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**July 2020**

## **CURRENT POSITIONS**

- Professor Emeritus of Economics, University of Pennsylvania
- Professor Emeritus of Economics, Singapore Management University
- Distinguished Research Fellow, Sim Kee Boon Institute for Financial Economics, Singapore Management University

## **OTHER CURRENT PROFESSIONAL ACTIVITIES**

- Fellow, Econometric Society
- Member – Bangko Sentral ng Pilipinas (BSP) Research Expert Panel, an international advisory body for BSP's research program; 2018 - present
- Editorial Services
  - Member, (Editorial) Advisory Board for Economics, World Scientific Publishing
  - Member, Editorial Advisory Board, **Philippine Review of Economics**

## **CURRENT RESEARCH**

- Mixed-Frequency Forecasting and Nowcasting
- Statistical Tests for Multiple Forecast Comparison
- Macroeconometric Modeling Issues in the Philippines: Policy Modeling, Forecasting, and Measuring Potential Output and the Output Gap

## **PAST ACADEMIC POSITIONS**

- University of Pennsylvania, 1971 – present
  - Professor Emeritus of Economics, 2004 - present -
  - Professor of Economics and Statistics, Department of Economics, 1980 – 2004
  - Associate Professor of Economics, Department of Economics, 1973 – 1980
  - Visiting Lecturer in Economics, Department of Economics, Wharton School, 1971 – 1973
- Singapore Management University, 2002 – 2010
  - Founding Dean, School of Economics, 2007 – 2010
  - Founding Dean, School of Economics and Social Sciences, 2002 – 2007
  - Founding Director, Sim Kee Boon Institute for Financial Economics (SKBI), 2008 – 2010
  - Co-Director, Center for Financial Econometrics at SKBI, 2008 – 2010
  - Co-Director, Center for Asset Securitization in Asia (CASA) at SKBI, 2008 – 2010
  - Vice Provost for Research and Graduate Studies, 2003 – 2008
- University of the Philippines
  - o Lecturer, 1964
  - o Assistant Professor of Economics, 1970 – 1971
- Ateneo de Manila University, Instructor, 1963 - 1964
- Visiting Faculty Academic Appointments
  - Centro Universitario de Econometria (CIDE) Summer School in Econometrics at Capaccio de S. Sofia, Italy, 1990
  - Institute for Advanced Studies, Vienna, Austria, 1980, 1983, 1988
  - School of Statistics, University of the Philippines, 1987 - 1988
  - Philippine Institute for Development Studies, Philippines, 1983 - 1984
  - CORE (Center for Operations Research and Econometrics), Universite Catholique de Louvain, Belgium, 1980.
  - Department of Economics, University of California, Berkeley, 1978 - 79.
  - Department of Economics, University of Western Australia, Perth, Australia, 1975

## **MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

- American Economic Association
- American Statistical Association
- Econometric Society
- Society for Financial Econometrics
- International Statistical Institute
- Institute of Mathematical Statistics
- Philippine Economic Society
- Philippine Statistical Association
- Economic Society of Singapore

## **DEGREES**

- Ph.D. Statistics, Stanford University, 1970
- M.S. Mathematics, University of Illinois, 1965
- M.S. Statistics, University of the Philippines, 1963
- B.A. Mathematics, Ateneo de Manila University (magna cum laude), 1962

## **EDITORIAL SERVICE**

- Member, (Editorial) Advisory Board for Economics, World Scientific Publishing
- Member, , Editorial Advisory Board, **Philippine Review of Economics**
- Member, Editorial Board of **Eurasian Review of Econometrics**
- Associate Editor, **Asia Pacific Financial Markets**. Springer Verlag
- Member, Editorial Advisory Board, **Philippine Review of Economics**, 2013-2016
- Senior Editor, **Journal of Asian Economics**. JAI Press, U.S.A., 1994 - 2003
- Associate Editor, **Philippine Development Studies**, 1995 - 1999
- Associate Editor, **Pakistan Development Review**, 1995 - 1999
- Editor, **Advances in Statistical Analysis and Statistical Computing**, JAI Press, Inc.: Greenwich, Connecticut, 1986 - 1997
- Editorial Board Member, **Abstracts of Working Papers in Economics**, Cambridge University Press, 1991 - 1996
- Associate Editor, **International Economic Review**, 1978 - 1994
- Associate Editor, **Econometric Theory**, Cambridge University Press, 1985 - 1987
- Associate Editor, **Journal of the American Statistical Association**, 1977 - 1979

