

Kevin J. Fox

Curriculum Vitae

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School of Economics, UNSW Business School
Director, Centre for Applied Economic Research
UNSW Sydney, NSW 2052, Australia
+61 434 147 405
K.Fox@unsw.edu.au
Website

Academic Appointments

February 2006 –: Professor, School of Economics, University of New South Wales.

January 2008 – December 2012: Head of School, School of Economics, University of New South Wales.

January 2003 – January 2006: Associate Professor, School of Economics, University of New South Wales.

2002–: Director, Centre for Applied Economic Research.

July 1998 – December 2002: Senior Lecturer (with tenure), School of Economics, University of New South Wales.

1994-1998: Lecturer, Department of Econometrics, School of Economics, University of New South Wales.

Tertiary Qualifications:

1995 Ph.D., Department of Economics, University of British Columbia.

1992 M.A., University of British Columbia.

1990 M.Com., University of Canterbury.

1989 B.Com., University of Canterbury.

1985 Diploma in Japanese Language, Japan Missionary Language Institute, Tokyo.

Fellowships

Academy of Social Sciences in Australia, elected 2010.

U.S.Conference on Research in Income and Wealth, elected 2011.

Society for Economic Measurement, elected 2014.

Economics and Science Group, from 2015.

Fields

Economic Measurement, Productivity Analysis, Econometrics, Environmental Economics.

Personal Details

Nationalities: Australia and New Zealand.

Languages: English, Japanese (fluent), Spanish (basic).

University Service

- 2002–: Director, Centre for Applied Economic Research.
- January 2008 – December 2012: *Head of School*.
- January 2008 – December 2012: *Head of School Representative on Sundry Faculty Committees*, e.g. Senior Management Team, Indigenous Education Committee, Accreditation Steering Committee, Facilities Management Advisory Committee.
- 2011–: Leader, UNSW Business School Real Estate Initiative.
- 2016: Organiser, UNSW Business School Real Estate Symposium, 6 September.
- 2015: Co-organiser, UNSW Business School Real Estate Symposium, 8 September.
- 2013: Organiser, UNSW-IARIW Conference on Productivity Measurement Drivers and Trends, November.
- 1999–: Organiser, Economic Measurement Group Workshop 1999, 2002, 2003, 2005-2018 UNSW.
- 2003: Chair, Organising Committee, Conference on the Economic and Social Impacts of Outsourcing, December.
- 2002–2003: Organising Committee, Econometric Society Australasian Meeting, July 2003.
- 1995–: Management Committee, Centre for Applied Economic Research, UNSW.
- 1997: Organiser, International Conference on Public Sector Efficiency, UNSW, 27-28 November.
- 1998–2000: Undergraduate Coordinator, School of Economics.

Editorial Appointments

- 2018–: *Editorial Board*, Review of Income and Wealth.
- 2004–: *Associate Editor*, Journal of Productivity Analysis.

Other Professional Activities

- 2019–: *Invited Member*, UN/IMF/OECD/World Bank/Eurostat Intersecretariat Working Group on National Accounts, Digitalisation subgroup.
- 2019–: *Chair*, Panel B, Academy of the Social Sciences in Australia.
- 2018–: *President-Elect and Treasurer*, International Association for Research in Income and Wealth (IARIW).
- 2017–: *Academic Representative*, Economic Data and Analysis Network (EDAN) Governance Committee, Department of Industry, Innovation and Science.
- 2016–: *Advisor*, The Treasury, Australian Government.
- 2016–: *Elected Council Member*, International Association for Research in Income and Wealth (IARIW).
- 2016–2017: *Digital Productivity Reference Group*, Department of Communications and the Arts.
- 2016–2017: *Advisory Group on Services Productivity*, Committee for the Economic Development of Australia (CEDA).
- 2015–: *Elected member*, Policy and Advocacy Committee, Academy of the Social Sciences in Australia.
- 2015–: *Elected member*, Panel B Committee, Academy of the Social Sciences in Australia.
- 2015–: *Elected member*, Australasian Standing Committee, The Econometric Society.
- 2015: *Organiser*, Academy of the Social Sciences Roundtable on “Big Data in the Social Sciences,” 17 September.

