



# 63<sup>rd</sup> ANNUAL MEETING AND CONFERENCE

## **AN ECONOMY THAT WORKS FOR THE PEOPLE**

*Sustaining Economic Progress  
Amidst Global Polycrisis*

**7 November 2025  
Makati Shangri-La,  
Makati City, Philippines**





PHILIPPINE ECONOMIC SOCIETY

# **63<sup>rd</sup> ANNUAL MEETING AND CONFERENCE**

*Sustaining Economic Progress  
Amidst Global Polycrisis*

Makati Shangri-La Hotel, Makati City, Philippines  
7 November 2025

## Traversing Innovative Pathways For Economic Resilience, Inclusion, and Pathways in the Philippines

As the Philippines embarks in its economic journey towards attaining upper middle-income class status, it faces a myriad of challenges, ranging from health and education inequalities, to persistent poverty and governance deficits, exacerbated by geographic disparities. The urgent need to catalyze transformative reforms, particularly in the aftermath of debt-driven pandemic recovery efforts and economic contractions, is paramount.

Sustainable growth hinges on transformative reforms spanning education, health, food security, social protection, and infrastructure, augmented by localization and digitalization initiatives. Embracing a bundled approach to innovations and aligning them with industrial policies for sectoral development can help mitigate trade-offs and facilitate collective progress.

The theme "Traversing Innovative Pathways for Economic Resilience, Inclusion, and Localization in the Philippines" mirrors the nation's aspirations and forward momentum. It seeks to explore transformative strategies aimed at propelling the nation towards sustainable development, prosperity, and upper-middle-income status. Local economic development is a critical strategy to enhance innovative solutions to address economic challenges and promote resilience, inclusion, and localization. With increased devolution of powers and resources, LGUs have the autonomy to implement tailored strategies that cater to local needs, thereby driving inclusive growth and fostering economic resilience.

The conference will feature keynote presentations, panel discussions, and dialogues, providing a platform for stakeholders to exchange insights, share best practices, and co-create innovative solutions. Sessions will delve into various topics, including empowering local governance, promoting innovative PPPs with LGUs, enhancing infrastructure and capital investments, implementing structural changes, transforming key systems, leveraging digitalization, and developing sectoral industrial policies.

Bringing together policymakers, LGU officials, industry leaders, development practitioners, academics, and representatives from civil society organizations, the conference aims to foster collaboration and knowledge exchange towards catalyzing innovative pathways for economic resilience, inclusion, and localization in the Philippines.



**Marites M. Tiongco, PhD**

## PRESIDENT'S MESSAGE

Welcome to the 63rd Philippine Economic Society (PES) Annual Meeting & Conference. Our theme, "An Economy that Works for People: Sustaining Economic Progress Amidst Global Polycrisis," sets a clear standard: evidence must show that the policies we champion expand opportunity, buffer families through shocks, and lift productivity in ways communities can tangibly experience.

We meet as Filipino households and enterprises navigate overlapping pressures—volatile prices, climate and disaster risks, rapid technological change, and tighter financial conditions. The challenge is not growth alone, but quality of growth: stabilize employment and prices, keep credit and trade flowing for micro, small, and medium-sized enterprises, invest in capabilities across the life course, and ensure gains are broadly shared.

This year's program is built to move ideas from rigor → relevance → results. We begin by keeping the macroeconomic foundations steady—credible inflation management and policy frameworks—so families and smaller businesses can plan with confidence. We then turn to upgrading the country's production base through industrial and innovation policy that preserves competition and market access. Equally central is equipping people: strengthening labor markets, skills formation, and social protection so workers can adapt and participate. We also confront risk head-on—across food, energy, and the climate transition—to reduce exposure for those most vulnerable. Finally, we focus on state capability and public finance, ensuring that plans, budgets, and regulations translate into real delivery.

Three commitments run through these conversations. First, people first: we track not only aggregates but distribution, resilience, and mobility—who gains, who gets left behind, and which interventions close gaps. Second, replicable, reusable approaches: we favor transparent identification, reusable datasets, and open code, treating research as decision infrastructure and shared analytical infrastructure for better choices. Third, from paper to practice: we move results across the bridge from evidence to execution—into national, regional agencies and local government units, central banks and regulators, firms, classrooms, and communities—so outcomes improve on the ground.

To our partners, sponsors, speakers, discussants, organizers, volunteers, and to every participant whose work fills these pages—maraming salamat. May today's conversations spark collaborations that endure beyond the conference and policies that work for people, especially in uncertain times.

Mabuhay, and welcome to PES63.

# THE CONFERENCE AT A GLANCE

7:30-8:30	<b>REGISTRATION</b> Venue: Rizal AB (2/F)		
8:30- 9:15	<b>OPENING PLENARY SESSION</b> Venue: Rizal AB (2/F)		
9:15-10:10	<b>PLENARY SESSION I</b> Resilient Futures: Policy Priorities for Poverty Reduction and Middle-Class Expansion in the Philippines (World Bank sponsored) Venue: Rizal AB (2/F)		
10:10-10:25	<b>MORNING BREAK</b>		
10:25-11:35	<b>SIMULTANEOUS SESSIONS A</b>		
	<b>SESSION A1</b> Technology and Development in East Asia: Firms, Jobs, Services (WB session) Venue: Rizal AB (2/F)	<b>SESSION A2</b> Toward Resilient Development: Labor Market Insights and Infrastructure Timing in the Philippine Context (DLSU session) Venue: Manila A (1/F)	<b>SESSION A3</b> Inclusive and Sustainable Blue and Green Economies: Empowering Communities through Natural Capital, Livelihood Resilience, and Inclusive Policies (PCAARRD session) Venue: Manila B (1/F)
	<b>SESSION A4</b> Navigating Banking and Financial Sector Volatility (BPI-UA&P session) Venue: Makati A (1/F)	<b>SESSION A5</b> Current Account Dynamics and the Philippine Economy: Developments and Prospects (BSP session) Venue: Makati B (1/F)	<b>SESSION A6</b> Competition in Essential Goods Market (PCC session) Venue: Pasay A (3/F)
	<b>SESSION A7</b> Positioning the Philippines as a Leading Investment Destination in Southeast Asia (Stratbase session) Venue: Pasay B (3/F)	<b>SESSION A8</b> From Tariffs to Technology: Navigating Trade Shocks and Digital Shifts in the ASEAN Region and Beyond Venue: Paranaque A (3/F)	<b>SESSION A9</b> The Dynamics of Economic Policy and Communication: Fiscal Surprises, Monetary Signals, and Geopolitical Impacts in Developing Economies Venue: Paranaque B (3/F)
	<b>PLENARY SESSION II</b> Industrial Policy for Development: Shifting Perspectives and Opportunities for Transformation (DEPDev-sponsored) Venue: Rizal AB (2/F)		
	<b>LUNCH AND GENERAL MEMBERSHIP MEETING</b>		
1:30-2:40	<b>SIMULTANEOUS SESSIONS B</b>		
	<b>SESSION B1</b> Navigating Headwinds, Sustaining Progress: Exploratory Economic Policy Views from Within (DEPDev session) Venue: Rizal AB (2/F)	<b>SESSION B2</b> Taxes, Transfers, and Services: Distributional Impacts and Reform Simulations for the Philippines (WB session) Venue: Manila A (1/F)	<b>SESSION B3</b> Navigating External Linkages: Interest Rates, Remittances, and Debt Risks in an Open Economy (BSP session) Venue: Manila B (1/F)

# THE CONFERENCE AT A GLANCE

1:30-2:40	<b>SESSION B4</b> PPPs and Leveraging Investments in Education (DepEd session) Venue: Makati A (1/F)	<b>SESSION B5</b> Managing Macroeconomic Volatility: Honoring Dr. Roberto S. Mariano Venue: Makati B (1/F)	<b>SESSION B6</b> Empirical studies on microeconomic issues of development in the Philippines Venue: Pasay A (3/F)
	<b>SESSION B7</b> Uncertainty and insecurity in agriculture and fisheries Venue: Pasay B (3/F)	<b>SESSION B8</b> Toward Sustainable and Resilient Economies: Energy Market Dynamics, Climate Adaptation, and Financial Inclusion in the Philippine Context Venue: Paranaque A (3/F)	<b>SESSION B9</b> Labor Markets and Human Capital in Emerging Economies: Macroeconomic, Educational, and Cultural Perspectives Venue: Paranaque B (3/F)
2:40-3:50	<b>SIMULTANEOUS SESSIONS C</b>		
	<b>SESSION C1</b> Accelerating Agricultural Productivity Growth (DLSU session) Venue: Rizal AB (2/F)	<b>SESSION C2</b> Inflation Dynamics: Exchange Rate Pass-Through and Commodity Price Shocks (BSP session) Venue: Manila A (1/F)	<b>SESSION C3</b> Corruption, Governance, and Development: Institutional Barriers to Inclusion and Sustainability in the Philippines and ASEAN Venue: Manila B (1/F)
	<b>SESSION C4</b> Interventions and Innovations: Local Market Impacts of Policies, Platforms, and Prices Venue: Makati A (1/F)	<b>SESSION C5</b> Geospatial Dimensions of Development: Infrastructure, Technological Innovation, and Spatial Transformation Venue: Makati B (1/F)	<b>SESSION C6</b> Macroeconomic Responses to Global Uncertainty: Sectoral Dynamics and Policy Challenges in an Era of Economic Shocks Venue: Pasay A (3/F)
	<b>SESSION C7</b> Degrees of Impact: The Economics of Climate Change in the Philippines Venue: Pasay B (3/F)	<b>SESSION C8</b> Pathways to Sustainable Agricultural Development: Environmental Trade-offs, Technological Transformation, and Bioeconomic Efficiency in Emerging Economies Venue: Paranaque A (3/F)	<b>SESSION C9</b> Fiscal Policy, Remittances, and Human Capital: Multidimensional Drivers of Development in the Philippines Venue: Paranaque B (3/F)
3:50-4:05	<b>AFTERNOON BREAK</b>		
4:05-5:00	<b>PLENARY SESSION III</b> Capacitating Households, Enterprises, and the Financial System Toward a Healthy Financial Security (in observance of the Economic and Financial Literacy Week 2025) Venue: Rizal AB (2/F)		
5:00-5:45	<b>CLOSING PLENARY LECTURE</b> Reclaiming Development in the Age of Polycrisis: Rethinking the Roles of State, Markets, and Civil Society Venue: Rizal AB (2/F)		
5:45-6:00	<b>CLOSING CEREMONIES</b>		
7:00	<b>POST-CONFERENCE DINNER</b> (by invitation)		

# THE CONFERENCE IN DETAIL

## Plenary Session

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### OPENING PLENARY SESSION

Rizal AB (2/F), 8:30-9:15 a.m.

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Welcome Remarks and Introduction of the Keynote Speaker **DR. MARITES M. TIONGCO**  
*President, Philippine Economic Society*  
*Full Professor, Carlos L.Tiu School of Economics*  
*De La Salle University*

Keynote Address **The Philippine Economy - No Longer the East Asian Exception Revisited**

**PROF. HAL HILL**  
*H.W. Arndt Professor Emeritus of Southeast Asian Economies,*  
*Crawford School of Public Policy, Australian National University*

Master of Ceremonies **DR. CHRISTOPHER JAMES R. CABUAY**  
*Associate Professor, Carlos L.Tiu School of Economics,*  
*De La Salle University*

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### PLENARY SESSION I

**RESILIENT FUTURES: POLICY PRIORITIES FOR POVERTY REDUCTION AND MIDDLE-CLASS EXPANSION IN THE PHILIPPINES (WORLD BANK-SPONSORED)**

Rizal AB (2/F), 9:15-10:10 a.m.

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Presenter **LILIANA D. SOUSA**  
*Senior Economist, World Bank*

Presenter **CLARISSA C. DAVID**  
*Senior Country Officer, World Bank*

Moderator **GONZALO J. VARELA**  
*Lead Economist, World Bank*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions A

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### **SESSION A1: Technology and Development in East Asia: Firms, Jobs, Services (WB session)**

Rizal AB (2/F), 10:25-11:35 a.m.

Firm Foundations of Growth: Productivity and  
Technology in East Asia and the Pacific

**AADITYA MATTOO**  
*World Bank*

Future Jobs: Robots, Artificial Intelligence and  
Digital Platforms in East Asia and the Pacific

**DUONG TRUNG LE**  
*World Bank*

Services Unbound: Digital Technologies and Policy  
Reform in East Asia and the Pacific

**ALESSANDRO BARRATIERI**  
*World Bank*

Moderator

**REMRICK PATAGAN**  
*World Bank*

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### **SESSION A2: Toward Resilient Development: Labor Market Insights and Infrastructure Timing in the Philippine Context (DLSU session)**

Manila A (1/F), 10:25-11:35 a.m.

Measuring Labor Market Vulnerability in Transition:  
Introducing a Multidimensional Job  
Precarity Index for the Philippines

**JASON ALINSUNURIN**  
*Carlos L. Tiu School of Economics,  
De La Salle University*

Forecasting supply and demand mismatches of  
employment and education in the Philippines

**CHRISTOPHER JAMES R. CABUAY**  
*Carlos L. Tiu School of Economics,  
De La Salle University*

Estimating the optimal policy timing for  
operationalising the Kaliwa Dam

**ALBERT E. LAMBERTE**  
*Carlos L. Tiu School of Economics,  
De La Salle University*

Moderator

**MARIEL MONICA SAULER**  
*Carlos L. Tiu School of Economics,  
De La Salle University*



# THE CONFERENCE IN DETAIL

## Simultaneous Sessions A

### **SESSION A3: Inclusive and Sustainable Blue and Green Economies: Communities through Natural Capital, Livelihood Resilience, and Policies (DOST-PCAARRD session)**

Manila B (1/F), 10:25-11:35 a.m.

Nature-Based Solutions in Alleviating Climate Change Impacts: Building Resilience in Island Communities in Marinduque, Philippines

**DARLENE P. LOVINA**

*University of the Philippines Los Baños*

Exploring the West Philippine Sea: Discoveries, Threats, and Pathways to Protection

**LAURA T. DAVID**

*University of the Philippines Diliman*

Establishing the Natural Capital Accounts for Marine and Coastal Ecosystems of the West Philippine Sea

**ASA JOSE U. SAJISE**

*University of the Philippines Los Baños*

Moderator

**MONICA B. CASTILLO**

*DOST-PCAARRD*

### **SESSION A4: Navigating Banking and Financial Sector Volatility (BPI-UA&P session)**

Makati A (1/F), 10:25-11:35 a.m.

A Supply-Side Quantitative Analysis on the Determinants of MSME Lending from the Universal Banking System

**EDUARDO ALVARO BARRETO**

**URIEL QUIJANO**

*University of Asia and the Pacific*

“Safe Havens”: A Study on the Volatility Linkages Between Gold and Government Bonds

**REINIELLE MATT ERECE**

*University of Asia and the Pacific*

Short-Term Market Timing with the Bond-Equity Yield Ratio in Select ASEAN Emerging Markets: A Markov-Switching Approach

**MARCO ANTONIO AGONIA**

*University of Asia and the Pacific*

Moderator

**KRIZIA KATE CETOY-ESOGON**

*Bank of the Philippine Islands*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions A

### SESSION A5: Current Account Dynamics and the Philippine Economy: Developments and Prospects (BSP session)

Makati B (1/F), 10:25-11:35 a.m.

Unpacking the Philippine Current Account: Trends, Drivers, and Policy Insights	<b>HAZEL PARCON-SANTOS</b> <i>Banko Sentral ng Pilipinas</i>
Diversification and Structural Transformation	<b>CHRISTIAN KENNETH R. COLLADO</b> <b>AVIN RAIEL P. ABELARDO</b> <i>Banko Sentral ng Pilipinas</i>
Reigniting an Engine: Trends, Challenge, and Prospects in Philippine Manufacturing	<b>FAITH CHRISTIAN Q. CACNIO</b> <i>Banko Sentral ng Pilipinas</i>
Services as a Growth Engine: The Evolving Landscape of the Philippine Services Sector	<b>HAZEL PARCON-SANTOS</b> <b>IVAN CENON V. BERNARDO</b> <i>Banko Sentral ng Pilipinas</i>
Servitization and Firm Performance: Evidence from Philippine Manufacturing	<b>GLORIA O. PASADILLA</b> <i>Banko Sentral ng Pilipinas</i>
Discussant	<b>RAFAELITA M. ALDABA</b> <i>Banko Sentral ng Pilipinas</i>
Moderator	<b>MARIO B. LAMBERTE</b> <i>Banko Sentral ng Pilipinas</i>

### SESSION A6: Competition in Essential Goods Market (PCC session)

Pasay A (3/F), 10:25-11:35 a.m.

Market Study on Highland and Lowland Vegetable Crops: Carrots, Cabbage, and Onions	<b>SAMANTHA LOUISE S. NEPOMUCENO</b> <i>Philippine Competition Commission</i>
Competition and Switching Barriers in the Philippine Retail Electricity Market	<b>JESTONI A. OLIVO</b> <i>Philippine Competition Commission</i>
Grim Trigger Auctions in Repeated Procurement for Medicines	<b>CARLOS JUAN PAOLO L. VEGA</b> <i>Philippine Competition Commission</i>
Moderator	<b>EMMANUEL M. GARCIA</b> <i>Philippine Competition Commission</i>

# THE CONFERENCE IN DETAIL

Simultaneous Sessions A

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**SESSION A7: Positioning the Philippines as a Leading Investment Destination in Southeast Asia (Stratbase session)**

Pasay B (3/F), 10:25-11:35 a.m.

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Opening Remarks	<b>RUPERT PAUL MANHIT</b> <i>Stratbase Group</i>
Positioned for Success: Winning in Southeast Asia	<b>EVARISTE M. CAGATAN</b> <i>Philippine Board of Investments - Department of Trade and Industry</i>
Economic Zones as Prime Destinations for Investment	<b>JOY ALGUSO</b> <i>Philippine Economic Zone Authority</i>
Reactor	<b>RAFAEL ONGPIN</b> <i>Makati Business Club</i>
Reactor	<b>FERDINAND FERRER</b> <i>Philippine Chamber of Commerce and Industry</i>
Reactor	<b>ROBERTO BATUNGBACAL</b> <i>Federation of the Philippine Industries</i>
Moderator	<b>DANA DINSAY</b> <i>Stratbase Group</i>

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions A

### SESSION A8: From Tariffs to Technology: Navigating Trade Shocks and Digital Shifts in the ASEAN Region and Beyond

Paranaque A (3/F), 10:25-11:35 a.m.

Profiling Home-Based Gig Workers: Insights  
from the Philippine Labor Force Survey

**JON ETHAN LANCELOT BATARA**  
**KRISTIAN LYLE BANTA**

*Ateneo de Manila University*

Determinants of Global Semiconductor Trade: A  
Panel Data Analysis Using Augmented Gravity  
Model

**FLORINDA ASIS**  
**MICAH SHANE CALIVO**  
**JANELLE COLADA**

*Ateneo de Manila University*

Illuminating Investment: Nighttime Light Data as a  
Proxy for Economic Activity in Foreign Direct  
Investment Gravity Models

**ADRIAN ZEN YU TIANGCO**  
**KEAN CONSTANTINE**  
**BUENAVENTURA FONGHE**  
**MARCO LUIS CAUTON DURLAO**

*Ateneo de Manila University*

Digital Services in ASEAN Free Trade Agreements

**GERALD GRACIUS Y. PASCUA**  
*Ateneo de Manila University*

Moderator

**GERALD GRACIUS Y. PASCUA**  
*Ateneo de Manila University*

### SESSION A9: The Dynamics of Economic Policy and Communication: Fiscal Surprises, Monetary Signals, and Geopolitical Impacts in Developing Economies

Paranaque B (3/F), 10:25-11:35 a.m.

Can governments still engineer fiscal surprises?  
The case of the Philippines

**LAWRENCE B. DACUYCUY**  
*De La Salle University*

A Natural Language Processing (NLP) Approach in  
Extracting Monetary Policy Stance: Emerging  
Market Spillover from Federal Reserve  
Communication

**ARIS C. ZOLETA**  
*De La Salle University*

The Impact of Geopolitics on Trade and  
Investments: Evidence from RCEP Countries

**JOSE ADLAI M. TANCANGCO**  
*Bangko Sentral ng Pilipinas*

Moderator

**SER PERCIVAL K. PEÑA-REYES**  
*Ateneo de Manila University*

# THE CONFERENCE IN DETAIL

## Plenary Session

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### PLENARY SESSION II INDUSTRIAL POLICY FOR DEVELOPMENT: SHIFTING PERSPECTIVES AND OPPORTUNITIES FOR TRANSFORMATION (DEPDev-Sponsored)

Rizal AB (2/F), 11:35 a.m.-12:30 p.m.

- Presenter and Panelist **DR. DANNY QUAH**  
*Li Ka Shing Professor in Economics,  
Lee Kuan Yew School of Public Policy National University of Singapore*
- Panelist **DR. RAUL V. FABELLA**  
*National Scientist and Professor Emeritus, School of Economics,  
University of the Philippines Diliman*
- Panelist **DR. GONZALO VARELA**  
*Lead Economist and Program Leader Prosperity Unit,  
The World Bank*
- Panelist **DR. RAFAELITA A. MERCADO-ALDABA**  
*Senior Advisor Education Center for AI Research,  
Department of Education*
- Moderator **DR. HAL HILL**  
*H.W. Arndt Professor Emeritus of Southeast Asian Economies,  
Crawford School of Public Policy, Australian National University*
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# THE CONFERENCE IN DETAIL

## Simultaneous Sessions B

### SESSION B1: Navigating Headwinds, Sustaining Progress: Exploratory Economic Policy Views from Within (DEPDev session)

Rizal AB (2/F), 1:30-2:40 p.m.

