RAY YEUTIEN CHOU（周雨田）

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ADDRESS

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EDUCATION

Ph.D. 1988, University of California, San Diego, Economics

M. A. 1982, University of Kentucky, Economics

B. A. 1978, National Taiwan University, Economics

EMPLOYMENT

Adjunct Research Fellow Institute of Economics, Academia Sinica 8/2020-present

Research Fellow Institute of Economics, Academia Sinica 3/2005-8/2020

Joint appointment Professor National ChiaoTung University 3/2005-present

Visiting Scholar, Stern School of Business, New York Universty of. 2/2013-6/2013

Adjunct Professor, Graduate School of Business, Fordham Universty 2/2013-6/2013

Associate Research Fellow Institute of Economics, Academia Sinica 6/1995-3/2005

Adjunct Associate Professor National Chiao Tung University 9/2004-3/2005

Visiting Scholar, Graduate School of Business, Universty of. Chicago 9/2000-3/2001

Adjunct Associate Professor National Central University 9/1995-6/2004

Adjunct Associate Professor National Taiwan University 9/1995-2/1996

Assistant Professor Georgia Institute of Technology 9/1988-6/1995

CURRENT FIELDS OF INTEREST

Applied Econometrics, Forecasting, Empirical Finance, Data analytics

COURSES TAUGHT

Machine Learning and Business Applications, Time Series Analysis, Financial Econometrics, Econometrics, Investments, Futures and Options Market, Corporate Finance, Financial Markets, Risk Management, Empirical Methods in Finance, Business Forecasting, Microeconomics

RESEARCH

A: Selected Journal Publications (8984 Google scholar citations, as of 2020/10/15)

1. "Bank Diversification and Systemic Risk," with CL Liu and HF Yang, *Quarterly Review of Economics and Finance*, 2020, 77, 311-326

2. "Causal relationship between spot and futures prices with multiple time horizons: A nonparametric wavelet Granger causality test," with TP Chang and Dost Torun, *Research in International Business and Finance,* 2020, 52(C), 101-115.

3. "Macroeconomic Forecasting Using Approximate Factor Models with Outliers" with Yen, Y.M. and Yen, T.R. *International Journal of Forecasting,* 2020, 36(2), 267-291.

4. "Anchoring Effect on Macroeconomic Forecasts: A Heterogeneity Approach," with Chang, T.P., *Romanian Journal of Economic Forecasting,* 2018, 21(4), 134-147.

5. "Risk Evaluations with Robust Approximate Factor Models," with Yen, Y.M. and Yen, T.R., *Journal of Banking and Finance*, 2017, 82, 244-264.

6. "Volatility Spillover in the US and European Equity Markets: Evidence from Ex-ante and Ex-post Volatility Indicators," with Chih-Chiang Wu and Sin-Yun Yang, *Review of Securities and Futures Markets*, 2017, 29(2):111-148.

7. "Outlier Detection in the Lognormal Logarithmic Conditional Autoregressive Range Model," with Chiang, M.H. and Wang, L.M., *Oxford Bulletin of Economics and Statistics*, 2016, 78(1), 126-144.

8. "Market Conditions and the Effect of Diversification on Mutual Fund Performance: Should Funds be More Concentrative under Crisis?" with Hu, J.L. and Chang, T.P., *Journal of Productivity Analysis*, 2014, 41(1), 141-151.

9. "Interest Rate Risk Propagation: Evidence from the Credit Crunch," with HF Yang and CL Liu, *North American Journal of Economics and Finance* 2014, 28, 242-264.

10. "Anchoring Effect on Foreign Institutional Investors' Momentum Trading Behavior: Evidence from the Taiwan Stock Market," with LC Liao and BH Chiu, *North American Journal of Economics and Finance,* 2013, 26(C), 72-91.

11. “The Sources of Bank Productivity Growth in China during 2002-2009: A Disaggregation View,” with Tzu-Pu Chang, Jin-Li Hu and Lei Sun, *Journal of Banking & Finance*, 2012, 36(7), 1997-2006.

12. “The Euro's Impacts on the Smooth Transition Dynamics of Stock Market Volatilities,” with Chun-Chou Wu, and Yi-Nung Yang, *Quantitative Finance*, 2012, 12(2), 169-179.

13. "The Economic Value of Volatility Timing Using a Range-Based Volatility Model," with Nathan Liu, *Journal of Economic Dynamics and Control,* 2010, 34(11), 2288-2301.