## **AWARDS**

- Elected Fellow, Econometric Society
- Research grants from National Science Foundation (USA), Rockefeller Foundation, U.S. Department of Commerce, U.S. Department of Agriculture, PEW Memorial Trust Fund, United Nations Development Programme, UNFPA, UN-DESD, UN-ESCAP, Asian Development Bank, US-AID, International Food Productivity Research Institute, University of Pennsylvania Research Foundation, Wharton-SMU Research Centre, Economic Research Institute of ASEAN and East Asia (ERIA), ASEAN Secretariat / Japan-ASEAN Financial Technical Assistance Fund, Neptune Orient Lines Fellowship (NOLF) Research Fund, Singapore Management University Internal Research Fund, and University of Pennsylvania School of Arts and Sciences Research Opportunity Grant
- Recipient of Tito Mijares Lifetime Achievement Award (in Statistics), 2005
- Recipient of Irving Kravis undergraduate teaching award in Economics, University of Pennsylvania, 1999 - 2000
- United Nations TOKTEN (Transfer of Knowledge Through Expatriate Nations) Fellow, 1987 - 1988
  - visiting professor and main thesis adviser in the Ph.D. program in Statistics at the University of the Philippines Statistical Center
  - research consultant at NEDA to study income inequality in the Philippines
- Doctoral study grants from Fulbright-Hays Fellowship, Stanford University, University of Illinois, Rockefeller Foundation, 1964 - 1969

## **BOARD MEMBERSHIP, CONFERENCE ORGANIZING, OTHER PUBLIC SERVICE**

- Founding Director of Altiquant Global Fund (based in Singapore), 2013 - February 2018
- Member of Executive Council of University of Pennsylvania Association of Senior and Emeritus Faculty (PASEF), 2015-2017
- Member of Executive Council of the Econometric Society, representing Southeast and South Asia, 2011-2014
- For the Far Eastern and South Asian Meetings of the Econometric Society (FEMES-SAMES)
  - Chief organizer and program committee chair for FEMES-SAMES 2008 in Singapore
  - Member of advisory committee, FEMES 2007 in Taipei
  - Member of advisory committee, FEMES 2006 in Beijing
- For the Symposium on Econometric Theory and Applications (SETA)

- Co-chair of program committee of SETA 2010 (Singapore)
  - Member of advisory committee, SETA 2008 (Seoul) and SETA 2007 (Hong Kong)
- For the Society of Financial Econometrics (SoFiE),
  - Member of advisory council, 2008 - 2010
  - Member of program committee for SoFiE's inaugural conference, 2008
- Co-organizer and co-chair of program committee for Singapore Econometric Study Group (SESG) Conference in Honor of Peter Phillips in 2008 (Singapore Management University)
- Member, Executive Council of the Economic Society of Singapore, 2005 – 2010
- Member of Governing Board, Neptune Orient Lines Fellowship (NOLF), National University of Singapore, 2006 – 2010
- Member of Overseas Advisory Board, College of Business Administration, University of the Philippines, 2002 -
- Member of the Board, Philippine Bayanihan Society Singapore, 2004 - 2010; President of the Board, 2007 – 2010
- Associate Director, Wharton Center for Quantitative Finance, 1997 - 1998
- Academic Director, Wharton Asian Securities Executive Program, 1996 - 1997
- Member, Board of Directors, Environmental Enterprises Assistance Fund, 1996 - 2002
- Member, Board of Directors, Science and Technology Advisory Council of the Philippines, New York Chapter, 1993 - 1996
- Member, Faculty Advisory Board, Wharton Emerging Economies Program, University of Pennsylvania, 1992 - 1996
- Member, Advisory Committee for Academic Affairs, China Securities Industry Institute (CSII), Beijing, China, with the task of assisting in the development of training programs to be administered by CSII for Chinese practitioners in the securities industry in China, 1992 - 1996
- Founding Executive Director and member of the Board of Governors of the Asian Securities Industry Institute – a nonprofit foundation for training and research in securities and investments in Asia; also organized annual conferences in Asia on “Asian Capital Markets,” in partnership with the stock exchanges in Asia, 1991 - 1996
- Member, Governing Council for the International Association for Statistical Computing, 1987 - 1991
- Member, official Philippine panel for debt negotiations with international commercial banks, 1986
- President, Philippine American Academy of Science and Engineering, 1987 - 1988
- One of seven US economists invited by the Ministry of Education in Taiwan to lecture on econometric techniques in Taipei, 1982 and 1983
- Testified at the US Commission of Civil Rights hearings on census issues regarding Asian Americans. Washington, DC., 1979
- Member, National Institute of Mental Health Task Force to study economic conditions of Asian Americans, 1976
- Member of Program Committee of the 3rd World Congress of the Econometric Society in Toronto, 1975

