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Curriculum Vitae

James Gordon MacKinnon

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Citizenship: Canadian

Degrees: B.A. (Hon.), York University, 1971
M.A., Princeton University, 1974
Ph.D., Princeton University, 1975

Employment: Research Department
Bank of Canada
Ottawa, Ontario, Canada
Summer, 1970, and Summer, 1971

Department of Economics
Queen's University
Kingston, Ontario, Canada

Assistant Professor, 1975–1978
Associate Professor, 1978–1982
Professor, 1982–
Sir Edward Peacock Professor of Econometrics, 1991–

Honours and Awards:

Woodrow Wilson Fellowship, 1971–1972

Canada Council Doctoral Fellowship, 1972–1975

Fellow of the Econometric Society, elected 1990

Fellow of the Royal Society of Canada, elected 1995

Queen's University Prize for Excellence in Research, 1995

Journal of Econometrics Fellow, since 2005

T. Geoffrey Flynn Advancement Champion Award, 2006

Journal of Applied Econometrics Distinguished Author, since 2015

Fellow of the Canadian Economics Association, since 2016

Mike McCracken Award for Economic Statistics, CEA, 2016

New York Camp Econometrics Fellow, since 2017

Fellow of the International Association for Applied Econometrics, since 2018

Le Prix de l'Actualité économique, 2019

Advisory Board, *Journal of Applied Econometrics*, since 2022

Dan Usher Prize for Research Excellence, 2023 (for research in 2019–2021)

Professional Service:

Co-organizer, Canadian Economic Theory Meetings, April, 1977

Member, Harry Johnson Prize Committee, Canadian Economics Association, 1982 and 1983

Co-organizer, Canadian Econometric Study Group, Inaugural Meeting, September, 1984

Member, Arnold Zellner Thesis Award Committee, American Statistical Association, 1995

Editorial Board, *Canadian Journal of Economics*, 1984–1987

Editorial Board, *Journal of Applied Econometrics*, 1989–1991

Software Review Editor, *Journal of Applied Econometrics*, 1991–2014

Executive Committee, Canadian Econometric Study Group, 1992–1995

Associate Editor, *Journal of Econometrics*, 1992–2007

Founder and Manager, *Journal of Applied Econometrics* Data Archive, 1994–

Organizer, Canadian Econometric Study Group, Fourteenth Annual Meeting, September, 1997

Vice-President, Canadian Economics Association, 1999–2000

Social Sciences and Humanities Research Council of Canada, Committee 7 of the Standard Research Grants Program: Member, 1999; Chair, 2000

President-Elect, Canadian Economics Association, 2000–2001

Associate Editor, *Journal of Financial Econometrics*, 2001–2005

President, Canadian Economics Association, 2001–2002

Past-President, Canadian Economics Association, 2002–2003

CIREQ Associate Fellow, 2003–

Global Risk Institute in Financial Services, Oversight Committee and Research Structure Committee, August, 2010–June, 2011.

Associate Editor, *Econometrics and Statistics*, 2016.

University Appointments:

Member, Senate Computing Committee, 1976–1978 and 1983–1986 (Chair, 1984–1985); member of Strategies Subcommittee, 1989

Coordinator of Graduate Studies, Department of Economics, 1986–1989

Acting Head, Department of Economics, January–December, 1992 and July, 1993–June, 1994.

Member, Board of Trustees Pension Committee, July, 2000–
Vice-Chair, September, 2012–
Member, Investment Subcommittee, July, 2001–
Member, Pension Subcommittee, January, 2004–December, 2005

Member, PARTEQ Investment Committee, 2003–

Head, Department of Economics, July, 2003–June, 2013.

Acting Head, Department of Economics, July, 2013.

Books:

Russell Davidson and James G. MacKinnon, *Estimation and Inference in Econometrics*, New York, Oxford University Press, 1993, 875 pages.

Russell Davidson and James G. MacKinnon, *Econometric Theory and Methods*, New York, Oxford University Press, 2004, 750 pages.