14. “Explaining International Stock Correlations with CPI Fluctuations and Market Volatility,” with Yijie Cai and Dan Li, *Journal of Banking & Finance*, 2009, 33(11), 2026-2035.

15. “Forecasting Time-Varying Covariance with Range-Based Dynamic Conditional Correlation Model,” with Chun-Chou Wu and Nathan Liu, *Review of Quantitative Finance and Accounting*, 2009, 33(4), 327-345.

16. “Range-based Multivariate Volatility Model with Double Smooth Transition in Conditional Correlation,” with Yijie Cai, *Global Finance Journal*, 2009, 20(2), 137-152.

17. “Modeling the Asymmetry of Stock Movements Using Price Ranges,” *Econometric Analysis of Financial and Economic Time Series*, 2006, 20, 231-257.

18. “Forecasting Financial Volatilities With Extreme Values: The Conditional Auto Regressive Range (CARR) Model,” *Journal of Money Credit and Banking*, June 2005, 37(3), 561-582.

19. “A Comparison and Empirical Study in Forecasting Abilities of Dynamic Volatility Models,” with Chun-Chou Wu and Nathan Liu (in Chinese), *Journal of Financial Studies*, April 2004, 12(1), 1-25.

20. “An Empirical Test for Short Termism in the US Stock Market,” with Wen-Chung Guo, *Monetary Integration, Markets and Regulation,* 2004, 4, 115-130.

21. “The Effect of Futures Introduction on Market Volatility and Information Transmission,” (in Chinese) with Jie-Haun Lee and Chun-Chou Wu, *Journal of Financial Studies,* 2002, 10(2), 1-22.

22. “Deregulation and Efficiency of Taiwanese Banks,” edited by Fu, Huang, and Lovell, with Iftekhar Hasan, Ana Lozano-Vivas and Chung-Hua Shen in *Economic Efficiency and Productivity Growth in the Asia-Pacific Region II*, 2002, 184-207.

23. “Testing Time Reversibility without Moment Restrictions,” with Yi-Ting Chen and Chung-Ming Kuan, Journal of Econometrics, 2000, 95(1), 199-218

24. “Market Volatility and the Demand for Hedging in Stock Index Futures,” with Eric Chang and Edward Nelling, Journal of Futures Markets, 2000, 20(2), 105-125.

25. “Modeling Taiwan Stock Market and the International Linkages,” with Jin-Long Lin and Chung-Su Wu, *Pacific Economic Review*, 1999, 4(3), 305-320.

26. “The U.S. Banking Industry in Transition,” *Financial Integration in North America*, edited by Jerry Harr and Krishnan Dandapani, North-South Center, University of Miami, 1999.- with James Barth and John Jahera.

27. “Determinants of Geographic Differentials in the Savings and Loan Failure Rate - A Heteroskedastic TOBIT estimation,” with Richard Cebula, *Journal of Financial Services Research*, 1996, 10(1), 5-25.

28. “Determinants of U.S. Commercial Bank Performance: Regulatory and Econometric Issues,” with P.A.V.B. Swamy, James R. Barth, and John S. Jahera, Jr, *Research in Finance*, edited by Andrew H. Chen, Greenwich: JAI Press Inc., August, 1996, 14, 117-156.

29. “Deposit Insurance and Bank Failures: A Preliminary Analysis,” with James R. Barth, Willie J. Belton, and Richard J. Cebula, *American Statistical Association Proceedings of the Business and Economic Statistics*, 1994, 293-297.

30. “Cointegration of International Stock Market Indices,” with Victor Ng and Lynn Pi, *American Statistical Association Proceedings of the Business and Economic Statistics*, 1994, 196-201.

31. “Measuring Risk Aversion from Excess Returns On A Stock Index,” with Robert

Engle and Alex Kane, *Journal of Econometrics*, 1992, 52(1-2), 201-224.

32. "ARCH Modeling in Finance: A Review of the Theory and Empirical Evidence," with Tim Bollerslev and Kenneth Kroner, *Journal of Econometrics*, 1992, 52(1-2), 5-59. (also included in the book "*Volatility: New Techniques for Pricing Derivatives and Managing Financial Portfolios*," 1998, *RISK*.).

33. "An Examination of the Behavior of International Stock Market Volatility," with Victor Ng and Rosita Chang, *Pacific-Basin Capital Markets Research*, 1991, Second Annual Volume.
34. "Volatility Persistence and Stock Valuations: Some Empirical Evidence Using GARCH," *Journal of Applied Econometrics*, December, 1988, 3(4), 279-294.

