Anthony S. TAY

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Singapore Management University (SMU)
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Education

PhD, University of Pennsylvania, United States of America, 1997

Bachelor of Social Science, National University of Singapore, Singapore, 1991

Academic Appointments

Associate Professor of Economics, School of Economics, SMU, Jul 2010 - Present

Assistant Professor of Economics, School of Economics, SMU, Apr 2007 - Jun 2010

Assistant Professor of Economics, School of Economics and Social Sciences, SMU, Jul 2003 - Mar 2007

Academic Administrative Positions

Associate Dean (Postgraduate), School of Economics, SMU, Jul 2016 - Jun 2021

Programme Director (Postgraduate Research), School of Economics, SMU, Jul 2013 - Jun 2021

Director (Postgraduate Research Programme), School of Economics, SMU, Jul 2012 - Jun 2013

RESEARCH

Research Interests

Econometrics (Theory, Forecasting), Empirical Macroeconomics, Empirical Finance

Publications

Journal Articles [Refereed]

The role of macroeconomic and policy uncertainty in density forecast dispersion, by LI, You; TAY, Anthony. (2021). *Journal of Macroeconomics, 67* 1-19. https://doi.org/10.1016/j.jmacro.2020.103266 (Published)

The impact of transaction duration, volume and direction on price dynamics and volatility, by TAY, Anthony S.; TING, Christopher; TSE, Yiu Kuen; WARACHKA, Mitchell. (2011). *Quantitative Finance, 11* (3), 447-457. http://doi.org/10.1080/14697680903405742 (Published)

Using High-Frequency Transaction Data to Estimate the Probability of Informed Trading, by TAY, Anthony S.; TING, Christopher; TSE, Yiu Kuen; WARACHKA, Mitchell. (2009). *Journal of Financial Econometrics, 7* (3), 288-311. https://doi.org/10.1093/jjfinec/nbp005 (Published)

Using High-Frequency Transaction Data to Estimate the Probability of Informed Trading, by TAY, Anthony S.; TING, Christopher; TSE, Yiu Kuen; Warachka, Mitchell C.. (2009). *Journal of Financial Econometrics, 7* (3), 288-311. http://doi.org/10.1093/jjfinec/nbp005 (Published)

Direction-of-change forecasts based on conditional variance, skewness and kurtosis dynamics: International evidence, by Christoffersen, Peter F.; Diebold, Francis X.; Mariano, Roberto S.; Tay, Anthony S.; Tse, Yiu Kuen. (2007). *Journal of Financial Forecasting, 1* (2), 1-22. (Published)

Global regional sources of risk in equity markets: Evidence from factor models with time-varying conditional skewness, by Hashmi, Aamir R.; Tay, Anthony S.. (2007). *Journal of International Money and Finance, 26* (3), 430-453. http://doi.org/10.1016/j.jimonfin.2007.01.003 (Published)

Non-fundamental expectations and economic fluctuations: Evidence from professional forecasts, by Choy, Keen Meng; Leong, Kenneth; Tay, Anthony S.. (2006). *Journal of Macroeconomics, 28* (2), 446-460. http://doi.org/10.1016/j.jmacro.2004.07.004 (Published)

Intraday stock prices, volume, and duration: a nonparametric conditional density analysis, by Tay, Anthony S.; Ting, Christopher. (2006). *Empirical Economics, 30* (4), 827-842. http://doi.org/10.1007/s00181-005-0004-y (Published)

Density forecasting: A survey, by Tay, Anthony S.; Wallis, Kenneth F.. (2000). *Journal of Forecasting, 19* (4), 235-254. http://doi.org/10.1002/1099-131X(200007)19:4<235::AID-FOR772>3.0.CO;2-L (Published)

Multivariate density forecast evaluation and calibration in financial risk management: High-frequency returns on foreign exchange, by Diebold, Francis X.; Hahn, Jinyong; Tay, Anthony S.. (1999). *Review of Economics and Statistics, 81* (4), 661-673. http://doi.org/10.1162/003465399558526 (Published)

