

# Technology and Aging Workforce Maximize the Gains from Longevity and Long Working Life

17-18 May 2018 | Asiatic Research Institute, Korea University, Seoul, Republic of Korea

## Key Thematic Issues

Some Asian economies are aging at unprecedented speed. While there are other economies that remain young, no Asian economies will be safe from risk of growing old before becoming rich. Changes on the technology front are also rapid. New technologies such as robotics and artificial intelligence (AI) are expected to substitute labor as well as to increase labor productivity. It is evident that the technological advances will reshape the future of work. For aging economies, the share of elderly workers is on rapid rise. While many of them plan to remain in the workforce beyond their current retirement age, they may need to acquire new skills. For young economies, the challenges may be even more complex given the technology's potential of labor substitution.

Young or old, Asia faces slowing productivity growth. Since the 2008 financial crisis, productivity growth has decelerated across Asia with the speed of its economic catch up with countries at the global technology frontier stalled over the past decade. It is important to harness the potential of new technologies to maintain and enhance productivity by extending the productive working life of senior workers and better equipping young work force for future work to contribute greatly to higher economic growth.

This event serves as an inception workshop to explore this emerging research agenda through the presentations of innovative papers by invited scholars and experts. The workshop aims to cover the following theme, among others:

- I. Evaluation of the impact of demographic change and technology on labor productivity (or any of the causal relationships among the three) including that of youth and the elderly.
- II. Job creation and substitution effects of new technology particularly focusing on young and aging workforce.
- III. Patterns and determinants of labor force participation and productivity among workers by age groups/cohorts over time
- IV. Assessment of the education/training needs of developing countries to cope with technological advancement
- V. Evaluations and case studies of educational and vocational program to boost productivity and employability of workers for "future jobs."
- VI. Role of regional cooperation in addressing the challenges associated with the impact of demographic change and advancing technology on productivity and jobs; in areas such as human capital and skills development, access to technology, and cross-border labor and student mobility.

# Agenda

DAY 1: Thursday, 17 May 2018	
9:00 a.m. – 9:20 a.m.	<b>Registration</b>
<b>Opening Session</b>	
9:20 a.m. – 09:30 a.m.	<b>Welcome Remarks</b> Jong-Wha Lee, Director of Asiatic Research Institute, Korea University
9:30 a.m. – 09:40 a.m.	<b>Opening Remarks</b> Jong Woo Kang, Principal Economist, Regional Cooperation and Integration Division, ADB Christina Schönleber, Director (Policy & Programs), Association of Pacific Rim Universities (APRU)
9:40 a.m. – 10:20 a.m.	<b>Keynote Presentation</b> John Piggott, UNSW Scientia Professor of Economics Director, ARC Centre of Excellence in Population Ageing Research, Chair, APRU Population Aging Research Hub
10:20 a.m. – 10:40 a.m.	<b>Q &amp; A</b>
10:40 a.m. – 11:00 a.m.	<b>Photo Session and Coffee Break</b>
<b>Session 1: Aging, Demographic Change and Growth in Asia</b> <i>Moderator: Jong Woo Kang, ADB</i> <i>This session focuses on the experience and implication of demographic changes on growth among aging and aged countries</i>	
11:00 a.m. – 12:00 p.m.	<b>Paper 1: “Nonlinear Effects of Population Aging on Economic Growth”</b> <b>Presenter:</b> Hyun-Hoon Lee, Kangwon National University, Korea <b>Discussant:</b> Kiseok Hong, Ehwa Womans University, Korea  <b>Paper 2: “Firm and Worker Dynamics in an Aging Labor Market”</b> <b>Presenter:</b> Niklas Engbom, Department of Economics, Princeton University <b>Discussant:</b> Jong-Suk Han, Korea Institute of Public Finance, Korea
12:00 p.m. – 12:30 p.m.	<b>Open Floor Discussion</b>
12:30 p.m. – 1:40 p.m.	<b>Lunch</b>
<b>Session 2-1: Aging, Labor Force Participation, Productivity and Growth; Case Studies</b> <i>Moderator: Aiko Kikkawa Takenaka, ADB</i> <i>This session focuses on the issues and challenges in boosting productivity and sustaining growth amid changing demographic profiles and workforce in selected countries</i>	
1:40 p.m. – 2:40 p.m.	<b>Paper 3: “Changes in Labor Force Participation in China”</b> <b>Presenter:</b> Suqin Ge, Department of Economics, Virginia Tech <b>Discussant:</b> Rafal Chomik, Centre of Excellence in Population Ageing Research, UNSW Sydney

