The Fifth World KLEMS Conference
NYE CONFERENCE CENTER, 5TH FLOOR, TAUBMAN BUILDING
15 ELIOT STREET, HARVARD KENNEDY SCHOOL
CAMBRIDGE, MA
JUNE 4, 5, 2018

TAUBMAN CENTER
Financial support for this conference was provided by the Donald Marron Center for Economic Data at Harvard University
## SCHEDULE AT A GLANCE

### DAY 1: MONDAY, JUNE 4

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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>8:00-9:00 AM</td>
<td>Breakfast</td>
<td>Allison Dining Room</td>
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<tr>
<td>9:00-10:30 AM</td>
<td>Plenary Session 1</td>
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<td>10:45 AM-12:15 PM</td>
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### DAY 2: TUESDAY, JUNE 5

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<td>3:15-4:15 PM</td>
<td>Plenary Session 3</td>
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<td>4:15-4:30 PM</td>
<td>Closing Remarks</td>
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<tr>
<td>5:00-7:00 PM</td>
<td>Reception</td>
<td>IOP Forum</td>
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DAY 1: JUNE 4

PLENARY SESSION 1: DIGITAL ECONOMY // 9:00-10:30
Paul Schreyer, Chair
Measuring Inflation in a Digital Economy
Marshall Reinsdorf and Paul Schreyer
Nadim Ahmad and Jennifer Ribarsky
Slowing Productivity Growth in Europe: An Overview of the Issues
John Fernald and Robert Inklaar
Solving the Productivity Puzzle: The Role of Demand and Digital
Janna Remes, Jan Mischke, and Mekala Krisnan

PARALLEL SESSION 1 // 10:45-12:15
US KLEMS (PL01) | ERICH STRASSNER
Improvements in US Capital Measurement
Michael Giandrea, Susan Power, Peter Meyer, Steve Rosenthal, Randy Kinoshita, Matthew Russel, and Brian Chansky
Progress in Measuring the Industry Origins of the Japan-US Productivity Gap
Dale Jorgenson, Koji Nomura, and Jon Samuels
Tom Howells, Matthew Russell, and Jon Samuels
U.S. Labor Force Participation, Educational Attainment, and Productivity by Industry
Dale Jorgenson, Mun Ho, and Jon Samuels

HISTORICAL GROWTH (PL02) | BART VAN ARK
Sources of Economic Growth
Gilbert Cette
Total Economy Database
Abdul Azeez Erumban
Capital and Global Productivity Comparisons
Robert Inklaar, Pieter Woltjer, and Daniel Gallardo Albarran
Maddison History of the World Economy
Robert Inklaar
LUNCH // 12:15-1:15

PARALLEL SESSION 2 // 1:15-2:45

ASIA KLEMS I (PL03) | KYOJI FUKAO
Japan’s Prefectural-Level KLEMS: Productivity Comparisons and Service Sector Price Differences
Joji Tokui and Takeshi Mizuta
Empirical Studies of the Efficiency of Research and Development Using JIP and INTAN-Invest Data
Tsutomu Miyagawa and Takayuki Ishikawa
Quantifying and Accounting for Differences in Quality in Service Sectors: A Bilateral Price Comparison between United States and Japan
Kyoji Fukao and Cristiano Perugini
International Comparison of Rates of Return by Industry for the European Union, United States, Japan, and Korea
Hak Kil Pyo and Han Sol Kim

ICT PRICES (PL04) | CAROL CORRADO
Accounting for Quality Change in Medical Equipment, 2002-2017
Ana Aizcorbe
Accounting for Innovation in Consumer Digital Services: Implications for Economic Growth and Consumer Welfare
David Byrne and Carol Corrado
The Rise of Cloud Computing: Minding Your P’s, Q’s, and K’s
Dan Sichel, Carol Corrado, and David Byrne
Improved Measures of ICT in the U.S. National Accounts
David Wasshausen

PARALLEL SESSION 3 // 3:00-4:30

EU KLEMS: MATILDE MAS (PL05)
The Norwegian KLEMS Growth and Productivity Accounts, 1997-2014
Gang Liu
The UK Productivity Puzzle: Does Arthur Lewis Hold the Key?
Nicholas Oulton
Wage-Productivity Growth Gap: An Analysis of Industry Data
Abdul Erubban and Klaas de Vries
Intermediate Inputs, Human Capital, Intangible Assets, and Economic Growth in Russia
Ilya Voskoboynikov, Eduard Baranov, Vladimir Bessonov, Dimitri Piontkovski, Elena Staritstyna, and Azamat Ulbashev
GLOBAL VALUE CHAINS: MARCEL TIMMER (PL06)
From Global Value Chains (GVC) to Global Value Chains of Occupations (GVCO): Exploring the Advantages of Specialization
Marta Solaz, Francisco Perez, and Eva Benages

