

# Editor's Overview

This 39th issue of the *International Productivity Monitor* contains six articles. Topics covered are The Productivity Institute recently established in the UK, the short-term productivity effects of the pandemic in Canada, productivity performance in G7 countries since the financial crisis, manufacturing productivity in the Nordic countries, and review articles on volumes on economic and productivity growth and the economics of artificial intelligence.

Advanced economies have experienced slower productivity growth in recent years, with negative implications for growth in living standards. Consequently, governments are searching for measures to foster productivity growth. This means it is particularly important for governments to understand the causes and nature of the productivity slowdown and the effectiveness of specific policies to enhance productivity. Recognizing the key role for research in this process, the United Kingdom has recently established The Productivity Institute to advance understanding on the productivity issue.

In the lead article in this issue, **Bart van Ark**, Managing Director at The Productivity Institute and Professor at the University of Manchester and **Tony Venables**, Research Director at The Productivity Institute and Professor at the University of Oxford, provide an overview of the mandate of the new organization, outline the eight themes of its research agenda, and discuss the contours of its engagement with the academic, business, and policy communities. A unique feature of the Institute is that its governance structures ensure that its comprehensive and high-quality research will be a key input into government policies to improve productivity.

In 2020, the world economy has been

badly shaken by the COVID-19 pandemic, with important effects for both short-term and long-term productivity developments. In the second article in the issue, **Joel Blit** and **Mikal Skuterud**, both from the University of Waterloo, and **Michael R. Veall** from McMaster University examine short-run changes in output, hours worked, and output per hour in 87 Canadian industries. The authors examine the role of three industry characteristics (proportion of employed who work from home, the health risk, and proportion of workers facing customers) in explaining industry productivity developments. Perhaps surprisingly, they find no evidence of association between these characteristics and productivity changes.

Any understanding of aggregate productivity growth requires knowledge of the industry sources of this growth. In the third article, **Jianmin Tang** from Innovation, Science and Economic Development Canada and **Weimin Wang** from Statistics Canada present estimates of industry contributions to aggregate productivity growth for the G7 countries for the 2000-2010 and 2011-2015 periods using KLEMS datasets. The authors find that in 2011-2015, Canada enjoyed the fastest business sector labour productivity growth among G7 countries and experienced the largest acceleration

in productivity growth compared to 2000-2010. Manufacturing had made a very large negative contribution to aggregate productivity growth in Canada in 2000-2010, due to the declining relative prices of manufactured goods and the fall in the size of the sector. These negative contributions were much less or reversed in 2011-2015, making manufacturing the driving force for the improvement in Canada's productivity performance after the financial crisis.

The measurement of labour productivity at the industry level can be approached from two perspectives. The first is where the direct labour in an industry is related to the real value added produced by that industry. The second is a vertically integrated perspective where all domestic labour embodied in a product, including that in the intermediate inputs, is related to the gross output of an industry. In the fourth article, **Daniel Lind**, Chief Economist at the Swedish trade union Akavia, develops the vertically integrated perspective to productivity for manufacturing industries in four Nordic countries labour. He makes the case that this perspective is becoming more important since knowledge capital is increasingly embodied in intermediate goods. Lind finds that Norway has greatly improved its manufacturing productivity performance since 2001 and is now the Nordic leader in this area.

Dale W. Jorgenson, the Samuel W. Morris University Professor at Harvard University, has long been a leader in the productivity field. In recognition of his many seminal contributions over six decades, his long-time collaborator Bar-

bara Fraumeni has edited a festschrift entitled *Measuring Economic Growth and Productivity: Foundations, KLEMS Production Models and Extensions*. The volume includes 22 articles by 58 authors. In the fifth article, **Gilbert Cette** from the Banque de France and Université d'Aix-Marseille reviews the articles in the volume and provides his perspective on both the productivity paradox and the meaning of total factor productivity. He concludes that the volume is a valuable compilation of research on productivity topics and represents a honourable tribute to Dale W. Jorgenson.

In discussions on the prospects for future productivity advance, the development of artificial intelligence (AI) is often pointed to as a factor that may considerably boost trend productivity growth. In the sixth and final contribution to the issue, **Eric Santor** from the Bank of Canada provides a review article on the NBER volume *The Economics of Artificial Intelligence: An Agenda* edited by Ajay Agrawal, Joshua Gans, and Avi Goldfarb, all from the University of Toronto. Santor highlights the key contributions of the chapters and adds his perspective. He notes that grand debate is on how large the net benefits of AI will be for the economy and society. The contributors generally take a positive view of the impact of digitalization although the distribution implication of AI are well recognized. Santor concludes that the volume represents a comprehensive and for the most part accessible contribution to our knowledge of the economics of AI and will serve as a useful primer on the subject.