- 2012–2014: *Member and Subgroup Leader*, “The role of science, research and technology in lifting Australia’s productivity,” Australian Council of Learned Academies (ACOLA) Expert Working Group. Reported to the Prime Minister’s Science Engineering and Innovation Council.
- 2013–: *Advisory Council*, Society for Economic Measurement.
- 2012–: *International Advisory Board*, International Productivity Monitor.
- 2012–2014: *Co-Opted Council member*, International Association for Research in Income and Wealth.
- 2009–2010: *Chair, Advisory Group*, 16th Series CPI Review, Australian Bureau of Statistics.
- 1999–: *Methodology Advisory Committee*, Australian Bureau of Statistics.
- 2005–: *Productivity Measurement Reference Group*, Australian Bureau of Statistics.

Supervision

Awarded UNSW Business School **Outstanding Postgraduate Research Supervision Award** 2015.

1. 2020–: Ph.D supervisor of Andrew Staib
2. 2019: B.Ec Honours supervisor of Nalini Argawal, *Dissecting Labour Shares using BLADE: An empirical investigation into the drivers and trends of Australian income shares*.
3. 2019: B.Ec Honours supervisor of Robert Tiong, *Treating Competition Right: Decomposing treatment and selection in the competition-productivity relationship*
4. 2018–: Ph.D co-supervisor of Miguel Lorca
5. 2017–: Ph.D supervisor of Shipei Zeng
6. 2017–: Ph.D co-supervisor of Adam Gorajec
7. 2017–: Ph.D. co-supervisor of Khanh Hoang, Crawford School of Public Policy, Australian National University.
8. 2016: B.Ec Honours joint-supervisor of Aaryn Lally, *Prices and the User Cost of Residential Housing in the Netherlands*.
9. 2008–2016: Ph.D supervisor of Zoran Peroski (part-time student), *Assessing Welfare from the Regulation of Two-Way Interconnection via a Differentiated Bertrand Model of Competition: An Australian Perspective*, awarded.
10. 2010–2014: Ph.D supervisor of Hongjia Zhu, *Infrastructure, Land Prices and the Environment in Developing Economies*, awarded.
11. 2010–2014: Ph.D supervisor of Changtao (William) Wang, *The Economics of Innovation and Intellectual Property Rights*, awarded.
12. 2010–2014: Ph.D co-supervisor of Frederique Goy, *On the Importance of Market Size and Knowledge Tradeability for Intellectual Property Rights Policy*, awarded.
13. 2007–2014: Ph.D supervisor of Thomas Longden *Applied Environmental Economics: Bridging the divide between policy and theory within the context of recycling, macro-level environmental indicators and water trading*, awarded.
14. 2008–2012: Ph.D co-supervisor of Amani Elnasri, *Three Essays on Infrastructure Investment: the Australian Experience*, awarded.
15. 2008: B.Ec Honours supervisor of Pero Stojanovski, *Public Infrastructure and Private Sector Productivity: A Spatial Equilibrium Approach*.
16. 2007–2012: Ph.D supervisor of Joaquin Vespignani *Asymmetric Monetary Policy and Consumer Demand Responses in Australia*, awarded.

17. 2007: B.Ec Honours supervisor of Matthew Ho, *How Does Public Infrastructure Work? A spatial equilibrium approach to modelling the social value of public infrastructure in metropolitan areas.*
18. 2006–2010: Ph.D supervisor of Abu Shonchoy, *Essays in Development Economics*, awarded.
19. 2005–2013: Ph.D supervisor of Amy Cheung, *Economic Analysis of an Environmental Challenge: Salinity, Uncertainty and Property.*
20. 2005–2009: Ph.D supervisor of Thai Vinh Nguyen, *Returns to Scale, Technical Progress and Firm Dynamics in Australia*, awarded.
21. 2005–2009: Ph.D supervisor of Daniel Bunting, *Quarantine as a Trade Barrier? An examination of the impact of quarantine policies on consumers*, awarded.
22. 2004–2008: Ph.D supervisor of Iqbal Syed, *Understanding Price Movements: Measurement of price rigidity and pure price change*, awarded.
23. 2003–2007: Ph.D supervisor of Lorraine Ivancic, *Scanner Data and the Measurement of Inflation*, awarded.
24. 2002–2008: Ph.D supervisor of Tano Pelosi (part-time student), *Risk, Efficiency and Industry Dynamics in the Australian Banking Sector*, awarded.
25. 2002: B.Ec Honours supervisor of Zoran Peroski, *Theory and Applications of Stochastic Frontier Analysis: The Efficiency of Banks*; Jinin Cheong, *The Productivity Paradox and the Service Sector: Measurement of Output and Productivity*; Organism Bloom, *The Economic Cost of Quarantine.*
26. 2001–2002: B.Ec Honours supervisor of Kenneth Ching, *Efficiency of Health Insurance Firms.*
27. 2000–2005: Ph.D supervisor of Simon Eckermann, *Hospital Performance Including Quality: Creating incentives consistent with evidence-based medicine*, awarded.
28. 2000: B.Ec. Honours supervisor of Ellis Connolly, *The Impact of High-Tech Capital on Australian Output and Productivity*, and Hadden Watt, *Multilateral Trade-Weighted Indexes.*
29. 1997–2000: Ph.D supervisor of Alice Shiu, *Productivity in the Chinese Economy and International Comparisons*, awarded.
30. 1995–1997: Ph.D supervisor of Keith Sloan, *The Direct Disclosure Method: A Contingent Valuation Study of Public Access Recreation Resource Valuation*, awarded.
31. 1995–1997: Ph.D supervisor of David Troedson, *Economics of the Tuna Fisheries Industry in PNG.*
32. 1997: B.Ec. Honours supervisor of Angela Feeney, Sachin Gupta, Annie Yuen.
33. 1996: B.Ec. Honours supervisor of Alice Shiu, *An Efficiency Analysis of Local Council Service Provision: an application of DEA to the provision of water and sewerage services in New South Wales.*

