

TECHNOLOGICAL CHANGE AND PRODUCTIVITY

With Hon Grant Robertson MP, Donna Purdue, Dr Dirk Pilat, Paul Conway, Liz MacPherson, Professor Filippo di Mauro, Dr Abrie Swanepoel, Ross Young, Professor Patrick Dunleavy, Judy Kavanagh, Professor Geoffrey Heal, Dr Suzi Kerr, and Murray Sherwin

WELCOME FROM THE PRODUCTIVITY HUB BOARD

Welcome to the 2018 Productivity Conference on Technological Change and Productivity.

We are seeing a growing adoption of technologies that would have seemed like science fiction just a few years ago; including cloud-based services, machine-to-machine automated processes, 3D printing, autonomous vehicles, and so on.

These technologies could be as disruptive to models of production as earlier industrial revolutions. Their effect will be felt in both the private sector and in government services. They will influence how countries achieve economic and environmental goals and who benefits from economic growth. They will transform the ability to use data to better understand the economy.

At this event speakers will discuss:

- Technological change and productivity in the private sector, including implications for the labour market and the future of productivity.
- Technological change and government services, including the implications for the measurement of performance and service design.
- Technological change and transitioning to a lower emissions economy, including how a shift to a new, low-emissions, economy could transform land use, the energy system, and production methods.
- The growing potential of data, including micro-data at the firm level, to generate fresh and new insights.

The Productivity Hub Board would like to thank today's speakers, along with the people working behind the scenes, for giving their time to take part in and help with this conference. The Hub Board would also like to thank today's sponsors – whose support means that an event of this calibre can be provided without charge to attendees. Finally, the Hub Board would like to thank the organisations who continue to support the Hub throughout the year.

Thank you for choosing to attend the 2018 Productivity Conference. We hope you find it an enjoyable and worthwhile day.

*This conference is kindly supported by: the Ministry of Business, Innovation and Employment;
New Zealand Productivity Commission; Statistics New Zealand; the Treasury.*

TODAY'S SPEAKERS

HON GRANT ROBERTSON MP MINISTER OF FINANCE

Hon Grant Robertson was born in Palmerston North and lived in Hastings before his family settled in Dunedin. Grant's belief in social justice and a desire to see every New Zealander able to achieve their potential led him to politics, and he has been the Member of Parliament for Wellington Central since 2008.

Grant studied politics at Otago, graduating with a Bachelor of Arts with Honours in 1995. His involvement in the campaign against user-pays education led him to become President of the Otago University Students Association, and later Vice President and then Co-President of the New Zealand University Students Association.

After leaving university, Grant joined the Ministry of Foreign Affairs and Trade, and was also posted to the United Nations in New York. On his return to New Zealand he became an advisor to then-Minister of Environment Marian Hobbs, then to Prime Minister Helen Clark.

In Opposition, Grant was Finance Spokesperson, and has previously held spokesperson roles for Labour in Employment, Skills and Training, Economic Development, Tertiary Education, State Services, Health, and Arts, Culture and Heritage.

DR DIRK PILAT OECD

Dirk Pilat, a Dutch national, is Head of the Science and Technology Policy Division in the OECD Directorate for Science, Technology and Industry. He is responsible for the OECD's Committee for Scientific and Technological Policy, which aims at the development of good policy practices in the area of science, technology and innovation. He joined the Directorate for Science, Technology and Industry in May 1997 and has worked on many policy issues since then, including how to draw greater benefits from information technology for economic growth, how to strengthen growth performance in OECD economies (the OECD Growth Project), how to strengthen the performance of the services sector, as well as work on science, innovation, productivity and entrepreneurship. He holds a PhD in Economics from the University of Groningen, in the Netherlands.

PROFESSOR FILIPPO DI MAURO NATIONAL UNIVERSITY OF SINGAPORE

Filippo di Mauro is Visiting Professor at the Business School (BIZ) of the National University of Singapore (NUS), where he teaches macro and international trade, and Consultant at the Monetary Authority of Singapore. Professor di Mauro is Chairperson of CompNet – a large research network on competitiveness and productivity among major international organizations, central banks and academic institutions in Europe – as well as Coordinator of the Productivity Research Network (PRN), based at the NUS-Singapore, specialising in productivity research for the Asia-Pacific region. His present research includes: 1) Productivity and resource reallocation using firm level data; and 2) Modelling global linkages, including global value chains.