Chapters in Books:

James G. MacKinnon, "Estimating the linear expenditure system and its generalizations," in *Studies in Nonlinear Estimation*, ed. S. M. Goldfeld and R. E. Quandt, Ballinger, New York, 1976, 143–166.

Nicholas M. Kiefer and James G. MacKinnon, "Small sample properties of demand system estimates," in *Studies in Nonlinear Estimation*, ed. S. M. Goldfeld and R. E. Quandt, Ballinger, New York, 1976, 181–210.

James G. MacKinnon, "Solving economic general equilibrium models by the sandwich method," in *Fixed Points: Algorithms and Applications*, ed. S. Karamardian, Academic Press, New York, 1977, 367–402.

James G. MacKinnon, "Solving urban general equilibrium models by fixed point methods," in *Analysis and Computation of Fixed Points*, ed. S. M. Robinson, Academic Press, New York, 1980, 197–212.

Russell Davidson and James G. MacKinnon, "Testing the specification of econometric models in regression and non-regression directions," in *Telecommunications Demand Modelling: An Integrated View*, ed. A. de Fontenay, M. H. Shugard and D. Sibley, Amsterdam, North-Holland, 1990, 221–240.

James G. MacKinnon, "Critical values for cointegration tests," in *Long-run Economic Relationships: Readings in Cointegration*, ed. R. F. Engle and C. W. Granger, Oxford, Oxford University Press, 1991, 267–276.

James G. MacKinnon, "Computing numerical distribution functions in econometrics," in *High Performance Computing Systems and Applications*, ed. A. Pollard, D. J. K. Mewhort, and D. F. Weaver, Amsterdam, Kluwer, 2000, 455–470.

Russell Davidson and James G. MacKinnon, "Artificial regressions," in *Companion to Theoretical Econometrics*, ed. B. Baltagi, Oxford, Blackwell, 2001, 16–37.

Russell Davidson and James G. MacKinnon, "Bootstrap methods in econometrics," Chapter 23 in *Palgrave Handbooks of Econometrics: Volume 1 Econometric Theory*, ed. T. C. Mills and K. D. Patterson, Basingstoke, Palgrave Macmillan, 2006, 812–838.

James G. MacKinnon, "Durbin-Watson statistic," in *New Palgrave Dictionary of Economics*," Second Edition, ed. S. N. Durlauf and L. E. Blume, 2008, 567–568.

James G. MacKinnon, "Bootstrap hypothesis testing," in *Handbook of Computational Econometrics*, ed. David A. Belsley and Erricos John Kontoghiorghes, Chichester, Wiley, 2009, 183–213.

Michael G. Abbott, Charles M. Beach, Robin W. Boadway, and James G. MacKinnon, Chapter 1, "Introduction," in *Retirement Policy Issues in Canada*, McGill-Queen's University Press, 2009, 1–22.

James G. MacKinnon, "Thirty years of heteroskedasticity-robust inference," in *Recent Advances and Future Directions in Causality, Prediction, and Specification Analysis*, ed. Xaiohong Chen and Norman R. Swanson, New York, Springer, 2013, 437–461.

James G. MacKinnon and Matthew D. Webb, "Wild bootstrap randomization inference for few treated clusters," in *The Econometrics of Complex Survey Data: Theory and Applications*, ed. Kim P. Huynh, David Tomás Jacho-Chávez, and Gautam Tripathi, Vol. 39 of *Advances in Econometrics*, Emerald Group, 2019, 61–85.

James G. MacKinnon and Matthew D. Webb, "Clustering methods for statistical inference," in *Handbook of Labor, Human Resources and Population Economics*, ed. Klaus F. Zimmerman, Cham, Switzerland, Springer, 2020.

Reviews:

James G. MacKinnon, Review of Peter B. Dixon, *The Theory of Joint Maximization* (Amsterdam, North-Holland, 1975) in *Canadian Journal of Economics*, **9**, 1976, 733–735.

James G. MacKinnon, “The Linux operating system: Debian GNU/Linux,” *Journal of Applied Econometrics*, **14**, 1999, 443–452.

James G. MacKinnon, Review of Terence C. Mills, *The Econometric Modelling of Financial Time Series*, Second Edition (Cambridge, Cambridge, 1999) in *International Statistical Institute Short Book Reviews*, **20**, 2000, 7.