Grants

1. 2017-2019 Australian Research Council Discovery Grant, “Natural Resources and Ecosystem Services in Productivity Measurement,” with R.Q. Grafton, C. Obst and W.E. Diewert. Total Cash Funding: \$320,000
2. 2015-2019 Australian Research Council Discovery Grant, “Productivity Measurement, Drivers and Trends: A New Analytical Framework,” with W.E. Diewert. \$551,400.
3. 2014-2017 Australian Research Council Linkage Grant, “The Economic Measurement of Property Markets: Prices, Bubbles, Economic Growth and Productivity,” with G. Otto, N. Stapledon, M. Hu, M. Kulish, W.E. Diewert, and I Syed. Industry Partners: RF Capital and CorVal Partners Limited. Total cash Funding: \$1,075,000.

4. 2008-2013 Australian Research Council Linkage Grant, “Tackling the Tough Problems in Productivity Measurement: Infrastructure, Services and R&D,” with G. Otto, W.E. Diewert, E. Connolly and D. Parham. Industry Partners: Australian Bureau of Statistics and the Productivity Commission. Total cash funding: \$1,116,606.
5. 2007-2010 Commonwealth Environmental Research Facilities program, “Salinity, Uncertainty and Property,” with R.Q. Grafton and R. Keenan. \$308,000.
6. 2007-2010 Commonwealth Environmental Research Facilities program, “The Benefits and Costs of Bio-security,” with T. Kompas. \$380,000.
7. 2006-2008 Spanish Ministry of Education and Science Grant, for “Reallocation of Production and Factor Mobility in Economically Integrated Areas,” with Mariam Camarero, Emili Tortosa, Inmaculada Martinez, Javier Ordóñez, Juan Carlos Cuestas, Cecilio Tamarit, Vicente Esteve, Andrés Picazo, Juliette Milgram. 51,408 euros.
8. 2006-2008 Australian Research Council Linkage Grant, for “Scanner Data in the Consumer Price Index: How to expand and improve their use,” with J. de Haan, P-H. van Mulligan and M. Silver. Industry Partners: Australian Bureau of Statistics and the Central Bureau of Statistics (Netherlands). Total cash funding: \$287,000.
9. 2005-2007 Australian Research Council Discovery Grant, for “Biosecurity or Trade Barrier? The Economic Costs of Quarantine,” with R.Q. Grafton. \$142,402.
10. 2005-2007 Australian Research Council Discovery Grant, for “Measurement and Sources of Productivity Growth under Imperfect Competition,” with W.E. Diewert. \$257,000.
11. 2005-2007 Australian Research Council Linkage Grant, for “Economic Analysis of an Environmental Challenge: Salinity, Uncertainty and Property,” with R.Q. Grafton and R. Keenan. Industry Partner: Bureau of Rural Sciences. Total cash funding: \$180,000.
12. 2004-2005 Spanish Ministry of Education Grant, to support visiting professors (Programa Nacional de ayudas para la movilidad de profesores de universidad e investigadores españoles y extranjeros.), “The relationship between high-tech capital use and efficiency and productivity growth, with special reference to finance sector regulation and integration,” 26,500 euros.
13. 2004 CRC For Sustainable Tourism Project Grant, for “Measuring Tourism Industry Economic Performance: Development of Indicators,” with P. Forsyth, L. Dwyer, and D.S.P. Rao. Total cash funding: \$35,000.
14. 2003-2005 Australian Research Council Linkage Grant, for “Can Electronic Point-of-Sale (POS) Data Improve the Australian Consumer Price Index,” with R.J. Hill. Industry Partner: Australian Bureau of Statistics. Total cash funding: \$161,500.
15. 2003-2004 Australian Research Council Linkage Grant, for “Regional Comparisons of Prices, Income and Growth in Australia,” with R.J. Hill. Industry Partner: Australian Bureau of Statistics. Total cash funding: \$131,000.
16. 2000 UAB-CIRIT per al finançament d’Estades de Curta Durada de Professors Visitants, 486,000 pts, Universitat Autònoma de Barcelona.
17. 2000 Australian Research Council Small Research Grant, for “Decomposing the Output Gap,” \$5,519.
18. 1996–1998 Australian Research Council Large Research Grant, for “The Diffusion of Technological Change,” with R. Milbourne. \$96,000.

