

# ESCoE Conference on Economic Measurement 2022

University of Strathclyde, Glasgow  
25-27 May 2022



# Welcome

Welcome to the ESCoE Conference on Economic Measurement 2022.

This is the fifth time the ESCoE Conference on Economic Measurement has been held. After two conferences in London and two online meetings, we are very happy to welcome you to Glasgow. Meeting each other in person again will provide the type of atmosphere that fosters fruitful exchanges of ideas, builds new and develops existing social ties. We are delighted to introduce our three excellent keynote speakers, Sir Charles Bean (London School of Economics), Chiara Criscuolo (OECD and London School of Economics) and Michael Pollitt (Judge Business School, University of Cambridge). You can read more about them in this conference programme.

The programme also contains a number of Panel Sessions and Special Sessions. We would like to thank the organisers of these conference events for their efforts and look forward to interesting discussions. The Scientific Committee and the Programme Committee members, as listed at the end of this programme, have played an essential role in selecting papers for the Contributed Sessions and the Poster Session.

We would like to thank the many people who have contributed to the organisation of this year's conference. We also extend our thanks to the Lord Provost and Glasgow City Council for kindly sponsoring the Civic Reception before the Conference Dinner on Wednesday evening and welcoming EM2022 to Glasgow.

We hope that you enjoy this year's conference in Scotland.

Scientific Committee Co-chairs Gary Koop (University of Strathclyde), Bart Los (University of Groningen) and Sanjiv Mahajan (Office for National Statistics)



# Keynotes

Sir Charles Bean (London School of Economics)

Wednesday 25 May, 10.45-12.00, Auditoria B & C



'The Independent Review of Statistics Five Years On – and the Next Five Years'

A little over five years have passed since the publication of the Independent Review of Economic Statistics (the 'Bean Review'). During that time, there has been considerable progress in tackling many of the issues identified in the Review, although some have proved rather less tractable. In addition, the external landscape has evolved

with new economic and statistical challenges thrown up by the UK's decision to leave the EU, the COVID-19 pandemic and the outbreak of a major war in Europe. In this keynote speech, after assessing the progress made on the agenda set out in the Report, I shall explore some of the measurement challenges that have emerged or intensified subsequently as well as engaging in some crystal-ball gazing as to what further challenges and opportunities the future may bring.

*Sir Charles Bean is a Professor of Economics at LSE and Chairman of the Centre for Economic Policy Research. Between 2016 and 2021, he was also an executive member at the OBR. From 2000 to 2014, he served at the Bank of England as Chief Economist and then Deputy Governor for Monetary Policy, sitting on both the Monetary Policy and Financial Policy Committees and representing the Bank internationally. Before joining the Bank, he was a member of the economics faculty at LSE and has also worked at HM Treasury. He has served as Managing Editor of the Review of Economic Studies and in 2016 produced a major review of the quality, delivery and governance of UK economic statistics at the request of the government. He was knighted in 2014 for services to monetary policy and central banking, and was President of the Royal Economic Society from 2013 to 2015. He holds a PhD from MIT.*

## Chiara Criscuolo (OECD and London School of Economics)

Thursday 26 May, 11.00-12.15, Auditoria B & C



### 'The Role of Telework for Productivity During and Post-COVID-19: Results from an OECD Survey among Managers and Workers'

The COVID-19 pandemic has triggered a surge in telework, raising questions about its impact on firm performance and worker well-being. The main findings show that telework is here to stay, for most workers in a hybrid

mode with an intermediate intensity of two to three working days per week. A majority of employers and employees value telework positively but also emphasise the need for adaptive measures, such as the coordination of schedules and investments in ICT hardware, software and skills. This presentation will summarise recent studies conducted on an OECD survey among managers and workers and real-time online job postings data from the online jobs site, Indeed, to explore these issues in a cross-country context.