B: Selected conference presentations

1. Ray Y Chou,. "Forecasting Volatility with Multiple Horizon Extreme Values," with C-S Lin and S-Y Ying 26th Annual Conference of the Multinational Finance Society, June 30-July 3rd. 2019, Jerusalem, Isreal.

2. Ray Y Chou, Yen, T-J, Yen, M-Y. Forecasting Expected Shortfall and Value-at-Risk with the FZ Loss and Realized Variance Measures," 12th SoFiE Annual Conference, June, 2019, Shanghai, China.

3. "Macroeconomic Forecasting using Approximate Factor Models with Outliers," with Tso-Jung Yen and Yu-MinYen, presented at The 15th Western Economic Association International Conference, March 21-24, 2019, Tokyo, Japan

4. "Systemic Risk with Multiple Horizon Extreme Value: Evidence from Carry-trade and Stock Markets," presented at The 25th annual conference of the Multinational Finance Society, June 24-27, 2018, Budapest, Hungary

5. "Robust Estimations of Approximate Factor Models via Sparse Matrix Decomposition," presented at The 11th Western Economic Association International Conference, January 8-11, 2015, Wellington, New Zealand

6. "The Economic Value of Volatility Timing Using a Ranged-based Volatility Model," with Nathan Liu, presented at The 6th annual meeting of Chinese financial Markets, July 9-10, 2013, Shanghai Jiao Tong University

7. "A New Normalization Method for Studying Time-Frequency Variations of Data with High Growth Rates," with Norden Huang, and Erdost Torun, presented at The 4th Chinese Econometrics Society Meeting, Dec 12-16, 2012. JinHua,

Zhejiang, China

8. "The Sources of Bank Productivity Growth in China during 2002-2009," with Tzu-Pu Chang, Jin-Li Hu, and Lei Sun, presented at the 9th Annual conference of cross straight economic development, Beijing, China, Sept. 14-15, 2012.

9. "Market Conditions and the Effect of Diversification on Mutual Fund Performance: Should Funds be More Concentrative under Crisis?," with Jin-Li Hu, and Tzu-Pu Chang, presented at the EBES 2012 Istanbul Conference, Istanbul, Turkey, May 24-26, 2012

10. "Time-varying trend of financial volatilities and its correlation with macroeconomic variables," with Norden Huang, and Dan Li, presented at The Institute of Mathematics and Applications Conference on Nonstationary Nonlinear Data and Instataneous Frequency, Sept. 5-16, 2011, University of Minnesota.

11. "Time-varying trend of financial volatilities and its correlation with macroeconomic variables," with Norden Huang, and Dan Li, presented at The 3rd International Conference on Hilbert-Huang Transformation, Jun. 20-24, 2011, Qingdao, China.

12. "Explaining the Great Decoupling of the Equity-Bond Linkage with a Modified Dynamic Conditional Correlation Model," with Wei-Yi Liao, presented at XVIII International Tor Vergata Conference, Dec.2-4, 2009, Rome, Italy.

13. "Range-Based Multivariate Volatility Model with Smooth Transition in Conditional Correlations," with Yijie Cai, presented at China Applied Statistics Association Annual meetings Jul.17-19, 2009, Shanghai, China.

14. "Utilize Realized Covariance to Improve Risk Managemen," with Lianqian Yin, presented at 2009 International Financial Engineering and Risk Management Conference, Jul.8-10, 2009, Chengdu, China.

15. "China's Financial Liberalization and the Global Market Correlations," with Dan Li, and Yijie Cai, presented at 2009 CES Nanning Conference, Nanning, China, June 12-18, 2009.

16. "The Economic Value of Volatility Timing Using a Ranged-based Volatility Model," with Nathan Liu, presented at International Conference among Economic

Research Institutes in East Asia, Seoul, Korea, March 6-8, 2009.

17. "China's Financial Liberalization and the Global Market," with Yijie Cai, and Dan Li presented at CCER, Peking University, Beijing, China, November 27-30, 2008.

18. "The Study of Volatility and Dynamic Interdependence of International Tourism to China," with Dan Li, and Yijie Cai, presented at 8th Chinese Economic Association Meeting, ChongQing, China, November 11-16, 2008.