The Trade-Off in Trade: Institutional Conditions, Finance, and Export Behavior of Philippine Firms

**DAVID CARLO C. MANGALINDAN**

*Department of Economy, Planning, and Development*

Typhoons Can Be Political, too: The Political Economy of Typhoons in the Poverty Across Provinces in the Philippines

**RICHARD MEL P. CAPLIS**

*Department of Economy, Planning, and Development*

Does FDI Entry Mode Matter for Economic Growth and Domestic Investment? The Philippines' Case

**ESTHER KINUTA**

*Department of Economy, Planning, and Development*

Reactor

**ANTHONY G. SABARILLO**

*University of the Philippines Diliman*

Reactor

**GEOFFREY M. DUCANES**

*Ateneo de Manila University*

Reactor

**GABRIEL ANGELO B. DOMINGO**

*University of the Philippines Diliman*

Moderator

**REYNALDO R. CANCIO**

*Department of Economy, Planning, and Development*

### SESSION B2: Taxes, Transfers, and Services: Distributional Impacts and Reform Simulations for the Philippines (WB session)

Manila A (1/F), 1:30-2:40 p.m

Presenter

**LILIANA D. SOUSA**

*World Bank*

Presenter

**RAFAEL ALVEZ DE ALBUQUERQUE TAVARES**

*World Bank*

Moderator

**SHARON FAYE A. PIZA**

*World Bank*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions B

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### **SESSION B3: Navigating External Linkages: Interest Rates, Remittances, and Debt Risks in an Open Economy (BSP session)**

Manila B (1/F), 1:30-2:40 p.m.

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The Natural Interest Rate in a Small Open Economy: The Case of the Philippines	<b>CAROLINA AUSTRIA ESCRANDA</b> <i>BSP Research Academy</i>
Cross-Border Remittances and Poverty Reduction in Developing Countries	<b>BENJAMIN A. ENDRIGA</b> <b>ALYSSA CYRIELLE B. VILLANUEVA</b> <i>BSP Research Academy</i>
Enhancing External Debt Crisis Prediction: Integrating Machine Learning into the BSP's Early Warning System	<b>NATHANIEL DE LEON</b> <b>CARMELITA G. ESCLANDA-LO</b> <i>Department of Economics Statistics</i>
Moderator	<b>JADE ERIC T. REDOBLADO</b> <i>BSP Research Academy</i>

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### **SESSION B4: PPPs and Leveraging Investments in Education (DepEd session)**

Makati A (1/F), 1:30-2:40 p.m.

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PPP Opportunities in Basic Education: A Case of the Philippine Department of Education	<b>RONALD U. MENDOZA</b> <i>Department of Education</i>
Public-Private Partnership Monitor - Philippines	<b>ROSEMARY ONG</b> <i>Asian Development Bank</i>
Strengthening and Expanding Government Assistance for Private Education	<b>VICENTE PAQUEO</b> <i>Philippine Institute for Development Studies</i>
Discussant	<b>GUCCI ESTRELLA TRINIDAD</b> <i>Ayala Foundation Inc.</i>
Discussant	<b>ALBERTO AGRA</b> <i>Philippine Reclamation Authority</i>
Moderator	<b>CLARISSA DAVID</b> <i>World Bank</i>

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions B

### SESSION B5: Managing Macroeconomic Volatility: Honoring Dr. Roberto S. Mariano

Makati B (1/F), 1:30-2:40 p.m.

In Loving Memory of Bobby Mariano

**DELANO S. VILLANUEVA**

*De La Salle University*

Forecasting non-performing Loans in the Philippine Banking Sector Using Heirarchial Pooled Reverse Unrestricted Mixed Data Sampling

**VIDAL MARVIN C. GABRIEL**

*De La Salle University*

Identifying Demand-Driven and Supply-Driven Components of GDP

**JESUS C. DUMAGAN**

*JCD Research*

Moderator

**CELIA M. REYES**

*Philippine Institute for Development Studies & Philippine Economic Society*

### SESSION B6: Empirical Studies on Microeconomic Issues of Development in the Philippines

Pasay A (3/F), 1:30-2:40 p.m

The Role of Bargaining Power in Shaping Economic Abuse: Evidence from 2022 Philippine National Demographic and Health Survey Dataset

**ARIANNA LIZA M. ORTILLAN**

*Carlos L. Tiu School of Economics, DeLa Salle University*

Educational Achievement Inequality in Southeast Asia Primary Learning Metrics (SEA-PLM) 2019 Participating Countries

**FRANCINE YSABEL D. GAÑGAN**

*Carlos L. Tiu School of Economics, De La Salle University*

Conditional Cash Transfers and Property Crime: Indirect Effects of the Pantawid Pamilyang Pilipino Program on Urban Property Crime Victimization in the Philippines

**ADRIAN JOHN L. BANICO**

*Carlos L. Tiu School of Economics, De La Salle University*

The Labor Market Impacts of the K-12 Curriculum in the Philippines: Evidence from a Regression Discontinuity Design

**JOSE JOAQUIN R. SILVA**

*Carlos L. Tiu School of Economics, De La Salle University*

Moderator

**CHRISTOPHER JAMES R. CABUAY**

*Carlos L. Tiu School of Economics, De La Salle University*



# THE CONFERENCE IN DETAIL

## Simultaneous Sessions B

### SESSION B7: Uncertainty and Insecurity in Agriculture and Fisheries

Pasay B (3/F), 1:30-2:40 p.m.

Factors Affecting Participation and Willingness to be Insured in the Philippine Crop Insurance Corporation's Fisheries Insurance Program Among Fisherfolks in Selected Municipalities in Laguna, 2016-2020

**JEAN ALDRICH R. CARCASITAS**

*University of the Philippines Los Baños*

Analysis of Production Diversity and Market Access and Their Relationship to the Food Security of Coconut Farming Housholds in Candelaria, Quezon Province

**HAZEL CAPISTRANO**

*University of the Philippines Los Baños*

Regional Welfare Effects of Tarrif Trade Policy among Yellow Corn Consumers and Producers in the Philippines

**STEFFANIE J. PERIODICO**

*University of the Philippines Los Baños*

Moderator

**GENY F. LAPIÑA**

*University of the Philippines Los Baños*

### SESSION B8: Toward Sustainable and Resilient Economies: Energy Market Dynamics, Climate Adaptation, and Financial Inclusion in the Philippines

Paranaque A (3/F), 1:30-2:40 p.m.

Mapping the Energy Sector Issues in the Philippines

**ADORACION M. NAVARRO**

*Philippine Institute of Development Studies*

Fostering Climate-Resilient Households Through Financial Inclusion and Literacy

**MIKA MUÑOZ**

*Bangko Sentral ng Pilipinas*

Examining Asymmetry in Fuel Pump Prices in the Philippines: an NARDL Analysis

**ARCELYN A. BASILISCO**

*Davao del Norte College*

Moderator

**JOSELITO T. SESCON**

*Ateneo de Manila University*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions B

### **SESSION B9: Labor Markets and Human Capital in Emerging Economies: Macroeconomic, Educational, and Cultural Perspectives**

Paranaque B (3/F), 1:30-2:40 p.m.

Monetary Policy Transmission and  
Labor Markets

**CHETAN GHATE**

*Indian Statistical Institute - Delhi*

The Role of Beyond-Secondary Levels of  
Education in Explaining Differentials Across the  
Philippine Wage Distribution

**MARIA FRANCESCA D. TOMALIWAN**

*De La Salle University*

Nationalist Ethic and the Spirit of Economic  
Development: Investigating the Empirical  
Relationship between Nationalism and Income

**MARJORIE S. MUYRONG**

*Ateneo de Manila University*

Lost in Translation? The Real Score on Mother  
Tongue Education in the Philippines

**CHARLOTTE MARJORIE L. RELOS**

*Philippine Institute for Development  
Studies*

Moderator

**WINCHEL MAY G. QUILICOL**

*Polytechnic University of the Philippines*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions C

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### **SESSION C1: Accelerating Agricultural Productivity Growth (DLSU session)**

Rizal AB (2/F), 2:40-3:50 p.m.

Accelerating Agricultural Productivity Growth	<b>ARLENE INOCENCIO</b> <i>Carlos L. Tiu School of Economics, De La Salle University</i>
Discussant	<b>MARIO B. LAMBERTE</b> <i>Carlos L. Tiu School of Economics, De La Salle University</i>
Discussant	<b>JAYMEE CABANGBANG</b> <i>College of Economic and Management, University of the Philippines Los Baños</i>
Moderator	<b>ALBERT E. LAMBERTE</b> <i>Carlos L. Tiu School of Economics, De La Salle University</i>

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### **SESSION C2: Inflation Dynamics: Exchange Rate Pass-Through and Commodity Price Shocks (BSP session)**

Manila A (1/F), 2:40-3:50 p.m.

Exchange Rate Pass-Through to Inflation in the Philippines: Evidence of Asymmetry and Non-linearity	<b>REIZLE JADE C. PLATITAS</b> <b>SANJEEV A. PARMANAND</b> <i>Bangko Sentral ng Pilipinas</i>
Inflation-at-Risk	<b>SARAH JANE A. CASTAÑARES</b> <i>Bangko Sentral ng Pilipinas</i>
Inflation Forecasting in the Post-Pandemic Era: Insights from Machine Learning	<b>MA. ELLYSAH JOY T. GULIMAN</b> <i>Bangko Sentral ng Pilipinas</i>
Moderator	<b>REYNALYN G. PUNZALAN-WONG</b> <i>Bangko Sentral ng Pilipinas</i>

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions C

### SESSION C3: Corruption, Governance, and Development: Institutional Barriers to Inclusion and Sustainability in the Philippines and ASEAN

Manila B (1/F), 2:40-3:50 p.m.

The Economics of Corruption in the Philippines:  
Sectoral Impacts, Institutional Evolution,  
and Regional Governance Trajectories

**MARITES M. TIONGCO**

*Carlos L. Tiu School of Economics,  
De La Salle University*

Hunger In The Philippines:  
The Untold People's History

**LEO R. LAROZA**

*Social Weather Stations*

Mediating Role Of Technological Innovation On The  
Effects Of Foreign Direct Investment On Green  
Growth Across Selected Asean Countries

**KEVIN ROY B. DAVID**

*De La Salle University, Dasmariñas*

Moderator

**ADORACION M. NAVARRO**

*Philippine Institute for Development Studies*

### SESSION C4: Interventions and Innovations: Local Market Impacts of Policies, Platforms, and Prices

Makati A (1/F), 2:40-3:50 p.m.

COVID-19, Food Relief, and Social Distancing:  
Evidence from the Bayan Bayanihan  
Program in the Philippines

**CHRISTOPHER JAMES R. CABUAY**

*Carlos L. Tiu School of Economics,  
De La Salle University*

Estimating the Economic Impacts of Ride-Hailing  
Apps on the Philippine Local Tourism Industry

**RAYMUND G. MACANAS**

*University of the Philippines Diliman*

Price Stability and Communication Protocol in  
Experimental Markets

**BENJAMIN E. RADOC, JR.**

*Bangko Sentral ng Pilipinas*

Effects of the Tax on Sweetened Beverages on the  
Consumption of Expenditure-Minimizing  
Filipino Households

**JANELLE S. TIU**

*De La Salle University*

Moderator

**TRISTAN A. CANARE**

*Bangko Sentral ng Pilipinas*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions C

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### SESSION C5: Geospatial Dimensions of Development: Infrastructure, Technological Innovation, and Spatial Transformation

Makati B (1/F), 2:40-3:50 p.m.

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Improving Rice Farm Efficiency Through Spatial Analysis: Insights from Cabusao, Camarines Sur Province, Philippines

**ANTHONY JAMES C. ALBIS**  
*University of the Philippines  
Tacloban College*

Connectivity Infrastructure and Spatial Convergence in the Philippines: An Empirical Analysis

**GONZALO VARELA**  
*World Bank*

The Impact of Urbanization on Heat Stress: Evidence from a New Measure of Urbanization Using Machine Learning-Driven Geospatial Data

**MIKO JOHNSON O. CO**  
*De La Salle University*

Moderator

**JOY KRISTEL L. ORZALES**  
*University of the Asia and the Pacific*

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### SESSION C6: Macroeconomic Responses to Global Uncertainty: Sectoral Dynamics and Policy Challenges in an Era of Economic Shocks

Pasay A (3/F), 2:40-3:50 p.m.

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Measuring Systemic Risk Contribution of Philippine Industries and Conglomerate Groups

**JORJIN F. GODOY**  
*Bangko Sentral ng Pilipinas*

Economic effects of Heightened Global Uncertainty: Evidence from East Asia

**ERGYS ISLAMAJ**  
*World Bank*

Keynesian Supply Shocks And Sectoral Heterogeneity In The Philippines: A Bayesian Sign-Restricted Factor Augmented Vector Autoregression Analysis

**BRIAN F. PASION**  
*De La Salle University - Dasmariñas*

Moderator

**CATHERINE ROWEEN C. ALMADEN**  
*Asian Institute of Management*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions C

### SESSION C7: Degrees of Impact: The Economics of Climate Change in the Philippines

Pasay B (3/F), 2:40-3:50 p.m.

Perceived Value and Other Predictors of Electric Vehicle Adoption in the Philippines

**ROSALINA PALANCA-TAN**  
*Ateneo de Manila University*

Climate Variability and Household Electricity Consumption

**GERALD GRACIUS Y. PASCUA**  
*Ateneo de Manila University*

Labor Market Effects of Typhoon Exposure: Super Typhoons and Labor Supply

**JITAE KIM**  
*Seoul National University*

Moderator

**GERALD GRACIUS Y. PASCUA**  
*Ateneo de Manila University*

### SESSION C8: Pathways to Sustainable Agricultural Development: Environmental Trade-offs, Technological Transformation, and Bioeconomic Efficiency in Emerging Economies

Paranaque A (3/F), 2:40-3:50 p.m.

Agriculture-induced Environmental Kuznets Curve (EKC): The Influence of Agricultural Growth on Environmental Degradation in the Philippines

**RHITA MAE P. LABITE**  
*University of Southeastern Philippines-  
College of Applied Economics*

Digitalization And Agricultural Output: Evidence From Selected Asian Countries

**MAICA ANGELA C. MANGAPIS**  
*Mindanao State University -  
Iligan Institute of Technology*

Rice straw bioethanol market behavior in Pila, Laguna: Challenges and efficiency through value chain analysis and stochastic price simulations

**JERICHO A. TRIO**  
*University of the Philippines Los Baños*

Moderator

**ROEHLANO M. BRIONES**  
*Philippine Institute for Development  
Studies*

# THE CONFERENCE IN DETAIL

## Simultaneous Sessions C

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### **SESSION C9: Fiscal Policy, Remittances, and Human Capital: Multidimensional Drivers of Development in the Philippines**

Paranaque B (3/F), 2:40-3:50 p.m.

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Defense And Development: Assessing The  
Economic Impact Of Military Spending In The  
Philippines

**RUTCHER M. LACAZA**  
*Congressional Policy and Budget  
Research Department, House of  
Representatives*

Differential Impacts of International and Domestic  
Remittances on Household Savings:  
Evidence from the Philippines

**KATHERINE V. MORON**  
*Banko Sentral ng Pilipinas*

International Remittances On Health Expenditures  
Of Filipino Households

**MICHAEL BENJAMIN S. RAMIREZ**  
*University of the Philippines Visayas*

Moderator

**ROMEO MATTHEW T. BALANQUIT**  
*Department of Budget and Management*

# THE CONFERENCE IN DETAIL

## Plenary Session

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### PLENARY SESSION III

Capacitating Households, Enterprises, and the Financial System  
Toward a Healthy Financial Security  
(in observance of the Economic and Financial Literacy Week 2025)

Rizal AB (2/F), 4:05-5:00 p.m.

Panelists: **MS. CHARINA DE VERA-YAP**

*Managing Director, Financial Inclusion and Consumer Empowerment  
Sub-Sector (FINCESS), Bangko Sentral ng Pilipinas*

**MS. VERONICA MAE ARCE BALISI**

*Financial Services, Financial Crime Risk Management –Anti-Money  
Laundering (AML) and Counter Terrorist and Proliferation Financing  
(CTPF)*

**MS. KATHLEEN JOY D. DOMINGO**

*Master Trainer,  
CyberGuardiansPH, Inc.*

Moderator **MS. ROSE FRES FAUSTO**

*Behavioral Economist,  
Ateneo de Manila University*



# THE CONFERENCE IN DETAIL

## Plenary Session

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### CLOSING PLENARY LECTURE

#### Reclaiming Development in the Age of Polycrisis: Rethinking the Roles of State, Markets, and Civil Society

Rizal AB (2/F), 5:00-5:45 p.m.

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- Introduction of the Plenary Speaker: **DR. ROEHLANO M. BRIONES**  
*Vice President and Conference Committee Chair,  
Philippine Economic Society  
Senior Research Fellow, Philippine Institute for Development Studies*
- Presentation **Sustaining Development in Southeast Asian Poly-crises:  
Reclaiming Development in the Age of Poly-crises**  
  
**PROF. JOMO KWAME SUNDARAM**  
*Research Adviser, Khazanah Research Institute, Fellow, Academy of  
Science, Malaysia & Emeritus Professor, University of Malaya*
- Moderator **DR. CHRISTOPHER JAMES R. CABUAY**  
*Associate Professor, Carlos L. Tiu School of Economics,  
De La Salle University*
- 

### CLOSING CEREMONIES

Rizal AB (2/F), 5:45-6:00 p.m.

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- Oath-Taking of Young Economists Honor Society Batch 2025 **DR. JOVI C. DACANAY**  
*Secretary, Philippine Economic Society  
Assistant Professor and Program Director,  
University of Asia and the Pacific*
- Announcement of Election Results **DR. JOVI C. DACANAY**  
*Secretary, Philippine Economic Society  
Assistant Professor and Program Director,  
University of Asia and the Pacific*
- Closing Remarks **DR. ROEHLANO M. BRIONES**  
*Vice President and Conference Committee Chair,  
Philippine Economic Society  
Senior Research Fellow, Philippine Institute for Development Studies*

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# PLENARY SESSIONS

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## KEYNOTE ADDRESS

### **The Philippine Economy - No Longer the East Asian Exception Revisited**

Hal Hill, Ph.D.

*H.W. Arndt Professor Emeritus of Southeast Asian Economies,  
Crawford School of Public Policy, Australian National University*

The 2018 Clarete-Esguerra-Hill co-edited volume posed the question, is the Philippine economy "No Longer the East Asian Exception?" and answered in the affirmative: in the 21st century the Philippine economy has rejoined the East Asian mainstream, growing at similar rates to its neighbours. In the long sweep of Philippine economic history this is a significant achievement. But is it sufficient to enable the country to move through the ranks of the upper middle income economies and into the high income group? The answer to that question depends in part on whether the country can tackle some of the challenges addressed in this presentation.

## PLENARY SESSION I

### **Resilient Futures: Policy Priorities for Poverty Reduction and Middle-Class Expansion in the Philippines**

(WB-sponsored)

Despite notable progress in poverty reduction in the Philippines since 2012, many Filipinos remain vulnerable to economic and climate-related shocks that could reverse these gains. The report examines the underlying drivers of poverty reduction, including economic growth, labor market dynamics, and social policies. It identifies factors that have enabled progress and persistent bottlenecks such as labor market barriers and limited access to quality services. Based on these insights, the report proposes a set of targeted policy recommendations to overcome these obstacles and sustain inclusive growth, aiming to foster a more resilient and prosperous society.

## PLENARY SESSION II

### **Industrial Policy for Development: Shifting Perspectives and Opportunities for Transformation**

(DEPDev-sponsored)

Building on years of sustained progress, the Philippine economy presently confronts various development challenges on its domestic and external fronts. As the country aims to graduate into the ranks of upper-middle-income countries, strategies and policy priorities contained in the Philippine Development Plan (PDP) 2023-2028 broadly aim to raise the



economy's growth potential in the medium to long-term through sustained investment in human and physical capital as well as strategic interventions that boost productivity and enable innovation. At the same time, policies, programs, and projects must be prudently designed and effectively implemented in the short term to safeguard welfare gains amidst shocks that can disrupt economic activity and impede, or even erase, hard-won progress. This session aims to explore economic policy perspectives and generate insights that sharpen and nuance big-picture development strategies in the pursuit of greater policy effectiveness and socioeconomic impact.

## PLENARY SESSION III

### **Capacitating Households, Enterprises, and the Financial System Toward a Healthy Financial Security**

(in observance of the Economic and Financial Literacy Week 2025)

In an attempt to get people to be financially literate and financially included, whether as part of a household, a business, or a community, there are new (and not so new) challenges. The most pressing ones are financial security and healthy financial choices. These two challenges interact in predictable and unpredictable ways. One need not look further for an example other than bank secrecy and personal privacy. Discussions about tradeoffs, trust, and responsibility are definitely needed.

