

Hiroshi Yamada

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Nationality

- Japanese

Date of Birth

- 19th of March 1967

Contact Information

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Degrees

- Ph.D. in Economics, University of Tsukuba, 1999
Dissertation title: *Essays on Applied Econometric Time Series Analysis*.
- M.A. in Economics, University of Tsukuba, 1994.
- B.A. in Economics, Hiroshima University, 1990.

Academic Positions

- Professor, Hiroshima University, 2007/4–present.
- Associate Professor, Hiroshima University, 2000/9–2007/3.
- Associate Professor, Otaru University of Commerce, 1997/4–2000/8.
- JSPS Research Fellow (DC1), 1994/4–1997/3.

Visiting Positions

- Visiting Professor, Victoria University of Wellington, New Zealand, 2007/9–2008/1
- Visiting Researcher, Pusan National University, Republic of Korea, 2003/10–2003/11
- Senior Research Fellow, University of Copenhagen, Denmark, 2000/12–2001/11

Books

1. Toda, H.Y. and H. Yamada, 2007, *Foundations of Econometrics* (University of Tokyo Press) (in Japanese).
2. Hatanaka, M. and H. Yamada, 2003, *Co-Trending: A Statistical System Analysis of Economic Trends* (Springer-Verlag Tokyo). ([link](#))

Journal Articles (Selected)

1. Jin, Z. and H. Yamada, 2024, Boosted Whittaker-Henderson Graduation, *Mathematics*, Vol. 12, No. 21, Article 3377 (MDPI). ([link](#))
2. Yamada, H., 2024, Moran's I for Multivariate Spatial Data, forthcoming in *Mathematics*, Vol. 12, No. 17, Article 2746 (MDPI). ([link](#))
3. Yamada, H., 2024, Geary's c for Multivariate Spatial Data, *Mathematics*, Vol. 12, No. 12, Article 1820 (MDPI). ([link](#))
4. Bao, R. and H. Yamada, 2024, Boosted Whittaker-Henderson Graduation of Order 1: A Graph Spectral Filter Using Discrete Cosine Transform, *Contemporary Mathematics* (Universal Wiser Publisher). ([link](#))
5. Yamada, H., 2024, A New Perspective on Moran's Coefficient: Revisited, *Mathematics*, Vol. 12, No. 2, Article 253 (MDPI). ([link](#))
6. Yamada, H., 2024, Spatial Smoothing Using Graph Laplacian Penalized Filter, *Spatial Statistics* (Elsevier). ([link](#))
7. Yamada, H., 2023, Geary's c and Spectral Graph Theory: A Complement, *Mathematics*, Vol. 11, No. 20, Article 4228 (MDPI). ([link](#))
8. Yamada, H., 2023, HPX Filter: A Hybrid of Hodrick-Prescott Filter and Multiple Regression, *Studies in Nonlinear Dynamics and Econometrics* (De Gruyter).([link](#))
9. Yamada, H., 2023, A Unified Perspective on Some Autocorrelation Measures in Different Fields: A Note, *Open Mathematics*, Vol. 21, Issue 1, Article 20220542 (De Gruyter).([link](#))
10. Bao, R., H. Yamada, and K. Hayakawa, 2023, l_1 Common Trend Filtering: An Extension, *Journal of Statistical Computation and Simulation*, Vol. 93, No. 4, pp.

493-512 (Taylor and Francis). ([link](#))