#### **SELECTED RESEARCH AND BUSINESS CONSULTANCIES**

- Research consultancy for Bangko Sentral ng Pilipinas (BSP, Central Bank of the Philippines)
  - Member – BSP Research Expert Panel, an international advisory body for BSP's research program; 2018 – present
  - “Development of Forecasting Models for Potential Output and Output Gap Estimation and Incorporation of Further Enhancements to the Financial Conditions Index and Labor Market Conditions Index,” July – December, 2019
  - “Review and revision of the BSP models for potential output and output gap estimation”, for the Center for Monetary and Financial Policy (CMFP); July 1, 2016 – June 30, 2017 (final report submitted March 2017)
  - “Evaluation of the BSP's Long-Term Macroeconometric Model (LTMM), Multi-Equation Model (MEM), and Single-Equation Model (SEM) for Policy Analysis and Forecasting,” 2012 – 2013
  - Macromodeling for inflation targeting in the Philippines (with Suleyman Ozmurur), 2001 – 2002
  - Short-term forecasting of inflation in a globalized finance environment, 1997 – 1998
- University of Pennsylvania School of Arts and Sciences Research Opportunity Grant (with Suleyman Ozmurur) on “Predictive Performance of High-Mixed-Frequency Forecasting Models,” 2019-2020
- University of Pennsylvania School of Arts and Sciences Research Opportunity Grant (with Suleyman Ozmurur) on “High-mixed frequency dynamic latent forecasting models for GDP in the Philippines,” 2015 - 2016
- Research consultancy for American Express Travel Related Services Company, Inc. (American Express GCP, Global Corporate Payments) and Cognito Americas LLC on “Industry Study of Global Corporate Travel Trends” 2014
- Research consultancy for U.S. Travel Association and Oxford Economics on “The Role of Business Travel in the U.S. Economic Recovery” 2013

- Invited lecturer and panel moderator in SEACEN-CCBS/BOE training workshop for Southeast Asian central banks on “Model Building and Development Using DSGE Models.”  
Title of presentation: “ **On the Use of DSGE Models for Macroeconomic Forecasting**”  
Held in Bank of Korea, Seoul, Korea, 2-9 November 2012.
- Research consultancy for the Economic Research Institute of ASEAN and East Asia (ERIA) and ITeconomy Advisors LLC, on “High-Frequency Model Building for ASEAN and East Asian Countries,” 2011-2012
- On “Product Bundling in Liner and Logistics Business” (co-principal investigator with faculty researchers from Erasmus University Rotterdam and Singapore Management University) – funding support from the Neptune Orient Lines Fellowship (NOLF) Research Fund, 2006 - 2010
- Research consultancies for the Asian Development Bank on
  - developing securitization markets in the ASEAN+3 region, 2008
  - credit rating industry study in APEC Member Economies, 1997 – 1998
  - econometric modeling of Southeast Asian economies, 1982 - 1983
  - project benefit monitoring and evaluation, 1982 - 1983
- Research consultancy on financial development, stabilization, and regional policy coordination in ASEAN and East Asian countries (co PI with SMU Economics faculty) – for the ASEAN+3 Research Group and Japan-ASEAN Technical Assistance Fund, 2004 - 2008
- “Macroeconometric Modeling for Monetary and Fiscal Policy in Malaysia” (with Lawrence Klein and Suleyman Ozmucur) – a research project for Bank Negara Malaysia, 2000 – 2001
- “Macroeconometric Sectoral Modeling for Manpower Planning in Singapore” (with Lawrence Klein and Suleyman Ozmucur) – a research project for the Ministry of Manpower, Republic of Singapore, 2000 – 2001
- Research consultant to KPMG, LLP - on management strategy planning based on a survey study of professional consulting services in tax, audit and consulting in the U.S., 1999
- Econometrics consultant to Hill & Robbins Law Office, Denver, Colorado – on the determination of economic damages in a legal case concerning an international power plant project in the Philippines, 1997 – 1998
- Expert witness (International Court of Arbitration, Hong Kong) on econometric projections of revenues of an international power plant project in the Philippines. 1997 – 1998
- Consultant, the Stock Exchange of Thailand and Catalyst Institute (Chicago), “The Five-Year Strategic Plan of the Stock Exchange of Thailand,” 1996 - 1997
- Senior Consultant to Quantitative Financial Strategies, Inc. – a Philadelphia-based currency fund management group, 1996 - 1998
- Senior Research Consultant to the First Philippine Fund, Inc. and Clemente Capital, Inc. (an investment and asset management company in New York involved in investing funds in Asia, especially in the Philippines and China), 1989 – 1996, on
  - development issues in Asia-Pacific economies, especially the Philippines
  - emerging capital markets in Asia
  - asset allocation and risk assessment models in Asian financial markets
- Consultant, National Economic and Development Authority (NEDA) of the Philippines, 1983-1995, on
  - econometric policy analysis and medium-term macroeconomic forecasting
  - economic impact of foreign debt obligations
  - income distribution and poverty alleviation
- Consultant, San Miguel Corporation, 1988-1991
  - sales forecasting and commodity price movements
  - regional modeling