Invitations

1. *Invited Presenter:* New Zealand Treasury, Wellington, 4 February 2020.
2. *Invited Presenter:* Statistics Netherlands, The Hague, 16 May 2019.
3. *Invited Presenter:* Statistics Norway, Oslo, 13-14 May 2019.

4. *Invited Presenter*: U.K. Office for National Statistics, Newport, Wales, 2 May 2019.
5. *Invited Discussant*: 2019 Reserve Bank of Australia Conference, “Low Wage Growth”, Sydney, 4-5 April 2019.
6. *Invited Discussant*: Reserve Bank of Australia Quantitative Macroeconomics Workshop, Sydney, 13-14 December 2018.
7. *Invited Speaker*: The Sixth IMF Statistical Forum: Measuring Economic Welfare in the Digital Age, Washington DC, 19-20 November 2018.
8. *Invited Speaker*: OECD Global Forum on Productivity, Ottawa, 28-29 June 2018.
9. *Invited Speaker*: Productivity and Innovation Workshop, Productivity Research Network, Asian Development Bank Institute, Tokyo, 11-12 January 2018.
10. *Invited Speaker*: Financial Services Indices, Liquidity and Economic Activity Conference, Financial Resilience Research Centre and Bank of England, London, 23-24 May 2017.
11. *Invited Speaker*: Australian Law and Economics Association National Conference, Australian National University, 4 November, 2016.
12. *Invited Speaker*: Shaping the Next Decade: Economic trends in the Global Economy, Australian Treasury and Centre for Applied Macroeconomic Analysis, Australian National University, August 22-23, 2016.
13. *Invited Speaker*: Meeting of the U.N. International Working Group on Price Indices (“Ottawa Group”) Urayasu, Japan, 20-22 May, 2015.
14. *Keynote Speaker*: Korea-America Economic Association/Korea Development Institute Journal of Economic Policy Conference, Sejong, Korea, 8 August 2014.
15. *Keynote Speaker*: Financial Crisis and Property Price Indexes Conference, Tokyo, 18 October, 2013.
16. *Invited Speaker*: Economic Measurement Group Workshop Asia: Data Gaps and Economic Measurement, University of Tokyo, 15-16 October 2013.
17. *Invited Speaker*: Sim Kee Boon Institute for Financial Economics Annual Conference, Singapore Management University, 7 May 2013.
18. *Invited Speaker*: Meeting of the International Working Group on Price Indices (“Ottawa Group”) Wellington, 4-6 May 2011.
19. *Invited Speaker*: Australian Studies Association of Japan, 20th Anniversary Conference, Tokyo, 14 June 2009.
20. *Invited Speaker*: UNIDO-IDE Conference on Productivity and Growth in Africa and Asia, 9-11 October 2007, Tokyo.
21. *Invited Participant*: NBER Conference on Research in Income and Wealth, Boston, every year since 2005.
22. *Invited Participant*: NBER Productivity Workshop, Boston, every year since 2005.
23. *Invited Participant*: International Conference on the Producer Price Index Manual, hosted by the International Monetary Fund and Statistics Finland, Helsinki, 26-27 August, 2004.
24. *Invited Participant*: Meeting of the International Working Group on Price Indices (“Ottawa Group”) Helsinki, 23-25 August, 2004.
25. *Invited speaker*: Productivity: Performance, Prospects and Policies, The New Zealand Treasury, Ministry of Economic Development and the Reserve Bank, July 28-29 2004.
26. *Plenary speaker*: Asia-Pacific Productivity Conference, Brisbane, July 2004.
27. *Invited speaker*: Technological Change, Productivity and Economic Growth Workshop, The New Zealand Treasury, Ministry of Economic Development and the Reserve Bank, October 2002.