Global Value Chains and Productivity Growth in Advanced Economies: Do Intangibles Matter?
Cecilia Jona-Lasinio and V. Meliciani

Biased Technical Change through the Lens of Global Value Chains
Laurie A. M. Reijners, Marcel P. Timmer, and Sianjia Ye

RECEPTION & DINNER//5:00-8:00//WEXNER COMMONS

PRESENTATION//7:00 PM
ARE WE MISSING THE PRODUCTIVITY REVIVAL?: BART VAN ARK

DAY 2: JUNE 5

PLENARY SESSION 2: HUMAN CAPITAL // 9:00-10:30
Barbara Fraumeni, Chair

Human Capital and the Changing Wealth of Nations
Quentin Wodon

Investment in Education and the Changing Wealth of Nations: A Cost-Benefit Analysis
Hoa Nguyen and Quentin Wodon

Methodology for Measurement of World Bank Human Capital
Gang Liu

Human Capital Measures and its Effect on Economic Growth and Convergence in China
Haizheng Li
PARALLEL SESSION 4 // 10:45-12:30
LA KLEMS | ANDRE HOFMAN (PL07)
The Current Status of LA KLEMS
Andre Hofman
An Analysis of TFP in Latin America
Andre Hofman, Giannina Lopez, and Claudio Aravena
An Integrated and Expanded Account for the New Digital Economy
Ariel Coremberg
Knowledge-Based Activities in Three Latin America Countries
Matilde Mas, Andre Hofman, and Eva Benages
Informal Employment and Mixed Income in the Total Factor Productivity, KLEMS Model
Francisco Guillén and Fernando Pineda

ASIA KLEMS II (PL08) | HARRY WU
Industrial and Aggregate Measures of Productivity Growth in China, 1982–2010
Cao Jing, Mun S. Ho, Xianchun Xu, Hang Yu
Accounting for China’s Productivity Performance across Regions in an Industry Origin Framework
Zhan Li
International Productivity Comparisons of Total Factor Productivity Changes in the Service Sectors among U.S., Japan, Korea, and Taiwan
Chi-Yuan Liang and Ruei-He Jiang
Information and Communication Technology in China’s Productivity Growth
David Liang and Harry X. Wu
The Impact of Factor Cost Distortion in China on the Global Trade
Huimin Zhu

ASIA KLEMS III (PL09) | K.L. KRISHNA
Growth and Productivity in 21st Century India
K. L. Krishna, Deb Kusum Das, and Pilu Chandra Das
Energy Intensity and Use in Indian Industries
Bishwanath Goldar, Pilu Chandra Das, Suresh Chand Aggarwal, and Abdul Azeez Erumban
Making of Digital India
Abdul Azeez Erumban and Deb Kusum Das
Structural Change in Pakistan’s Economy
Abid Aman Burki, Syed Muhammad Hussain, and Mushtaq Ahmad Khan
Thai Nguyen
PARALLEL SESSION 5 // 1:30-3:00
GVC ACCOUNTING (PL10)  STEVE LANDE Feld
Handbook for GVC Accounting: New Data for Trade and Policy Analysis
Steve Landefeld
A Global Integrated Industry-Level Production Account
Jon Samuels and Erich Strassner
New Measures of Trade in Value Added and GVCs
Marcel Timmer
Offshore Profit Shifting and Domestic Productivity Measurement
Ray Mataloni, Fatih Guvenen, Dylan G. Rassier, Kim J. Ruhl

INTANGIBLES AS A SOURCE OF ECONOMIC GROWTH (PL11)  JONATHAN HASKEL
Measuring Education Services as Intangible Social Infrastructure
Carol Corrado, Mary O’mahony, and Lea Samek
Estimating Spillovers from Intangible Investment: What models and techniques should be used?
Carol Corrado, Jonathan Haskel, Cecilia Jona-Lasinio, and Ana Rincon-Aznar
Productivity Measurement and R&D Investment
Paul Schreyer and Belen Zinni
Valuing "Free" Shopping Experiences: How E-Commerce Improves Brick and Mortar Shopping
Rachel Soloveichik

PLENARY SESSION 3: PRODUCTIVITY DATA IN EUROPE: EU KLEMS AND BEYOND // 3:15-4:15
Robert Inklaar, Chair
Productivity Accounts and Europe’s Productivity Growth Performance
Robert Inklaar
Labor Accounts and Labor Markets
Mary O’Mahony
Spillovers from Intangible Capital and Productivity Growth in the EU and the US
Carol Corrado, Jonathan Haskel, Cecilia Jona-Lasinio, and Masimiliano Iommi
World Input-Output Tables and Competitiveness
Marcel Timmer

CLOSING REMARKS // 4:15-4:30
RECEPTION // 5:00-7:00 PM