- Consultant, United Nations Development Programme (UNDP) for the assessment of foreign-funded official technical assistance programs in the Philippines, 1989
- Expert Reviewer, Department of Energy, Washington, DC, 1988
  - evaluation of submodels in the energy forecasting system of the US Department of Energy
  - review of the Coal Supply and Transportation Model of the Energy Information Administration
- Consultant, UN-ESCAP (United Nations Economic and Social Commission for Asia and the Pacific), 1987, for
  - econometric modeling at the Economic Planning Unit, Office of the Prime Minister, Kuala Lumpur, Malaysia
  - series of lectures on advanced quantitative methods in economics for the State Economic and Information Center, Beijing, People's Republic of China
- Consultant, Philippine Institute for Development Studies (PIDS) in the Philippines, 1983-1985:
  - established and trained staff for econometric in-house capability in quantitative methods for forecasting and policy analysis – as an in-house consultant in PIDS for two years under the auspices of the United Nations Development Programme
  - constructed a short-term forecasting model of inflation for the Philippines
  - constructed a macroeconometric model of the Philippines subsequently used by NEDA for the five-year economic plan for the Philippines
- Consultant, Wharton Econometric Forecasting Associates (WEFA), 1971-1981 – on modeling and forecasting world commodity markets
- Consultant, Bureau of the Census and Statistics and the National Economic Council, Philippines – 1970 -1971

#### **SELECTED PAPERS AND PUBLICATIONS**

“Predictive Performance of Mixed-Frequency Forecasting Methods” (with Suleyman Ozmurur. Presented at the 40<sup>th</sup> Annual Meeting of the Philippine American Academy of Science and Engineering (PAASE), July-August 2020 (Online)

“High-Mixed Frequency Forecasting Methods in R – with Applications to Philippine GDP and Inflation” (with Suleyman Ozmurur), forthcoming in **Handbook of Statistics, Vol 42 – Financial, Macro and Micro Econometrics Using R** (edited by H. Vinod and C. R. Rao), pp. 185 - 227. Elsevier North Holland. Amsterdam, 2020.

“Potential Output and Output Gap Estimation Models for the Philippines” (with Suleyman Ozmurur, Veronica B. Bayangos, Faith Christian Q. Cacio, and Marites B. Oliva). **The Philippine Review of Economics Vol LVI 2020** pp ???

**Final Report: Development of Forecasting Models for Potential Output and Output Gap Estimation and Incorporation of Further Enhancements to the Financial Conditions Index and Labor Market Conditions Index.** Submitted to the Bangko Sentral ng Pilipinas, on December, 18 2019 for research consultancy in June-December, 2019.