28. *Invited speaker*: Monetary Policy in a World of Knowledge-based Growth, Quality Change, and Uncertain Measurement, Institute for Monetary and Economic Studies, Bank of Japan, June 1998.
29. *Invited speaker*: Symposium on the Efficiency of North Atlantic Fisheries, Reykjavik, Iceland, September 1997.

Training Workshops and Consulting

Training workshops for:

- Australian Bureau of Statistics
- The Treasury, Australian Government
- The New Zealand Treasury

Contracted expert opinion for agencies such as:

- Department of Education and Training
- Bureau of Communications Research
- Urban Taskforce
- Productivity Commission
- Reserve Bank of New Zealand
- Swiss National Bank
- Australian Bureau of Agricultural and Resource Economics
- Australian Bureau of Statistics
- Asian Development Bank
- New Zealand Treasury.

Publications

Editor

1. Special Issue of the *Review of Income and Wealth* on “Productivity Measurement, Drivers and Trends,” Series 63, Supplement 1, 2017.
2. *Efficiency in the Public Sector*, Kluwer Academic Publishers, 2002.
3. *Price and Productivity Measurement: Volumes 1-8*, Trafford Publishing, Victoria, Canada, with W.E. Diewert, B.M. Balk, D. Fixler and A. Nakamura.

Journal Articles

1. “Measuring the Impact of Free Goods on Real Household Consumption,” *American Economic Association – Papers & Proceedings* 110, 2020, with E. Brynjolfsson, A. Collis, W.E. Diewert, and F. Eggers.
2. “Money and the Measurement of Total Factor Productivity,” *Journal of Financial Stability*, 84–89, 2019, with W.E. Diewert.
3. “Addendum to Output Growth and Inflation Across Space and Time,” *EURONA – Eurostat Review on National Accounts and Macroeconomic Indicators*, Issue No 2/2018, 71–80, with W.E. Diewert.
4. “What Do We Know About the Productivity Slowdown? Evidence from Australian Industry Data,” *International Productivity Monitor* Number 35, Fall, 149–156, 2018.

5. "A Decomposition of U.S. Business Sector TFP Growth into Technical Progress and Cost Efficiency Components," *Journal of Productivity Analysis* 50, 71–84, 2018, with W.E. Diewert.
6. "The ET Interview: Professor W. Erwin Diewert," *Econometric Theory* 34, 509–542, 2018.
7. "Output Growth and Inflation across Space and Time," *EURONA – Eurostat Review on National Accounts and Macroeconomic Indicators*, Issue No 1/2017, 7–40, 2017, with W.E. Diewert.
8. "The Contribution of Research and Innovation to Productivity," *Journal of Productivity Analysis* 47, 291–308, 2017, with A. Elnasri.
9. Editor's Introduction to the Special Issue on "Productivity Measurement, Drivers and Trends," *Review of Income and Wealth* 63, Supplement 1, S1-S6, 2017.
10. "Decomposing Productivity Indexes into Explanatory Factors," *European Journal of Operational Research* 256, 275–291, 2017, with W.E. Diewert.
11. "Sunk Costs and the Measurement of Commercial Property Depreciation," *Canadian Journal of Economics* 49(4), 1340–1366, 2016, with W.E. Diewert.
12. "Commercial Property Price Indexes and the System of National Accounts," *Journal of Economic Surveys* 30(5), 913–943, 2016, with W.E. Diewert and C. Shimizu.
13. "A Newly Identified Source of Potential CPI Bias: Weekly versus monthly unit value price indexes," *Economics Letters* 141, 169–172, 2016, with W.E. Diewert and J. de Haan.
14. "Price Discounts and the Measurement of Inflation," *Journal of Econometrics* 191, 398–406, 2016, with I. Syed.
15. "R&D, Innovation and Productivity: The Role of Public Support," *KDI Journal of Economic Policy* 37(1), 73–96, 2015, with A. Elnasri.
16. "Non-linear Pricing and Price Indexes: Evidence and Implications from Scanner Data," *Review of Income and Wealth* 60(2), 261–278, 2014, with D. Melser.
17. "Reference Technology Sets, Free Disposal Hulls and Productivity Decompositions," *Economics Letters* 122(2), 238–242, 2014, with W.E. Diewert.
18. "Understanding Price Variation Across Stores and Supermarket Chains: Some Implications for CPI Aggregation Methods," *Review of Income and Wealth* 59(4), 629–647, 2013, with L. Ivancic.
19. "Can Dissimilarity Indexes Resolve the Issue of when to Chain Price Indexes?" *Economics Letters* 118, 6–9, 2013, with L. Ivancic.
20. "Problems with (Dis)Aggregating Productivity, and Another Productivity Paradox," *Journal of Productivity Analysis* 37, 249–259, 2012.
21. "Scanner Data, Time Aggregation and the Construction of Price Indexes" *Journal of Econometrics* 161, 24–35, 2011, with L. Ivancic and W.E. Diewert.
22. "Malmquist and Törnqvist Productivity Indexes: Returns to scale and technical progress with imperfect competition," *Journal of Economics/Zeitschrift für Nationalökonomie* 101(1), 73–95, 2010, with W.E. Diewert.
23. "An Environmental Economics Research Agenda: Fisheries, Salinity and Biosecurity," *Australian Studies Association of Japan* 23, 6–14, 2010.
24. "Trade Agreements and Trade Opportunities: A Flexible Approach for Modelling Australian Export and Import Elasticities," *Review of International Economics* 18(3), 513–530, 2010, with U. Kohli and A. Shiu.
25. "On the Estimation of Returns to Scale, Technical Progress and Monopolistic Markups," *Journal of Econometrics* 145, 174–193, 2008, with W.E. Diewert.
26. "Is it Harder to Soar with Eagles when you Work with Turkeys?" *Australian Economic Papers* 45, 362–371, 2006, with R. Milbourne.