## CLOSING PLENARY LECTURE

### **Sustaining Development in Southeast Asian Poly-crises: Reclaiming Development in the Age of Poly-crises**

**Jomo Kwame Sundaram, Ph.D.**

Research Adviser, Khazanah Research Institute, Fellow, Academy of Science, Malaysia &  
Emeritus Professor, University of Malaya

The lecture will review Southeast Asia's shifting development trajectory since the end of the East Asian Miracle. It argues that the 1993 World Bank narrative—celebrating rapid growth via market-led reforms—masked regional variations and downplayed structural vulnerabilities. Southeast Asian development, although strong, has lagged behind that of Northeast Asia due to weaker industrial foundations, a heavier dependence on foreign direct investment, and deeper inequality rooted in historical and institutional differences.

The region's adoption of financial liberalization and globalization, driven by faith rather than pragmatism, exposed it to volatile capital flows and crises, culminating in the 1997-98 financial crises. Instead of the promised benefits—efficient capital allocation and stability—the region saw asset bubbles, consumerism, and policy capture by vested interests. Ideologically driven neoliberal reforms eroded developmental state tools, prioritizing inflation control over employment and development.

Amid renewed global tensions, declining US imports from Asia, and China's industrial dominance, Southeast Asian nations must rapidly adjust their policies to new challenges. The lecture calls for a developmental, pacifist and non-aligned regional stance—reviving ZOPFAN—to reclaim autonomy and resilience in an age of interlinked poly-crises.

# SIMULTANEOUS SESSIONS

## SESSION A1

### **Technology and Development in East Asia: Firms, Jobs, Services** (WBG session)

East Asia and the Pacific (EAP) is outperforming but underachieving. While regional GDP growth remains above the global average, it is projected to slow in 2025–2026 due to weaker global demand, persistent uncertainty, and domestic constraints. Future growth will hinge on how economies harness new technologies for development. This session explores three dimensions of innovation and reform:

**Firm Foundations of Growth:** Strong microeconomic bases are vital for long-term growth, yet many leading firms in the region lag in adopting new technologies. How can they catch up and boost productivity?

**Future Jobs:** Emerging technologies—robots, AI, and digital platforms—are transforming work. How can countries ensure that technological change continues to generate quality jobs?

**Services Unbound:** Digitalization and policy reforms are creating new opportunities in services. Can digitization make services the next growth engine for a region long driven by manufacturing—and what barriers must be overcome?

## SESSION A2

### **Toward Resilient Development: Labor Market Insights and Infrastructure Timing in the Philippine Context** (DLSU session)

As the Philippine economy undergoes structural transformation, a range of critical development challenges have emerged at the intersection of labor markets, educational attainment, and infrastructure planning. This session brings together three empirical studies that investigate the complex dynamics underpinning economic modernization and their implications for inclusive and sustainable development. The first paper introduces a novel Multidimensional Job Precarity Index (JPI) to capture the multidimensional nature of labor market vulnerability amid ongoing shifts from agriculture to informal, low-productivity services. Drawing on labor force and household-level data, the study highlights how precarity is unequally distributed across gender, education, and region, and reveals a troubling decoupling between economic growth and job quality. The second paper develops a forecasting model to assess mismatches between labor supply and demand across occupational and educational dimensions. Using harmonized labor force data from 2001–2022 and projections up to 2050, the authors identify persistent oversupply in tertiary education and an unmet demand for skilled trade workers—raising critical questions about the alignment of education systems with labor market needs. The third paper shifts focus to infrastructure policy, examining the optimal timing for the operationalization of

the Kaliwa Dam, a major water supply project for Metro Manila. Through a dynamic optimization model that incorporates weather-dependent inflows and climate variability, the study finds that premature construction may reduce long-term social surplus, contradicting current government plans. Together, these papers illuminate the multidimensional and interrelated nature of development policy in the Philippines. From precarious labor transitions and educational mismatches to the misalignment of infrastructure investments with long-run climate and resource realities, the session highlights the need for evidence-based, integrated planning to ensure equitable and resilient growth.

### **Measuring Labor Market Vulnerability in Transition: Introducing a Multidimensional Job Precarity Index for the Philippines**

Jason Alinsunurin

As Asian economies undergo structural transformation, defined as the shifting of labor away from agriculture toward industry and services, achieving inclusive and resilient labor market outcomes becomes increasingly complex. In recent years, this transition has been marked by a shift toward low-productivity services and persistent informality, particularly in the Philippines, thus raising concerns about the decoupling of economic growth from broad-based job quality indicators. In this paper, I propose a multidimensional Job Precarity Index (JPI) that captures the evolving nature of labor vulnerability using LFS data. I construct the JPI from three sub-dimensions. First, the Precarious Employment Index (PEI), which captures job instability and short-term tenure. Second, the Social Protection Deficit Index (SPDI), reflecting limited access to employment-related benefits; and third, the Income Vulnerability Index (IVI), measuring wage insecurity and irregular earnings. I then propose a Composite Job Precarity Score (CJPS) and analyze the JPI's distribution across sectors, gender, education, and regions. Preliminary results reveal high precarity in informal services and platform-based work, the sectors that are likely absorbing much of the labor displaced from agriculture but failing to provide stable livelihoods. To explore the welfare implications of precarious work, I then link the JPI with household-level data from multiple waves of the Family Income and Expenditure Survey (FIES). Unsurprisingly, initial results show that high-precarity households are more likely to experience multidimensional poverty; however, the quantity and proportion of households with high CJPS-scores remain high, even in areas with faster economic growth. The study contributes to debates in the structural transformation literature that question whether services-led growth in low- and middle-income countries can generate broad-based improvements in well-being.

### **Forecasting supply and demand mismatches of employment and education in the Philippines**

Christopher James Cabuay, Julian Perez-Garcia

We develop a time series model to forecast supply and demand mismatches of employment and education in the Philippines. We harmonize and append the October rounds of PSA's Labour Force Survey for 2001-2022 to extract three key time series: occupational distributions per sector (for 16 sectors of the economy) over time, educational attainment distributions (for eight education categories) of different demographic subgroups (by age and gender), and yearly occupation-education cross-tables. We then use univariate forecasting techniques on each time series to forecast up to 2050 and discuss the expected composition of occupations and educational requirements of each sector. These are then combined with forecasts of employment per economic sector from the ANIMO macro forecasting model, and population projections by age-gender demographics from the PSA, and the forecasted occupation-

education cross tables. These produce four key time series: the supply and demand of occupations, and the supply and demand of the labour force with the different levels of educational attainment, and discuss supply-demand mismatches in occupations and education. We find that the several low-paying jobs – particularly Elementary Occupations – will keep being overproduced, but there will an excess demand for Crafts and Trades Workers. Secondary and Tertiary Graduates will maintain an oversupply. This implies that job creation will not likely be enough to employ most people, and that college graduates will likely keep working in jobs that require less than a college education.

### **Estimating the optimal policy timing for operationalising the Kaliwa Dam**

Albert E. Lamberte, Quentin Grafton, Long Chu, Maria Racionero-Llorente

To address an expected water supply problem in Metro Manila, the Philippine Government has decided to pursue supply augmentation. The supply augmentation is to build the Kaliwa Dam, initially planned under the Aquino administration to be built in 2016, under a PPP financing scheme, and should have been operational by 2018. The Duterte administration decided to shift the financing of all major infrastructure projects from PPP to ODA financing schemes. This effectively delayed the construction of the Kaliwa Dam. After successfully arranging an ODA financing scheme with the government of the PRC, the Philippines' Commission on Audit (COA) raised legal issues that needed to be addressed first before proceeding with the construction. These include, among others, the (i) questionable bidding process for choosing the contractor, (ii) displacement of many indigenous peoples, and (iii) destruction of flora and fauna in the project site.

The results provided here—using a dynamic optimisation—estimated the optimal timing to operationalise the Kaliwa Dam. This thesis is the first to analyse a key public water infrastructure in the Philippines and dynamically inspect whether weather dependent-inflows influence the decision when to build. This may prove important in a country such as the Philippines—which is prone to climate change and extreme weather events, such as the El Niño and La Niña phenomena. These events are important factors that influence and/or determine the water levels and storage necessary to efficiently provide a consistent water supply to Metro Manila.

The estimated optimal timing of operationalising the Kaliwa Dam suggests that it is not beneficial to build the dam before 2042. This will result in prematurely operationalising the dam and lowering the social surplus. The estimates further show that there will be social losses as the water supply in Angat Dam is still projected to be adequate to meet the water demand in Metro Manila before 2042. The Kaliwa Dam's designed capacity of 600 MLD is only 15 per cent of the total capacity of the Angat Dam. The capacity of the Kaliwa Dam will only be sufficient for 4 years. Thus, an expansion of the Kaliwa Dam will also be required to meet potential future household demand. These findings, however, contradict the Philippine Government's decision to proceed with the construction of the Kaliwa Dam in 2019 and to operationalise it by 2025.

## SESSION A3

### **Inclusive and Sustainable Blue and Green Economies: Empowering Communities through Natural Capital, Livelihood Resilience, and Inclusive Policies** (DOST-PCAARRD session)

Aligned with the conference theme, “An Economy that Works for People: Sustaining Economic Progress Amidst Global Polycrisis,” this session seeks to address the interconnected challenges of climate change, biodiversity loss, food insecurity, and inequality, core elements of today’s polycrisis, by showcasing socio-economic research supported by DOST-PCAARRD. The discussion will highlight how natural capital accounting and valuation, inclusive livelihood models, and gender-responsive approaches can strengthen community resilience and guide policy reforms.

#### **Nature-Based Solutions in Alleviating Climate Change Impacts: Building Resilience in Island Communities in Marinduque, Philippines**

Darlene P. Lovina, Anne Margarette M. Balog, Paul Edrine C. Mapoy,  
Joselito A. Baril, Imee Rose E. Felipe, Evangeline B. Mandia

The Island ReGen project examines the vulnerability and resilience of small island communities in Marinduque, in the context of climate-change impacts. Using a mixed-method research design, the Socio-Ecological Production Landscape and Seascape (SEPLS) toolkit was used to assess twenty indicators of ecological, agricultural, and social resilience. Data were collected from 381 randomly selected households and complemented by key informant interviews with community representatives.

Findings reveal high agricultural resilience due to diverse food systems and openness to innovations, enriched by recognition of local climate-resilient root crops that strengthen food security in the island. Ecological and social resilience are moderate, but both can be increased by prioritizing nature-based solutions such as mangrove planting, reforestation, and ecotourism, which provides sustainable livelihoods while enhancing coastal and biodiversity protection. These strategies not only strengthens ecosystems, but also empowers community involvement in reducing vulnerabilities and creating inclusive pathways for resilience and ecological stewardship.

#### **Exploring the West Philippine Sea: Discoveries, Threats, and Pathways to Protection**

Laura T. David, Asa Jose Sajise, Canesio Predo, Jay Batongbacal, Charina Lyn Repollo, Michael Roleda, Wilfred John Santianez, Charissa Ferrera, Rachel Gotanco, Deo Onda, Fernando Siringan, Wilfredo Licuanan, Rene Rollon, Aldwin Almo, Eileen Penaflor, Remika Gupana, Laurice Dagum, Talna dela Cruz, Jeffrey Munar, Mary June Cabiguin, Jam Maningas, Gia Albano, William Dimalanta, Jackery Rengel, Fraulein Calumpiano, Christine M Lazaro, Nicole Bolanio, Amethyl Pernito, Iris Orizar, Errol Gallego, Laurence Insigne, Juan M. Pulhin, Gem Castillo, Stella Aclan, Hannah Macuroy, Lea Mari Santos, Antoinette Sia, Christian Ray Buendia, John PJ Caparros, Cristino Tiburan, Jr., Adrian Pablo Sasi, Neil Silva, Reuel Realin

The "Project 1: Resource Inventory and Assessment of the West Philippine Sea", part of the larger initiative "Resource Inventory, Valuation and Policy in Ecosystem Services under Threat (RE-INVEST): The Case of the West Philippine Sea," aimed to quantify the region's ecosystem assets and services and assess the biophysical impacts of both natural and anthropogenic threats. The project, implemented by the University of the Philippines Marine Science Institute, ran for 36 months, from April 1, 2022, to March 31, 2025, with an extension.

The project revealed that the WPS is a critically important repository of marine biodiversity, documenting 333 species of scleractinian corals, high diversity of octocorals, 9 seagrass species (including *Thalassodendron ciliatum*), and 707 seaweed taxa, with 86 having potential economic or biomedical applications. However, despite high species richness in reef fish, biomass and density remain generally low, suggesting depleted populations. The region also holds significant natural resource potential, notably the Malampaya gas field and the Reed Bank, which possesses substantial natural gas and oil reserves.

The study identified several significant threats and damages. Anthropogenic activities have resulted in substantial damage through construction and reclamation in the Kalayaan Island Group (KIG), with over 450 hectares of estimated reclaimed area across sites like Pag-asa Island, Subi Reef, and Mischief Reef. Water quality is also compromised, with higher concentrations of ammonia and phosphate in the northern WPS, and coastal areas facing pervasive plastic pollution dominated by food, beverage, and fishing-related single-use plastics. The project highlights that the protection of offshore reefs, such as those in the KIG, is vital as they serve as a larval source for neighboring reef systems across the Coral Triangle.

### **Establishing the Natural Capital Accounts for Marine and Coastal Ecosystems of the West Philippine Sea**

Asa Jose U. Sajise, Canesio D. Predo, Juan M. Pulhin, Gem B. Castillo,  
Cristino L. Tiburan, Rosario V. Tatlonghari, Fritzlielyn Q. Palmieri,  
Christian Ray C. Buendia, Lea Mari R. Santos, Stellah Grace P. Aclan,  
Dannica Rose G. Aquino, Karen M. Pajadan, Grace Anne S. Malolos,  
Antoinette N. Sia, Hannah T. Macuroy, John PJ G. Caparros, Pauline Cielo P. Palma,  
Adrian Pablo V. Sasi, Jamela L. Arizapa

This study presents the first-ever Natural Capital Accounts for the marine and coastal ecosystems of the West Philippine Sea. Through integrated biophysical and economic assessments across five coastal provinces (Palawan, including the Kalayaan Island Group, Occidental Mindoro, Bataan, Zambales, and Pangasinan), we established extent, condition, and monetary supply and use accounts.

The findings reveal a decline in coral, seagrass, and seaweed ecosystems, alongside a significant expansion of mangroves. Ecosystem health was uneven, ranging from very low to high. Despite these conditions, the monetary valuation for 2020 yielded a partial estimate of approximately PHP 28 billion, derived from biomass provisioning, coastal protection, carbon sequestration, and recreation services. Notably, regulating services constituted ~93% of this total, underscoring the immense economic rationale for conserving these "standing" ecosystems amid growing internal and geopolitical pressures. This work provides a critical technical foundation for the impending implementation of the PENCAS Bill and concludes with recommendations for enhancing future natural capital accounting for marine and coastal ecosystems.

## SESSION A4

### **Navigating Banking and Financial Sector Volatility** (BPI-UA&P session)

This session focuses on how the banking and financial sectors are adapting during times of crises. Thus, given the regulatory boundaries of the sector, the papers present how banks and financial institutions balance innovation with regulatory compliance, in an increasingly volatile landscape.

#### **A Supply-Side Quantitative Analysis on the Determinants of MSME Lending from the Universal Banking System**

Eduardo Alvaro Barretto, Uriel Quijano, Paul Argamosa, Jovi C. Dacanay, Ph.D.

Micro, Small, and Medium Enterprises (MSMEs) are major drivers of economic activity. In the Philippines, majority of the businesses are from the MSME sector, coming at around 99.63% and 66.97% of total employment. MSMEs, however, have been experiencing a financing gap with the ratio of MSME loans to total loans steadily decreasing even with the implementation of the Magna Carta for Micro, Small, and Medium Enterprises. This study aims to do a supply-side investigation on why MSMEs are not getting enough loans, given that many banks allocate smaller portions to MSMEs in their loan portfolios. By utilizing bank data from published balance sheets, the researchers will examine what affects the banks' portfolio allocation. A regression analysis was conducted using bank-specific variables and related macroeconomic variables have significant relationships with MSME loans. The researchers used a fixed effects regression model in the analysis. The two models used had different independent variables, one of which is the share of MSME loans for the universal and commercial banks (UKBs) and the other being the share of MSME loans for thrift banks (TBs). The results showed that for UKBs, non-performing loan ratio, real gross domestic product, and reverse repurchase rate are significant determinants of banks' portfolio allocation to MSMEs. Bank-specific variables are not significant, indicating that it is not caused by the financial performances of the top universal and commercial banks. For TBs, loans-to deposits ratio, financial access, and real gross domestic product are significant determinants of bank lending to MSMEs. This means that the financial performance of thrift banks is important in the allocation of MSME loans in their total loan portfolios.

#### **“Safe Havens”: A Study on the Volatility Linkages Between Gold and Government Bonds**

Reinielle Matt Erece, Victor Abola, Ph.D.

The concept of “flight to safety” is focused on the recalibration of investment portfolios from holding more volatile assets towards holding more stable assets such as bonds and gold. Thus, portfolio optimization is not static, rather, it should be seen as dynamic to optimize risk management. However, modern financial literature is typically only focused on equities and the move towards either bonds or gold. Moreover, literature on “flight to safety” is lacking in the Philippines or including the Philippine context. Thus, this study aims to observe and analyze how the volatility in two safe assets: government bond and gold prices, move through time and how they correlate with each other. To analyze the comovement of the volatilities of and between these assets, the Dynamic Conditional Correlation – Generalized Autoregressive

Conditional Heteroskedasticity (DCC-GARCH) is utilized. The first part, GARCH, aims to model the behavior of risk through time and DCC traces the correlation between these risk behaviors. Three tenors of bonds are used against gold prices: 1-yr, 5-yr, and 10-yr bonds to see if the volatility correlation is different between different bond tenors. The individual GARCH models show the expected behavior of the assets. For bonds, the weekly change in YTM is near-zero, while the weekly change in gold prices show a positive trend. With regard to volatility behavior, both the past volatilities and the long-term volatility persistence are significant. However, the DCC between golds and bonds show that the immediate past volatilities have very little effect to each other, although the long-term comovement is significant. The whole-period correlation between the price changes of gold and YTM changes in bonds is negative, showing that they can be a hedge for each other. However, this negative relationship weakens during times of crises, when their correlations approach zero. Thus, flight to safety may also happen between these safe assets.

### **Short-Term Market Timing with the Bond-Equity Yield Ratio in Select ASEAN Emerging Markets: A Markov-Switching Approach**

Marco Antonio Agonia, Victor Abola, Ph.D.

The Bond-Equity Yield Ratio (BEYR) is an augmented valuation ratio defined as the long-term bond yield divided by the equity earnings-to-price (E/P) ratio, purported to have financial market timing ability among industry practitioners. With some success in studies focused on advanced economies, financial analysts and academics suggest that high or low values of the BEYR could indicate relative under or overvaluation in the capital markets. This study investigates the BEYR as modeled by a Markov regime switching process to assess its short-term market timing ability across emerging ASEAN markets— the Philippines, Indonesia, Malaysia, and Thailand from January 2007 to December 2019. The Markov regime switching model aligns with the theoretical properties of the BEYR and identifies distinct high- and low-BEYR level and volatility regimes for each country under study. Regime characteristics roughly align with notable macroeconomic and/or geopolitical events in each country.

Using the rolling one-step ahead probability estimates from the Markov switching model, the researcher then used a decision rule for tactical asset allocation between local stocks and bonds over the 2016-2019 period. Results indicate that the Markov switching portfolio delivered superior returns in the Philippines, mirrored risk-free returns in Indonesia, outperformed equities but not bonds in Malaysia, and underperformed both in Thailand. The study concludes that the Markov-switching BEYR shows some promise for market timing in ASEAN emerging markets, with the success appearing to correspond to the degree of positive correlation between the country's 10-year bond yields and equities earnings yields. Recommendations include further examination of bond-equity yield correlations, testing alternative modeling approaches, and making BEYR estimates using U.S. bond yields and local equities yields. In practice, the BEYR has potential utility for traders who can exploit its properties as part of their trading strategies and its regime-switching behavior could have some relevance for policymakers monitoring financial market health.



## SESSION A5

### **Current Account Dynamics and the Philippine Economy: Developments and Prospects** (BSP session)

This session unpacks the key findings from the Bangko Sentral ng Pilipinas (BSP) book entitled “Current Account Dynamics and the Philippine Economy: Developments and Prospects.”

The current account (CA) is a crucial component of a country’s balance of payments, reflecting the net value of exports and imports of goods and services and primary and secondary income flows. The Philippines maintained a CA surplus for 13 consecutive years from 2003 to 2015, but this shifted to a deficit in the following years, except for a notable surplus in 2020 driven largely by pandemic-related economic disruptions. Through this session, participants will better appreciate the factors shaping the Philippines’ CA balance, including shifts in economic fundamentals, evolving policy priorities, and the growing influence of technology. The featured papers also analyze how changes in production processes—such as greater integration into global supply chains and the rise of servicification—impact the CA.

Polymakers, analysts, and researchers will benefit from practical recommendations drawn from evidence-based studies. The session also provides actionable insights for managing the CA amid rapidly changing global and domestic economic landscapes.

#### **Unpacking the Philippine Current Account: Trends, Drivers, and Policy Insights** Vic Delloro, Hazel Parcon-Santos, Jose Adlai Tancangco

The CA is a crucial indicator of economic health. It reflects residents’ consumption, saving, and investment behavior and provides insights on government policy choices. For the Philippines, the CA has reflected the interplay of various domestic policies implemented, external shocks, and shifts in global economic conditions. While the country has transitioned from a protectionist to a more open market economy, this shift has brought both opportunities and challenges, particularly regarding import dependence and export competitiveness. Empirical findings suggest several key determinants of the Philippines’ CA performance, including foreign direct investment, fiscal balance, GDP growth, real effective exchange rate, and export performance. These findings underscore the importance of enhancing export competitiveness, reducing reliance on imports, maintaining a stable and competitive exchange rate, and strategically leveraging FDI.

