (2013). Economic and emissions impacts of renewable fuel goals for aviation in the US, *Transportation Research Part A: Policy and Practice*, 58, 116-128. [A*]
18. Winchester, N. and S. Rausch (2013). A numerical investigation of the potential for negative emissions leakage, *American Economic Review Papers and Proceedings*, 103(3), 320-325. [A*]
19. Blanc, É. and N. Winchester (2013). The impact of the EU Emissions Trading System on air passenger arrivals in the Caribbean, *Journal of Travel Research*, 52(3), 353-363. [A*]
20. Winchester, N., C. Wollersheim, R. Clewlow, N.C. Jost, S. Paltsev, J.M. Reilly and I.A. Waitz (2013). The impact of climate policy on US aviation, *Journal of Transport Economics and Policy*, 47(1), 1-15. [A]
21. Winchester, N. and R. Stefani (2013). An innovative approach to National Football League standings using bonus points, *Applied Economics*, 45(1), 123-134. [A]
22. Winchester, N. (2012). The impact of border carbon adjustments under alternative producer responses, *American Journal of Agricultural Economics*, 94(2), 354-359. [A*]
23. Winchester N., *et al.* (2012). The impact of regulatory heterogeneity on agri-food trade, *World Economy*, 35(8), 973-993. [A]
24. Malina, R., D. McConnachie, N. Winchester, C. Wollersheim, S. Paltsev and I.A. Waitz (2012). The impact of the European Emissions Trading System on US aviation, *Journal of Air Transport Management*, 19, 36-41. [B]
25. Zaks, D.P.M., N. Winchester, C.J. Kucharik, C.C. Barford, S. Paltsev, and J.M. Reilly (2011). Contribution of anaerobic digesters to emissions mitigation under US climate policy, *Environmental Science and Technology*, 45(16), 6735-6742. [A*]
26. Winchester, N., S. Paltsev and J.M. Reilly (2011). Will border carbon adjustments work? *The B.E. Journal of Economic Analysis & Policy*, 11(1) (Topics), Article 7. [A]
27. Duval, D.T. and N. Winchester (2011). Cost-sharing in air service provision, *Journal of Air Law and Commerce*, 76, 77-96. [A]

28. Gavard, C., N. Winchester, H.D. Jacoby and S. Paltsev (2011). What to expect from sectoral trading: A US-China example, *Climate Change Economics*, 2(1), 9-26. [B]
29. Paltsev, S. et al. (2011). The future of US natural gas production, use, and trade. *Energy Policy*, 39(9), 5309-5321. [A]
30. Lenten, L.J.A. and N. Winchester (2010). Optimal bonus points in the Australian Football League, *Economic Papers*, 29(4), 407-420. [B]
31. Ballingall, J. and N. Winchester (2010). Food miles: Starving the poor? *World Economy*, 33(10), 1201-1217. [A]
32. Charteris, G. and N. Winchester (2010). Dairy disaggregation and joint production in an economy-wide model, *Australian Journal of Agricultural and Resource Economics*, 54(4), 491-507. [A]
33. Winchester, N., S. Paltsev, J. Morris and J.M. Reilly (2010). Costs of mitigating climate change in the United States, *Annual Review of Resource Economics*, 2, 257-273. [A]
34. Winchester, N. (2009). Is there a dirty little secret? NTBs and the gains from trade, *Journal of Policy Modeling*, 31(6), 819-834. [B]
35. Winchester, N. (2008). Searching for the smoking gun: Did trade hurt unskilled workers? *Economic Record*, 84, 141-156. [A]
36. Winchester, N. (2008). Shifting the 'goal posts': Optimizing the allocation of competition points for sporting contests, *Journal of Quantitative Analysis in Sports*, 4(4), ISSN (Online) 1559-0410, DOI: 10.2202/1559-0410.1119.
37. Winchester, N. and D. Greenaway (2007). Rising wage inequality and capital-skill complementarity, *Journal of Policy Modeling*, 29(1), 41-54. [A]
38. Winchester, N. (2006). A classroom tariff setting game, *Journal of Economic Education*, 37(4), 431-441.[B]
39. Winchester, N., D. Greenaway and G.V. Reed (2006). Skill classification and the effect of trade on wage inequality, *Review of World Economics/Weltwirtschaftliches Archiv*, 142(2), 287-306. [B]
40. Winchester, N. (2006). Liberating Middle Earth: How will changes in the global trading system affect New Zealand? *New Zealand Economic Papers*, 40(1), 45-79. [B]