19. "The Economic Value of Volatility Timing Using a Range-based Volatility Model," with Nathan Liu, presented at the China International Conference in Finance, Dalian, China, July 2-5, 2008, and the 15th Global Finance Conference, Hangzhou, China, August 18-20, 2008.

20. "Smooth Transition CARR Models," with Jiaoquan Yao, presented at the Society for Financial Econometrics Conference (SoFiE), New York, USA, June 4-6, 2008.

C: Other presentations/discussions

American Economic Association, Econometric Society, American Statistical Association, Society of Financial Econometrics, Western Finance Association, Western Economic Association, Southern Finance Association, Financial Management Association, European Financial Management Associations Meetings, Pacific Basin Finance Annual Meetings, CBOT Symposiums for Derivative Assets, University of Chicago, London School of Economics, University of Wisconsin, University of Toronto, University of Southern California, University of California San Diego, Georgia Tech/Fed/GSU finance workshop, University of Lancaster, Louisiana State University, University of Minnesota, Queen's College, Emory University, Georgia State University, Taipei Center of Academic Activities, Academia Sinica, Georgia Tech Economics Research Seminar, Econometric Society Far-Eastern Meetings, Second Annual Conference of Pacific Basin Capital Market Research, Bankok, The First and Second Conference on Statistical Models of Financial Volatility, Chinese American Academic and Professional Convention, Special Economic Training Sessions, Jilin Province Government, China, J.P. Morgan & Co. Inc. National Taiwan University, National Cheng-chi University, National Central University, National Ching-Hua University, National Chung-cheng University, National Sun-Yat-Sen University, University of Rome, Xiamen University, Xi'an Chiao Tung University

SERVICE

A: Editorial Board

Taiwan Economic Forecast and Policy (current)
Taipei Economic Inquiry
Review of Financial Risk Management
Journal of Management & Systems

B: Journal and research project reviews
AER, Econometrica, Journal of Econometrics, JMCB, Journal of Applied Econometrics, JBES, Journal of Business, Journal of International Market and Finance, Journal of Financial Econometrics, Journal of Empirical Finance, Economics Letters, Quantitative Finance, Economic modeling, Economic Bulletin, International Review of Economics and Finance, Journal of Banking and Finance, Applied Economic Letters, and other major technical journals and for proposals to National Science Foundation (USA), Social Sciences and Humanities Research Council (Canada), National Science Council (Taiwan)

C: Invited book reviews:
(1) *Introductory Business Forecasting*, by Newbold and Bos
(2) *Business Forecasting: Theory and Practice*, by Joel J. Fingerman
(3) *Applied Econometrics : Problems with data sets*, by Lott and Ray

D: Other services
Board of directors of the Taiwan Economic Association, 2020-2021
Board of directors of the Taiwan GreTai (OTC) Securities Market, 2008-2012
Consultant, Taiwan Institute of Economic Research 1996-present
Board of directors of the Taiwan Economic Association, 2008-2009
Coordinator, committee of academic programs for the Taiwan Economic Association, 2005-2007
Member, Econometric Society, Taiwan Economic Association, Taiwan Econometrics Association, Taiwan Finance Association, Taiwan Financial Engineering Association,

AWARDS, GRANTS AND HONORS

1. Ranked 4 of 235 economists in Taiwan, among top 3% in Asia. Also among top 3% in the world in number of citations. See IDEAS, RePEc, October, 2020.
2. Albert Nelson Marquis Lifetime Achievement Award 2017, 2018
3. Listed in Marquis Who’s Who in the World, 2004, 2012-13, 2015, 2017-20
4. Listed in Who's Who in Asia 2017
5. Listed in Who’s Who in Economics, Edward Elgar Publishing Ltd., 2003.
6. Third most cited papers in Journal of Econometrics, Vol.1-150, 2009
7. Cited in the Press Release for the 2003 Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel
8. The article Bollerslev/Chou/Kroner (1992) is ranked first as the most frequently cited papers among all articles published in Journal of Econometrics in 1990-2000 and ranked 3rd in 1980-2000. See Dirkmaat, Journal of Econometrics, 2001, 100.

9. The above article is ranked 92nd among all economics papers published since 1970. See Kim/Morse/Zingales, Journal of Economic Perspectives, 2006, 20, 4.
10. Research grants awards by Ministry of Science and Technology, Taiwan 1996-97, 1998-99,1999-2000,2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2006-07, 2008-09, 2009-11, 2011-13, 2013-15, 1015-17, 2017-19, 2019-20