#### **Diversification and Structural Transformation** Karl Robert Jandoc, Benjamin Radoc, Jr., Avin Raiel Abelardo, Christian Kenneth Collado

The relationship between the CA and structural transformation is particularly relevant for the Philippines, given its history of recurrent cycles of persistent CA deficits and surpluses. The implications of these structural challenges for the CA are profound. The Philippines’ “premature industrialization” raises critical questions about whether the country can still follow the traditional East Asian pathway of structural transformation driven by manufacturing-led growth.

The weak performance of the Philippine manufacturing sector has prevented the country from capitalizing on potential benefits arising from forward and backward linkages with other sectors of the economy. This is also evident in the country's export mix, as it lacks diversity, primarily attributed to limited diversification within manufacturing, which is predominantly driven by low-tech sectors. Addressing these issues requires a coherent, integrated, and well-targeted structural transformation, industrial promotion, and innovation-enhancing strategies that simultaneously target productivity growth across strategic subsectors in agriculture, industry, and services.

### **Reigniting an Engine: Trends, Challenges, and Prospects in Philippine Manufacturing**

Faith Christian Cacnio, John Michael Rennie Hallig, Marie Edelweiss Romarate,  
Carl Francis Maliwat, and Irene Rose Imson

The manufacturing sector is often a key indicator of a country's economic development and competitiveness in the global market. Even with an early start to industrialization, the Philippines' development process differed from the traditional structural transformation of economies. With a more services-based economy, the Philippines began to deindustrialize in the 1980s prematurely. Empirical results indicate that global GDP growth, exchange rates, labor productivity, and inflation determine manufacturing exports growth in ASEAN countries. By building on its strengths and addressing its weaknesses, the Philippines can steer its manufacturing sector towards sustainable and inclusive growth, contributing to its overall economic growth.

### **Services as a Growth Engine: The Evolving Landscape of the Philippine Services Sector**

Hazel Parcon-Santos, Ivan Cenon Bernardo, Marie Edelweiss Romarate,  
and Neil Fiddle Lomibao

The services sector has emerged as a cornerstone of economic growth globally and in the Philippines, playing a pivotal role in driving GDP expansion and employment generation over the past decades. The resilience of the country's services exports—led by the robust IT-BPM industry—has solidified the Philippines' position as a key player in global outsourcing. This sector has contributed significantly to economic stability and highlighted the nation's potential to excel in knowledge- and technology-driven industries. Despite these successes, challenges like automation and declining competitiveness rankings could threaten long-term prospects.

### **Servicification and Firm Performance: Evidence from Philippine Manufacturing**

Gloria Pasadilla, Neil Irwin Moreno, Benjamin Endriga, Ivan Cenon Bernardo

The service sector is the bright spot in the Philippine economy, compensating for the weakened manufacturing sector. Managing global value chains across countries require such services. Over time, the service sector has grown in terms of its exports and economic contribution. Services contribute about 50%-60% to value added in all manufacturing sectors globally. This increase in the importance is attributed to technological advances that lowered the cost of

service provision. In the Philippines, the use of services in manufacturing has increased, but its value-added share in manufacturing exports remains low. The evidence points to a still-nascent servitization and servicification phenomenon. Using various estimation strategies, estimates show that the impact of servicification on the performance of Philippine manufacturing firms is not yet well-established. This is consistent with the macro-level findings of having a few firms in servicification, yet most Philippine firms are either pure services or pure manufacturing firms.

## SESSION A6

### **Competition in Essential Goods Market** (PCC session)

Persistent affordability issues in essential goods highlight the importance of competitive markets in ensuring accessibility and resilience. Anti-competitive conduct, structural barriers, and regulatory gaps can distort supply chains and limit fair outcomes for both consumers and producers. This session, organized by the Philippine Competition Commission (PCC), will examine how competition policy and market studies can contribute to more efficient and inclusive markets for food, energy, and other essential goods. Discussions will draw from international and domestic experiences in addressing anti-competitive practices, explore how competition policy can complement social protection and subsidy programs, and highlight the role of advocacy and evidence-based research in shaping pro-competitive reforms. By bringing together insights from market studies and research, the session will highlight how pro-competitive policies can help balance affordability, inclusivity, and sustainability in the provision of food, energy, and other essential goods.

#### **Market Study on Highland and Lowland Vegetable Crops: Carrots, Cabbage, and Onions**

Hadassah May R. Cordero, Donabel F. Montalbo, Samantha Louise S. Nepomuceno,  
Larry Digal, Ph.D., Lemuel Preciados, Ph.D.

This market study analyzes the Philippine vegetable supply chain to identify the root causes of price instability, supply inefficiency, and logistical challenges. Using the Structure-Conduct-Performance framework, value chain analysis, and mixed-methods research, we focused on carrots and cabbage from the Cordillera Administrative Region and onions from Central Luzon. The study employed cointegration tests and Granger causality to examine market integration and price transmission. Findings reveal significant inefficiencies driven by intermediaries' strong bargaining power and underutilization of public cold storage facilities, leaving farmers remain as vulnerable price-takers. The analysis underscores weak market integration and highlights how price shocks are quickly passed on to consumers while price declines are delayed. The study recommends strategic policy interventions, including improving market transparency, enhancing logistics and infrastructure, and strengthening farmers' bargaining power, to build a more equitable and efficient market for all stakeholders.

#### **Competition and Switching Barriers in the Philippine Retail Electricity Market**

Jestoni A. Olivo, Eirene Gillian M. Reyes, Antonio Miguel S. Ventura

The Electric Power Industry Reform Act (EPIRA) empowers eligible end-users to switch to and participate in customer choice programs, including the competitive retail electricity market. We

examine the retail market's competition landscape and find out whether there is effective competition between different types of retail electricity suppliers (RES) in various settings. The concepts of intra- and inter-playing fields are introduced where suppliers of the same or different types compete. We find that retail rates, supply volume, and service quality are the typical dimensions of competition, and an affiliation with either generation or distribution plays a key role in the retail supplier's strength in each dimension. Lastly, consumer switching behavior between suppliers is key to inducing retail competition and market efficiency. We then examine the extent of regular switching and discuss how switching barriers foil active retail competition.

### **Grim Trigger Auctions in Repeated Procurement for Medicines**

Farasat Bokhari, Sean Ennis, Timothy Salmon, Carlos Vega

We look at the effect of a bid cap policy in procurement auctions for medicine. The policy of interest sets the reserve price for a given drug as the median or minimum of the winning bid prices across locations in a previous period. This can act as a mechanism to “harvest” downward pressure on price from more competitive markets and use their outcomes to keep prices low in markets with less intense competition. A consequence of the design could be that in some markets, competition actually suffers causing auctions to fail, bid caps to be abandoned, and prices not falling by very much. Alternatively, sellers sufficiently valuing future profits can engage in a grim trigger strategy opening up the possibility of sustained cooperation and higher prices. Using procurement data from 2012 to 2018, we estimate the policy's effect on transaction prices faced by government hospitals in the Philippines. A triple differences design is used to address potential parallel trends bias in a standard difference-in-differences design but estimates from both tell a similar story. We find that the policy led to a statistically significant reduction in transaction prices as well as in price dispersion, on average.

## **SESSION A7**

### **Positioning the Philippines as a Leading Investment Destination in Southeast Asia**

(Stratbase session)

Foreign investment is a crucial engine for driving economic and social development by boosting productivity, spurring industrial growth, creating jobs, and increasing income and overall prosperity.

The Philippines possesses unique historical, geographical, and economic advantages that position it well to leverage foreign investments as a catalyst for transformative growth. Amid shifting global geopolitical dynamics that continue to reshape supply chains and economic landscapes, the country has an opportunity to play a more central role in the Indo-Pacific by attracting companies reconfiguring their supply chains.

The Philippines is an attractive destination for foreign investors due to its geostrategic location, abundant critical natural resources, and a large, young, English-speaking workforce, which also represents a growing domestic market. However, challenges remain, including bureaucratic red

tape, infrastructure gaps, inconsistent implementation of policies, concerns on political stability, and occasional misalignment between national and local governments, which have hindered its ability to attract and retain foreign investment.

Encouragingly, over the years, the Philippines has implemented reforms to improve its investment climate. These include streamlining the ease of doing business, boosting infrastructure development under the “Build, Better, More” program, institutionalizing public-private partnerships, and amending the Public Service Act, Retail Trade Liberalization Act, and Foreign Investments Act to liberalize sectors previously restricted to foreign ownership. The Luzon Economic Corridor, which will link Subic, Clark, Manila, and Batangas, presents opportunities to strengthen infrastructure and supply chains, lower logistics costs, and improve efficiency for companies setting up production facilities in Southeast Asia.

Against this backdrop, the Stratbase Institute will host a session during the Philippine Economic Society's 63rd Annual Meeting and Conference, entitled, “Positioning the Philippines as a Leading Investment Destination in Southeast Asia” on 7 November 2025 (Friday) at 10:25 AM–11:35 AM, at the Makati Shangri-La Hotel, Makati City.

This session will feature representatives from the Philippine Board of Investments and leading business groups to examine high-potential sectors, discuss ways to strengthen the Philippines' position as a resilient and competitive investment hub, and highlight policy reforms needed to unlock opportunities for both public and private stakeholders.

### **Positioned for Success: Winning in Southeast Asia**

Ceferino Rodolfo, Ph.D., Victor Andres Manhit

Foreign direct investment remains a powerful catalyst for economic and social transformation in developing countries. However, its effectiveness depends on a coordinated approach that combines strong human capital development, adequate infrastructure, stable governance, and a supportive policy environment. In today's global landscape shaped by geopolitical shifts, rapid technological shifts, and sustainability imperatives, creating the right conditions for investment is just as important as attracting capital. In the case of the Philippines, it possesses inherent strengths that position it as a strategic investment destination in Southeast Asia. These include its geostrategic location at the heart of the Indo-Pacific, abundant critical natural resources, and a large, young population that serves both as a dynamic workforce and a growing consumer base. These advantages are further reinforced by policy reforms aimed at enhancing the ease of doing business and attracting foreign capital.

### **Economic Zones as Prime Destinations for Investment**

Joy Alguiso

PEZA's presentation will provide an overview of the Philippine Economic Zone Authority's (PEZA) strategic role and initiatives to elevate the Philippines as a premier investment destination in Southeast Asia. It will highlight PEZA's globally recognized “no red tape, only red-carpet treatment” brand of service, complemented with its ongoing digitalization and sustainability efforts all aimed at streamlining the ease of doing business and to future-proof investments.

PEZA DDG Alguiso will provide in-depth discussion on key reforms under the CREATE MORE

Act, including enhanced fiscal and non-fiscal incentives, as well as its strengthened public-private partnerships, and liberalized regulatory frameworks that reinforce a more competitive and inclusive investment environment.

In addition, DDG Alguo will share the Agency's latest investment performance, highlight the distinct advantages of locating in PEZA ecozones, and outline strategic investment opportunities across emerging and high-value sectors.

Overall, the presentation will demonstrate how these initiatives and measures in PEZA ecozones will position the Philippines to attract quality investments and maintain resilience amid global trade shifts.

## SESSION A8

### **From Tariffs to Technology: Navigating Trade Shocks and Digital Shifts in the ASEAN Region and Beyond**

Economic integration in Asia and the Pacific continues to progress amid an otherwise tense and uncertain global landscape, reflecting the region's stronger determination to keep markets open and to support a broader, rules-based cooperation. In particular, ASEAN economies have become critical to global value chains and trade diversification strategies. The selected papers apply both traditional and novel analytical frameworks to understand the drivers of trade and investment flows, evaluate the impacts of policy interventions, and propose data-driven strategies for enhancing regional competitiveness. Together, they offer a timely and multidisciplinary perspective on the challenges and opportunities facing Asian economies in a rapidly changing global trade environment.

The first paper, "Determinants of Global Semiconductor Trade: A Panel Data Analysis Using Augmented Gravity Model" by Asis, Calivo, and Colada (2025) investigate how economic size, geography, tariffs, and exchange rates shape bilateral semiconductor trade flows globally from 2013 to 2023. The third paper, "Illuminating Investment: Nighttime Light Data as a Proxy for Economic Activity in Foreign Direct Investment Gravity Models" by Tiangco, Fonghe, and Dumlao (2025), introduce satellite-based nighttime light data as an alternative to GDP for modeling FDI, highlighting its relevance in capturing informal economic activity. "Digital Services in ASEAN Free Trade Agreements" by Pascua (2025), evaluates ASEAN's commitments to digital services liberalization, revealing disparities across economies and recommending complementary reforms for maximizing digital trade potential. Finally, "Understanding the Dynamics of Home-Based Gig Work in the Philippines" by Pascua, Batara, and Banta (2025) analyzes the factors influencing participation in home-based gig work, which has proliferated alongside the growth of the digital economy during the pandemic.

This session underscores the need for adaptive analytical tools and forward-looking policy frameworks to respond to structural shifts in global trade. By combining empirical analysis with policy insight, these papers hope to contribute to a better understanding of how ASEAN and other Asian economies can navigate uncertainty and leverage new opportunities in digitalization, regional integration, and global supply chain realignment.

## **Profiling Home-Based Gig Workers: Insights from the Philippine Labor Force Survey**

Gerald Gracius Pascua, Jon Ethan Lancelot Batara, Kristian Lyle Banta

The rise of home-based gig work, encompassing freelancers, virtual assistants, online tutors, and other remote service providers, has accelerated notably since the onset of the COVID-19 pandemic. These workers, who form a significant segment of the broader gig economy, rely heavily on digital skills and internet-based platforms to find, perform, and deliver work. The flexibility of this work arrangement has expanded economic participation, particularly for full-time parents, individuals in geographically remote areas, and those burdened by long commutes. This study analyzes the demographic and labor market characteristics of home-based gig workers in the Philippines using monthly Labor Force Survey (LFS) data from the Philippine Statistics Authority. Our analysis proceeds in two parts. First, we investigate the impact of rainfall events on participation in home-based gig work. To assess this, we integrate the LFS-CMCI dataset with satellite-derived rainfall measurements. Second, we assess whether improved digital infrastructure is associated with a popularity of home-based gig work. We merge LFS data with the Department of Trade and Industry's Cities and Municipalities Competitiveness Index (CMCI), which contains relevant indicators on innovation, infrastructure, and resilience.

Our findings indicate that home-based gig workers differ significantly from those in traditional work arrangements in terms of demographics and employment characteristics. Home-based workers are disproportionately female and more popular among older age groups. Regression analysis further reveals that home-based gig workers tend to work longer hours and earn more than those in traditional employment settings. However, their willingness to take on additional work is lower. Increased rainfall is associated with reduced earnings for home-based gig workers, underscoring the vulnerability of digital work to climate-related disruptions. Finally, higher local government competitiveness is positively associated with several labor outcomes, including hours worked, and basic pay. These findings highlight the need for investments in resilient digital infrastructure and climate-proof connectivity, particularly in rural or underserved areas, where the gig economy serves as a pathway to more inclusive employment.

## **Determinants of Global Semiconductor Trade: A Panel Data Analysis Using Augmented Gravity Model**

Florinda Asis, Micah Shane Calivo, Janelle Colada

This study investigates the key determinants of bilateral semiconductor trade flows to more than 75 economies from 2013 to 2023, applying an augmented gravity model within a panel regression framework. The analysis assesses the influence of economic size, geographic proximity, historical ties, exchange rate dynamics, and tariff structures on semiconductor import volumes.

Empirical findings confirm that GDP levels of both importer and exporter nations significantly drive semiconductor imports, with exporter GDP exerting a slightly greater influence—underscoring the importance of supply capacity. Geographic distance consistently acts as a trade deterrent due to increased logistical costs, while shared borders, common languages, and historical colonial relationships notably boost trade connectivity. Trade policy analysis reveals that most-favored-nation (MFN) tariffs serve as a statistically significant barrier to

semiconductor imports. Broader tariff measures, such as weighted averages or applied duties, yielded less consistent effects, highlighting the nuanced impact of tariff structures across country pairs. Real effective exchange rates (REER) displayed weak and variable influence, indicating limited predictive value in this context. These results offer practical implications for policymakers and industry stakeholders aiming to enhance semiconductor supply chain resilience and inform strategic trade negotiations.

### **Illuminating Investment: Nighttime Light Data as a Proxy for Economic Activity in Foreign Direct Investment Gravity Models**

Adriane Zen Yu Tiangco, Kean Constantine Buenaventura Fonghe,  
Marco Luis Cauton Dumlaio

Traditional gravity models of Foreign Direct Investment (FDI) rely heavily on Gross domestic product (GDP) as a proxy for economic activity, despite its limitations—namely, endogeneity, measurement inconsistency, and inability to capture informal sectors, especially in developing countries. This study introduces Nighttime Light (NTL) luminosity as an alternative proxy to better reflect real economic activity in gravity models. By incorporating satellite-based NTL data across 18 countries from 2015 to 2023, the research provides empirical evidence that NTL is a statistically significant and robust predictor of FDI inflows, outperforming traditional GDP-based measures.

In addition to standard gravity model variables such as geographic distance, common language, colonial history, shared borders, and real effective exchange rate (REER) volatility, this study includes the presence of Bilateral Investment Treaties and Treaties with Investment Provisions. The interaction between investment agreements and macroeconomic volatility is also assessed. Results show that once NTL is introduced, traditional gravity variables such as distance lose significance, particularly under fixed-effects models, suggesting that FDI decisions are less influenced by physical proximity and more by perceived growth potential captured by NTL. REER volatility and investment treaties yield mixed results, underlining the need for more nuanced indicators of financial risk and institutional reliability. This research supports expanding gravity model methodologies to better guide investment policy and strategic decision-making.

### **Digital Services in ASEAN Free Trade Agreements**

Gerald Gracius Y. Pascua

The entry into force of the Regional Comprehensive Economic Partnership (RCEP) in 2022 marks a significant milestone for international services trade, promising broader market access and a more predictable, transparent regulatory environment. While RCEP offers deeper liberalization compared to the 1995 General Agreement on Trade in Services, considerable disparities remain among member economies in terms of their liberalization commitments. At the same time, digitally deliverable services are rapidly becoming the dominant mode of global services trade, with Southeast Asia emerging as a key driver of this transformation.

This paper examines the digital services trade liberalization commitments across ASEAN free trade agreements (FTAs), with a particular focus on their consistency, depth, and alignment with evolving digital trade trends. Findings reveal significant differences in the scheduling and scope of commitments among ASEAN member states, reflecting non-uniform progress in liberalizing digital services. These disparities could undermine the region's potential to leverage digital



trade for inclusive growth. To fully capitalize on the digital economy, ASEAN economies must complement trade liberalization with structural and regulatory reforms, targeted investments in digital infrastructure, and policies aimed at closing the digital divide. Such holistic approaches are essential for maximizing the benefits of digital trade integration under RCEP and beyond.

## SESSION A9

### **The Dynamics of Economic Policy and Communication: Fiscal Surprises, Monetary Signals, and Geopolitical Impacts in Developing Economies**

#### **Can governments still engineer fiscal surprises? The case of the Philippines**

Lawrence B. Dacuycuy

This paper employs a dynamic stochastic general equilibrium (DSGE) model to estimate the dynamics of fiscal policy in the Philippines. It focuses on the fiscal stimulus, the Disbursement Acceleration Program (DAP), examining its origins, mechanisms, and features, and investigating the respective roles of endogenous fiscal and monetary rules. We pose empirical questions that have not been formally addressed before: Was the DAP a fiscal surprise, and did it contribute to enhanced output growth? What propagation mechanisms are relevant for understanding the effects of DAP? Using Bayesian methodologies, the paper empirically characterizes the dynamic effects of fiscal policy from the second quarter of 2002 to the fourth quarter of 2011 using a fiscal-centric, medium-scale DSGE model. We carried out procedures for generating both recursive and non-recursive estimates. We recursively estimated structural parameters, considering the contribution of additional data points from the third and fourth quarters of 2010 and the first and second quarters of the following year. To our knowledge, no public record exists of an alternative yet similar empirical examination that has been conducted to shed light on the effectiveness of the fiscal policy measure.

Based on our non-recursive model estimates, smoothed government investment and consumption shocks confirm that DAP may have been a fiscal surprise. Impulse response functions reveal that output growth was positively affected by government investment and consumption shocks. Moreover, estimated fiscal processes indicate that government investment and consumption processes are not highly persistent during the period. Finally, estimated fiscal rules show that government investment and transfers react negatively to output but positively to the debt-GDP ratio. On the monetary front, monetary policy shocks were more volatile in 2007-2008. They exhibited less volatility during 2010-2011, plausibly indicating an accommodative stance or a pause in aggressive policy actions to mitigate adverse spillovers emanating from the Great Recession years prior.

Recursive estimates are deemed informative. We use the posterior distribution of standard deviations for fiscal and monetary shocks to determine the degree of informativeness of additional data points. We interpret upward movements in the standard deviation as an indication that a policy surprise was present. Adding the first quarter of 2011 to the base data set increased the volatility of the shock. The marginal contribution of adding another data point in the second quarter of 2011 reduced volatility. It appears that recursive estimates of the volatility of government consumption spending are stable, though.