“High-Mixed-Frequency Forecasting Models for GDP and Inflation” (with Suleyman Ozmurur), in **Global Economic Modeling, A Volume in Honor of Lawrence R. Klein** (edited by Peter Pauly), chapter 1, pp. 2-29 -. World Scientific Publishing Co, Pte. Ltd., 2018

“Review of the Potential Output and Output Gap Estimation Models of the Bangko Sentral ng Pilipinas” (with Suleyman Ozmurur, Veronica B. Bayangos, Faith Christian Q. Cacio, and Marites B. Oliva). BSP Working Paper Series N0. 2018-01; October 2018.

**Review and Revision of the BSP Models for Potential Output and Output Gap Estimation.** Submitted to the Bangko Sentral ng Pilipinas, in March, 2017. Final Report for research consultancy in 2016 - 2017

“Insufficient Econometric Evidence – Comments on the Mackinac Study, ‘An Analysis of State-Funded Tourism Promotion’ Submitted to Oxford Economics, Philadelphia; March 20, 2017.

“High-mixed-frequency forecasting models for GDP and inflation” Seminar presentation at City University of Hong Kong, Department of Economics and Finance – June 10, 2016

“High-Mixed-Frequency Dynamic Latent Factor Forecasting Models for GDP in the Philippines” (with Suleyman Ozmurur) **Journal of Applied Economic Studies (Estudios de Economia Aplicada) Vol 33-2** (2015), 451-462

“Two-Stage Least Squares” in **International Encyclopedia of Statistical Science** (2014), 1616-1618. Springer-Verlag Berlin Heidelberg.

**Final Report: Industry Study of Global Corporate Travel Trends.** Submitted to American Express Travel Related Services Company, Inc. (American Express GCP, Global Corporate Payments) and Cognito Americas LLC for research consultancy in 2014.

“A Review of Oxford Economics’ Report – The Role of Business Travel in the U.S. Economic Recovery” prepared for the U.S. Travel Association, April 2013

**Final Report: Evaluation of the BSP’s Long-Term Macroeconometric Model (LTMM), Multi-Equation Model (MEM), and Single-Equation Model (SEM) for Policy Analysis and Forecasting.** Submitted to BSP, 2013 for research consultancy in 2012 – 2013.

“On the use of econometric models and techniques in policy making and forecasting” Special lecture at Bank Negara Malaysia, Kuala Lumpur – August 3, 2012

“On the Use of DSGE Models for Macroeconomic Forecasting.” Invited lecture in training workshop for Southeast Asian central banks in SEACEN-CCBS/BOE Workshop on “Model Building and Development Using DSGE Models.” Bank of Korea, Seoul, Korea, 2-9 November 2012

**Recent Advances in Nonstationary Time Series Analysis: A Festschrift in Honor of Peter C. B. Phillips** (co-editor with Zhijie Xiao and Jun Yu) *Journal of Econometrics Vol 169 Issue 2* (2012)

**Recent Advances in Panel, Nonlinear, and Nonparametric Models** (edited by R. S. Mariano, Zhijie Xiao and Jun Yu) *Journal of Econometrics Vol 169 Issue 1 : A Festschrift in Honor of Peter C. B. Phillips* (2012)

“Statistical Tests for Multiple Forecast Comparison” (with Daniel Preve) *Journal of Econometrics* 169 Issue 1 (2012), 123 – 130

“Statistical tests for comparing forecast accuracy.” Presented at Philippine Institute for Development Studies (PIDS) – Manila, March 15, 2012

Comment on Groen and Pesenti, “Commodity prices, commodity currencies, and global economic developments” in Takatoshi Ito and Andrew K. Rose (eds.) *Commodity Prices and Markets – NBER-EASE (East Asia Seminar on Economics) Vol 20*, pp. 44-46. University of Chicago Press, 2011

Comment on Berka and Crucini, “The consumption terms of trade and commodity prices” in Takatoshi Ito and Andrew K. Rose (eds.) *Commodity Prices and Markets – NBER-EASE (East Asia Seminar on Economics) Vol 20*, pp. 145-146. University of Chicago Press, 2011

Comment on “Population aging and economic growth in Asias” in Takatoshi Ito and Andrew K. Rose (eds.) *The Economic Consequences of Demographic Change in East Asia – NBER-EASE (East Asia Seminar on Economics) Vol 19*, pp. 89-90. University of Chicago Press, 2010