PROFESSOR PATRICK DUNLEAVY LONDON SCHOOL OF ECONOMICS

Patrick Dunleavy is Professor of Political Science and Public Policy at the Department of Government at the London School of Economics and Political Science, and Chair of the LSE Public Policy Group. He has published extensively across UK public policy including public sector productivity, electoral systems and digital era governance. He is also Centenary Research Professor at the Institute for Governance and Policy Analysis (IGPA), University of Canberra.

PROFESSOR GEOFFREY HEAL COLUMBIA BUSINESS SCHOOL

Geoffrey Heal, Donald C. Waite III Professor of Social Enterprise at Columbia Business School, is noted for contributions to economic theory and resource and environmental economics. Author of eighteen books and about two hundred articles, Professor Heal is a Fellow of the Econometric Society, past Managing Editor of the Review of Economic Studies, Past President of the Association of Environmental and Resource Economists, recipient of its prize for publications of enduring quality and a Life Fellow, recipient of the 2013 Best Publication Prize of the European Association of Environmental and Resource Economists, a Director of the Union of Concerned Scientists and a founder and Director and chairman of the Board of the Coalition for Rainforest Nations (developers of the policy for reducing deforestation by awarding carbon credits for forest conservation). Recent books include *Nature and the Marketplace*, *Valuing the Future*, *When Principles Pay* and *Endangered Economies: How the Neglect of Nature Threatens Our Prosperity*.

Professor Heal chaired a committee of the National Academy of Sciences on valuing ecosystem services, was a Commissioner of the Pew Oceans Commission, was a coordinating lead author of the IPCC's Fifth Assessment Report, was a member of President Sarkozy's Commission on the Measurement of Economic Performance and Social Progress, was a member of the advisory board for the World Bank's 2010 World Development Report and the United Nations Environment Program's 2011 Human Development Report, and acts as an advisor to the World Bank on its Green Growth project.

He has been a principal in two start-up companies, a consulting firm and a software and telecommunications company, and until recently was a member of the Investment Committee of a green private equity group. He teaches MBA courses on "Current Developments in Energy Markets," "Business and Society: Doing Well by Doing Good?" and "The Business of Sustainability," teaches a doctoral course on advanced microeconomic theory, and advises doctoral students interested in sustainability.

DONNA PURDUE
MINISTRY OF BUSINESS, INNOVATION AND
EMPLOYMENT

Donna is MBIE's Chief Economist. Her journey in the field of economics started at Waikato University where she received a Bachelor of Social Science with First Class Honours in Economics. Her first job was as an economist at Ord Minnett Securities in Auckland. Since then she has had various economic-related roles with the British High Commission, the New Zealand Institute of Economic Research, Westpac, and Kiwibank. Prior to joining MBIE, Donna was a Principal Advisor at the New Zealand Treasury.

PAUL CONWAY
NEW ZEALAND PRODUCTIVITY COMMISSION

Paul leads the Commission's work on understanding the broad drivers of New Zealand's productivity performance and the role of policy in improving it. He is also Chair of the Productivity Hub, a cross-agency collaboration of productivity researchers in the New Zealand public sector. Paul is an economist with extensive international experience and has previously worked with the OECD, the World Bank, Westpac and the Reserve Bank of New Zealand. Much of Paul's recent work with the Commission has focused on understanding productivity at the level of New Zealand firms.

LIZ MACPHERSON GOVERNMENT STATISTICIAN AND
CHIEF EXECUTIVE, STATISTICS NEW ZEALAND

Liz was appointed to the role of Government Statistician and Chief Executive of Statistics NZ in August 2013. She is a public servant with 24 years experience, including a decade working at senior leadership level in the public sector. Liz is passionate about evidence-driven decision-making and sees her role as ensuring New Zealand decision-makers at all levels have access to quality information.

ROSS YOUNG SENIOR MANAGER, PUBLIC POLICY
AND GOVERNMENT AFFAIRS, GOOGLE

Born and bred in Wellington, Ross Young manages public policy and government affairs for Google in New Zealand. After training in law and psychology, he worked in New Zealand and overseas, including at the BBC, Minority Rights International, Vodafone, TelstraClear and the Commerce Commission.

DR ABRIE SWANEPOEL
SENIOR ECONOMIST, AUSTRALIAN DEPARTMENT OF
INDUSTRY, INNOVATION AND SCIENCE

Abrie Swanepoel has had a number of roles in South Africa and Australia, holding a range of senior positions at the South African Reserve Bank, the Australian Capital Territory Government and currently the Department of Industry, Innovation and Science. This covered economic analysis and research, economic and tax revenue forecasting and the provision of policy advice. As Senior Economist of the Office of the Chief Economist, Abrie leads a team of economists who undertake applied economic research with a focus on firm and industry performance.