	<p><b>Paper 4: “Health Capacity to Work at Older Ages: Evidence from Japan”</b>  <b>Presenter:</b> Emiko Usui, Institute of Economic Research, Hitotsubashi University  <b>Discussant:</b> Seik Kim, Korea University</p>
2:40-3:10	<b>Open Floor Discussion</b>
3:10-3:30	<b>Coffee Break</b>
<p><b>Session 2-2: Aging, Labor Force Participation, Productivity and Growth; Case Studies</b>  <b>Moderator:</b> Naoyuki Yoshino, Dean, Asian Development Bank Institute (ADBI)</p>	
3:30-4:30	<p><b>Paper 5: “Demographic change and labor quality in the Republic of Korea”</b>  <b>Presenter:</b> Jong-Wha Lee, Korea University  <b>Discussant:</b> Kwanho Shin, Korea University</p> <p><b>Paper 6: “Untapped work capacity among old persons and their potential contributions to the “silver dividend” in Japan”</b>  <b>Presenter:</b> Rikiya Matsukura, Nihon University  <b>Discussant:</b> Tey Nai Peng, Faculty of Economics and Administration, University of Malaya</p>
4:30 p.m. – 5:00 p.m.	<b>Open Floor Discussion</b>
5:00 p.m. – 5:10 p.m.	<p><b>Day 1 Closing Remarks</b>  Moonsung Kang, Professor, Graduate School of International Studies, Korea University</p>
6:00 p.m.	<b>Dinner Reception (Hosted by ARI)</b>

## DAY 2: Friday, 18 May 2018

### Registration

#### Session 3: The role of technology in aging workforce; theories and case studies

**Moderator: Christina Schönleber, APRU**

*The session will focus on case studies evaluating the impact of technology on productivity using micro information (e.g., firm or worker level) and explore the role and needs of human capital development to maximize the benefit.*

9:20 a.m. – 10:20 a.m.	<p><b>Paper 7: “How technology affects jobs”</b>  <b>Presenter:</b> Sameer Khatiwada, ADB  <b>Discussant:</b> Protap Mukherjee, Young Lives India</p> <p><b>Paper 8: “Demographics and Innovation”</b>  <b>Presenter:</b> François Derrien, HEC Paris  <b>Discussant:</b> Emiko Usui, Institute of Economic Research, Hitotsubashi University</p>
10:20 a.m. – 10:50 a.m.	<b>Open Floor Discussion</b>
10:50 a.m. – 11:00 a.m.	<b>Coffee Break</b>

#### **Session 4: Demographic change, Technology and its implication in Developing Asia**

**Moderator: Peter Morgan, ADBI**

*This session explores the implication of technological innovation on employment, human capital development, and skill/career advancement in developing Asia, which consists of countries with varying demographic profiles*

11:00 a.m. – 12:00 a.m. **Paper 9: “New Technologies, Ageing Population and Comparative Well-being: A Case Study of India”**

**Presenter:** Protap Mukherjee, Young Lives India

**Discussant:** Sameer Khatiwada, ADB

**Paper 10: Malaysian Case Study**

**Presenter:** Tey Nai Peng, Population Studies Unit, Faculty of Economics and Administration, University of Malaya

**Discussant:** Rikiya Matsukura, Nihon University

12:00 a.m. – 12:30 p.m. **Open Floor Discussion**

12:30 p.m. – 1:30 p.m. **Lunch**

#### **Session 5: Regional Collaboration on Human Capital Development and Cross-border Labor Mobility**

**Moderator:** Yasuyuki Sawada, Chief Economist and Director General, Economic Research and Regional Cooperation, ADB

*This session looks at the opportunities for regional cooperation in human capital and resource development and cross-border labor mobility*

1:30 p.m. – 1:50 p.m. **APRU Report “The impact of demographic change on labour supply and economic growth: Can Asia meet the challenge ahead?”**

**Presenter:** Rafal Chomik, Senior Research Fellow, UNSW Sydney

1:50 p.m. – 2:10 p.m. **ADB Report “Tapping Technology to Maximize the Longevity Dividend in Asia”**

**Presenter:** Aiko Kikkawa Takenaka, ADB

2:10 p.m. – 2:20 p.m. **Coffee Break**

2:40 p.m. – 3:20 p.m. **Policy Panel**  
Jong-Wha Lee, Korea University  
Peter Morgan, ADBI  
John Piggott, APRU/UNSW

Q & A Session

3:20 p.m. – 3:30 p.m. **Closing remarks**  
Peter Morgan, ADBI  
Jong-Wha Lee, KU  
Yasuyuki Sawada, ADB  
Christina Schönleber, APRU