Book Chapters

41. Winchester, N. (2008). Trade and rising wage inequality: What can we learn from a decade of computable general equilibrium analysis? In: D. Greenaway, R. Upward and P. Wright (eds), *Globalisation and Labour and Market Adjustment*, Palgrave Macmillan, Basingstoke, pp. 54-72.
42. Richardson, M. and N. Winchester (2008). More (or less) on necessarily welfare-enhancing free trade areas, In N. Van Long, M. Tawada and B. Tran-Nam Atax (eds), *Globalization and Emerging Issues in Trade Theory and Policy, Frontiers of Economics and Globalization*, Volume 5, Emerald: Bingley, pp. 121-138.
43. Winchester N. and M. Richardson (2005). ANZUS free trade agreements: Results from a global model, In S. Jayasuriya (ed.), *Trade Policy Reforms: Papers in Honour of Professor Peter Lloyd, Volume 1*, Edward Elgar: Northampton, pp. 153-179.

Working Papers (not published elsewhere)

44. Winchester, N. and J.M. Reilly (2018). The economic and emissions benefits of engineered wood products in a low-carbon future, Joint Program on the Science and Policy of Global Change, Report No. 331, Massachusetts Institute of Technology, Cambridge, MA.
(<https://globalchange.mit.edu/publication/17082>)
45. Winchester, N. and J.M. Reilly (2018). The Economic, Energy and emissions impacts of climate policy in South Korea, Joint Program on the Science and Policy of Global Change, Report No. 328,

Massachusetts Institute of Technology, Cambridge, MA.
(<https://globalchange.mit.edu/publication/16975>)

46. Singh, A., N. Winchester, and V.J. Karplus (2017). Evaluating India's climate targets: the implications of economy-wide and sector specific policies, Joint Program on the Science and Policy of Global Change, Report No. 327, Massachusetts Institute of Technology, Cambridge, MA. (<https://globalchange.mit.edu/publication/16924>)
47. Winchester, N. (2017). A Win-win solution to abate aviation CO₂ emissions, Joint Program on the Science and Policy of Global Change, Report No. 318, Massachusetts Institute of Technology, Cambridge, MA. (<https://globalchange.mit.edu/publication/16754>)

Other Publications

48. Ledvina, K. and N. Winchester (2018). The use of quantitative models to assess the impacts of carbon market integration, In J. Ewing (ed.), *Carbon Market Cooperation in Northeast Asia: Assessing Challenges and Overcoming Barriers*, An Asia Society Policy Institute Report, pp. 50-61. (<https://asiasociety.org/sites/default/files/2018-07/Chapter%205.pdf>)
49. Winchester, N. (2016). Scoring points: How statistics helped change a rugby competition, *Significance*, 13(5), 38-41. (<https://rss.onlinelibrary.wiley.com/doi/full/10.1111/j.1740-9713.2016.00965.x>)
50. Winchester, N. (2016). Will England's rugby team redeem itself at the Six Nations Championship? *Significance* Online, February 4. (<https://www.statslife.org.uk/sports/2668-will-the-english-rugby-team-redeem-itself-at-the-six-nations-championships>)
51. Winchester, N. (2015). Who will win the Rugby World Cup? The (semi) final reckoning? *Significance* Online, October 22. (<https://www.statslife.org.uk/sports/2524-who-will-win-the-rugby-world-cup-the-semi-final-reckoning>)
52. Winchester, N. (2015). Who will win the Rugby World Cup? *Significance* Online, September 27. (<http://www.statslife.org.uk/sports/2417-who-will-win-the-rugby-world-cup>)
53. Winchester, N. (2013). Will bonus points improve the Six Nations Championship? *Significance* Online, March 14. (<http://www.statslife.org.uk/sports/457-will-bonus-points-improve-the-six-nations-championship>)
54. Winchester, N. (2012). Review of C. Davidson and S.J. Matusz, International Trade with Equilibrium Unemployment, *Australian Economic History Review*, 52(2), 209-210. [A]
55. Winchester, N. (2007). Rugger Me! Is it time to shift the goal posts? *EcoNZ@Otago*, 19, August, 7-9.
56. Winchester, N. (2007). Food miles: Mistruths and misconceptions, *University of Otago Magazine*, 18, October, 15.
57. Winchester, N. (2007). Kilometres and kiwifruit: Evaluating the food miles debate, *EcoNZ@Otago*, 18, February, 1-3.
58. Winchester, N. (2006). Don't let the sun go down on trade negotiations! *EcoNZ@Otago*, 17, 8-10.
59. Winchester, N. (2005). Liberating Middle Earth: Trade liberalisation and New Zealand, *EcoNZ@Otago*, 14, February, 7-9.
60. Winchester, N. (2004). What's up with the Kiwi Dollar? *University of Otago Magazine*, June, 17.
61. Winchester, N. (2004). Lessons for trade liberalisation from the death of Lee Kyung Hae, *EcoNZ@Otago*, 12, February, 1-3.