*Chiara Criscuolo is Head of the Productivity, Innovation and Entrepreneurship Division in the Directorate for Science, Technology and Innovation at the OECD. Mainly, her work focuses on entrepreneurship, enterprise dynamics, productivity and policy evaluation. In this realm, she has coordinated large cross-country microdata projects on employment dynamics, productivity, as well as research and development. Chiara has played a lead role in advancing the use of firm level data and of microdata projects within the OECD. She has contributed to key horizontal and high level projects and publications, including the OECD volumes "Future of Productivity", "New sources of growth: Knowledge Based capital", and the "OECD Innovation Strategy". She co-manages the Global Forum on Productivity and is also a member of the French and Portuguese National Productivity Boards. Chiara received her doctoral degree in Economics from University College London and held academic appointments at the University of Siena, City University and the University of Cambridge, in addition to the LSE.*

## Michael Pollitt (Judge Business School, University of Cambridge)

Friday 27 May, 11.00-12.15, Auditoria B & C



### 'The Green Economy and the Path to Net Zero: Implications for Productivity Measurement'

The possibility of green growth is often promoted by politicians. This lecture will explore the economics and measurement of green growth. We will suggest that environmental targets are likely to reduce measured productivity growth in the UK. We will then discuss empirical responses to

this by considering the potential for new measures of productivity growth, which adjust for progress towards environmental targets. To do this we will draw on the latest research on energy sector and whole economy growth. We will conclude by considering what it will take for a net zero pathway to deliver positive productivity growth in the UK energy sector.

*Michael Pollitt is Professor of Business Economics at the Judge Business School, University of Cambridge. He is an Assistant Director of the Energy Policy Research Group (EPRG) and a joint academic director of the Centre on Regulation in Europe (CERRE). Michael is a Fellow in Economics and Management at Sidney Sussex College, Cambridge. Michael was external economic advisor to Ofgem from 2007 to 2011. He has published 13 books and over 100 refereed journal articles on efficiency and productivity analysis, energy policy and business ethics. His current research interests are in energy market design and regulation and green growth. He is Vice President for Publications of the International Association for Energy Economics (IAEE).*

# Wednesday 25 May

TIME	SESSIONS			
09.45-10.40	Registration, Tea and Coffee			
10.40-12.00	Welcome and Plenary Session I: The Independent Review of Statistics Five Years On – and the Next Five Years (Auditoria B & C)			
12.00-13.00	Lunch			
13.00-14.30	Special Session A: British Productivity in the Age of COVID (Auditoria B & C)	Contributed Session A: Beyond GDP (Room 4 & 5)	Contributed Session B: Trade and Welfare Measurement (Room 2)	Contributed Session C: New Applications of Data Sources and Methods Used in National Accounts (Room 3)
14.30-15.00	Tea and Coffee			
15.00-16.00	Panel Session I: Addressing the Challenges of Subnational Statistics (Auditoria B & C)			
16.15 -17.45	Special Session B: Alternative Data Sources in CPIH and CPI (Auditoria B & C)	Contributed Session D: COVID-19 I (Room 4 & 5)	Contributed Session E: Gaps and Trends in Macroeconomic Variables (Room 2)	Contributed Session F: Digitalisation (Room 3)
18.00-21.30	Lord Provost Reception & EM2022 Conference Dinner The Old Fruit Market, 100 Candleriggs, Glasgow G1 1NQ			

\* Please note, this conference is on the record and some sessions will be recorded.

\* Timings are all BST.

\* Entry to session rooms is on a first come basis.