Evaluating density forecasts with applications to financial risk management, by Diebold, Francis X.; Gunther, Todd A.; Tay, Anthony S.. (1998). *International Economic Review, 39* (4), 863-883. http://doi.org/10.2307/2527342 (Published)

Selecting an index for a stock index futures contract: An analysis of the Singapore market, by TAY, Anthony S.; TSE, Yiu Kuen. (1991). *Review of Futures Markets, 10* (3), 412-431. (Published)

Book Chapters

Mean, volatility, and skewness spillovers in equity markets, by Hashmi, Aamir R.; Tay, Anthony S.. (2012). In L. Bauwens; C. Hafner; S. Laurent (Ed.), *Handbook of volatility models and their applications* (pp. 127-145) Hoboken, NJ: Wiley-Blackwell. http://doi.org/10.1002/9781118272039.ch5 (Published)

Intraday stock prices, Volume, and duration: A nonparametric conditional density analysis, by TAY, Anthony S.; TING, Christopher. (2008). In L. Bauwens; W. Pohlmeier; D. Veredas (Ed.), *High frequency financial econometrics: Recent developments* (pp. 253-268) New York: Springer Verlag. http://doi.org/10.1007/978-3-7908-1992-2_11 (Published)

Evaluating density forecasts of inflation: The survey of professional forecasters, by Diebold, Francis X.; Tay, Anthony S.; Wallis, Kenneth F.. (1999). In H. White; R. F. Engle; C. W. J. Granger (Ed.), *Cointegration, causality, and forecasting: A festschrift in honour of Clive W. J. Granger* (pp. 76-90) Oxford: Oxford University Press. http://www.worldcat.org/isbn/9780198296836 (Published)

Conference Papers

Intraday stock prices, volume, and duration: A nonparametric conditional duration analysis, by Tay, Anthony. (2005.0). *Winter Meeting of the Econometric Society,* Singapore. (Presented)

Magazine Articles

A brief survey of density forecasting in macroeconomics, by Tay, Anthony. (2015, October). *Macroeconomic Review,* 92-97. (Published)

Newspaper Articles

Forecasting economic uncertainty, by TAY, Anthony, S. (2016, January 20). *Business Times (Singapore)* ,1-1. https://www.smu.edu.sg/sites/default/files/smu/news_room/smu_in_the_news/2016/Jan2016/Jan20/BT_20160120_1.pdf (Published)

Working Papers

The role of macroeconomic, policy, and forecaster uncertainty in forecast dispersion, by LI, You; TAY, Anthony S.. (2017). Singapore: SMU Economics and Statistics Working Paper Series, No. 01-2018. (Published)

Time-varying incentives in the mutual fund industry, by OLIVIER, Jacques; TAY, Anthony S.. (2008). Singapore: SMU Economics and Statistics Working Paper Series, Paper No. 10-2008. (Published)

Direction-of-change forecasts for Asian equity markets based on conditional variance, skewness and Kurtosis dynamics: International evidence, by Christoffersen, Peter F.; Diebold, Francis X.; Mariano, Roberto S.; Tay, Anthony S.; Tse, Yiu Kuen. (2007). Singapore: SMU Economics and Statistics Working Paper Series, Paper No. 15-2007. (Published)

Financial variables as predictors of real output growth, by TAY, Anthony S.. (2007). Singapore: SMU Economics and Statistics Working Paper Series, No. 14-2007. (Published)

Modeling transaction data of trade direction and estimation of probability of informed trading, by TAY, Anthony S.; TING, Christopher; TSE, Yiu Kuen; WARACHKA, Mitch. (2007). Singapore: SMU Economics and Statistics Working Paper Series, No. 13-2007. (Published)

Mixing frequencies: Stock returns as a predictor of real output growth, by TAY, Anthony S.. (2006). Singapore: SMU Economics and Statistics Working Paper Series, No. 34-2006. (Published)

Transaction-data analysis of marked durations and their implications for market microstructure, by TAY, Anthony; TING, Christopher; TSE, Yiu Kuen; Warachka, Mitchell. (2004). Singapore: SMU Economics and Statistics Working Paper Series, Paper No. 09-2004. (Published)

How should we interpret evidence of time varying conditional skewness?, by PREMARATNE, Gamini; TAY, Anthony S.. (2002). (Published)