## **A Natural Language Processing (NLP) Approach in Extracting Monetary Policy Stance: Emerging Market Spillover from Federal Reserve Communication**

Aris Zoleta

The paper empirically examined the emerging markets (EM) spillover from unexpected hawkish communication by the Federal Reserve (Fed) using local projection. The findings reveal that an unanticipated shift toward a more hawkish Fed stance results in a contraction in EM GDP and inflation, as well as an increase in domestic interest rates. Taking into consideration other global factors, the paper shows that the effect of hawkish Fed statements is found to be more pronounced during periods of the Fed easing cycle, and also was observed to be stronger during the global economic downturn and heightened global uncertainty.

## **The Impact of Geopolitics on Trade and Investments: Evidence from RCEP Countries**

Hazel C. Parcon-Santos, Jose Adlai M. Tancangco

This study explores the influence of geopolitics on trade and investments among countries with relatively strong economic ties. Focusing on the 15 member states of the Regional Comprehensive Economic Partnership (RCEP) – the world's largest trading bloc – our analysis reveals that elevated geopolitical frictions reduce both exports and cross-border investments, with asymmetric effects depending on the type of trade and investment. In particular, services exports and portfolio investments are more sensitive to geopolitical tensions than goods exports and direct investments. These dynamics persist even among RCEP countries, demonstrating that geopolitical challenges can disrupt economic activities even within cooperative economic arrangements.

## **SESSION B1**

### **Navigating Headwinds, Sustaining Progress: Exploratory Economic Policy Views from Within (DEPDev session)**

Building on years of sustained progress, the Philippine economy presently confronts various development challenges on its domestic and external fronts. As the country aims to graduate into the ranks of upper-middle-income countries, strategies and policy priorities contained in the Philippine Development Plan (PDP) 2023-2028 broadly aim to raise the economy's growth potential in the medium to long-term through sustained investment in human and physical capital as well as strategic interventions that boost productivity and enable innovation. At the same time, policies, programs, and projects must be prudently designed and effectively implemented in the short term to safeguard welfare gains amidst shocks that can disrupt economic activity and impede, or even erase, hard-won progress. This session aims to explore economic policy perspectives and generate insights that sharpen and nuance big-picture development strategies in the pursuit of greater policy effectiveness and socioeconomic impact.

**The Trade-Off in Trade:  
Institutional Conditions, Finance, and Export Behavior of Philippine Firms**  
David Carlo C. Mangalindan

Amidst today's global polycrisis, sustaining inclusive economic progress requires understanding how institutions and finance shape firms' competitiveness. This study examines Philippine firms' export behavior using 2023 World Bank Enterprise Survey data and a Heckman two-stage model. Results reveal a paradox: improvements in regulatory and infrastructure conditions can discourage exporting, as firms redirect capacity to more attractive domestic opportunities. Access to finance emerges as a crucial but uneven enabler, while essential for export readiness, persistent credit gaps prevent many micro, small, and medium enterprises from benefiting from institutional reforms. The findings underscore that institutional improvements alone are insufficient; without targeted policies to close financing gaps and strengthen export-readiness support, reforms risk deepening disparities. This research offers critical insights into how the Philippines can leverage institutions and finance to foster resilience, inclusivity, and global competitiveness.

**Typhoons Can Be Political, too: The Political Economy of  
Typhoons in the Poverty Across Provinces in the Philippines**  
Richard Mel P. Caplis

This study attempts to find out how typhoons affect poverty and how these two variables are intertwined with politics. Panel data regression is done while accounting for Province and Time Fixed Effects. A dataset covering the 82 provinces of the Philippines for the years 2015, 2018, and 2021 was used. The results can help lay the claim that typhoons are detrimental, especially for poor households. Specifically, poor households in provinces that are ravaged by typhoons are expected to see their spending reduced from 1.62% to 15.51% each year. Moreover, political process- in this case, lower political competition- can mitigate the negative effects of typhoons on the consumption of poor households, albeit up to a certain extent. This is possibly because politicians tend to allocate public resources to their strong bailiwicks, and most especially in areas where they are extremely unpopular. This study recommends that parametric typhoon insurance targeting poor households be instituted. In doing so, the risk faced by these households is mitigated and shared. Parametric typhoon insurance can also reduce the inefficiencies of disaster response.

**Does FDI entry mode matter for economic growth and  
domestic investment? The Philippines' case**  
Esther Kinuta

This paper investigates the dynamic effects of foreign direct investment (FDI) entry modes on economic growth and domestic capital formation in the Philippines for the period 2006 to 2019. FDI entry mode is classified into greenfield FDI (GFDI) and cross-border mergers and acquisitions (MA). The results demonstrate that FDI entry modes have short-run asymmetric effects on domestic investment: GFDI crowds-in domestic investment, while cross-border MA exhibits a marginal crowding-out effect. There are two major policy implications arising from this study. First, it argues for policy to prioritize attracting greenfield investments. And second, there is need to monitor the effects of cross-border MA in the country. A better understanding in this area will inform foreign investment policy design to complement competition policy.

## SESSION B2

### **Taxes, Transfers, and Services: Distributional Impacts and Reform Simulations for the Philippines** (WB session)

This session presents new fiscal distributional analysis for the Philippines, quantifying how key policies—personal income tax (PIT), value-added tax (VAT), direct transfers, and public spending on education and health—affect poverty and inequality. Using a fiscal incidence framework, we estimate the progressivity of each instrument and their combined impact on household welfare across the income distribution. We discuss trade-offs, including revenue needs, targeting performance, and equity outcomes.

The session will also feature a demonstration of a user-friendly simulation tool that enables quick “what-if” assessments of policy reforms.

## SESSION B3

### **Navigating External Linkages: Interest Rates, Remittances, and Debt Risks in an Open Economy** (BSP session)

This session examines the evolving landscape of macroeconomic stability and resilience in emerging economies, with a focus on the Philippines and comparable developing contexts.

The first paper revisits the estimation of the natural interest rate ( $r^*$ ) for a small open economy, integrating global risk, sentiment, and currency expectations into a revised Holston-Laubach-Williams framework. The findings reveal a more stable and credible measure of the natural rate, offering insights for transparent and data-driven monetary policy. The second paper explores the developmental role of cross-border remittances in poverty reduction, highlighting how remittance inflows—when channeled through education and human capital formation—serve as powerful instruments for inclusive growth. The third paper advances external vulnerability analysis through an enhanced early warning system for debt crises, combining econometric and machine-learning methods to strengthen predictive accuracy and guide proactive policy response.

Together, these studies underscore the importance of integrating analytical rigor, financial innovation, and social dimensions in safeguarding macroeconomic resilience and promoting sustainable development in small open and developing economies.

#### **The Natural Interest Rate in a Small Open Economy: The Case of the Philippines** Carolina Austria Escranda, Ph.D.

This paper develops a revised Holston-Laubach-Williams (HLW) model tailored to small open economies, using the Philippines as a case study. Standard  $r^*$  frameworks are designed for large, relatively closed economies, so the revised specification incorporates external variables that are particularly relevant for emerging markets. Three modifications capture these

dynamics: the sovereign credit default swap (CDS) spread and the VIX index are added to the IS curve to reflect sovereign risk and global financial sentiment, while expected exchange rate changes, derived from forward and spot differentials, are introduced into the Phillips curve to capture the inflationary effects of currency expectations. These adjustments account for the structural vulnerabilities of small open economies, where capital flows and exchange rate dynamics significantly shape macroeconomic conditions.

The model is estimated on Philippine data from Q1 2002 to Q1 2025. The start date aligns with the Bangko Sentral ng Pilipinas' adoption of inflation targeting, ensuring consistency by excluding structural breaks under earlier monetary regimes. Results indicate that the natural real interest rate ranged from 0.52 to 1.44 percent, averaging 1.11 percent. On this basis, monetary policy has been on average natural to accommodative, with a mean real interest rate gap of -0.33 percent.

Relative to the original HLW framework, the revised model produces a slightly higher average natural interest rate of 1.11 percent compared with 0.99 percent in the baseline specification. It also generates a smoother and more stable  $r^*$  path, particularly during periods of global turbulence such as the 2008 financial crisis, the 2018 U.S. monetary tightening cycle, and the COVID-19 pandemic. In addition, the revised model reduces the standard errors of the  $r^*$  estimates by about one percentage point, indicating greater statistical precision.

The revised estimates also perform well relative to alternatives. They yield a smoother series than other models, are higher than the time-varying parameter VAR estimates from the IMF (0.37 percent) and World Bank (0.36 percent), yet remain below earlier HLW-based and Perrelli and Roache estimates of 3.35 percent and 2.47 percent, respectively. The model is seen to mitigate the risk of both under- and overestimation that can occur in statistical, structural, and state-space approaches. By explicitly incorporating external shocks such as sovereign risk, global financial sentiment, and exchange rate expectations alongside domestic fundamentals, it balances the strengths of different frameworks and produces more stable and credible estimates.

Nonetheless, as with all natural interest rate methodologies, risks of mismeasurement and overconfidence in point estimates remain. For this reason, transparent model specification, robust sensitivity tests, and triangulation with alternative approaches are essential to ensure credible and policy-relevant  $r^*$  estimates in emerging market contexts.

## **Cross-Border Remittances and Poverty Reduction in Developing Countries**

Benjamin A. Endriga, Alyssa Cyrielle B. Villanueva

As a significant source of external funding for developing countries, international remittances have been widely studied for their impact on development, including its effects on economic growth, employment, foreign exchange, its links to consumption and investment, and its impacts on poverty and welfare. There are two opposing views on its impact on poverty. The more optimistic view notes that remittances reduce poverty through increased incomes, supports greater investments in physical assets, education, and health, and enables access to a larger pool of knowledge. The negative view observes that poor households have limited access to migrant labor markets due to liquidity constraints as well as high transport and entry costs of migration. If migration is costly and risky, then migrants may come from middle or upper segments of the rural income distribution rather than from the poorest households.

This study thus examines the impact of international remittances on poverty reduction in selected developing economies, limited to those that receive significant inflows of remittances, measured as at least 5% of GDP. The study also attempts to determine the channels through which remittances are able to reduce poverty, whether through human capital development or financial development. The study employs panel estimation techniques to estimate the results and address methodological issues of endogeneity and test for robustness. The study also uses three indicators of poverty, including poverty headcount, poverty severity, and household consumption expenditure, to test for robustness. The results show that remittances are significant in reducing poverty, using these different poverty measures. The results also show that education and human development are the more significant channels through which remittances reduce poverty.

### **Enhancing External Debt Crisis Prediction: Integrating Machine Learning into the BSP's Early Warning System** Nathaniel De Leon, Carmelita G. Esclanda-Lo

This study develops an enhanced Early Warning System (EWS) for the external debt sustainability of the Bangko Sentral ng Pilipinas by redefining crisis criteria, broadening explanatory variables, and expanding country coverage. Using annual data from 44 countries (1980–2024), the research constructs an EWS that treats sovereign defaults, large-scale IMF assistance, the accumulation of debt arrears, and major restructuring episodes as predictors of an impending sovereign debt crisis.

Enhanced signal extraction approach and econometric models (binomial and multinomial logistic regression) achieve moderate crisis prediction accuracy (68–84%), highlighting external debt ratios, inflation, reserves, exchange rate movements, and foreign direct investment as significant predictors. Machine learning approaches, notably Random Forest, further boost predictive power to about 90%, identifying exchange rate volatility, reserve-to-debt ratios, and external debt ratios as the most influential variables.

These results demonstrate that integrating machine learning with traditional econometric frameworks can significantly improve early warning capabilities. The hybrid approach offers policymakers a robust tool for proactive debt sustainability monitoring and crisis prevention.

## **SESSION B4**

### **PPPs and Leveraging Investments in Education (DepEd session)**

This session explores how public-private partnerships (PPPs) can unlock new opportunities for funding and innovation in basic education. Collaboration with the private sector has become a critical strategy for the Department of Education (DepEd) to expand access, improve quality, and advance sustainability, especially as it faces increasing demand to improve learning outcomes to address the learning crisis. The discussion examines how DepEd can leverage PPPs to demonstrate how the public and private sectors could collaboratively advance national socioeconomic goals. By highlighting practical insight and lessons from various contexts, the discussion highlights opportunities and strategies to mobilize investments and strengthen partnerships that deliver equitable and lasting impacts in basic education.

**PPP Opportunities in Basic Education:  
A Case of the Philippine Department of Education**  
Ronald U. Mendoza, Ph.D.

Aimed at addressing longstanding challenges in the basic education system, primarily the decline in learning outcomes exacerbated by the COVID-19 pandemic, DepEd launched the 5-PT Reform Agenda (5PT Agenda) which is operationalized through the Quality Basic Education Development Plan (QBEDP). The QBEDP identifies key strategies and highlights three reform levers: decentralization, digitalization, and private-public partnership (PPP).

This presentation explores how PPPs can serve as a mechanism to rebalance private and public sector roles to enhance innovation and increase access to resources and expertise in the basic education sector. Specifically, this delves into DepEd's experience in Public-Private Partnership for School Infrastructure Projects (PSIPs) and other ongoing partnership efforts to inform how future PPP initiatives can be designed to improve DepEd's response in addressing classroom shortages, expanding learning facilities, and bringing modern approaches to basic education service delivery.

**Public-Private Partnership Monitor - Philippines**  
Asian Development Bank (ADB) Office of Markets Development and  
Public-Private Partnership (OMDP)

Drawing perspective from the nine (9) developing countries featured in the Asian Development Bank's 2025 Public-Private Partnership Monitor, the presentation delves into the Philippines' public-private partnership landscape, providing an assessment of the enabling environment of PPP. This benchmarks the country's legal, regulatory and institutional frameworks against its regional neighbors, offering key insights into the country's readiness for PPP and the investment climate.

As the first country in Asia to institutionalize private sector participation in infrastructure and development projects through the Build-Operate-Transfer (BOT) law in 1990, the presentation highlights the strong government support to PPPs, serving as an enabling mechanism for the Philippines to pursue its commitment to PPPs. It likewise underscores the bottlenecks that impede the expansion of PPPs in education and health, including weak project preparation, low bankability of social initiatives, and capacity limitations among implementing agencies. It also explores the windows of opportunity for the Department of Education and local governments to collaborate towards building classrooms, updating facilities, and integrating technology to make learning environments more resilient and inclusive.

**Strengthening and Expanding Government Assistance for Private Education**  
Vicente Paqueo, Ph.D., Johanna Marie Astrid A. Sister, Solomon R. Sarne,  
Michael R.M. Abrigo, Aniceto C. Orbeta Jr., Ricxie B. Maddawin,  
and Marie Louissie Ynez U. Lavega

The report assesses two Department of Education's (DepEd) student financial assistance schemes under the Government Assistance to Students and Teachers in Private Education (GASTPE) program. Those schemes are the Educational Service Contracting (ESC) and the Senior High School Voucher (SHSV) schemes. Through these schemes, DepEd pays tuition fees for eligible students enrolling in qualified private schools of their choice.

The study aims to answer the following questions: Are the programs on track towards achieving their objectives? What are the key challenges and adjustments that need to be made for the program to achieve its objectives? What can be done to improve the programs' ability to cost effectively, equitably, and sustainably promote the private sector's contribution to national education goals?

The study examines those questions and, in that context, analyzes the following specific concerns: (i) the adequacy of the financial assistance provided to target beneficiaries and the methodology for rationally setting the programs' subsidy value; (ii) the inclusion of disadvantaged children and the methodology for targeting and prioritizing them; and (iii) the need to adjust program objectives and implementation design.

Using a mix of qualitative and quantitative methods, the report concludes that the logic of the programs is reasonable and that there is evidence to support the hypothesis that in the Philippines, it is cost-effective to use private schools to help government achieve its national education goals. There are, however, significant design, implementation, and governance challenges that need to be thoughtfully addressed as part of the call of the Philippine Development Plan (PDP) 2023-2028 for the strengthening and expansion of private sector participation in education. Hence, the report suggests some ideas in this regard.

## SESSION B5

### **Managing Macroeconomic Volatility: Honoring Dr. Roberto S. Mariano**

#### **Forecasting non-performing loans in the Philippine banking sector using hierarchical pooled reverse unrestricted mixed data sampling**

Vidal Marvin C. Gabriel

Banking institutions provide liquidity to financial markets through loans. In return, borrowers pay the principal loan amount with interest. However, when borrowers fail to pay off their debts for at least 90 days, loans become non-performing (NPL). NPLs may be damaging to the health of financial institutions and the overall economic growth of a country. Therefore, there are gains from forecasting NPLs. There are limited studies that forecast aggregate NPL ratios in the Philippine setting. Furthermore, there is a challenge in building monthly forecasting models for aggregate NPL ratios because macroeconomic variables and bank system-specific predictors are observed at different frequencies. Thus, this paper adds to the literature by applying reverse unrestricted mixed data sampling (RU-MIDAS) with macroeconomic and bank system-specific predictors when forecasting monthly NPL ratios in the Philippines. Results show that RU-MIDAS by Hecq et al. (2023) was able to generate a mixed frequency model for the change in NPL ratio for the Philippine, Universal, and Commercial banking sectors. Also, RU-MIDAS was able to select macroeconomic and bank system-specific predictors during COVID-19. However, the performance of RU-MIDAS is inferior to univariate ARIMA but can be a good alternative in forecasting change in NPL ratios for the Commercial Banking sector. The selected mixed frequency variables can provide more granular information to bank managers and policymakers in the development of credit risk strategies.



## Identifying Demand-Driven and Supply-Driven Components of GDP

Jesus C. Dumagan, Andrew Adrian Y. Pua

Identifying demand-driven and supply-driven components of GDP—or goods, in general—could be useful in the design and targeting of economic policies. This identification is possible from basic demand and supply analysis considering that in cases where the shifts of a negatively-sloped demand curve overwhelm the shifts of a positively-sloped supply curve the equilibrium points will tend to lie on a positively-sloped line, implying that the changes in price and the changes in quantity have predominantly the same signs. This same sign defines a “demand-driven” good since it is the result of demand shifts overwhelming supply shifts. Conversely, if the changes in price and the changes in quantity have predominantly opposite signs, the good is “supply-driven.” Following these basic results, this study formulates a framework to identify demand-driven and supply-driven GDP components by industry or expenditure. This framework is based on an exact decomposition of the relative change in nominal GDP (value index) into the contributions of components to the corresponding relative changes in the GDP implicit deflator (price index) and in real GDP (quantity index). This decomposition is additive—i.e., the sum of contributions to change equals total change—and general because it applies to GDP in constant prices or in chained prices. The contributions provide a time series of paired changes in price and changes in quantity—like “footprints” in the path of GDP changes—that permit a statistical identification of demand-driven and supply-driven GDP components.

## SESSION B6

### Empirical studies on microeconomic issues of development in the Philippines

This session features four rigorous empirical exercises in microeconometrics applied to issues of development in the Philippines. The first two papers focus on understanding two social issues. The first paper develops a theoretical framework for and empirically tests how a woman's relative bargaining power may influence their likelihood to experience economic abuse. The second study explores factors affecting inequalities in educational achievement in Southeast Asian countries given the looming learning crises. The other two studies evaluate the impacts of government interventions and reforms. The third paper determines whether the Pantawid Pamilyang Pilipino Program yields dividends beyond its intended effects in the form of reducing crime. Finally, the fourth paper leverages a novel identification strategy to evaluate the impact of the K12 Program on key labor market outcomes of the program's earlier graduate cohorts using a Regression Discontinuity Design.

#### The Role of Bargaining Power in Shaping Economic Abuse: Evidence from the 2022 Philippines National Demographic and Health Survey Dataset

Arianna Liza M. Ortillan, Mary Geraldine L. Paniagua, Annika Patrice G. Sia, Mary Ashley M. Tong

This study investigates the relationship between economic abuse and relative bargaining power within Filipino households using data from the National Demographic and Health Survey 2022. Relative bargaining power is represented through the couple's respective age, education, income, and occupational status. We propose a theoretical lens that combines utility

maximization and Expressive Violence Theory, a psychological theory that explains why some men choose to inflict economic abuse. Additionally, we explored other avenues to explain this using Marital Dependency Theory and Male Backlash Theory. After estimating different logistic regression models per relative bargaining power component, findings suggest that a higher relative age and income are inversely linked to economic abuse. In contrast, relative occupational status yields a positive relationship. Relative education, while showing an overall weak positive relationship, reveals a more ambiguous pattern upon deeper analysis. Using quartile subsampling, we can infer the relative educational position of a woman. This reveals that a lower relative education is inversely related to economic abuse with the instance she pursues higher education. However, if she already has high relative education, pursuing more is positively related to economic abuse. While increased relative bargaining power for women can signify empowerment, it can potentially challenge more traditional gender norms and may incite backlash from the man, urging him to inflict economic abuse.

### **Educational Achievement Inequality in Southeast Asia Primary Learning Metrics (SEA-PLM) 2019 Participating Countries**

Francine Ysabel D. Gañgan, Victor D. Batugal Jr., Aaron Francis R. Sablay, Krista Danielle Yu, Tereso S. Tullao Jr.

Despite great strides toward achieving universal education, many students in Southeast Asia (SEA) fail to meet learning standards. In 2019, 90% of ten-year-olds in various SEA countries were unable to read and understand a simple text. This learning crisis stems from the differences in educational performance among students from varying backgrounds, known as educational achievement inequality. Using data from Southeast Asia Primary Learning Metrics (SEA-PLM) 2019, ordinary least squares regression was used to identify significant factors of educational achievement in the Philippines, Malaysia, Vietnam, Cambodia, Myanmar, and Lao PDR. A regression-based inequality decomposition was conducted afterward to determine the contribution of each factor to educational achievement inequality. Our results reveal that socioeconomic factors, particularly parental occupation and education, and household environment, rather than school resources or individual abilities, are the primary contributors of educational achievement inequality. These results remain consistent under the hierarchical linear modelling (HLM) approach. Policymakers can leverage these findings to establish policies aimed at reducing achievement inequality arising from students' varying socioeconomic backgrounds across SEA.