REVIEWING FOR JOURNALS

Applied Energy, Australian Economic Papers, Australian Journal of Agricultural and Resource Economics, B.E. Journal of Economic Analysis and Policy, China Economic Review, Climate Change Economics, Climate Policy, Ecological Economics, Economic Record, Energy Economics, Environmental and Resource Economics, Global Environmental Change, International Journal of Sports Finance, International Journal of Sustainable Transportation, Journal of the Association of Environmental and Resource Economics, Journal of Business and Economic Studies, Journal of Environmental Economics and Management, Journal of International Economics, Journal of Quantitative Analysis in Sports, Management Science, Nature Climate Change, New Zealand Economic Papers, Proceedings of the National Academy of Sciences, Production and Operations Management, Resource and Energy Economics, Review of Environmental Economics and Policy, Review of International Economics, Transportation Research Part A: Policy and Practice, Transportation Research Part B: Methodological, World Economy

CONFERENCE ACTIVITIES

Invited Conference/Workshop Presentations

Harvard Kennedy School, Commercializing Second-generation biofuels, Cambridge, MA, November 13-14, 2014.

Shanghai University of International Business and Economics (SUIBE) and Konrad-Adenauer-Stiftung conference on Trade and Climate Change, Shanghai, China, November 23, 2013.

United States Council for International Business Green Economies Dialogue Luncheon Round Table, New York, NY, September 26, 2013.

Energy Modeling Forum Climate Change Impacts and Integrated Assessment, Snowmass, Colorado, July 23-August 3, 2012; July 22-August 2, 2013.

United Nations Fourth Expert Group Meeting on Understanding the Potential Economic Impacts of Climate Change in Latin America and the Caribbean, Port of Spain, Trinidad and Tobago, December 5-6, 2011.

XXXI MIT Global Change Forum: Confronting Domestic and Global Climate Strategies, Unversite Catholiqué de Louvain, Brussels, October 20-22, 2010.

Electricity Policy Research Group (University of Cambridge) & Center for Energy and Environmental Policy (Massachusetts Institute of Technology) Joint Annual Conference, Berlin, July 15-16, 2010.

OECD Expert Workshop on Non-Tariff Measures in Agri-Food Trade, Paris, September 12-14, 2007.

Other Conference Presentations

Conference on Global Economic Analysis (Lübeck, 2005; Addis Ababa, 2006; West Lafayette, IN, 2007; Helsinki, 2008; Penang, 2010; Venice, 2011; Geneva, 2012; Shanghai, 2013; Dakar, 2014; Melbourne, 2015; Washington DC, 2016, West Lafayette, IN, 2017, Cartagena, 2018)

Agricultural and Applied Economics Association Annual Meeting (Pittsburgh, PA, 2011; San Francisco, 2015).

Allied Social Science Associations Annual Meeting (Denver, CO, 2011; Chicago, IL, 2012; San Diego, CA, 2013).

Australasian Trade Workshop (Dunedin, 2006, 2007, 2008 & 2009; Adelaide, 2011; Melbourne, 2013; Perth, 2014, Brisbane 2017).

EcoMod 2004: International Conference on Policy Modeling, Paris, 2004.

International Association of Energy Economists, 38th International Conference, Antalya, Turkey, 2015.

Midwest International Economics Group, Lawrence, KS, Fall, 2005 .

New Zealand Association of Economists Annual Conference (Auckland, 2003; Wellington, 2008).
The Institute of Mathematics and its Applications, 2nd International Conference in Mathematics in Sport, Groningen, 2009.
Western Economic Association 86th Annual Conference, San Francisco, CA, 2012.

