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Centre d'étude des niveaux de vie*

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Global and Regional Productivity and Economic Growth: The Fifth World KLEMS Conference

Press Release - Ottawa, July 3, 2019

The Ottawa-based Centre for the Study of Living Standards (CSLS) today released the latest issue of its flagship publication, the *International Productivity Monitor*. The table of contents of the issue with links to the articles is below.

The issue, guest edited by Dale Jorgenson from Harvard University, features nine papers from the Fifth World KLEMS Conference held at the Kennedy School at Harvard University in June 2018. Dale Jorgenson has also written an introduction to the issue. These articles represent the most recent international research on productivity issues from a growth accounting perspective. Highlights of the articles are found below.

Jon Samuels and **Erich Strassner** from the U.S. Bureau of Economic Analysis propose the development of a framework for a world production account. The key feature of the account is an integrated world input-output table in current and constant prices, augmented with constant quality prices and quantities for primary factor inputs by industry, all converted with conceptually appropriate purchasing power parities.

Robert Inklaar and **Pieter Woltjer** from the University of Groningen and **Daniel Gallando Albarran** from Wageningen University use the Penn World Table to show that when differences in types of capital are accounted for, capital input accounts for a greater share of

international differences in GDP per worker than when capital is considered homogeneous. However, differences in total factor productivity still remain the most important factor in explaining income variation across countries.

Cecilia Jona-Lasino from ISTAT and LLEE and **Valentina Meliciani** from University LUISS Guido Carli investigate the impact of participation in global value chains (GVCs) on productivity growth through the effect of investment in intangible assets. They find that organizational capital can exert a significant effect on participation in GVCs and can strengthen the productivity returns to global production activity.

Gang Liu from Statistics Norway examines the structural changes and productivity trends in the market economy of mainland Norway from 1997 to 2014. He finds a high degree of complementarity between intellectual property products, especially R&D capital, and highly skilled labour, showing that intangible assets combined with human capital have been playing an increasingly important role in driving economic growth in Norway.

Nicholas Oulton from the London School of Economics, the National Institute of Economic and Social Research, and the Economic Statistics Centre for Excellence proposes a novel explanation for slower productivity growth in the UK and other developed countries. He grafts the Arthur Lewis model of unlimited supplies of labour onto a standard Solow model and shows that labour productivity growth depends negatively on the growth of labour input and positively on the growth rate of export demand. The bottom line is that the productivity slowdown is primarily a macro, not a micro, phenomenon.

Joji Tsukui from Shinshu University and RIETI and **Takeshi Mizuta** from Hitotsubashi University develop estimates of productivity for 47 Japanese prefectures where they take into account difference in prices in service industries across regions. They find that when regional prices differences are controlled for, productivity differences across regions are less.

Dale Jorgenson and **Mun Ho** from Harvard University and **Jon Samuels** from the U.S. Bureau of Economic Analysis identify and develop the concept of education intensity, defined as the share of an industry's workforce with a college degree or above, and show how this mechanism affects economic growth. Since 1995, the contribution of education-intensive industries to GDP growth has exceeded that of non-education intensive industries.

Corby Garner and **Matt Russell** from the U.S. Bureau of Labor Statistics and **Justin Harper**, **Thomas F. Howells III** and **Jon Samuels** from the U.S. Bureau of Economic Analysis develop integrated measures of multifactor productivity (MFP) for the United States for the 1987-2016 period that are consistent with official BEA GDP by industry estimates.

They find that the most important source of growth over the period was capital input, especially in the service sector. MFP growth was responsible for one fifth of overall economic growth.

Matilde Mas and **Eva Benages** from the University of Valencia and Ivie and **André Hofman** from the University of Santiago de Chile propose an alternative measure of knowledge intensity based on the economic valuation of services provided by a set of assets that incorporate knowledge, namely human capital and information and communication technologies. They then apply this methodology to four Latin American countries (Brazil, Mexico, Chile and Colombia), Spain, and the United States.

The Centre for the Study of Living Standards (CSLS) is a national, independent, Ottawa-based not-for-profit research organization. Its primary objective is to contribute to a better understanding of trends and determinants of productivity, living standards, and economic well-being in Canada through research.