27. "The Contribution of Productivity, Price Changes and Firm Size to Profitability" *Journal of Productivity Analysis*, 26, 1–13, 2006, with D. Lawrence and W.E. Diewert.
28. "Capacity Reduction, Quota Trading and Productivity: The Case of a Fishery," *Australian Journal of Agricultural and Resource Economics* 50, 189–206, 2006, with R.Q. Grafton, T. Kompas, and T.N. Che.
29. "A Method for Transitive and Additive Multilateral Comparisons: A Transitive Bennet Indicator," *Journal of Economics/Zeitschrift für Nationalökonomie*, 87(1), 73–87, 2006.
30. "The Impact of High-Tech Capital on Productivity: Evidence from Australia," *Economic Inquiry* 44(1), 50–68, 2006, with E. Connolly.
31. "Profit and Price Effects of Multi-species Individual Transferable Quotas," *Journal of Agricultural Economics* 56, 31–57, 2005, with D.P. Dupont, D.V. Gordon and R.Q. Grafton.
32. "Identifying Outliers in Multi-Output Models," *Journal of Productivity Analysis* 22, 73–94, 2004, with R.J. Hill and W.E. Diewert.
33. "Sources of Growth and Output Gaps in New Zealand: New Methods and Evidence," *New Zealand Economic Papers* 37(1), 67–92, 2003, with U. Kohli and R.S. Warren, Jr.
34. "An Economic Justification for the EKS Multilateral Index," *Review of Income and Wealth* 49, 407–413, 2003.
35. "Property Rights in a Fishery: Regulatory Change and Firm Performance," *Journal of Environmental Economics and Management* 46, 156–177, 2003, with R.Q. Grafton, J. Kirkley and D. Squires.
36. "Accounting for Growth and Output Gaps: Evidence from New Zealand," *Economic Record* 78, 312–326, 2002, with U. Kohli and R.S. Warren, Jr.
37. "Measuring Technical Progress in Matching Models of the Labour Market," *Applied Economics* 34, 741–748, 2002.
38. "Nonparametric Estimation of Returns to Scale: Method and Application," *Canadian Journal of Agricultural Economics* 48, 341–354, 2000, with R.Q. Grafton.
39. "Private Property and Economic Efficiency: A Study of a Common-Pool Resource," *Journal of Law and Economics*, XLIII, 679–714, 2000, with R.Q. Grafton and D. Squires.
40. "Incentive Indexes for Regulated Industries," *Journal of Regulatory Economics* 17, 5–24, 2000, with W.E. Diewert.
41. "Information-Rich Expressions for Model Selection Criteria," *Applied Economics Letters* 7, 59–62, 2000.
42. "Efficiency at Different Levels of Aggregation: Public vs. Private Sector Firms," *Economics Letters* 65, 173–176, 1999.
43. "Can Measurement Error Explain the Productivity Paradox?" *Canadian Journal of Economics* 32, 251–280, 1999, with W.E. Diewert.
44. "What Determines Research Output of Academic Economists?" *Economic Record* 75, 256–267, 1999, with R. Milbourne.
45. "The Measurement of Inflation after Tax Reform," *Economics Letters* 61, 279–284, 1998, with W.E. Diewert.
46. "Non-Parametric Estimation of Technical Progress," *Journal of Productivity Analysis* Vol. 10, No. 3, Nov. 1998, 235–250.
47. "GDP Growth, Terms-of-Trade Effects, and Total Factor Productivity," *Journal of International Trade and Economic Development* Vol. 7, No. 1, 87–110, 1998, with U. Kohli.