INVITED SEMINAR PRESENTATIONS

European Commission Institute for Prospective Technological Studies (2015 & 2018), ETH (Swiss Federal Institute of Technology) Zürich (2012 & 2017), Iowa State University (2015), European Commission Institute for Prospective Technological Studies (2015), Colorado College (2014), University of Colorado at Colorado Springs (2014), Purdue University (2014), ETH (Swiss Federal Institute of Technology) Zürich (2012), University of Colorado at Boulder (2007 & 2012), Syracuse University (2011), Massachusetts Institute of Technology (2009, 2010, 2011 & 2012), University of Western Australia (2010), University of Auckland (2009), Australian National University (2009), University of New South Wales (2009), La Trobe University (2007), University of Nottingham (2007), University of Wyoming (2007), University of Canterbury (2005), New Zealand Treasury (2005), New Zealand Ministry of Foreign Affairs and Trade (2005), Victoria University of Wellington (2004), University of Otago (2003, 2004, 2005, 2008 & 2013)

COURSES TAUGHT (University of Otago)

Principles of microeconomics
Principles of macroeconomics
International economics
International trade theory
Microeconomic theory
Advanced topics in microeconomics
Econometrics

GRADUATE STUDENT SUPERVISION

Singh, A. “Low carbon development pathways for India,” Master of Science, Massachusetts Institute of Technology, 2016-2017 (Awarded the best master’s thesis in the Technology & Public Policy Program for the 2016-17 academic year)
Koska, O. “Joint ventures versus greenfield investment,” Doctor of Philosophy, University of Otago, 2006-2010
Ryan, D. “The winners and losers from trade liberalisation in the South Pacific,” Master of International Studies, University of Otago, 2003-2004
Lau, E., “The economic impact of the Closer Economic Partnership Agreement on Hong Kong,” Master of International Studies, University of Otago, 2003-2004

CONSULTING

Vivid Economics, 2016 & 2017, 2018
New Zealand Institute of Economic Research, 2009
Japan External Trade Organisation, New Zealand, 2008 & 2009
PricewaterhouseCoopers, New Zealand, 2007-2008
New Zealand Institute, 2007-2008

New Zealand Ministry of Foreign Affairs and Trade, 2005-2008

New Zealand Totalisator Agency Board, 2003 & 2005

Centrebet, Australia, 2003

MEDIA COMMENTARIES & APPEARANCES

Australian Financial Review, Bloomberg Businessweek, Boursorama, ESPN Radio St. Louis, Channel 9 News, China Economic Review, Fox Sports, Forex Report Daily, Herald Sun, JOE.co.uk, Le Rugby Nistere, Management Magazine, Manuwatu Standard, National Business Review, New Zealand Dairy Exporter, New Zealand Farmers Weekly, Newstalk ZB, Otago Bulletin, Otago Daily Times, Perth Now, Radio New Zealand National, RadioLive, Rural Delivery, The Australian, The Courier-Mail, The Daily Telegraph, The Economist, The Independent Business Weekly, The New Zealand Herald, The Press, The Roar, The Seattle Times, Timaru Herald, TV3 News, TVNZ News, Waikato Times

SERVICE

Founding Co-Editor, *Journal of Global Economic Analysis*, 2015 – present

Program Committee Member, 20th Annual Conference on Global Economic Analysis, Purdue University, 2017

Expert judge, BHP Billiton Health, Safety, Environment and Community Awards, 2013

Scientific proposal reviewer, Oak Ridge Associated Universities, 2013 & 2015

Expert interview, Science and Technology Policy Institute, 2013

Submission reviewer, Conference on Global Economic Analysis (2010, 2011, 2012, 2013 & 2014)

Expert reviewer for the Killam Prize (Canada) in Social Sciences, 2011

Co-chair (with Frank Stähler), Otago Workshop in International Trade, University of Otago, 2006-2009

Academic Board, Department of Economics, University of Otago, 2006-2009

Editor, *EcoNZ@Otago*, Department of Economics, University of Otago, 2006-2009

Recruitment Committee, Department of Economics, University of Otago, 2008-2009

International Business Programme Review Panel Member, School of Business, University of Otago, 2007

Teaching and Learning Committee, Department of Economics, University of Otago, 2007-2009

Computer Committee, Department of Economics, University of Otago, 2003-2006

Course advisor, Department of Economics, University of Otago, 2003-2009