### **Conditional Cash Transfers and Property Crime: Indirect Effects of the Pantawid Pamilyang Pilipino Program on Urban Property Crime Victimization in the Philippines**

Adrian John L. Banico, Matthew C. De La Paz,  
Brianna Marie M. Frane, Cyryll Jay S. Obeles

Beyond its established effects on its objectives of poverty reduction and social development, recent research has elucidated indirect effects brought by the Pantawid Pamilyang Pilipino Program (4Ps) beyond its main objectives. One area that remains unexplored is the potential effect that the program has on urban property crime in the Philippines. This study examines this potential indirect effect, considering the program's focus on aiding recipients in meeting basic needs and enforcing human development conditionalities. Utilizing a panel dataset consisting of barangays constructed from the Community-Based Monitoring System (CBMS) data of Pasay

City, Philippines, this paper utilizes Propensity Score matching and Poisson pseudo-maximum-likelihood to determine whether 4Ps and property crime victimization in barangays in Pasay City are related, and the potential channels that can explain the relationship. The results have revealed that the 4Ps is correlated with reductions in property crime victims within barangays, with a viable channel being that the program may have reduced out-of-school youths through its educational conditionalities.

### **The Labor Market Impacts of the K-12 Curriculum in the Philippines: Evidence from a Regression Discontinuity Design**

Jose Joaquin R. Silva, Christopher James R. Cabuay

Since its implementation in 2012, monitoring, assessment, and evaluation of the K-12 curriculum has been limited. Having its first set of senior high school graduates in 2018, individuals who opted to work right after high school now have at most seven years of work experience in the labor force. Despite this fact, the empirical link between the education reform and the labor market remains ambiguous. Thus, this paper aims to evaluate the effects of the K12 curriculum on key labour market outcomes such as employability, wages, and occupational mobility. We test this causal link using the 2023 Labor Force Survey of the Philippine Statistics Authority, to implement a regression discontinuity design [RDD] leveraging the sharp cutoff in age separating the last batch of high school graduates not subject to the new curriculum and those that were. We limit the sample to workers who finished secondary education and chose to immediately engage in work, opting not to continue into further training or higher education. Preliminary results suggest the program does not necessarily give workers who graduated under the program higher wages compared to non-K12 graduates. However, wage growth as returns to experience is higher for K12 graduates. Moreover, the probability of employment for K12 graduates is slightly higher than those who did not graduate from the new curriculum. Lastly, across occupations, K12 graduates are more likely to engage in work related to services and sales, agriculture, mining, and fisheries, crafts and trades, and plant and machine operators, compared to their non-K12 counterparts.

## **SESSION B7**

### **Uncertainty and insecurity in agriculture and fisheries**

The papers in this undergraduate student session highlight the uncertainties and insecurities of the people who form an integral part of our agricultural and fisheries sectors. The papers also feature a diverse set of methodologies to shed light on existing problems – mixed methods, interviews and the collection of survey data, and simulation. The first paper examines why insurance uptake has fallen among fisherfolk in Laguna. The second paper examines the reasons for food insecurity in coconut farming communities in Quezon Province. Finally, the third paper examines the distributional effects of proposed tariff policies across different groups involved in corn and across regions. We hope that the session will expose audiences to the wide range of local research questions which demand immediate attention.

## **Factors Affecting Participation and Willingness to be Insured in the Philippine Crop Insurance Corporation's Fisheries Insurance Program Among Fisherfolks in Selected Municipalities in Laguna, 2016-2020**

Jean Aldrich R. Carcasitas, Jaymee A. Cabangbang,  
Christian Paul L. Fang, Arvin B. Vista

The Philippine Crop Insurance Corporation launched the Fisheries Insurance Program to protect fisherfolk from calamity-related losses. In Laguna, however, participation has drastically declined since its peak in 2018. This study investigates the factors influencing fisherfolk participation and willingness to be insured in Los Baños and Pakil, Laguna, from 2016 to 2020 using the data from 70 fisherfolk analyzed through a mixed-methods approach.

Findings showed that farm ownership and knowledge of the program significantly influenced insurance participation, while risk aversion affects the willingness of uninsured fisherfolk to enroll. Meanwhile, program inconsistency, poor information dissemination, procedural complexity, and unmet expectations were common concerns among fisherfolk. Despite these, many expressed willingness to rejoin if transparency and accessibility improved.

The study recommends localized information campaigns, regular feedback mechanisms, and re-evaluation of eligibility criteria to better reflect actual aquaculture practices. These may increase participation and enhance the program's responsiveness to small-scale fisherfolk.

## **Analysis Of Production Diversity and Market Access and Their Relationship to the Food Security of Coconut Farming Households in Candelaria, Quezon Province**

Hazel Capistrano, Geny F. Lapiña, Ruby Jane C. Estadilla,  
Francis Buno, Marc Jim Mariano

Coconut farming communities, despite boosting local exports, face food insecurity due to limited income, monoculture reliance, and poor market access. This study examined links between production diversity, market access, and food security among Candelaria's coconut farmers through interviews in urban and rural barangays. On average, they cultivate five species on their farm. However, the majority still have limited economic access to food due to low income. Since 85% of their food comes from the market, the average 24-minute travel to their local market poses challenges to their physical access to food. Also, despite the seemingly favorable dietary diversity, 60% of the respondents are still food insecure, highlighting challenges in accessing sufficient and preferred food for their household. Production diversity was seen to be significantly related to sex, total land area, total food consumption, and dietary diversity. On the other hand, food security is significantly related to dietary diversity, economic access, and educational attainment. The study recommends targeted policies to boost income and provide nutrition education for sustainable food security in the municipality.

## **Regional Welfare Effects of Tariff Trade Policy among Yellow Corn Consumers and Producers in the Philippines**

Steffanie J. Periodico, Cenon D. Elca, Reymond Denver Q. Buenaseda,  
Sean Dranreb L. Mayani

This study aimed to assess the welfare effects of trade policy options of protection and liberalization on yellow corn producers and consumers across the national and regional island

group levels from 2000 to 2023. The study revealed that yellow corn demand consistently exceeded supply, resulting in persistent national deficits. In terms of regions, Luzon and Visayas exhibited deficits, while Mindanao consistently showed a surplus. The first simulation, which increased the tariff from 15 to 35 percent, resulted in welfare gains for producers and the government but imposed losses on the feed millers. In contrast, the second simulation, which converted tariffs to zero, significantly increased consumer surplus but negatively impacted producer surplus and government revenue. The second simulation still resulted in an overall net gain to society, with regional differences in magnitude and distribution of gains and losses.

## SESSION B8

### **Toward Sustainable and Resilient Economies: Energy Market Dynamics, Climate Adaptation, and Financial Inclusion in the Philippine Context**

#### **Mapping the Energy Sector Issues in the Philippines**

Adoracion M. Navarro, Jethro El L. Camara

Understanding the energy sector is complex and requires knowledge in engineering, economics, and business. This research untangles the complexities in the Philippine energy sector by systematically describing industry or market structures as well as economic agents' relationships and roles within the sector and then mapping the issues. Employing a structured review method, the study first illustrates the general physical flows of energy from production to transformation and final energy consumption. It then describes the market and governance structures in the oil, gas, coal, renewable energy, and electric power industries and articulates the pressing issues therein. Aside from elucidating the specific industry issues, the research also explores cross-cutting concerns, such as energy affordability and energy security, that require far-reaching policy reforms. The mapping not only helps shape the energy sector policy reform agenda but also charts future areas of research.

#### **Fostering Climate-Resilient Households Through Financial Inclusion and Literacy**

Faith Christian Q. Cacnio, Mika S. Munoz

The Philippines experiences recurrent climate-related shocks causing substantial economic losses. This highlights the importance of financial inclusion and literacy as tools for enhancing household resilience. However, 40 percent of Filipino adults remain unbanked (2021 BSP Financial Inclusion Survey). This persistent gap is especially concerning for climate-vulnerable communities, where financial tools are most needed. Access to formal financial services such as credit, insurance, and savings combined with financial literacy enables households to better prepare for, respond to, and recover from climate-induced shocks. Using the BSP FIS, we employ pooled regression models and propensity score matching to assess the effect of financial inclusion and literacy on household resilience. Preliminary findings suggest that households with access to formal financial services and higher financial literacy levels exhibit better adaptive capacities and recovery outcomes. The study underscores the importance of integrating climate risk awareness into financial education programs to enhance household resilience against climate-related shocks.

## **Examining Asymmetry in Fuel Pump Prices in the Philippines: An NARDL Analysis**

Arcelyn A. Basilisco, Roberto S. Deluna, Jr.

Philippines heavily imports crude oil, leaving the country vulnerable to price shocks caused by oil prices, exchange rates, and taxes. Retail consumers observed that fuel prices rise rapidly but falls slowly, the "rockets and feathers" effect. This asymmetric response occurs when firms respond abruptly to cost increases but slowly to decreases. As an archipelago with three major metropolitan areas—Metro Manila, Metro Cebu, and Metro Davao—fuel prices vary significantly nationwide. This necessitates examining whether pump prices respond asymmetrically to shocks in world oil prices and exchange rates, while accounting for tax. This study employs Nonlinear Autoregressive Distributed Lag (NARDL) model to identify asymmetry in the short- and long-run. While symmetric responses warrant standard policy adjustments, asymmetric responses require stringent policy reassessment to address impacts on energy security and economic equity. Understanding these relationships is crucial for policymakers to develop strategies for fuel price volatility in this import-dependent archipelagic nation.

## **SESSION B9**

### **Labor Markets, Skills, and Economic Mobility: Macroeconomic and Sociocultural Drivers of Wage and Development Outcomes in Emerging Economies**

#### **Monetary Policy Transmission and Labor Markets**

Chetan Ghate, Satadru Das, Subhadeep Halder, Debojyoti Mazumder,  
Sreerupa Sengupta, Satyarth Singh

How does informality in labour markets affect inflation stabilisation and monetary policy setting by central banks? To address this, we build a medium-scale NK-DSGE model with segmented labour markets. We introduce search and matching frictions in both formal jobs as well as in informal casual jobs. We calibrate the model to India. As in the data, our model is able to replicate the impact of a contractionary monetary policy shock on lower output and inflation via higher formal and informal unemployment. As a counterfactual exercise, when we increase the magnitude of formality, we show that the impact of a contractionary monetary policy shock leads to a larger impact on inflation, suggesting that monetary policy transmission improves.

#### **The Role of Beyond-Secondary levels of education in explaining differentials across the Philippine wage distribution**

Maria Francesca Tomaliwan, Mariel Monica Sauler, Ph.D.

Philippine basic education saw the implementation of the K-12 curriculum, which ideally guides students into beyond-secondary education as one of its benefits. However, recent studies show a decline in Philippine returns to higher education. Our research aims to identify the role of beyond-secondary education in explaining wage differentials before and during the K-12 curriculum implementation. We also analyze specific levels of beyond-secondary levels of educational attainment and determine if their contribution to wage differentials applies to low-

wage or high-wage workers. Using the Philippine Labor Force Survey (LFS), results reveal that returns to post-secondary graduate (Certificate and Associate's degree) and college graduate (Bachelor's degree) educational attainments contributed to the reduction of wage gains between 2015 and 2019. Specifically, the contribution applies more to low-wage female workers and low- to relatively high-wage male workers. This may reflect a reduced value of beyond-secondary levels of education in the Philippine labor market.

**Nationalist Ethic and the Spirit of Economic Development:  
Investigating the Empirical Relationship between Nationalism and Income**  
Marjorie S. Muyrong

This study explores the empirical relationship between nationalist sentiments and economic productivity using country-level panel data regression and stochastic frontier analysis. Drawing from Weberian sociology, the coordination failure model is extended to include non-economic factors such as nationalism in modelling the production function. Using constructed country-level panel data from the National Identity module of the International Social Survey Programme (ISSP) in 1995, 2003, 2013, the study examines how varying expressions of nationalism affect not only average incomes but also technical inefficiency. Panel data regression analysis shows that nationalism generally has significant impacts on average income. Stochastic frontier analysis revealed that only degree of national pride and degree of blind patriotism could potentially decrease the magnitude of technical inefficiency. While further refinements to the nationalism indices are warranted, the results are indicative of the impact of certain nationalist sentiments in driving productivity.

**Lost in Translation?  
The Real Score on Mother Tongue Education in the Philippines**  
Michael R.M. Abrigo, Katha Ma-i M. Estopace, Edmar E. Lingatong,  
Charlotte Marjorie L. Relos

This paper reexamines the impact of the Philippines' Mother Tongue-Based Multilingual Education (MTB-MLE) policy on learning outcomes and resource allocation in basic education. We conceptualize language mismatch between teachers, students, and the language of instruction as an efficiency wedge that distorts the translation of education inputs into learning, analogous to a tax on productivity. Using school-level administrative and assessment data merged with pre-policy linguistic distributions, we estimate a Bartik-type shift-share instrumental variable difference-in-difference and triple-differences design embedded in an event-study framework. Our identification strategy exploits exogenous variation in local language composition and the timing of the MTB-MLE rollout to isolate the causal effect of mother tongue-school instructional language matching on student performance. We find that language matching improves learning outcomes in Mathematics, English and Filipino. Improved language matching also corresponds to measurable gains in cohort survival that more than offsets the pre-policy disadvantage among those affected schools. These findings highlight the importance of effective language policy not merely as cultural preservation but as an economic coordination problem in human capital formation.

## SESSION C1

### **Accelerating Agricultural Productivity Growth** (DLSU session)

Despite its critical role in food security, rural livelihoods, and poverty alleviation, Philippine agriculture remains mired in low productivity, rising import dependence, and weak competitiveness. This session presents a study that applies an integrated economic framework—drawing on human capital theory, the induced innovation model, and the Solow–Swan growth model—to identify key drivers of productivity growth and the policy levers required to catalyze sectoral transformation. Using data from the Census of Philippine Business and Industry (CPBI) and empirical modeling, the study demonstrates that productivity growth depends critically on synergies among type of educated farmers, context-appropriate technologies, and capital investments in irrigation, logistics, and mechanization. The findings underscore that agricultural modernization must move beyond piecemeal interventions toward coherent, sustainability-oriented investments. A holistic approach can unlock inclusive, climate-resilient productivity growth, positioning Philippine agriculture as a stronger contributor to national development.

Following the presentation, a panel of discussants will provide critical insights and reflections on the study's implications for policy, implementation, and future research. The session aims to foster dialogue on building a more productive and resilient Philippine agriculture sector.

#### **Accelerating Agricultural Productivity Growth** Arlene Inocencio

Philippine agriculture continues to face persistent challenges of low productivity, rising import dependence, and weak competitiveness. Despite the sector's vital role in food security, rural employment, and poverty reduction, productivity growth has lagged behind regional peers due to fragmented landholdings, low mechanization, underinvestment in research and infrastructure, and inadequate extension services. This study explores pathways to accelerate agricultural productivity growth by applying an integrated economic framework—combining human capital theory, the induced innovation model, and the Solow–Swan growth model—to understand key drivers, mechanisms, and policy levers for sector transformation.

Using PSA data from the Census of Philippine Business and Industry (CPBI) and empirical modeling, the study will demonstrate that productivity growth depends critically on synergies among type of educated farmers, context-appropriate technologies, and capital investments in irrigation, logistics, and mechanization. Results highlight both progress and persistent gaps across subsectors and regions, with irrigated lowland rice and corn showing higher productivity than rainfed and other subsectors. Policy reforms such as irrigation expansion, adaptive R&D, farmer training, rural finance, and inclusive land consolidation emerge as strategic levers.

The findings underscore that agricultural modernization must move beyond piecemeal interventions toward coherent, sustainability-oriented investments. A holistic approach can unlock inclusive, climate-resilient productivity growth, positioning Philippine agriculture as a stronger contributor to national development.



## SESSION C2

### **Inflation Dynamics: Exchange Rate Pass-Through and Commodity Price Shocks** (BSP session)

The interaction between external shocks and domestic inflation has become increasingly complex amid the recent global volatility. This session explores the evolving dynamics of inflation, emphasizing the roles of exchange rate pass-through (ERPT) and commodity price shocks in shaping inflation. Drawing on recent research, this session will explore whether the exchange rate pass-through (ERPT) to inflation varies with the direction and magnitude of change in the nominal exchange rate. It will also examine the tail risks of inflation distribution and how the role of inflation drivers varies across the distribution. Additionally, the session will present an evaluation of Machine Learning methods in terms of forecast accuracy and assessment of inflation drivers before, during, and post-pandemic. By bringing together empirical findings and theoretical perspectives, this session aims to enhance understanding of inflation mechanisms and offer insights in navigating a period of heightened uncertainty.

#### **Exchange Rate Pass-Through to Inflation in the Philippines: Evidence of Asymmetry and Non-linearity**

Jasmin E. Dacio, Reizle Jade C. Platitas, Sanjeev A. Parmanand,  
Sarah Jane A. Castañares

This paper investigates whether the exchange rate pass-through (ERPT) to inflation varies with the direction and magnitude of change in the nominal exchange rate. Using non-linear and multiple threshold autoregressive distributive lag models, we reconsidered the premise of linearity and symmetry often assumed in the literature on ERPT. We found that in the case of the Philippines, the long-run ERPT is larger and statistically significant during depreciation episodes. Meanwhile, there is limited pass-through during appreciation episodes, possibly reflecting the downward stickiness of prices. Further, ERPT tends to be higher at large enough depreciations while it remains limited even during large appreciations. After accounting for asymmetry, the results are consistent with previous studies establishing the decline of ERPT since the Bangko Sentral ng Pilipinas adopted an inflation-targeting framework in 2002.

#### **Inflation-at-Risk**

Zeno Ronald R. Abenoja, Dennis M. Bautista, Sarah Jane A. Castañares,  
Shereena S. Salas

Inflation at Risk (IaR) — which measures the tail risks of inflation distribution — can supplement the macroeconomic surveillance by central banks which typically focuses on conditional mean forecasts and risks that are likely to materialize. By analyzing the risks of extreme inflationary episodes, policymakers can get a more comprehensive picture of the macroeconomic landscape allowing them to make informed policy decisions. While there are ample studies on IaR in other countries, there is limited research on this topic in the Philippines. To address this gap, this study uses quantile regression to measure IaR based on a modified version of Phillips Curve and incorporates indicators of inflation expectations, domestic demand, global commodity prices, and financial condition. This study aims to investigate how the role of inflation drivers varies across the distribution and derive the predictive densities of inflation.

## **Inflation Forecasting in the Post-Pandemic Era: Insights from Machine Learning**

Ma. Ellysah Joy T. Guliman, Paul D. McNelis

This paper evaluates the performance of three Machine Learning methods, relative to the benchmark linear model, for both forecasting accuracy as well as for assessing the relative importance of key variables driving inflation before, during, and in the aftermath of the COVID19. We make use of a wide set of variables, which can be grouped into domestic macroeconomic indicators and external macroeconomic indicators. We also add crisis dummies and variables as controls, which include COVID19 infections and mortality rates for the Philippines. We find that the ML methods outperform the moving-window linear method for forecasting accuracy within and in the aftermath of COVID19. For assessing the relative importance of key drivers, we find that external factors such as metals and food price inflation rates, as well as currency depreciation, exert stronger influence than domestic demand factors.

## **Rice Price Inflation Dynamics in the Philippines**

Ronald Jeremy Antonio, Harold Glenn Valera, Ashok K. Mishra, Valerien, Olivier Pede, Bernardo Oliva Vieira

This study examines the monthly regional dynamic relationship between rice price inflation and its key drivers in the Philippines using a panel vector auto-regression model over the period January 1994–March 2023. We find evidence that the effect of a world rice price shock is generally larger and more persistent than the effects of other factors. We also find that movements in rice price inflation are explained by domestic fuel price shocks and, to a lesser extent, by world urea price shocks. The impulse response functions driven by those three shocks vary over the sample, especially before a change in food policy such as the imposition of the rice tariffication in 2019. Further analysis suggests that El Niño Southern Oscillation shocks tend to induce an inflationary effect on rice prices in high-poverty and rice-sufficient regions. Our results have important food policy implications for rice markets and offer timely insights into the desirability of current proposals to help lower and stabilise rice prices for consumers and improve existing support for farmers to boost rice production.

## **SESSION C3**

### **Corruption, Informality, and Systemic Risk: Empirical Perspectives on Development and Financial Fragility in the Philippine Economy**

#### **The Economics of Corruption in the Philippines: Sectoral Impacts, Institutional Evolution, and Regional Governance Trajectories**

Marites M. Tiongco, Ph.D., Caesar Cororaton, Ph.D., and Francine Gañgan

Corruption remains a structural impediment to inclusive growth in the Philippines, weakening institutions, distorting public investment, and constraining service delivery. This paper applies three analytical frameworks—Principal-Agent theory, Rent-Seeking theory, and a corruption-adjusted Keynesian multiplier—to examine how governance failures shape economic outcomes across key sectors: infrastructure, education, health, agriculture, and the environment. Using data from 1980 to 2024 and comparative insights from the ASEAN Corruption Perceptions Index, the study traces the evolution of governance reforms and the limits of institutional continuity.