48. "White Noise and Other Experiments on Augmented Dickey-Fuller Tests," *Applied Economics Letters* 4, 689–694, 1997.
49. "Splicing Index Numbers," *Journal of Business and Economic Statistics* 15, 387–389, 1997, with R.J. Hill.
50. "Specification of Functional Form and the Estimation of Technical Progress," *Applied Economics* 28, 1996, 947–956.
51. "Monetary Anticipations and the Demand for Money: Further Tests of the Shock-Absorber Price Equations," *Journal of Macroeconomics*, winter 1992, 1–16, with P.D. Owen.

Book Chapters

1. "The Difference Approach to Productivity Measurement and Exact Indicators," in C. Parmeter and R.C. Sickles (eds.), *Methodological Contributions to the Advancement of Productivity and Efficiency Analysis*, Springer Proceedings in Business and Economics, New York: Springer, forthcoming, with W.E. Diewert.
2. "Productivity Indexes and National Statistics: Theory, Methods and Challenges," in W. Greene and T. ten Raa (eds.), *The Palgrave Handbook of Economic Performance Analysis*, Palgrave Macmillan, 2019, Chapter 18, 707-759, with W.E. Diewert.
3. "Decomposing Value Added Growth into Explanatory Factors," in E. Grifell-Tatjé, C.A.K. Lovell and R. Sickles (eds.), *The Oxford Handbook of Productivity Analysis*, Oxford University Press: New York, NY, 2018, Chapter 19, 625–662, with W.E. Diewert.
4. "Alternative User Costs, Productivity and Inequality in US Business Sectors," in W.H. Greene, L.A. Khalaf, P. Makdissi, R. Sickles, and M-C. Voia (eds.), *Productivity and Inequality*, Springer, 2018, Chapter 2, 21–69, with W.E. Diewert.
5. "Efficiency Analysis in Uncertain Operating Environments: The Problem with Outliers," in T. Ancev, M.A.S. Azad and F. Hernandez (eds.), *New Directions in Productivity Measurement and Efficiency Analysis: Counting the Environment and Natural Resources*, Edward Elgar, June 2017, Chapter 4, 80–97, with Lisa Y.T. Lee.
6. "The Normalized Quadratic Expenditure Function," in Dan Slottje (ed.), *Contributions to Economic Analysis: Quantifying Consumer Preferences*, Bingley, UK: Emerald, 2009, with W.E. Diewert.
7. "On Measuring the Contribution of Entering and Exiting Firms to Aggregate Productivity Growth," in W.E. Diewert, B.M. Balk, D. Fixler, K.J. Fox and A. Nakamura (eds.), *Price and Productivity Measurement - Volume 6: Index Number Theory*, Trafford Publishing, Victoria, Canada, with W.E. Diewert, 2010, 41–66. Also available at www.indexmeasures.com.
8. "Returns to Scale, Technical Progress and Total Factor Productivity Growth in New Zealand Industries," in W.E. Diewert, B.M. Balk, D. Fixler, K.J. Fox and A. Nakamura (eds.), *Price and Productivity Measurement - Volume 7: Productivity Performance*, Trafford Publishing, Victoria, Canada.
9. "Capacity Reduction and Productivity: A Profit Decomposition for the Australian South East Trawl Fishery," in R. Curtis and D. Squires (eds.), *Fisheries Buybacks*, Blackwell Publishing, 2007, with R.Q. Grafton, T. Kompas and T.N. Che.
10. "Introduction" in K.J. Fox (ed.), *Efficiency in the Public Sector*, Kluwer Academic Publishers, 2002.
11. "The Output Gap and Growth in Japan," T-T. Fu, C.J. Huang and C.A.K. Lovell (eds.), *Productivity and Economic Performance in the Asia-Pacific Region*, Edward Elgar Publishing, 2002.
12. "The Productivity Paradox and Mismeasurement of Economic Activity," in K. Okina and T. Inoue (eds.), *Monetary Policy in a World of Knowledge-based Growth, Quality Change, and Uncertain Measurement*, Palgrave, 2001 with W.E. Diewert.