Dynamic regressions with variables observed at different frequencies, by ABEYSINGHE, Tilak; TAY, Anthony S.. (2000). (Published)

Research Grants

Singapore Management University

Consensus economics data, SMU Internal Grant - Specialised Database Funding, Ministry of Education (MOE) Tier 1 , PI (Project Level): Anthony S. TAY, 2015, S$13,719

Macroeconomic Density Forecasts, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Anthony S. TAY, 2007, S$31,619.56

Optimal Use of Economic Data Sampled at Different Frequencies, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Anthony S. TAY, 2005, S$30,512

Global Volatility Dynamics, Financial Asset Return Predictability, and Market Timing: The U.S., Europe and Asia, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Anthony S. TAY , Co-PI (Project Level): TSE Yiu Kuen, 2004, S$55,299.44

Nonparametric Conditional Density Estimation, with an Application to Stock Returns Volatility, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Anthony S. TAY, 2003, S$26,642

Work in Progress

Anthony S. TAY, An Evaluation of Singapore's Survey of Professional Forecasters, 2025

Anthony S. TAY, BHARAT GANGWANI, Macroeconomic Uncertainty and the Relationship Between Bank Profits and Interest Rates, 2025

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

Intermediate Econometrics

Postgraduate Professional Programmes :

Capstone Project

Econometric Analysis

Econometrics II

Independent Study

Time Series Econometrics

Teaching Publications

Textbooks

Mathematics and Programming for the Quantitative Economist. Vol.1: Fundamentals by TAY, Anthony; PREVE, Daniel P. A.; BAYDUR, Ismail. Singapore: World Scientific. (Forthcoming)

THESES AND DISSERTATIONS

Theses and Dissertations Supervised

Singapore Management University

Supervisor, "Dispersion and Uncertainty in Density Forecasts: Evidence from Surveys of Professional Forecasters", Dissertation by LI, YOU, PhD in Economics, Singapore Management University, 2018

Theses and Dissertations Assessed

Singapore Management University

Committee Member, "Three Essays on Empirical Asset Pricing", Dissertation by ZENG MING, PhD in Economics, Singapore Management University, 2018

Committee Member, "On Refined and Robust Inferences for Spatial Regression Models", Dissertation, PhD in Economics, Singapore Management University, 2016

Committee Member, "Essays on High-frequency Financial Data Analysis", Dissertation by DONG YINGJIE, PhD in Economics, Singapore Management University, 2015

Committee Member, "Essays on High-frequency Financial Econometrics", Dissertation by LIU SHOUWEI, PhD in Economics, Singapore Management University, 2014

Committee Member, "Three Essays on Nonstationary Time Series Analysis", Dissertation by CHEN YE, PhD in Economics, Singapore Management University, 2014

Consultancy

IE Singapore / Spring Singapore, Aug 2017 - Feb 2019

International Monetary Fund (IMF) Singapore Regional Training Institute, Aug 2016

International Monetary Fund (IMF) Singapore Regional Training Institute, Aug 2015

International Monetary Fund (IMF) Singapore Regional Training Institute, Aug 2014

Singapore Power, Jul 2014

Member of MOE Consultative Group on ‘A’ level Mathematics and Statistics syllabus, Sep 2013

International Monetary Fund (IMF) Singapore Regional Training Institute, Jun 2013

International Monetary Fund (IMF) Singapore Regional Training Institute, Mar 2012

Monetary Authority of Singapore, Feb 2005 - Jul 2005

Ministry of Manpower, Jul 2002

UNIVERSITY SERVICE

Singapore Management University

Committee Member, Graduate College Task and Finish Group, Oct 2020 - Jun 2021

Committee Member, Blue Ribbon Commission - Postgraduate Education, Apr 2019 - Nov 2019

Committee Member, Postgraduate Professional Programmes Committee, Jul 2018 - Jun 2021

Committee Member, Faculty Advisory Committee (Teaching and Learning), Jan 2014 - Dec 2015

Committee Member, Postgraduate Research Programme Committee, Jul 2012 - Jun 2021

Committee Member, Faculty Senate, Jul 2011 - Jun 2013