Comment on “Demographic transition, childless families, and economic growth” in Takatoshi Ito and Andrew K. Rose (eds.) *The Economic Consequences of Demographic Change in East Asia – NBER-EASE (East Asia Seminar on Economics) Vol 19*, pp. 374-375. University of Chicago Press, 2010

“Monetary Policy Cooperation to Support Asian Economic Integration” (with Chow Hwee Kwan, Peter Kriz and Augustine H H Tan) *Singapore Economic Review* 22 (2010), 83-101

“A Coincident Index, Common Factors, and Monthly Real GDP” (with Yasutomo Murasawa), *Oxford Bulletin of Economics and Statistics* 72 (2010), 27-46

“Bundling Practices in the Liner and Logistics Industries: Feasibility, Design, and Theoretical Foundations” (with M. Acciaro, S. Chatterji, H.E. Haralambides, & J. Lam). Prepared for NOLF Project on Product Bundling in Liner and Logistics Business, Activities IV, V, & VI, 2010

“Misaligned Incentives and Mortgage Lending in Asia” (with Richard Green, Andrey Pavlov and Susan Wachter). Chapter 3 in **Financial Sector Development in the Pacific Rim – NBER-EASE Vol 18**, pp. 95 – 111 (T. Ito and A. K. Rose, eds) – University of Chicago Press, 2009

“The NEDA Quarterly Macroeconomic Model” (with Carlos C. Bautista and Bayani V. Bawagan). *The Philippine Review of Economics Vol XLVI No. 2 (December 2009)*, 1 – 17. An earlier draft was presented in the 9<sup>th</sup> National Convention in Statistic, Philippines – October 4-5, 2004

“Statistics – multi-disciplinary perspectives on a “cool” profession” Presented at the Philippine Statistical Association Annual Conference. Quezon City, Philippines – September 24-25, 2009

**Report on “Developing Securitization Markets in the ASEAN+3 Region – submitted to Asian Development Bank, 2009**

“Markov Switching GARCH Models of Currency Turmoil in Southeast Asia” (with Celso Brunetti, Chiara Scotti and Augustine Tan). **Emerging Markets Review** 2008. Earlier drafts were presented at the EC2 conference in Bologna 2002 and the ASSA meeting in Washington DC 2003.

**Econometric Forecasting and High-Frequency Data Analysis** (Roberto S. Mariano and Yiu Kuen Tse, eds.). Institute for Mathematical Sciences (NUS) Volume 13, World Scientific Publishing, Singapore, 2008

Comment on “Financial liberalization under the WTO and its relationship with the macro economy ” in Takatoshi Ito and Andrew K. Rose (eds.) **International Financial Issues in the Pacific Rim: Global Imbalances, Financial Liberalization, & Exchange Rate Policy – NBER-EASE (East Asia Seminar on Economics) Vol 17**, pp. 343-345. University of Chicago Press, 2008

Comment on “Cross-border acquisitions and target firms’ performance: evidence from Japanese firm-level data ” in Takatoshi Ito and Andrew K. Rose (eds.) **International Financial Issues in the Pacific Rim: Global Imbalances, Financial Liberalization, & Exchange Rate Policy – NBER-EASE (East Asia Seminar on Economics) Vol 17**, pp. 388-389 University of Chicago Press, 2008

“A Review of Strategic Bundling Theory” (with Vincent C H Chua). Prepared for NOLF Project on Product Bundling in Liner and Logistics Business, 2008

“Report on Liner Transportation and Logistics Services Survey 2007” (with Vincent C H Chua, Leong Thin Yin). Prepared for NOLF Project on Product Bundling in Liner and Logistics Business, 2008

“Toward Greater Financial Stability in the Asian Region: Measures for Possible Use of Regional Monetary Units for Surveillance and Transaction – Final Report” (with Chow Hwee Kwan, Peter Kriz, and Augustine H. H. Tan). Submitted to ASEAN+3 Research Group, 2008

“Biography of Lawrence R. Klein” in **The New Palgrave Dictionary of Economics, 2<sup>nd</sup> edition**. Macmillan, 2008