Journal Articles:

Edwin S. Mills and James G. MacKinnon, “Notes on the new urban economics,” *Bell Journal of Economics and Management Science*, **4**, 1973, 593–601.

James G. MacKinnon, “Urban general equilibrium models and simplicial search algorithms,” *Journal of Urban Economics*, **1**, 1974, 161–183.

Harold W. Kuhn and James G. MacKinnon, “The sandwich method for finding fixed points,” *Journal of Optimization Theory and Applications*, **17**, 1975, 189–204.

James G. MacKinnon, “An algorithm for the generalized transportation problem,” *Regional Science and Urban Economics*, **5**, 1975, 445–464.

James G. MacKinnon, “A technique for the solution of spatial equilibrium models,” *Journal of Regional Science*, **16**, 1976, 293–307.

Richard J. Arnott and James G. MacKinnon, “The effects of the property tax: A general equilibrium simulation,” *Journal of Urban Economics*, **4**, 1977, 389–407.

Richard J. Arnott and James G. MacKinnon, “The effects of urban transportation changes: A general equilibrium simulation,” *Journal of Public Economics*, **8**, 1977, 19–36.

Richard J. Arnott and James G. MacKinnon, “Measuring the costs of height restrictions with a general equilibrium model,” *Regional Science and Urban Economics*, **7**, 1977, 359–375.

Richard J. Arnott, James G. MacKinnon and William C. Wheaton, “The welfare implications of spatial interdependence,” *Journal of Urban Economics*, **5**, 1978, 131–136.

Charles M. Beach and James G. MacKinnon, “A maximum likelihood procedure for regression with autocorrelated errors,” *Econometrica*, **46**, 1978, 51–58.

Charles M. Beach and James G. MacKinnon, “Full maximum likelihood estimation of second-order autoregressive error models,” *Journal of Econometrics*, **7**, 1978, 187–198.

Mark Gersovitz and James G. MacKinnon, “Seasonality in regression: An application of smoothness priors,” *Journal of the American Statistical Association*, **73**, 1978, 264–273.

Richard J. Arnott and James G. MacKinnon "Market and shadow land rents with congestion," *American Economic Review*, **68**, 1978, 588–600.

James G. MacKinnon, "Computing equilibria with increasing returns," *European Economic Review*, **12**, 1979, 1–16.

Charles M. Beach and James G. MacKinnon, "Maximum likelihood estimation of singular equation systems with autoregressive disturbances," *International Economic Review*, **20**, 1979, 459–464.

Richard G. Harris and James G. MacKinnon, "Computing optimal tax equilibria," *Journal of Public Economics*, **11**, 1979, 197–212.

James G. MacKinnon, "Convenient singularities and maximum likelihood estimation," *Economics Letters*, **3**, 1979, 41–44.

James G. MacKinnon and Nancy D. Olewiler, "Disequilibrium estimation of the demand for copper," *Bell Journal of Economics*, **11**, 1980, 197–211.

Russell Davidson and James G. MacKinnon, "On a simple procedure for testing non-nested regression models," *Economics Letters*, **5**, 1980, 45–48.

Allan W. Gregory and James G. MacKinnon, "Where's my cheque? A note on postal strikes and the demand for money in Canada," *Canadian Journal of Economics*, **13**, 1980, 683–687.

Russell Davidson and James G. MacKinnon, "Estimating the covariance matrix for regression models with $AR(1)$ errors and lagged dependent variables," *Economics Letters*, **6**, 1980, 119–123.

Russell Davidson and James G. MacKinnon, "Several tests for model specification in the presence of alternative hypotheses," *Econometrica*, **49**, 1981, 781–793.

Russell Davidson and James G. MacKinnon, "Efficient estimation of tail-area probabilities in sampling experiments," *Economics Letters*, **8**, 1981, 73–77.

Russell Davidson and James G. MacKinnon, "Some non-nested hypothesis tests and the relations among them," *Review of Economic Studies*, **49**, 1982, 551–565.