The analysis highlights flood control infrastructure as a critical case where corruption erodes both economic efficiency and climate resilience. Commission on Audit reports from 2017–2023 reveal widespread overpricing, ghost projects, and substandard construction—symptomatic of weak monitoring and entrenched moral hazard.

To mitigate these losses, the paper proposes a three-pillar reform agenda: (1) science-based planning aligned with hydrological and climate data, (2) radical transparency through open digital audit systems, and (3) incentive realignment via performance-based contracting and automatic sanction mechanisms. These strategies aim to reduce leakage, strengthen accountability, and embed resilience into public investment systems, advancing a more transparent and growth-enabling governance framework for the Philippine economy.

### **Hunger In The Philippines: The Untold People's History**

Mahar Mangahas, Leorando Laroza, Christine Belle Torres-Urrea

Hunger has long been a very serious problem in the Philippines. Ever since July 1998, Social Weather Stations ([www.sws.org.ph](http://www.sws.org.ph)), a private, non-stock and non-profit research institute, has included the experience of involuntary hunger among Filipino households in the agenda of its own-account, statistically representative, quarterly national surveys. This paper will discuss the lengthy SWS time series, updated to 2025. It will present the SWS Hunger data nationally and in the National Capital Region, the Balance of Luzon, Visayas and Mindanao.

The long-term trend of Hunger has been generally flat. At the same time, it is quite volatile from one quarter to another, both upwards and downwards, which demonstrates the importance of surveying it frequently. The paper will show that Hunger is cross-sectionally related to Self-Rated Poverty and Self-Rated Food Poverty, and that Hunger proportions of poverty-groups fluctuate over time. Finally, it will assess the impact of public assistance to households in the form of food and the pertinence of households' capability for home-production of their own food.

### **Mediating Role Of Technological Innovation On The Effects Of Foreign Direct Investment On Green Growth Across Selected Asean Countries**

Kevin Roy B. David, Romano Angelico T. Ebron, Alice T. Valerio, Ph.D.

As investment-led growth accelerates across ASEAN, environmental degradation emerges as a major concern. Green growth offers a pathway to align economic progress with ecological sustainability. This study investigates how technological innovation mediates the effect of Foreign Direct Investment (FDI) on green growth in selected ASEAN countries from 1990 to 2021, using panel data analysis. Drawing from OECD and World Bank data, the study applies the Random Effects Model, VECM, VAR, Granger Causality, and Sobel-Goodman Mediation Analysis. Results confirm long-run cointegration between FDI and carbon emissions. A 1% increase in FDI is linked with rising total and per capita emissions, but reduced CO<sub>2</sub> emissions relative to GDP. Technological innovation positively mediates the FDI–green growth relationship, as confirmed by the Sobel-Goodman test, which validates the significance of the indirect effect. Causal relationships vary across countries, reflecting differences in causal patterns. The study highlights the need for innovation-driven FDI, supported by robust policy frameworks and the adoption of clean technology across ASEAN.

## SESSION C4

### **Socioeconomic Interventions and Market Dynamics: Evaluating Local Impacts of Public Programs, Digital Platforms, and Price Mechanisms**

#### **COVID-19, Food Relief, and Social Distancing:**

#### **Evidence from the Bayan Bayanihan Program in the Philippines**

Christopher James Cabuay, Yasuyuki Sawada, Elaine Tan, Arturo Martinez, Jr.,  
Daniel Boller, Joseph Albert Nino Bulan, Ron Lester Durante, Soyoka Okumura,  
Kazuharu Yanagimoto

During the onset of the COVID-19 lockdown in the Philippines in April 2020, the Asian Development Bank in partnership with the Philippine government and the private sector, implemented the Bayan Bayanihan (BB) food relief program. The program employed satellite-based granular poverty maps to target 44 communities (barangays), serving approximately 162,000 households in the National Capital Region and nearby provinces. This study evaluates the impact of in-kind transfers on social distancing by examining the effectiveness of the BB program in restricting mobility by enabling households to stay at home. We employ daily mobile ping data (MPD) as a measure of mobility for 2,162 communities over 274 days from January 1 to October 5, 2020. We first show that MPD is strongly correlated with reported positive COVID-19 cases, indicating how mobility is linked to transmission. We leverage plausibly random variations in the timing of the rollout of the program by employing recent developments in estimating staggered difference-in-differences strategies to more accurately identify the effect of the program. We find supportive evidence that the program was generally able to discourage mobility. This effect is more pronounced for barangays with higher poverty incidence and greater treatment intensity – which may explain the mobility reductions more significantly than treatment timing solely. Our findings suggest that in addition to mitigating food insecurity, food transfer programs are also able to generate multiple dividends by helping families stay at home and reducing the spread of COVID-19.

#### **Estimating the Economic Impacts of Ride-Hailing Apps on the Philippine Local Tourism Industry**

Raymund G. Macanas

This study examines the economic impact of ride-hailing apps (RHAs) on local tourism in the Philippines using a Difference-in-Differences (DID) approach with fixed effects. Focusing on four tourism-intensive cities where RHAs were introduced in 2015 and comparing them to 18 other tourism-intensive cities, the analysis spans the years 2013 to 2018. Results show that the introduction of RHAs led to a statistically significant increase of approximately 229,664 annual tourist arrivals and an additional ₱228 million in locally sourced revenue per city per year. These findings suggest that RHAs enhance access to destinations, stimulate visitor spending, and bolster local fiscal performance. The study supports integrating RHAs into tourism and transport planning and highlights the importance of equitable access and regulatory oversight. While limited by scope and timeframe, this research underscores the broader potential of digital transport platforms to contribute to tourism-driven economic growth in urbanizing and emerging destinations across the country.

## **Price Stability and Communication Protocol in Experimental Markets**

Benjamin Radoc, Danilo Lorenzo Atanacio, Cara Gabrielle Latinazo

Firms disclose prospective price changes and other actions to improve market efficiency. For example, announcement of manufacturers' suggested retail price (SRP) help consumers become more well informed, and reduce search costs. However, there is risk that price announcements can be useful for firms to collude without risk of violating the antitrust law. The mixed effect of disclosures and market transparency poses a challenge to regulators and competition authorities. Our laboratory experiment explored several communication protocols and price signals: (i) no communication, (ii) with direct communication, (iii) non-binding price announcement such as SRP, (iv) non-binding announcement of pricing strategy, and (v) implementation of an unanticipated but binding price cap. We find that direct communication facilitated experiment participants' ability to offer prices that are significantly higher than when there is no opportunity to communicate. Prices are also elevated in the SRP and pricing strategy treatments, but significantly lower than when direct communication is allowed.

## **Effects of the Tax on Sweetened Beverages on the Consumption of Expenditure-Minimizing Filipino Households**

Janelle S. Tiu, Jesus C. Dumagan

Starting January 1, 2018 in the Philippines, excise taxes were imposed on sweetened beverages (SBs) to reduce consumption. This study examined the tax effects on SBs—(1) soft drinks, (2) fruit and vegetable juice, and (3) cocoa drinks using the Generalized Logit Model of Expenditure Shares with Family Income and Expenditure Survey data (2006–2021). Results show that own-price elasticities are negative (downward-sloping demand), and expenditure elasticities are positive (normal goods). Cross-price elasticities between (1) and (2) are positive (substitutes), while that of (1) and (3) are negative (complements). These elasticities yield a substitution matrix consistent with expenditure minimization, validating this study's novel formula for determining net percent change in quantity demanded due to the tax as equal to change in own-price elasticity with and without the tax multiplied by percent change in price with the tax. The results are -8.1% for (1); 0.1% for (2); and -1.3% for (3).

## **SESSION C5**

## **Geospatial Dimensions of Development: Infrastructure, Technological Innovation, and Spatial Transformation**

### **Improving Rice Farm Efficiency Through Spatial Analysis: Insights from Cabusao, Camarines Sur Province, Philippines**

Anthony James C. Albis, Julieta A. Delos Reyes, Antonio Jesus A. Quillooy,  
Jaime C. Reyes, Valerien O. Pede

This study examined spatial dependence in the technical efficiency of irrigated rice farms in Cabusao, Camarines Sur, Philippines. Using Stochastic Frontier Analysis and spatial econometric models, it estimated efficiency scores and identified key productivity drivers. Moran's Index and geospatial mapping revealed significant clustering of technical efficiency,

confirming spatial dependence among farm locations. The Spatial Lag Model, selected through robust diagnostic tests including Lagrange Multipliers, captured neighborhood effects, showing that a farm's efficiency is influenced by nearby farms. Results indicate significant variability in technical efficiency, with clusters of high and low performers linked to irrigation access, socio-economic characteristics, and social networks. These spatial spillover effects reveal the importance of localized conditions in shaping farm performance. Findings show the need for targeted and location-specific interventions such as improving irrigation systems, enhancing technical support and knowledge-sharing networks, and optimizing resource allocation to improve productivity and support rice self-sufficiency goals in the region.

### **Connectivity Infrastructure and Spatial Convergence in the Philippines: An Empirical Analysis**

Andreas Eberhard, Nicolo Tamberi, Gonzalo Varela

Over the past 15 years, regions in the Philippines have experienced notable economic convergence—a reversal of the divergence trend that marked the early 2000s. Productivity and wage employment in low- and middle-income regions have grown faster than in the capital, narrowing long-standing spatial disparities. This paper investigates the role of inter-island connectivity infrastructure in enabling this shift, focusing on the expansion of the Roll-On, Roll-Off (RORO) port terminal network. Specifically, it asks: to what extent did improved maritime connectivity contribute to subnational job creation and firm formation? Using municipality-level data from 2000 to 2020, we find that a 100 km reduction in distance to the nearest RORO port is associated with a 12% increase in wage employment and an 11.6% rise in the number of hiring employers. The findings highlight the importance of targeted transport infrastructure, especially in archipelagic settings—for supporting regional integration and inclusive, productivity-driven growth.

### **The Impact of Urbanization on Heat Stress: Evidence from a New Measure of Urbanization Using Machine Learning-Driven Geospatial Data**

Miko Johnson O. Co

This study examines how urbanization affects local heat stress in the Philippines using a novel, machine-learning-driven measure of urbanization based on satellite-derived land cover data. Analyzing 1,642 cities and municipalities for 2018, it employs high-resolution climate data to estimate heat stress using Wet Bulb Globe Temperature (WBGT) and the Heat Index. Ordinary Least Squares regression models reveal that urbanization significantly increases heat stress, particularly in low-to-mid elevation areas where most cities are located. Economic implications were estimated using the HOTHAPS workability function, showing that urbanization-driven heat stress disproportionately reduces labor productivity in outdoor sectors, especially construction. The study also finds that urbanization alters wind speed and vegetation cover in ways that further exacerbate heat stress. These results highlight the importance of climate-adaptive urban design and demonstrate the advantage of using scalable, geospatial urbanization metrics for environmental and economic planning in climate-vulnerable contexts.

## SESSION C6

## Macroeconomic Responses to Global Uncertainty: Sectoral Dynamics and Policy Challenges in an Era of Economic Shocks

### Measuring Systemic Risk Contribution of Philippine Industries and Conglomerate Groups

Jorjin F. Godoy

This study evaluates the exposure of Philippine industries and conglomerates to systemic risk using SRISK, a metric which measures expected capital shortfall during market downturns. It also examines how macroeconomic indicators—GDP growth, policy rate, USDPHP exchange rate, unemployment, and inflation—influence systemic risk through a VAR model.

The findings show SRISK during COVID-19 pandemic was three times higher than during the Global Financial Crisis, rising from 2017 and peaking in Q1 2024. The banking sector contributed most to systemic risk, though its share declined, while the property sector's risk increased since 2018. Impulse responses indicate that higher GDP growth, policy rate, and inflation reduce risk in the short-term, while increased unemployment and PHP depreciation increases risk. Variance decomposition analysis reveals that systemic risk variability is mainly driven by shocks to GDP followed by policy rate, unemployment, USDPHP, and inflation. For the banking sector, shocks to itself are the dominant influence.

### Economic effects of Heightened Global Uncertainty: Evidence from East Asia

Jongrim Ha, Ergys Islamaj, Haiqin Liu, Aaditya Mattoo

This paper examines the impact of global uncertainty shocks on five East Asian economies over the period 2000–2024. The analysis proceeds in two steps. First, we construct novel indicators of economic uncertainty at both the global level and within East Asia and the Pacific (EAP) countries. Second, we estimate a series of structural vector autoregression (SVAR) models to assess the macroeconomic and financial effects of distinct types of global uncertainty shocks. The study yields four key findings. First, macroeconomic, financial, and policy-related uncertainties have risen in tandem since the onset of the COVID-19 pandemic, both globally and within EAP economies. Second, uncertainty shocks—defined by changes in volatility (second moments)—exert economic effects that are distinct from, and nearly as large as, those stemming from shifts in the levels (first moments) of underlying business, financial, and policy variables. Third, the transmission of uncertainty shocks operates through multiple channels, with different types of uncertainty producing differentiated effects across macroeconomic and financial indicators. Finally, global uncertainty shocks are transmitted internationally, leading to synchronized increases in uncertainty across countries.

### Keynesian Supply Shocks And Sectoral Heterogeneity In The Philippines: A Bayesian Sign-Restricted Factor Augmented Vector Autoregression Analysis

Brian F. Pasion, Alice T. Valerio, Ph.D.

Keynesian supply shocks suggest that small sectoral supply disruptions can trigger broader aggregate demand effects, offering a new lens on downturns like the COVID-19 pandemic. While the theory is gaining attention, empirical evidence, especially for the Philippines, remains limited.

This study investigates such shocks using quarterly data from 80 Philippine industries. Adopting the identification strategy of Uhlig (2005) and Cesa-Bianchi and Ferrero (2021), results reveal that Keynesian supply shocks systematically contaminate aggregate demand shocks. This finding is robust across lag structures and identification depths. The Philippine industrial landscape, characterized by strong production complementarities and resource concentration, facilitates the transmission of sectoral shocks to the broader economy. Therefore, misidentifying these shocks as purely demand-driven can lead to ineffective policy responses. The study contributes to the literature on the Philippine Business Cycle and hints at how fiscal and monetary policy can be coordinated to effectively manage the impact of economic shocks.

## SESSION C7

### **Degrees of Impact: The Economics of Climate Change in the Philippines**

As the Philippines confronts intensifying climate risks, understanding the socioeconomic impacts of climate variability has become increasingly urgent. This panel brings together empirical research on the micro-level economic effects of climate change, offering new evidence on how Filipino households and workers respond to rising temperatures and energy insecurity. Drawing on novel surveys, national datasets, and climate records, the papers provide critical insights into how climate change intersects with inequality, labor markets, and energy use in the Philippine context.

The paper “Perceived Value and Other Predictors of Electric Vehicle Adoption in the Philippines” by Palanca-Tan (2025) presents the results of a survey on Filipinos’ awareness of and preferences for electric vehicles. In “Climate Variability and Household Electricity Consumption”, Palanca-Tan and Pascua (2025) examine the climate sensitivity of household electricity demand in Metro Manila, finding that higher temperatures significantly increase electricity consumption—though lower-income households remain less responsive due to affordability constraints. The panel will also feature the preliminary results of the study by Kim, Ravago, and Pascua (2025) on “Labor Market Effects of Typhoon Exposure: Super Typhoons and Labor Supply”.

Together, these studies underscore the importance of climatesensitive economic policymaking in the Philippines. By highlighting regional, income, and sectoral disparities in vulnerability, the panel makes a strong case for integrated policy responses that address not only climate adaptation and mitigation, but also energy justice and social protection. The session aims to contribute to evidencebased dialogue on how climate change is already reshaping household behavior and labor conditions across the country—and how policy can respond.

#### **Perceived Value and Other Predictors of Electric Vehicle Adoption in the Philippines**

Rosalina Palanca-Tan, Ph.D.

The transport sector accounts for more than a third of global carbon dioxide (CO<sub>2</sub>) emissions from end-use sectors, and cars and vans in turn contribute almost half (48%) of the transport sector emissions. Hence, the transition to more efficient and less carbon-intensive road transportation modes, such as electric vehicle (EV), is crucial for climate change mitigation.



This paper presents the results of a survey on Filipinos' awareness of and preferences for EV. Following the value-based adoption model and employing the generalized structural equation modeling (GSEM) technique, the study finds that EV adoption intention is positively correlated with perceived value (PV), environmental innovativeness (EI), and financial (FI) and non-financial incentives (NFI). Considering all the benefits and costs of EV – monetary and non-monetary – a higher over-all PV induces adoption. PV has the largest positive impact on EV adoption, with a coefficient of 0.557 which is more than twice the coefficient of each of the other three positive factors. Both FI and NFI can induce EV adoption. Remarkably, NFI (with a coefficient of 0.208) have a stronger impact than FI (coefficient of 0.162). Respondents consider the availability of charging stations and preferential measures for EV ownership in the country's registration, traffic and parking schemes to be most crucial. Finally, an individual with a higher propensity to learn about and acquire proenvironmental products (EI) is more likely to consider owning an EV. This factor, nonetheless, has the least positive influence on EV adoption. Concerns about the high price of electricity in the Philippines and uncertainties about its supply have a significant negative effect on EV adoption. Electricity has been a longstanding issue in the country that is yet to be adequately addressed by policy makers. The renewable energy transition and other reforms to stabilize the price and supply of electricity in the Philippines must be pursued in tandem with the EV promotion programs.

### **Climate Variability and Household Electricity Consumption**

Rosalina Palanca-Tan, Ph.D., Gerald Gracius Y. Pascua

This study aims to inform evidence-based policy for climate change adaptation in the Philippines by estimating the climate sensitivity of household electricity demand in Metro Manila. Using a panel of monthly household electricity consumption data from 2001 to 2021, matched with climate data from the Philippine Atmospheric Geophysical and Astronomical Services Administration, the study constructs heat index (HI) measures and Cooling Degree Days (CDD) to capture climate variability. The HI, which combines temperature and relative humidity to reflect perceived heat discomfort, is averaged monthly across three monitoring stations and matched to households' city of residence. CDD, defined as the number of days when daily HI exceeds a long-run threshold of 34.82°C (the 75th percentile of historical HI), is used as an indicator of climate variability.

Panel regressions using random-effects generalized least squares reveal strong climate sensitivity of electricity consumption in Metro Manila households. A 1°C increase in average daily temperature is associated with a 38 kWh increase in monthly electricity use, while a 1°C rise in HI leads to a 19 kWh increase. An additional CDD raises monthly consumption by 6 kWh. These findings suggest behavioral adjustments, such as increased use of electric fans and air-conditioners, during hotter periods.

However, electricity demand among lower-income households is significantly less responsive to climate fluctuations, likely due to budget constraints and limited access to cooling technologies. This implies greater exposure to heat-related health risks and highlights the inequitable nonmarket costs of climate change. Conversely, higher-income households show greater responsiveness, indicating potential for targeted promotion of energy-efficient appliances and rooftop solar adoption within this group. The results underscore the importance of climate-sensitive energy policies that address both mitigation and equity concerns.

## **Labor Market Effects of Typhoon Exposure: Super Typhoons and Labor Supply**

Jitae Kim, Ph.D., Majah-Leah V. Ravago, Ph.D., Gerald Gracius Y. Pascua

Typhoons pose growing threats to economic and labor market stability, with climate change expected to increase their frequency and intensity. This study investigates the impacts of typhoons and super typhoons that made landfall in the Philippines on labor market outcomes, using microdata from the Labor Force Survey. We analyze effects on employment probability, weekly working hours, and other key indicators. The findings highlight significant sectoral differences and the evolving nature of disaster-induced labor market disruptions over time. Our results underscore the urgent need for adaptive labor market policies and robust disaster preparedness strategies to mitigate the socioeconomic consequences of increasingly severe climate-related events.

## **SESSION C8**

### **Pathways to Sustainable Agricultural Development: Environmental Trade-offs, Technological Transformation, and Bioeconomic Efficiency in Emerging Economies**

#### **Agriculture-induced Environmental Kuznets Curve (EKC): The Influence of Agricultural Growth on Environmental Degradation in the Philippines**

Rhita Mae P. Labite, Atty. Karlo Martin C. Caramugan

Agriculture is a vital sector for food security, raw materials for production, and employment. However, it is a major contributor to environmental degradation, ranking as the second-highest emitter of greenhouse gas emissions globally and nationally. Nitrous oxide emission ( $N_2O$ ), a potent and long-lived greenhouse gas, dominates agricultural greenhouse gas emissions. The EKC's application to agriculture remains underexplored, with limited studies on  $N_2O$  emissions compared to the focus on  $CO_2$ . This study investigates the impact of agricultural growth on environmental degradation and tests the agriculture-induced Environmental Kuznets Curve (EKC) hypothesis in the Philippines from 1970 to 2021. Using the Autoregressive Distributed Lag (ARDL) model, the study examines the influence of agricultural growth, fertilizer use, livestock production, and urbanization on  $N_2O$  emissions. Long-run results show all variables significantly increase emissions, except agricultural growth, which reduces it. However, the insignificant squared term rejects the EKC hypothesis. Short-run results reveal that agricultural growth and urbanization drive degradation. The results highlight the unsustainability of the Philippine agriculture sector and suggest the crucial need to promote sustainable activities that drive agricultural economic growth while minimizing environmental degradation.