JUDY KAVANAGH
INQUIRY DIRECTOR (STATE SECTOR PRODUCTIVITY),
NEW ZEALAND PRODUCTIVITY COMMISSION

Judy is an economist with experience in both academia and the public sector. She has had roles in the Ministries of Health and Education and has taught at Canterbury University and Victoria University of Wellington. Her research areas include experimental economics, economic psychology and the organisation of health systems.

DR SUZI KERR
SENIOR FELLOW, MOTU ECONOMIC AND PUBLIC
POLICY RESEARCH, AND ADJUNCT PROFESSOR AT
VICTORIA UNIVERSITY OF WELLINGTON

Suzi Kerr graduated from Harvard University in 1995 with a PhD in Economics. From 1998 to 2009 she was Director and Senior Fellow at Motu. In 2010 she won the NZIER Economics Award. She has also worked at the University of Maryland at College Park, Resources for the Future (USA), the Joint Center for the Science and Policy of Global Change at MIT, and more recently was a Visiting Professor at Stanford University for the 2009/10 year and at the University of the Andes in Bogotá, Colombia in the first half of 2014.

MURRAY SHERWIN CNZM
CHAIR, NEW ZEALAND PRODUCTIVITY COMMISSION

Murray is an economist with over 35 years' experience across a wide range of public policy roles. His previous roles include: Director General of the Ministry of Agriculture and Forestry; Deputy Governor of the Reserve Bank of New Zealand; member of the Board of Executive Directors of the World Bank; and member of the Prime Minister's Policy Advisory Group. Murray is a Charter Member of the New Zealand Institute of Directors and a Fellow of the New Zealand Institute of Management.

DR PATRICK NOLAN
PRINCIPAL ADVISER, NEW ZEALAND PRODUCTIVITY
COMMISSION

Patrick Nolan joined the Productivity Commission as a Principal Advisor in the Economics and Research team in February 2014. Before this he spent five years as the Chief Economist of Reform, a cross-party British think tank focused on public services and economic prosperity. He had earlier worked for the New Zealand Institute of Economic Research, the New Zealand Treasury and as an economic advisor to a front-bench minister. He completed his PhD on Working for Families in the School of Government at Victoria University of Wellington.

PROGRAMME

Welcome

09.00 – 09.15: Welcome and setting the scene: *Donna Purdue*, Ministry of Business, Innovation and Employment

PART ONE: TECHNOLOGICAL CHANGE AND FIRM PERFORMANCE

09.15 – 10.00: KEYNOTE 1: *Dr Dirk Pilat*, OECD

10.00 – 10.30: RESPONSE: *Paul Conway*, New Zealand Productivity Commission

10.30 – 11.00: MORNING TEA

PART TWO: THE GROWING POTENTIAL OF DATA

11.00 – 12.00: PANEL DISCUSSION: How can data help lift productivity performance?

Liz MacPherson, Statistics New Zealand

Professor Filippo di Mauro, National University of Singapore

Dr Abrie Swanepoel, Australian Department of Industry, Innovation and Science

Ross Young, Google

12.00 – 12.45: LUNCH

PART THREE: GROWING THE PRODUCTIVITY OF GOVERNMENT SERVICES

12.45 – 13.30: KEYNOTE 2: *Professor Patrick Dunleavy*, London School of Economics

13.30 – 14.15: RESPONSE: *Judy Kavanagh*, New Zealand Productivity Commission

14.15 – 14.45: AFTERNOON TEA

PART FOUR: FINANCIAL AND TECHNOLOGICAL PREREQUISITES OF THE ENERGY TRANSITION

14.45 – 15.30: KEYNOTE 3: *Professor Geoffrey Heal*, Columbia Business School

15.30 – 16.15: RESPONSE: *Dr Suzi Kerr*, Motu Economic and Public Policy Research

PART FIVE: THE FUTURE OF WORK: ADAPTABILITY, RESILIENCE, AND INCLUSION

16.15 – 16.45: KEYNOTE 4: *Hon Grant Robertson* MP, Minister of Finance

16.45: CLOSING REMARKS: *Murray Sherwin*, New Zealand Productivity Commission

The day will be facilitated by Dr Patrick Nolan, New Zealand Productivity Commission.