James G. MacKinnon, Halbert White and Russell Davidson, "Tests for model specification in the presence of alternative hypotheses: Some further results," *Journal of Econometrics*, **21**, 1983, 53–70.

James G. MacKinnon, "Model specification tests against non-nested alternatives," *Econometric Reviews*, **2**, 1983, (including discussion and reply), 85–158.

Russell Davidson and James G. MacKinnon, "Small sample properties of alternative forms of the Lagrange multiplier test," *Economics Letters*, **12**, 1983, 269–275.

Russell Davidson and James G. MacKinnon, "Inflation and the savings rate," *Applied Economics*, **15**, 1983, 731–743.

Russell Davidson and James G. MacKinnon, "Testing the specification of multivariate models in the presence of alternative hypotheses," *Journal of Econometrics*, **23**, 1983, 301–313.

James G. MacKinnon and Ross D. Milbourne, "Monetary anticipations and the demand for money," *Journal of Monetary Economics*, **13**, 1984, 263–274.

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Russell Davidson and James G. MacKinnon, "Convenient specification tests for logit and probit models," *Journal of Econometrics*, **25**, 1984, 241–262.

Glenn M. MacDonald and James G. MacKinnon, "A convenient way to estimate linear regression models with $MA(1)$ errors," *Canadian Journal of Economics*, **18**, 1985, 106–116.

Russell Davidson and James G. MacKinnon, "The interpretation of test statistics," *Canadian Journal of Economics*, **18**, 1985, 38–57.

Russell Davidson and James G. MacKinnon, "Testing linear and loglinear regressions against Box-Cox alternatives," *Canadian Journal of Economics*, **18**, 1985, 499–517.

Russell Davidson, Leslie G. Godfrey and James G. MacKinnon, "A simplified version of the differencing test," *International Economic Review*, **26**, 1985, 639–647.

James G. MacKinnon and Halbert White, "Some heteroskedasticity consistent covariance matrix estimators with improved finite sample properties," *Journal of Econometrics*, **29**, 1985, 305–325. Reprinted in H. White, *New Perspectives in Econometric Theory: The Selected Works of Halbert White*, Volume 2, Edward Elgar, 2004, 31–52.

Russell Davidson and James G. MacKinnon, "Heteroskedasticity-robust tests in regression directions," *Annales de l'INSÉE*, **59/60**, 1985, 183–218.

Paul Boothe and James G. MacKinnon, "A specification test for models estimated by GLS," *Review of Economics and Statistics*, **68**, 1986, 711–714.

Russell Davidson and James G. MacKinnon, "Implicit alternatives and the local power of test statistics," *Econometrica*, **55**, 1987, 1305–1329.

Russell Davidson and James G. MacKinnon, "Double-length artificial regressions," *Oxford Bulletin of Economics and Statistics*, **50**, 1988, 203–217.

James G. MacKinnon and Ross D. Milbourne, “Are price equations really money demand equations on their heads?,” *Journal of Applied Econometrics*, **3**, 1988, 295–305.

James G. MacKinnon, “Heteroskedasticity-robust tests for structural change,” *Empirical Economics*, **14**, 1989, 77–92.

Russell Davidson and James G. MacKinnon, “Testing for consistency using artificial regressions,” *Econometric Theory*, **5**, 1989, 363–384.

Russell Davidson and James G. MacKinnon, “Specification tests based on artificial regressions,” *Journal of the American Statistical Association*, **85**, 1990, 220–227.

James G. MacKinnon and Lonnie Magee, “Transforming the dependent variable in regression models,” *International Economic Review*, **31**, 1990, 315–339.

Russell Davidson and James G. MacKinnon, “Une nouvelle forme du test de la matrice d’information,” *Annales d’Economie et de Statistique*, **20/21**, 1990/1991, 171–192.

Russell Davidson and James G. MacKinnon, “Artificial regressions and $C(\alpha)$ tests,” *Economics Letters*, **35**, 1991, 149–153.

Russell Davidson and James G. MacKinnon, “A new form of the information matrix test,” *Econometrica*, **60**, 1992, 145–157.