**09.45-10.40: Registration and Coffee**

Location: Level 2 Foyer

**10.40-12.00: Welcome and Plenary Session I**

**Welcome**

**Location: Auditoria B & C**

Grant Fitzner (Office for National Statistics)

**Plenary Session I**

**Location: Auditoria B & C**

Chair: Grant Fitzner (Office for National Statistics)

Sir Charles Bean (London School of Economics)

'The Independent Review of Statistics Five Years On – and the Next Five Years'

**12.00-13.00: Lunch**

Location: Level 2 Foyer

## 13.00-14.30: Special Session A and Contributed Sessions A/B/C

### Special Session A: British Productivity in the Age of COVID

Location: Auditoria B & C

Chair: Stephen Millard (National Institute of Economic and Social Research)

**Adrian Pabst** and **Paul Mortimer-Lee** (National Institute of Economic and Social Research)

'COVID-19 and Productivity: Impact and Implications'

Discussant: Bart van Ark (The Productivity Institute and University of Manchester)

Policy Panel: Sam Beckett (Office for National Statistics), Sophie Piton (Bank of England) and Anthony Venables (The Productivity Institute and University of Manchester)

### Contributed Session A: Beyond GDP

Location: Level 3 Conference Room 4 & 5

Chair: Clodhna Taylor (Office for National Statistics)

**Julian Winkler** (University of Oxford and Institute of New Economic Thinking at the Oxford Martin School)

'Accounting for Variety'

**Roger Fouquet** and Gregor Singer (London School of Economics)

'Net Domestic Consumer Surplus (NDCS) and its Environmental Impact, 1700-2017'

**Richard Heys** and Clodhna Taylor (Office for National Statistics)

'GDP and Welfare: Empirical Estimates of a Spectrum of Opportunity'

### Contributed Session B: Trade and Welfare Measurement

Location: Level 3 Conference Room 2

Chair: Raghav Malhotra (University of Warwick)

**Mustapha Douch** (University of Edinburgh), Jun Du (Aston University) and Enrico Vanino (University of Sheffield)

'Defying Gravity? Policy Uncertainty, Trade Destruction and Diversion'

**Luke Mosley**, Kaveh Nobari and Alex Gibberd (Lancaster University)

'High Dimensional Temporal Disaggregation and Nowcasting: Examination of Trade-In-Services Throughout the Brexit Transition Period'

Sebastian Maes (KU Leuven) and **Raghav Malhotra** (University of Warwick)

'Individual Heterogeneity and the Distribution of Welfare'

### Contributed Session C: New Applications of Data Sources and Methods Used in National Accounts

Location: Level 3 Conference Room 3

Chair: Russell Black (Office for National Statistics)

**Baoline Chen** and Kyle Hood (Bureau of Economic Analysis)

'Nowcasting of Advance Estimates of Personal Consumption of Services in the U.S. National Accounts: Individual vs Forecasting Combination Approach'

**Russell Black** (Office for National Statistics and King's College London), Josefa Lavadero Masson and Jakob Schneebacher (Office for National Statistics)

'Estimates of Markups, Market Power and Dynamism from UK Firm-Level Survey Data'

## 14.30-15.00: Coffee

Location: Level 2 Foyer

## 15.00-16.00: Panel Session I

Location: Auditoria B & C

Chair: Emma Hickman (Office for National Statistics)

Panellists: Sharada Davidson (University of Strathclyde), Tom Smith, Urvashi Parashar (Department for Levelling Up, Housing and Communities) and Tom Forth (Open Innovations)

'Addressing the Challenges of Subnational Statistics'

## 16.15-17.45 Special Session B and Contributed Sessions D/E/F

**Special Session B: Alternative Data Sources in CPIH and CPI**  
Location: Auditoria B & C

Chair: Jill Leyland (Royal Statistical Society)

**David Moran** and **Joe Barker** (Office for National Statistics)

'Alternative Data Sources for Rail Fares and Second-hand Cars in CPIH and CPI'

**Huw Pierce** (Office for National Statistics)

'Household Costs Indices (HCIs)'

**Paul Smith** and Francesco Pantalone (University of Southampton)

'Variance Estimates in UK Consumer Price Indices'

**Contributed Session D: COVID-19 I**  
Location: Level 3 Conference Room 4 & 5

Chair: David Van Dijcke (University of Michigan)

**Robynne Davies** and Gueorguie Vassilev (Office for National Statistics)

'The Furlough Scheme in the UK: Who was Affected and How?'