**Toward Greater Financial Stability in the Asian Region: Exploring Steps to Create Regional Monetary Units – Final Report** (with Chow Hwee Kwan, Peter Kriz and Augustine Tan). Submitted to the ASEAN+3 Research Group, 2007

“External Debt, Adjustment and Growth” (with Delano Villanueva). Chapter 6 in **Fiscal Policy and Management in East Asia - NBER-EASE Volume 16** (Takatoshi Ito and Andrew Rose, eds.), 199 – 221. University of Chicago Press, 2007  
<https://www.nber.org/chapters/c0380>

“Direction-of-Change Forecasts Based on Conditional Variance, Skewness and Kurtosis Dynamics: International Evidence” (with P. Christoffersen, F. Diebold, A. Tay, and Y.K. Tse). **Journal of Financial Forecasting** 1 (Fall 2007), 3-24

“Open versus Sealed Bid Auctions: Testing for Revenue Equivalence under Singapore’s Vehicle Quota System” (with Winston Koh and Yiu Kuen Tse), **Applied Economics Vol 39 Issue 1** (2007), 125 – 134

**Simultaneity and weak instruments: a limited survey**. Singapore Management University School of Economics lecture notes, January 2007. (2007-RSM-weak instruments-12Jan07)

“Monetary Policy Approaches and Implementation in Asia: The Philippines and Indonesia” (with Delano P. Villanueva). In **Hong Kong Institute for Monetary Research (HKIMR) - BIS Volume on Monetary Policy in Asia: Approaches and Implementation**, BIS Papers No. 31(December, 2006), 207-226  
[https://www.bis.org/author/delano\\_p\\_villanueva.htm](https://www.bis.org/author/delano_p_villanueva.htm)

“Capital Controls, Financial Crises and Cures: Simulations with an Econometric Model for Malaysia” (with Lawrence Klein and Suleyman Ozmucur). In **Recent Financial Crises: Analysis, Challenges and Implications** (L.R.Klein & T. Shabbir, eds). Elgar: Cheltenham, 2006

**Regional Coordination of Policy Measures Forward: Financial Market Liberalization and Capital Market Development – Final Report**. (with Chow Hwee Kwan, Peter N. Kriz, and Augustine H. H. Tan). Submitted to ASEAN+3 Research Group, 2006

**Trade, Investment, and Financial Integration in East Asia** (with Hwee Kwan Chow, Peter Kriz, and Augustine Tan). Report prepared under a research grant from the ASEAN+3 Secretariat with funding from the Japan-ASEAN Technical Assistance Research Fund. SMU-SESS WP # 06-2005, 2005

**The Economic Prospects of Singapore**, (Winston T. H. Koh and Roberto S. Mariano, eds. Addison Wesley; Singapore, 2005

“Bank Lending and Real Estate in Asia: Market Optimism and Asset Bubble,” (with Winston T. H. Koh, Andrey Pavlov, S.Y. Phang, Augustine H. H. Tan and Susan Wachter), *Journal of Asian Economics* **15** (2005), 1103 -1118

“Prediction of currency crises: case of Turkey” (with Bulent N. Gultekin, Suleyman Ozmucur, Tayyeb Shabbir, and C. Emre Alper) *Review of Middle East Economics and Finance Vol 2 (2004)*, pp. 87-107

“Fun and fundamentals in Padre Faura in the 1960s – The UP Statistical Center at age eight.” Presented at the 50<sup>th</sup> anniversary conference of the UP Statistical Center – December 11, 2004

“Sustainable external debt levels: estimates for selected Asian countries” (with Delano Villanueva). Presented at Academia Sinica’s Conference on Macroeconomics and Development in Taiwan, December 16-17, 2004

“Constructing a Coincident Index of Business Cycles Without Assuming a One-Factor Model,” (with Yasutomo Murasawa). Singapore Management University, School of Economics Research Collection 1-2004 – January 2004  
[https://www.researchgate.net/publication/4897223\\_constructing\\_a\\_coincident\\_index\\_without\\_assuming\\_a\\_one-factor\\_model](https://www.researchgate.net/publication/4897223_constructing_a_coincident_index_without_assuming_a_one-factor_model)  
(RSM-Paper-Murasawa-02Sept04)