11. [Yamada, H.](#), 2023, Quantile Regression Version of Hodrick-Prescott Filter, *Empirical Economics*, Vol. 64, pp. 1631-1645 (Springer).([link](#))
12. [Yamada, H.](#), 2022, Trend Extraction from Economic Time Series with Missing Observations by Generalized Hodrick-Prescott Filters, *Econometric Theory*, Vol. 38, No. 3, pp. 419-453 (Cambridge University Press). ([link](#))
13. [Yamada, H.](#) and R. Bao, 2022, l_1 Common Trend Filtering, *Computational Economics*, Vol. 59, pp. 1005-1025 (Springer).([link](#))
14. [Yamada, H.](#), 2022, A Pioneering Study on Discrete Cosine Transform, *Communications in Statistics–Theory and Methods*, Vol. 51, No. 15, pp. 5364-5368 (Taylor and Francis).([link](#))
15. [Yamada, H.](#), 2021, Geary's c and Spectral Graph Theory, *Mathematics*, Vol. 9, No. 19, 2465 (MDPI). ([link](#))
16. Du, R. and [H. Yamada](#), 2020, Principle of Duality in Cubic Smoothing Spline, *Mathematics*, Vol. 8, No. 10, 1839 (MDPI).([link](#))
17. [Yamada, H.](#), 2020, A Smoothing Method That Looks Like the Hodrick-Prescott Filter, *Econometric Theory*, Vol. 36, No. 5, pp. 961-981 (Cambridge University Press).([link](#))
18. [Yamada, H.](#), 2020, A Note on Whittaker-Henderson Graduation: Bisymmetry of the Smoother Matrix, *Communications in Statistics–Theory and Methods*, Vol. 49, Issue 7, pp. 1629-1634 (Taylor and Francis).([link](#))
19. [Yamada, H.](#) and F. T. Jahra, 2019, An Explicit Formula for the Smoother Weights of the Hodrick-Prescott Filter, *Studies in Nonlinear Dynamics and Econometrics*, Vol. 23, No. 5, pp. 1-10 (De Gruyter).([link](#))
20. [Yamada, H.](#) and F. T. Jahra, 2019, Explicit Formulas for the Smoother Weights of the Whittaker-Henderson Graduation of Order 1, *Communications in Statistics–Theory and Methods*, Vol. 48, Issue 12, pp. 3153-3161 (Taylor and Francis).([link](#))
21. [Yamada, H.](#) and R. Du, 2019, A Modification of the Whittaker-Henderson Method of Graduation, *Communications in Statistics–Theory and Methods*, Vol. 48, Issue 15, pp. 3795-3800 (Taylor and Francis).([link](#))

22. Yamada, H., 2018, A New Method for Specifying the Tuning Parameter of l_1 Trend Filtering, *Studies in Nonlinear Dynamics and Econometrics*, Vol. 22, No. 4, pp. 1-8 (De Gruyter).([link](#))
23. Yamada, H. and R. Du, 2018, Some Results on l_1 Polynomial Trend Filtering, *Econometrics*, Vol. 6, No. 3, Article 33 (MDPI).([link](#))
24. Yamada, H., 2018, A Trend Filtering Method Closely Related to l_1 Trend Filtering, *Empirical Economics*, Vol. 55, No. 4, pp. 1413-1423 (Springer).([link](#))
25. Yamada, H., 2018, Several Least Squares Problems Related to the Hodrick-Prescott Filtering, *Communications in Statistics–Theory and Methods*, Vol. 47, Issue 5, pp. 1022-1027 (Taylor and Francis).([link](#))
26. Yamada, H., 2018, Why Does the Trend Extracted by the Hodrick-Prescott Filtering Seem to be More Plausible Than the Linear Trend? *Applied Economics Letters*, Vol. 25, No. 2, pp. 102-105 (Routledge). ([link](#))
27. Yamada, H., 2017, The Frisch-Waugh-Lovell Theorem for the Lasso and the Ridge Regression, *Communications in Statistics–Theory and Methods*, Vol. 46, Issue 21, pp. 10897-10902 (Taylor and Francis).([link](#))
28. Yamada, H., 2017, Estimating the Trend in US Real GDP Using the l_1 Trend Filtering, *Applied Economics Letters*, Vol. 24, No. 10, pp. 713-716 (Routledge). ([link](#))
29. Yamada, H., 2017, A Small But Practically Useful Modification to the Hodrick-Prescott Filtering: A Note, *Communications in Statistics–Theory and Methods*, Vol. 46, Issue 17, pp. 8430-8434 (Taylor and Francis).([link](#))
30. Yamada, H. and G. Yoon, 2016, Measuring the US NAIRU as a Step Function, *Empirical Economics*, Vol. 51, No. 4, pp. 1679-1688 (Springer). ([link](#))
31. Yamada, H. and G. Yoon, 2016, Selecting the Tuning Parameter of the l_1 Trend Filter, *Studies in Nonlinear Dynamics and Econometrics*, Vol. 20, No. 1, pp. 97-105 (De Gruyter). ([link](#))
32. Yamada, H., 2015, Ridge Regression Representations of the Generalized Hodrick-Prescott Filter, *Journal of the Japan Statistical Society*, Vol. 45, pp. 121-128 (TERRAPUB).([link](#))