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### **Digitalization And Agricultural Output: Evidence From Selected Asian Countries**

Maica Angela C. Mangapis, Dexter Cartajenas, Al-gafar Mauna, Jafar Zamora,  
Charlyn M. Capulong, Maria Rizalia Y. Teves, Ph.D., Marrtha Joy J. Abing,  
Gerrich Aldin C. Babanto

Agricultural production in Asia has shown uneven growth due to environmental challenges, with climate change undermining the sector's capacity for stable output. Despite its vital role in food security and economic development, the region continues to face hunger and low productivity. This study explores how digitalization affects agricultural output in selected Asian countries and whether government effectiveness enhances this relationship. Digitalization is assessed using the ICT Score from the Global Innovation Index, covering ICT Access, ICT Use, Government Online Services, and Online Participation. Agricultural output is measured through the Crop Production Index from the World Bank, with controlled variables including Agricultural Land and Employment from the World Bank, and Agricultural Capital from the Food and Agriculture Organization. Panel regression analysis was applied using data from 2018 to 2022 across three models. Results revealed that ICT, particularly ICT Use has significant positive effect on agricultural output, highlighting digitalization's role in enhancing output. Moreover, this effect is amplified when paired with effective governance. This interaction is statistically significant at the 5% level, suggesting that good governance enhances the effects of digitalization in agriculture. These findings emphasize the importance of institutional quality and digital capacity in shaping sustainable, productive agriculture in the region.

### **Rice straw bioethanol market behavior in Pila, Laguna: Challenges and efficiency through value chain analysis and stochastic price simulations**

Grace Anne C. Buno, Cyril John C. Nagal, Jericho A. Trio

Rice straws as a post-harvest waste are often burnt in open fields by farmers after the harvesting season within Philippine context. Under the premise of waste commodity frontiers in circular economy, wastes are a resource reintegrated in the generating capital. Integral to such is the waste-to-energy approach (W-T-E) which gears on utilizing wastes as energy source. This study assesses the efficiency of rice-straw based bioethanol market in Pila, Laguna. Support service providers of the value chain analysis suggest institutional hybridity having a conglomerate between government agencies and civil society. When compared to the prices of existing rice straw-based markets, the Average Variance Ratio (VR) and Granger Causality

Count results for rice straw-based bioethanol suggest high levels of market efficiency ( $VR = 1.0321$ ). This is indicative of markets influenced by technology costs than direct price spillovers. For integration of rice-straw based markets in current economic arrangements, incremental niche markets are suggested.

## SESSION C9

### **Multidimensional Drivers of Development: Fiscal Policy, Remittances, and Human Capital Convergence in the Philippine Context**

#### **Defense And Development: Assessing The Economic Impact Of Military Spending In The Philippines** Prince Louie B. Mamhot

This study investigates the relationship between defense expenditure and economic growth in the Philippines. Using annual data from 2000 to 2024, the study employs a Vector Error Correction Model (VECM) model to examine both short-run relationships between defense spending and GDP growth, while controlling for other acroeconomic variables such as investment, trade openness, inflation, and government consumption. The study also disaggregates defense spending into capital outlay, personnel services, and maintenance and other operating expenses to assess which components, if any, exhibit stronger associations with economic performance. Results indicate that while total defense expenditure has a statistically significant long-run relationship with GDP, the growth-enhancing effects appear more pronounced in capital-related spending. These findings highlight the importance of viewing defense spending not merely through a national security lens, but also as a strategic driver of economic growth.

#### **Differential Impacts of International and Domestic Remittances on Household Savings: Evidence from the Philippines**

Faith Christian Q. Cacnio, Katherine V. Moron, Neil Fidelle G. Lomibao

This study examines how international and domestic remittances affect household savings in the Philippines. Using data from six rounds of Family Income and Expenditure Survey (2003 – 2021), it compares savings behavior between remittance recipients and non-recipients, accounting for factors like educational attainment, business ownership, marital status, and location.

Preliminary results show that both remittance types have only a small positive impact on household savings with recipients saving less than non-recipients. International remittances mostly benefit male-headed households and business owners, while domestic remittances favor female-headed households and those without businesses. Married households receiving domestic remittances save more than unmarried ones. Higher education and living in urban areas boost savings, regardless of remittance type. Business ownership influences savings differently depending on the remittance source.

Overall, the study finds that remittances can improve household finances. However, their effects on savings vary by household traits, implying the need for policies tailored to these differences.

## **International Remittances On Health Expenditures Of Filipino Households**

Juan Gabriel P. Braña, Michael Benjamin S. Ramirez, Hanny John P. Mediodia

International remittances have become a substantial source of income for recipient households and have been utilized to finance household expenditures. Previous studies have determined the impacts of international remittance on households' different expenditures. However, there is a limited focus on health expenditure. Thus, this study analyzed the marginal effects of international remittances on Filipino households; health expenditure and its types - medical products, outpatient medical services, and hospital in-patient services, by utilizing the 2018 Family and Income Expenditure Survey of the Philippine Statistics Authority. Using the ordinary least squares regression method, the researchers find a positive significant effect of international remittances on household health expenditure and its types. A one thousand PHP increase in international remittances significantly increases the households' total medical care by 26 PHP, the medical products expenditure by 14 PHP, the outpatient medical services expenditure by 5 PHP, and the hospital in-patient services expenditure by 7 PHP.

# POSTERS

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## POSTER 1

### **A Capability Impact Analysis on the Well-being Outcomes of Digital Jobs PH in Eastern Visayas (Region 8)**

Gabrielle Anne M. Carreon

This study examines the impact of the Digital Jobs PH (DJPH) program in Eastern Visayas, by examining the well-being outcomes of its graduates from 2018 to 2022. It addresses a gap in research on the long-term human development outcomes of ICT interventions in rural communities in the Philippines. The study investigates how the digital capabilities acquired through DJPH influence economic security and individual empowerment, including the use of digital skill outcomes in education, healthcare, social safety nets, and savings, as well as their effects on self-esteem and decision-making. The research, which employed Key Informant Interviews, surveys, and Focus Group Discussions, reveals that while participants experienced improved digital skills and empowerment, they also encountered challenges in client acquisition, financial stability, and accessing legal protections. The findings underscore the need for infrastructure development and institutional support to complement skills training, and highlight the potential of ICT interventions to foster inclusive and sustainable development in rural Filipino communities.

## POSTER 2

### **A Multivariate Analysis of Highway Infrastructure and Economic Growth in the Local Economies in the Philippines**

Mirrasol M. Beloy, Krisha Angela P. Casas, Gerwyn P. Enerlan,  
and Axl Fitzgerald L. Bulawan

This study explores the dynamic relationships between road infrastructure—measured by road length—and six socioeconomic variables (economic growth, exports, employment, education, electricity access, and vehicle registration) across 16 Philippine regions from 2005 to 2023. Grounded in Keynesian demand theory and Frischmann's infrastructure-as-commons framework, it applies Pooled Mean Group estimation, Panel Vector Autoregression, Granger causality tests, Impulse Response Functions, and Forecast Error Variance Decomposition. Findings show that road infrastructure positively affects exports, economic growth, and vehicle registrations in the long run but is negatively associated with education. Short-run causality runs from employment to infrastructure and education to growth. Initial infrastructure shocks affect employment, electricity, and education but with dissipating effects. Most short- to medium-term variability is explained within each variable, highlighting sector-specific resilience. The study underscores the uneven returns of road investments and calls for region-specific, complementary strategies to promote inclusive and stable development.

## POSTER 3

### **BEYOND THE BIN: Waste Recycled for Poverty Reduction—Evidence from Selected Countries (2007-2020)**

Kaye Eule Paz S. Miape, Nina Joy B. Lopez, Ismael-Bin Abdullah, Jeila Mae Magno,  
Andrea Jane Abella, Martha Joy Abing, Ph.D., Maria Rizalia Y. Teves, Ph.D.,  
Charlyn M. Capulong, Gerrich Babanto

Poverty remains one of the most pressing global challenges, affecting millions of individuals and impeding sustainable economic development. Poverty is a complicated problem that needs solutions combining money matters, social issues, environmental care, and how institutions work together. One emerging area of interest on poverty reduction is the role of waste management. Several national and international initiatives have demonstrated how waste recycling can generate economic opportunities. The United Nations Environment Programme's (UNEP) Poverty-Environment Initiative (PEI) integrates environmental sustainability into national development strategies. Despite substantial government investments in waste recycling programs, there is a lack of empirical evidence linking these activities to tangible improvements in poverty reduction. This research explores the relationship between waste recycled per capita and poverty reduction, focusing on 35 selected countries from 2007-2020 using panel regression analysis. Findings reveal that the waste recycled per capita (WRpC) negatively and significantly affects poverty. This study contributes to achieving Sustainable Development Goals (SDGs) 1 (No Poverty), 11 (Sustainable Cities and Communities), and 12 (Responsible Consumption and Production) by exploring the potential of waste recycled management to reduce poverty, promote sustainable urban environments, and ensure responsible resource use.

## POSTER 4

### **Catching Up from the Margins: Convergence of Human Development Among Philippine Provinces, 1997 to 2018**

Francis Y. Capistrano

Provinces' performance in the Human Development Index (HDI) and its sub-indices on life expectancy, education, and income in 1997 to 2018 have been highly variable. Notwithstanding variability, some provinces seem to have remained fixed in specific positions or human development groupings. These bring up the question of whether convergence in human development is possible at subnational levels and, if so, what factors are influential.

The aim of this paper is to examine the trajectories of provincial HDI and its components, asking: is there evidence of convergence in human development in the sense of the neoclassical theory of growth (a la Solow, Barro & Sala-i-Martin, and subsequent authors), and under which conditions? What roles do factors such as initial socioeconomic conditions and geography play in the human development trajectories of provinces? This initial analysis finds a slow rate of convergence at 1.5 to 2.2 percent annually.

## POSTER 5

### **How Do Behavioral Drivers Influence Renewable Energy Adoption in Rural Philippine Communities?**

Larry Jay G. Samontina

This study examines the behavioral drivers influencing renewable energy adoption in rural Philippine communities by analyzing baseline data from 200 households across four sites in the Davao Region. Results indicate that 91.5% of respondents perceive electricity access as critical for disaster preparedness, while 88.5% report limited income-generating activities due to insufficient energy access. Although 86% have off-grid electricity, 82.5% rely on solar panels, and 14% still use traditional lighting such as kerosene lamps. Education is significantly impacted, with 84% of respondents stating that inadequate lighting hampers children's study habits. Remarkably, all of respondents expressed willingness to adopt renewable energy technologies, citing both cost-effectiveness and environmental advantages. Despite this demonstrated interest, financial and technical constraints persist. These findings provide actionable insights can guide policies and programs designed to improve energy access, enhance livelihoods, and support sustainable development. Future studies should assess the long-term impact of interventions and refine policy implementation strategies.

## POSTER 6

### **Perceived Urbanization Effects and Analysis on the Willingness-to-Relocate of Coastal Communities in Barangay Baguingin, Tigbauan, Iloilo**

Mikylla Louise Nicolas Badiangco, Sofia Olive Petati, Jorlyn Ann Sandoval,  
Paula Mae Singson, Donna Mae Sombero, Kirby Bryan Villanueva,  
Ricky Jay, Rodelio F. Subade

Urbanization increasingly affects coastal communities that depend on natural resources for their livelihood. Tigbauan's extensive coastal regions sustain a significant portion of its population whose living conditions are affected by these spatial and ecological changes. Currently, no existing studies on the impacts of these changes have been undertaken in the municipality. This study examines the perceived land-use changes of 161 coastal households in barangay Baguingin, its impact on the standard of life and the livelihood of fishers, farmers, and other residents, and evaluates the willingness-to-relocate (WTR) decisions of coastal households in response to a hypothetical housing option in an urbanized area within Iloilo city. The perceived land-use changes in the barangay have varied impacts on the livelihood of fishers and farmers in terms of demand for agriculture products, pricing, the future of their livelihood, and market expansion. Findings revealed that only 18.63% across all respondents were willing to relocate. Using a mixed methods approach and binary logistic regression analysis, the study identifies household dependency ratio as the only significant factor influencing WTR. Results underscored that the decision to relocate is not solely influenced by land-use or environmental changes but also by socioeconomic conditions. These findings highlight the need for future coastal planning and relocation programs to be grounded in the realities faced by the community and integrated with inclusive developmental policies.



## POSTER 7

### **Stability or Uncertainty? Assessing Self-Employment as a Pathway to Decent Work through Income among Women in the Philippines**

Wesley O. Chung, Robel Abbie G. Narido, Aeron Gabriel V. Perico, Maegan Danielle A. Villalon, Albert E. Lamberte, Ph.D., Maribel Daño-Luna, Ph.D., Amancio Melad III

Flexibility and autonomy are opportunities within self-employment, particularly attracting women faced with household responsibilities. In the Philippines, there has been a notable rise and transition into this line of work for Filipino women. Its potential to serve as a pathway to decent work remains insufficiently examined. This study addressed this gap by critically analyzing how self-employment can align with the principles of decent work, potentially looking into its viability as a sustainable form of employment. As such, a comparison between self-employed and wage workers provided insight into whether this type of work could serve as a sustainable alternative to traditional employment. The results show that self-employed women meet decent work in terms of income, but the chances of reaching such an outcome are low. Self-employment can serve as a pathway to decent work for individuals who are single, in the younger age bracket, with investments in higher education. However, as self-employed women face greater work-hour volatility, this instability of self-employment means that these women face the risk of working excessive hours for financial security. While self-employment serves as a viable option for women faced with household responsibilities, its inherent instability and persistent disadvantages suggest that it still has a long way to go before becoming a reliable pathway to decent work and equal opportunities.

## POSTER 8

### **The Nexus Of Marine Sustainability On Blue Economy: An Evidence Of Asian Countries**

Jerry C. Daan II, Arjay R. Bargamento, Jonah Mir S. Bahan, Precious Margarette E. Amarga, Martha Joy J. Abing, Ph.D., Maria Rizalia Y. Teves, Ph.D., Gerrich Aldin C. Babanto, Prof. Charlyn M. Capulong

The ocean has been a vital pillar of economic and ecological sustenance, particularly in Asia, where marine resources underpin livelihoods and development. In response to environmental degradation, the concept of the Blue Economy has emerged in promoting sustainable use of ocean resources for economic growth. This study investigates the impact of ocean conditions, measured in terms of Ocean Health Index (OHI) on Asia's Total Fishery Production as a measure for the Blue Economy. Employing panel regression across Asia covering the period of 2012 to 2022, this research addresses a critical gap which emphasizes environmental and ocean conditions while neglecting economic dimensions. By integrating both ecological and economic indicators, results reveal that the OHI has a statistically significant positive impact on the Blue Economy at the 1% level. The findings support policies for sustainable marine development, promoting a balanced approach that preserves ecosystems while ensuring the long-term viability of ocean-based industries.

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## Economic and Financial Literacy Week 2025

# PAANO 'SUMAKSES'?

## 'STEP-BY-THE-STEP' NA KAALAMAN SA EKONOMIYA AT PINANSYA PARA SA WAIS NA DESISYON TUNGO SA AMBISYON

Pursuant to Republic Act No. 10922 or the Economic and Financial Literacy (EFL) Act, DEPDev is mandated to spearhead the annual celebration of EFL Week.

For 2025, DEPDev will hold knowledge sharing sessions on November 10 - 14, 2025, along with other events by other agencies centered on the theme ***"Paano 'Sumakses'?*** ***'Step-by-the-step' na Kaalaman sa Ekonomiya at Pinansya para sa Wais na Desisyon tungo sa Ambisyon."***

The theme underscores the importance of equipping Filipinos with practical financial knowledge to make informed decisions that contribute to personal and collective progress.



NOV  
7

63rd PES Annual Meeting and Conference

NOV  
9-16

EFL Week.  
Nov. 10 - Launch of the 2025 Economic and Financial Literacy Week

NOV  
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# PHILIPPINE ECONOMIC SOCIETY

## THE SOCIETY

Founded in 1962, the Philippine Economic Society (PES) is a non-stock, non-profit association of professional economists in the Philippines. As an association of professional economists, PES seeks to attain the following objectives: 1) to foster and encourage professional and social relations among economists in the Philippines; and 2) to improve the standards of economic research and instruction in the Philippines. Over the years, the Society has served as one of the strongest networks of economists in the academe, government, and business sector. The PES continuously provides a venue for open and free discussion of a wide variety of policy issues through its conferences and symposia.

## HISTORY

Philippine Economic Society was founded in August 1962 through the efforts of young social scientists and business graduates who had just received their degrees from various schools in the United States. Among them are Amado Castro, Benito Legarda Jr., Quirico Camus Jr., Jose G. Fernandez Jr., and Armand Fabella, who were graduates of Cambridge, Massachusetts, U.S.A.

This small but influential group of like-minded people, including some foreign scholars, formed an informal association which they called the "Social Economy Association" where they discussed issues affecting the economy and the society. Aside from those already mentioned, Joachim Ahrens Dorf, Thomas McHale, Sixto K. Roxas, Fr. Michael McPhelin of the Ateneo, Oscar Lopez, Felix

de la Costa, Onofre Corpuz, and Juan Ponce Enrile also took part in some of the social economy discussions.

Were it not for certain incidents that occurred during this period, such informal discussions would not have led to the organization of the Philippine Economic Society (PES). The two events that catalyzed the immediate organization of PES are the Columbia Research Project in 1958 and the visit by a group from the International Economic Association.

The PES core group was dominated by notable economists and a few professionals with business training. The Society's first three presidents were Armand Fabella, Amado Castro, and Benito Legarda, Jr.

(For the complete history of PES, read: The Early Years of the Philippine Economic Society by Gerardo Sicat (From the Philippine Economic Journal, Vol XII No. 1, 1974)

## MEMBERSHIP

Membership to PES is individual or institutional. Individual members refer to individuals who have obtained a bachelor's degree or higher degree with a major in economics, or who, in the opinion of the Membership Committee, has shown sufficient familiarity and understanding of the science of economics to warrant admission to the Society. Individual membership is further categorized into Lifetime, Annual Regular and Student memberships.



# PHILIPPINE ECONOMIC SOCIETY

Institutional members, on the other hand, include any academic, government, or corporate institution doing related work in economics and support the promotion of economic literacy in the country. For more information on membership guidelines and procedures, please visit the PES website at <https://economicsph.org/membership>.

## **ECONOMIC AND FINANCIAL LITERACY**

The PES is mandated by law, under the Economic and Financial Literacy Act (Republic Act No. 10922), to coordinate with the Department of Economy, Planning, and Development (DEPDev) in leading and encouraging the participation of the private sector and civil society during the Economic and Financial Literacy Week every second week of November.

Throughout the year, the PES organizes fora, symposia, trainings, and workshops aimed at developing an economically and financially literate people who can help in realizing the country's potential for growth. These economic and financial literacy activities of the PES culminate in its annual meeting and conference in November.

## **NETWORKS**

The PES is a member of the following associations: Philippine Social Science Council (PSSC). The PSSC is a private, non-stock, not-for-profit organization of professional social science associations in the country. It aims to advance the Philippine social sciences

and, at the same time, serve as a platform for interdisciplinary dialogue and activities.

Federation of ASEAN Economic Associations (FAEA). The FAEA is a union of economic societies and associations in Southeast Asia and currently comprises the respective economic societies of Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam. It aims to promote the study of economics and its implications, and foster cooperation in research and intellectual discourse among member-countries.

Western Economic Association International (WEAI). Founded in 1922, the WEAI is a non-profit, educational organization dedicated to encouraging and communicating economic and research analysis. The Association's principal activities include publishing two refereed quarterly journals and staging scholarly conferences that serve as forums for current economic research.

The International Economic Association (IEA) was founded in 1950 as a non-governmental organization at the instigation of the Social Sciences Department of UNESCO. Since its creation, it has maintained information and consultative relations with UNESCO. It is also a federated member of the International Social Science Council since 1973. IEA aims to promote personal contacts and mutual understanding among economists from different parts of the world through the organization of scientific meetings, common research programs, and publications of an international character on economic policies and problems of current importance.



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2014 Stella Luz A. Quimbo	1982 Cesar P. Macuja
2013 Alvin P. Ang	1981 Ramon K. Katigbak, Jr.
2012 Peter Lee U	1980 Manuel S. Alba
2011 Celia M. Reyes	1979 Mahar K. Mangahas
2010 Arturo G. Corpuz	1977-78 Jesus P. Estanislao
2009 Winfred M. Villamil	1976-77 Vicente R. Jayme
2008 Fernando T. Aldaba	1975-76 Vicente B. Valdepeñas, Jr.
2007 Micheal M. Alba	1974-75 George Piron
2006 Arsenio M. Balisacan	1973-74 Bernardo M. Villegas
2005 Alexander C. Escucha	1972-73 Quirico S. Camus, Jr.
2004 Gilberto M. Llanto	1971-72 Jose E. Romero, Jr.
2003 Emilia T. Boncodin	1970-71 Antonio V. Ayala
2002 Ceilito F. Habito	1969-70 Sixto K. Roxas
2001 Ruperto P. Alonzo	1968-69 Edgardo P. Zialcita
2000 Dante B. Canlas	1967-68 Gerardo P. Sicat
1999 Romeo L. Bernardo	1966-67 Jose Encarnacion, Jr.
1998 Cayetano W. Paderanga, Jr.	1965-66 Placido L. Mapa, Jr.
1997 Emilio T. Antonio, Jr.	1964-65 Agustin L. Kintanar
1996 Felipe M. Medalla	1963-64 Benito F. Legarda, Jr.
1995 Margarito B. Teves	1962-63 Amado A. Castro
1994 Victor B. Valdepeñas	1961 Armand Fabella

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