“A New Coincident Index of Business Cycles Based on Monthly and Quarterly Series,” (with Yasutomo Murasawa), *Journal of Applied Econometrics* **18** (2003), 427 - 443

“Markov Chains in Predictive Models of Currency Crises – With Applications to Southeast Asia”. (with Abdul Abiad, Bulent Gultekin, Tayyeb Shabbir and Augustine H. H. Tan), *Taiwan Economic Review* **31** (2003), 401 - 436

*Investment Management and the Philippine Stock Market, Second Edition* (co-edited with A. Ilano and R. Ybanez). Manila, Philippines, 2003

“Testing Forecast Accuracy.” Chapter 13 in *Companion to Economic Forecasting* (D. Hendry and M. Clements, eds.), 284-298. Blackwell Publishers, Ltd, 2002

**A Structural Long-Term Inflation Forecasting Model of the Philippines.** Project Report submitted to Department of Economic Research, Bangko Sentral ng Pilipinas, 2002

**Macroeconometric Model of Malaysia for Monetary and Fiscal Policy** (with Lawrence R. Klein and Suleyman Ozmucur). Project report submitted to Bank Negara Malaysia in Kuala Lumpur, Malaysia, 2001.

**A Macroeconometric Model of Singapore – with Special Attention to Manpower Requirements and Potential** (with Lawrence R. Klein and Suleyman Ozmucur). Report submitted to the Ministry of Manpower in Singapore, 2001.

“Simultaneous Equation Model Estimators: Statistical Properties and Practical Implications.” Chapter 6 in *Companion to Theoretical Econometrics* (edited by B. Baltagi), 122 – 143. Blackwell Publishers Ltd., 2001

*Simulation-Based Inference in Econometrics: Methods and Applications* (co-editor with Til Schuermann and Melvyn Weeks). Cambridge University Press, 2000

“Simulation-Based Inference in Nonlinear State-Space Models: Application to Testing the Permanent Income Hypothesis,” (with H. Tanizaki). In *Simulation-Based Inference in Econometrics: Methods and Applications* (edited by R. S. Mariano, T. Schuermann, and M. Weeks), 218-234. Cambridge University Press, 2000

“Financial intermediation and growth: modeling issues and empirical evidence from the Philippines” (with Tayyeb Shabbir). Presented at Project LINK conference, 2000

“Predictive Models of Economic and Financial Crises” (with B. Gultekin, S. Ozmucur, and T. Shabbir). *MEEA (Middle East Economic Association) Electronic Journal, Vol 2* (2000). Report submitted to the Economic Research Forum (ERF) for the Arab countries, Iran, and Turkey for ERF research project ERF99-US-4004. Earlier versions at Department of Economics, University of Pennsylvania – October 1999. Presented at the MENA (Middle East North Africa) annual meeting in Cairo Egypt, October 1999. Earlier version also presented at the ASSA (Allied Social Science Association) meetings in Boston; January 7-9, 2000

“Markov Chains in Predictive Models of Currency Crises – with Applications to Southeast Asia” (with Abdul Abiad). Presented at the conference on “Early Warning Systems of a Financial Crisis” in Academia Sinica, Taipei, Taiwan – January 20-21, 2000

“Markov Switches in Crisis Prediction Models.” Presented at the UN-LINK meetings in Athens, Greece – November 1-5, 1999



“Nonlinear and Non-Gaussian State-Space Modeling with Monte-Carlo Stochastic Simulations,” (with H. Tanizaki). *Journal of Econometrics* **83** (1998), 263 – 290

“Testing Under Non-Standard Conditions in Frequency Domain: With Applications to Markov Regime Switching Models of Exchange Rates and Federal Funds Rate,” (with Fangxiong Gong). Federal Reserve Bank of New York Technical Staff Report, 1997. Revised discussion paper, University of Pennsylvania, Department of Economics, 1998

**Assessment of the Credit Rating Industry in APEC Member Economies.** Final report submitted to the Asian Development Bank, Manila, Philippines. 1998

**Medium-term Strategic Development Plan for the Stock Exchange of Thailand** (with P. Knapp and W. Albrecht). Report submitted to the Stock Exchange of Thailand by the Catalyst Institute in Chicago, May 1997

**Forecasting Inflation in a Period of Globalized Finance.** Final report submitted to the Central Bank of the Philippines, 1997

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