James G. MacKinnon, “Model specification tests and artificial regressions,” *Journal of Economic Literature*, **30**, 1992, 102–146.

Russell Davidson and James G. MacKinnon, “Regression-based methods for using control variates in Monte Carlo experiments,” *Journal of Econometrics*, **54**, 1992, 203–222.

James G. MacKinnon, “Contrastes de especificación de modelos y regresiones artificiales,” *Cuadernos Económicos de ICE*, **55**, 1993, 135–183.

James G. MacKinnon, “Approximate asymptotic distribution functions for unit-root and cointegration tests,” *Journal of Business and Economic Statistics*, **12**, 1994, 167–176.

James G. MacKinnon, “Numerical distribution functions for unit root and cointegration tests,” *Journal of Applied Econometrics*, **11**, 1996, 601–618.

Russell Davidson and James G. MacKinnon, “Graphical methods for investigating the size and power of hypothesis tests,” *The Manchester School*, **66**, 1998, 1–26.

James G. MacKinnon and Anthony A. Smith, “Approximate bias correction in econometrics,” *Journal of Econometrics*, **85**, 1998, 205–230.

Russell Davidson and James G. MacKinnon, “Bootstrap testing in nonlinear models,” *International Economic Review*, **40**, 1999, 487–508.

Russell Davidson and James G. MacKinnon, "The size distortion of bootstrap tests," *Econometric Theory*, **15**, 1999, 361–376.

James G. MacKinnon, Alfred A. Haug, and Leo Michelis, "Numerical distribution functions of likelihood ratio tests for cointegration," *Journal of Applied Econometrics*, **14**, 1999, 563–577.

Russell Davidson and James G. MacKinnon, "Bootstrap tests: How many bootstraps?," *Econometric Reviews*, **19**, 2000, 55–68.

Alfred A. Haug, James G. MacKinnon, and Leo Michelis, "European monetary union: A cointegration analysis," *Journal of International Money and Finance*, **19**, 2000, 419–432.

Russell Davidson and James G. MacKinnon, "Bootstrap J tests of nonnested linear regression models," *Journal of Econometrics*, **109**, 2002, 167–193.

Neil R. Ericsson and James G. MacKinnon, "Distributions of error correction tests for cointegration," *The Econometrics Journal*, **5**, 2002, 285–318.

James G. MacKinnon, "Bootstrap inference in econometrics," *Canadian Journal of Economics*, **35**, 2002, 615–645.

Russell Davidson and James G. MacKinnon, "Fast double bootstrap tests of nonnested linear regression models," *Econometric Reviews*, **21**, 2002, 417–427.

Russell Davidson and James G. MacKinnon, "The power of bootstrap and asymptotic tests," *Journal of Econometrics*, **133**, 2006, 421–441.

James G. MacKinnon, "Bootstrap methods in econometrics," *Economic Record*, **82**, 2006, s2–s18.

Russell Davidson and James G. MacKinnon, "The case against JIVE," *Journal of Applied Econometrics*, **21**, 2006, 827–833.

Russell Davidson and James G. MacKinnon, "The case against JIVE: Reply," *Journal of Applied Econometrics*, **21**, 2006, 843–844.

Russell Davidson and James G. MacKinnon, "Improving the reliability of bootstrap tests with the fast double bootstrap," *Computational Statistics and Data Analysis*, **51**, 2007, 3259–3281.

Jeffrey S. Racine and James G. MacKinnon, "Simulation-based tests that can use any number of simulations," *Communications in Statistics: Simulation and Computation*, **36**, 2007, 357–365.

Jeffrey S. Racine and James G. MacKinnon, "Inference via kernel smoothing of bootstrap P values," *Computational Statistics and Data Analysis*, **51**, 2007, 5949–5957.

Russell Davidson and James G. MacKinnon, "Moments of IV and JIVE estimators," *The Econometrics Journal*, **10**, 2007, 541–553.

Russell Davidson and James G. MacKinnon, “Bootstrap inference in a linear equation estimated by instrumental variables,” *The Econometrics Journal*, **11**, 2008, 443–477.