33. Yamada, H., 2014, Estimating the Time-Varying NAIRU and the Phillips Curve Slope Simultaneously: A Note, *Applied Economics Letters*, Vol. 24, Issue 15, pp. 1057-1059 (Routledge).([link](#))
34. Yamada, H. and Y. Wei, 2014, Some Theoretical and Simulation Results on the Frequency Domain Causality Test, *Econometric Reviews*, Vol. 33, No. 8, pp. 936-947 (Taylor & Francis).([link](#))
35. Yamada, H. and G. Yoon, 2014, When Grilli and Yang Meet Prebisch and Singer: Piecewise Linear Trends in Primary Commodity Prices, *Journal of International Money and Finance*, Vol. 42, pp. 193-207 (Elsevier).([link](#))
36. Yamada, H. and L. Jin, 2013, Japan's Output Gap Estimation and $1_{\{1\}}$ Trend Filtering, *Empirical Economics*, Vol. 45, No. 1, pp. 81-88 (Springer).([link](#))
37. Yamada, H., 2012, A Note on Bandpass Filters Based on the Hodrick-Prescott Filter and the OECD System of Composite Leading Indicators, *OECD Journal: Journal of Business Cycle Measurement and Analysis*, Vol. 2011/2, pp. 105-109 (OECD Publishing).([link](#))
38. Yamada, H., S. Nagata and Y. Honda, 2010, A Comparison of Two Alternative Composite Leading Indicators for Detecting Japanese Business Cycle Turning Points, *Applied Economics Letters*, Vol.17, 875-879 (Routledge).([link](#))
39. Yamada, H., Y. Honda and Y. Tokutsu, 2008, An Evaluation of the Japanese Leading Indicators, *OECD Journal: Journal of Business Cycle Measurement and Analysis*, Vol. 2007/2, pp. 217-233 (OECD Publishing).([link](#))
40. Yamada, H., 2005, Nonlinear Co-trending and the Fisher Relation in Japan: A Note, *Applied Financial Economics Letters*, Vol. 1, pp. 285-287 (Routledge).([link](#))
41. Yamada, H. and Y. Honda, 2005, Do Stock Prices Contain Predictive Information on Business Turning Points? A Wavelet Analysis, *Applied Financial Economics Letters*, Vol. 1, pp. 19-23 (Routledge).([link](#))
42. Yamada, H., 2005, Wavelet-Based Beta Estimation and Japanese Industrial Stock Prices, *Applied Economics Letters*, Vol. 12, pp. 85-88 (Routledge).([link](#))
43. Yamada, H., 2002, Real Interest Rate Equalization: Some Empirical Evidence from the Three Major World Financial Markets, *Applied Economics*, Vol. 34, pp. 2069-2073 (Routledge). ([link](#))

44. Yamada, H., 2002, On the Linkage of Real Interest Rates Between the US and Canada: Some Additional Empirical Evidence, *Journal of International Financial Markets, Institutions and Money*, Vol. 12, pp. 279-289 (Elsevier).([link](#))
45. Yamada, H., 2000, M2 Demand Relation and Effective Exchange Rate in Japan: A Cointegration Analysis, *Applied Economics Letters*, Vol. 7, pp. 229-232 (Routledge).([link](#))
46. Yamada, H., 1999, Empirical Evidence for the Export Promotion Strategies, *Applied Economics Letters*, Vol. 6, pp. 775-778 (Routledge).([link](#))
47. Yamada, H., 1998, A Note on the Causality between Export and Productivity: An Empirical Re-examination, *Economics Letters*, Vol. 61, pp.111-114 (Elsevier).([link](#))
48. Yamada, H. and H. Y. Toda, 1998, Inference in Possibly Integrated Vector Autoregressive Models: Some Finite Sample Evidence, *Journal of Econometrics*, Vol. 86, pp. 55-95 (Elsevier).([link](#))
49. Yamada, H. and H. Y. Toda, 1997, A Note on Hypothesis Testing Based on the Fully Modified Vector Autoregression, *Economics Letters*, Vol. 56, pp. 27-39 (Elsevier).([link](#))

Published Conference Proceedings

1. Yamada, H., 2024, Boosted HP Filter: Several Properties Derived from Its Spectral Representation, Computational Science and Its Applications–ICCSA 2024: 24th International Conference, Hanoi, Vietnam, July 1-4, 2024, Proceedings, Part II, Springer, Cham. ([link](#))

Drafts

1. Yamada, H., 2024, Positive Semidefinite Matrix Penalized Filter with Quantile Regression Loss Function.
2. Yamada, H., 2024, Seasonal Autocorrelation and Spectral Graph Theory.
3. Yamada, H., 2024, Eigenvalues of the Pentadiagonal Matrix in the Hodrick-Prescott Filter.

4. Yamada, H., 2024, Seasonal Filtering.
5. Yamada, H. and C. Ting, 2024, Markowitz Meets Equal Weight.
6. Yamada, H., 2024, Linear Trend, HP Trend, and bHP Trend.
7. Yamada, H., 2024, Multivariate Hodrick-Prescott Filter: Extracting the Common Business Cycle of Multiple Economic Time Series.