13. “Is the Asia-Pacific Region Different? Technical Progress Bias and Price Elasticity Estimates for 18 OECD Countries, 1960–1992,” in T-T. Fu, C.J. Huang and C.A.K. Lovell (eds.) *Economic Efficiency and Productivity Growth in the Asia-Pacific Region*, Edward Elgar Publishing, 1999, with W.E. Diewert.

Book Reviews

1. *Journal of Economics/Zeitschrift für Nationalökonomie*, 2004, 81(1), 100-102: D. Gstach (2002), *Estimating Output-Specific Efficiencies*, Kluwer Academic Publishers.
2. *Economica*, 2002, Vol. 69, 680–681: S.C. Kumbhakar and C.A.K. Lovell (2000), *Stochastic Frontier Analysis*, Cambridge University Press.
3. *Economic Record*, 1996, Vol. 72, 175–176: S. Selvanathan and E.A. Selvanathan (1994), *Regional Consumption Patterns*

Revise and Resubmits

1. “Substitution Bias in Multilateral Methods for CPI Construction Using Scanner Data,” with W.E. Diewert, *Journal of Business and Economic Statistics*. UNSW Business School Research Paper No. 2018-13. Available at SSRN: <https://ssrn.com/abstract=3276457>

Papers

1. “GDP-B: Accounting for the Value of New and Free Goods in the Digital Economy,” with E. Brynjolfsson, A. Collis, W.E. Diewert and F. Eggers, NBER Working Paper 25695, Cambridge, MA, 2019. <https://www.nber.org/papers/w25695>
2. “Experimental Economics and the New Goods Problem”, with Diewert and Schreyer, Discussion Paper 19-03, Vancouver School of Economics, University of British Columbia. Presented at the Economics Statistics Centre of Excellence (ESCoE) Conference, 8-10 May 2019, King’s College London.
3. “The Digital Economy, New Products and Consumer Welfare,” with W.E. Diewert and P. Schreyer, Economic Statistics Centre of Excellence (ESCoE) Discussion Paper 2018-16, London, UK.
4. “Improving GDP: Demolishing, Repointing or Extending?”, joint winning entry, Indigo Prize 2017, with C. Corrado, K.J. Fox, P. Goodridge, J. Haskel, C. Jona-Lasinio, D. Sichel and S. Westlake. <http://global-perspectives.org.uk/indigo-prize/indigo-prize-winners-2017/>
5. “The Allocation and Valuation of Time,” with W.E. Diewert and P. Schreyer, UBC Discussion Paper 17-04.
6. “The User Cost of Non-renewable Resources and Green Accounting,” UBC Discussion Paper 16-01, presented at the NBER Summer Institute 18 July 2016, the Society for Economic Measurement Conference, OECD 22-24 July 2015, and the Workshop on Environmentally Adjusted Productivity and Efficiency, University of Sydney, 22 February 2016, with W.E. Diewert.
7. “The Digital Economy, GDP and Consumer Welfare,” draft, March 2017, with W.E. Diewert. Presented at the EMG Workshop, 2 December 2016, and the NBER Summer Institute CRIW Workshop 17-18 July 2017.
8. “Consumer Benefits of Infrastructure Services,” with C. Schwartz and W.E. Diewert, *Journal of Urban Economics*. UNSW Discussion Paper 2014-17.
9. “The Impact of Quarantine Policies on the Quality of Imports,” with D. Bunting. UNSW Discussion Paper 2014-01
10. “The New Economy and an Old Problem: Net versus Gross Output and the Measurement of Productivity,” with W.E. Diewert.

11. "On Understanding Sources of Output Gaps and Growth for Switzerland," with M. Zurlinden.
12. "Progress and Challenges in the Measurement of Productivity," presented at the UNIDO-IDE Conference on Productivity and Growth in Africa and Asia, 9-11 October 2007, Tokyo.
13. "Estimating Price Rigidity: Can we obtain better estimates using scanner data?" with I. Syed, presented at the Economic Measurement Group Workshop, December 2005.
14. "Open Economy Data Sets for 18 OECD Countries, 1960–1992," University of New South Wales Discussion Paper 97/26.
15. "Model Selection Criteria: A Reference Source," University of New South Wales Discussion Paper 95/28.