Russell Davidson and James G. MacKinnon, “Wild bootstrap tests for IV regression,” *Journal of Business and Economic Statistics*, **28**, 2010, 128–144.

James G. MacKinnon and Morten Ø. Nielsen, “Numerical distribution functions of fractional unit root and cointegration tests,” *Journal of Applied Econometrics*, **29**, 2014, 161–171.

Russell Davidson and James G. MacKinnon, “Bootstrap confidence sets with weak instruments,” *Econometric Reviews*, **33**, 2014, 651–675.

Russell Davidson and James G. MacKinnon, “Confidence sets based on inverting Anderson-Rubin tests,” *The Econometrics Journal*, **17**, 2014, S39-S58.

Russell Davidson and James G. MacKinnon, “Bootstrap tests for overidentification in linear regression models,” *Econometrics*, **3**, 2015, 825–863.

James G. MacKinnon, “Wild cluster bootstrap confidence intervals,” *L’Actualité économique*, **91**, 2015, 11–33.

James G. MacKinnon, “Inference with large clustered datasets,” *L’Actualité économique*, **92**, 2016, 649-665.

James G. MacKinnon and Matthew D. Webb, “Wild bootstrap inference for wildly different cluster sizes,” *Journal of Applied Econometrics*, **32**, 2017, 233–254.

James G. MacKinnon and Matthew D. Webb, “Pitfalls when estimating treatment effects using clustered data,” *The Political Methodologist*, **24**, 2017, 20–31.

James G. MacKinnon and Matthew D. Webb, “The wild bootstrap for few (treated) clusters,” *The Econometrics Journal*, **21**, 2018, 114–135.

David Roodman, James G. MacKinnon, Morten Ø. Nielsen, and Matthew D. Webb, “Fast and wild: Bootstrap inference in Stata using boottest,” *Stata Journal*, **19**, 2019, 4–60.

Antoine A. Djogbenou, James G. MacKinnon, and Morten Ø. Nielsen, “Asymptotic theory and wild bootstrap inference with clustered errors,” *Journal of Econometrics*, **212**, 2019, 393–412

James G. MacKinnon, “How cluster-robust inference is changing applied econometrics,” *Canadian Journal of Economics*, **52**, 2019, 851–881.

James G. MacKinnon and Matthew D. Webb, “Randomization inference for difference-in-differences with few treated clusters,” *Journal of Econometrics*, **218**, 2020, 435–450.

James G. MacKinnon, Morten Ø. Nielsen, and Matthew D. Webb, "Wild bootstrap and asymptotic inference with multiway clustering," *Journal of Business and Economic Statistics*, **39**, 2021, 505–519.

James G. MacKinnon, Morten Ø. Nielsen, and Matthew D. Webb, "Cluster-robust inference: A guide to empirical practice," *Journal of Econometrics*, **232**, 2023, 272–299.

James G. MacKinnon, "Fast cluster bootstrap methods for linear regression models," *Econometrics and Statistics*, **26**, 2023, 52–71.

James G. MacKinnon, "Using large samples in econometrics," *Journal of Econometrics*, **235**, 2023, 922–926.

James G. MacKinnon, Morten Ø. Nielsen, and Matthew D. Webb, "Testing for the appropriate level of clustering in linear regression models," *Journal of Econometrics*, **235**, 2023, 2027–2056.

James G. MacKinnon, Morten Ø. Nielsen, and Matthew D. Webb, "Fast and reliable jackknife and bootstrap methods for cluster-robust inference," *Journal of Applied Econometrics*, **38**, 2023, 671–694.

James G. MacKinnon, Morten Ø. Nielsen, and Matthew D. Webb, "Leverage, influence, and the jackknife in clustered regression models: Reliable inference using summclust," *Stata Journal*, 2023, forthcoming.

Selected Working Papers:

James G. MacKinnon, "Applications of the fast double bootstrap," QED Working Paper No. 1023, 2006.

James G. MacKinnon, "Critical values for cointegration tests," QED Working Paper No. 1227, 2010.

James G. MacKinnon and Matthew D. Webb, "When and how to deal with clustered errors in regression models," QED Working Paper No. 1421, 2019.