Recent Presentations (Selected)

1. 2024/7, Boosted HP Filter: Several Properties Derived from Its Spectral Representation, Computational Science and Its Applications–ICCSA 2024: 24th International Conference, Thuyloi University, Hanoi.
2. 2024/4, Seasonal Autocorrelation and Spectral Graph Theory, SH3 Conference on Econometrics 2024, Singapore Management University, Singapore.
3. 2023/9, Non-negative Definite Matrix Penalized Filter with Quantile Regression Loss Function, Advances in Econometrics (AiE) Conference and Festschrift in Honor of Joon Y. Park, Indiana University Bloomington, Bloomington.
4. 2023/8, Spatial Smoothing Using Graph Laplacian Penalized Filter, COMPSTAT 2023, University of London, London.
5. 2023/7, Spatial Smoothing Using Graph Laplacian Penalized Filter, Spatial Statistics 2023, University of Colorado Boulder, Boulder.
6. 2023/7, Spatial Smoothing Using Graph Laplacian Penalized Filter, The 17th International Symposium on Econometric Theory and Applications (SETA), Singapore Management University, Singapore.
7. 2023/3, A Unified Perspective on the Simple and Boosted HP Filters and the Results Derived from It, SH3 Conference on Econometrics 2023, Singapore Management University, Singapore.
8. 2022/3, Seasonal Filtering, SH3 Conference on Econometrics 2022, Singapore Management University, Singapore.
9. 2021/3, Spatial Autocorrelation and Spectral Graph Theory, SH3 Conference on Econometrics 2021, Singapore Management University, Singapore.

10. 2020/1, A Smoothing Method That Looks Like the Hodrick - Prescott Filter, Division of Economics, School of Social Sciences, Nanyang Technological University, Singapore.
11. 2019/8, Whittaker-Henderson Graduation and Graph Spectral Filtering, HSI2019 – 5th Hitotsubashi Summer Institute, Hitotsubashi University, Kunitachi.
12. 2019/3, Whittaker-Henderson Graduation and Graph Spectral Filtering, SH3 Conference on Econometrics 2019, Singapore Management University, Singapore.
13. 2018/10, Whittaker-Henderson Graduation, Discrete Cosine Transform and Graph Spectral Filtering, BK21PLUS Korean Economic Group International Conference on Econometrics, Korea University, Seoul.
14. 2018/3, Bridge Filtering, HU-HUE-SMU Tripartite Conference on Econometrics, Singapore Management University, Singapore.

Research Grants (MEXT/JSPS KAKENHI, Principal Investigator research grant only)

1. Grant-in-Aid for Scientific Research (C), “Development and Application of Weighted Adjacency Matrix Estimation Methods Based on Multivariate Data”, Award No. 23K01377, Total Award Amount: ¥4,680, 000, Period: 2023/4–2026/3.
2. Grant-in-Aid for Challenging Research (Exploratory), “Applying Spectral Graph Theory to Spatial Econometrics”, Award No. 20K20759, Total Award Amount: ¥6,370,000, Period: 2020/4–2023/3.
3. Grant-in-Aid for Scientific Research (B), “Statistical Analysis of High-Dimensional Data”, Award No. 16H03606, Total Award Amount: ¥17,940,000, Period: 2016/4–2021/3.
4. Grant-in-Aid for Exploratory Research, “Bridge Filter: A New Filter Class”, Award No. 15K13010, Total Award Amount: ¥3,120,000, Period: 2015/4–2018/3.
5. Grant-in-Aid for Scientific Research (C), “Business Cycle Synchronization and Developing Business Cycle Indicators”, Award No. 22530272, Total Award Amount: ¥4,290,000, Period: 2010/4–2015/3.
6. Grant-in-Aid for Scientific Research (C), “Business Cycle Analysis Using Band-

Pass Filter”, Award No. 19530241, Total Award Amount: ¥3,640,000, Period: 2007/4–2010/3.

7. Grant-in-Aid for Scientific Research (C), “Development of New Economic Indicators Using Wavelet Analysis”, Award No. 17530211, Total Award Amount: ¥3,200,000, Period: 2005/4–2007/3.
8. Grant-in-Aid for Young Scientists (B), “Hypothesis Testing Using Partial Sum of OLS Residuals”, Award No. 14730026, Total Award Amount: ¥2,800,000, Period: 2002/4–2004/3.

Referee Services

American Economic Review, Applied Economics, Applied Economics Letters, Communications in Statistics–Theory and Methods, Computational Economics, Econometric Reviews, Econometrics and Statistics, Economic Modelling, Economics Letters, Empirical Economics, Japanese Economic Review, Journal of Applied Econometrics, Journal of Applied Statistics, Journal of Business Cycle Measurement and Analysis, Journal of Econometrics, Journal of International Money and Finance, Journal of the Japan Statistical Society.