Peter Levell (Institute for Fiscal Studies), **Lars Nesheim** (University College London) and Alessia Testa (University of Portsmouth)

'Sectoral Impacts of COVID-19: A General Equilibrium Analysis of the Pandemic'

Marcus Buckmann and Tomas Key (Bank of England), Arthur Turrell (Office for National Statistics) and **David Van Dijcke** (University of Michigan)

'Vacancy Posting, Firm Balance Sheets, and Pandemic Policy Interventions'

### **Contributed Session E: Gaps and Trends in Macroeconomic Variables** **Location: Level 3 Conference Room 2**

Chair: N. Kundan Kishor (University of Wisconsin-Milwaukee)

Pei Kuang (University of Birmingham) Kaushik Mitra and **Li Tang** (Middlesex University London)

'Output Gap Estimation and Monetary Policy with Imperfect Knowledge'

**Saeed Zaman** (Federal Reserve Bank of Cleveland)

'A Unified Framework to Estimate Macroeconomic Stars'

**N. Kundan Kishor** and Nam Nguyen (University of Wisconsin-Milwaukee)

'Measuring Credit Gap'

### **Contributed Session F: Digitalisation** **Location: Level 3 Conference Room 3**

Chair: Karlis Kanders (Nesta)

**Oleksii Romanko** (King's College London)

'Digital Opportunity: How Cloud Computing Changes the Shape of the UK Economy'

Yanbing Bai, Yafeng Wu, Ying Hao, Xinyi Wu (Renmin University of China), Bolin Zhang (University of China) and **Xuxin Mao** (National Institute of Economic and Social Research)

'Using Satellite Imagery and Deep Learning to Measure the Economic Development Level'

**Karlis Kanders** and Laurie Smith (Nesta)

'Which Green Technologies are at a Tipping Point? A Data-Driven Horizon Scanning Approach'

## **18.00: Lord Provost and Glasgow City Council's Civic Reception and EM2022 Conference Dinner**

**Location: The Old Fruit Market, 100 Candleriggs, Glasgow G1 1NQ**

# Thursday 26 May

TIME	SESSIONS				
08.30-09.00	Registration, Tea and Coffee				
09.00-10.30	Special Session C: Using New Methods and Data Sources to Improve Economic Statistics (Auditorium B)	Contributed Session G: New and Old Products and Activities: Statistical Challenges (Room 2)	Contributed Session H: Gender Bias, Well-being and Inequality (Room 3)	Contributed Session I: Regional Inequality (Room 4 & 5)	Workshop A: Measuring the Economy (Auditorium C)
10.30-11.00	Tea and Coffee				
11.00-12.15	Plenary Session II: The Role of Telework for Productivity During and Post-COVID-19 (Auditoria B & C)				
12.15 - 13.30	Lunch				
13.30 - 15.30	Contributed Session J: Productivity, Labour and Wages (Room 3)	Contributed Session K: Through The COVID-19 Pandemic Statistical Challenge (Auditorium C)	Contributed Session L: Capital, Investment and Growth Accounting (Room 2)	Contributed Session M: Nowcasting and Forecasting (Auditorium B)	Workshop B: The Language of (Economic) Data is Visualisation (Room 4 & 5)
15.30 - 16.00	Tea and Coffee				
16.00 - 17.00	Panel Session II: Communicating Data (Auditoria B & C)				
17.00 - 19.30	Poster Session and Drinks Reception (Level 2 Foyer)				

- \* Please note, this conference is on the record and some sessions will be recorded.
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## 08.30-09.00: Registration and Coffee

Location: Level 2 Foyer

## 09.00-10.30: Special Session C, Contributed Sessions G/H/I and Workshop A

**Special Session C: Using New Methods and Data Sources to Improve Economic Statistics: An ONS and Turing Institute Collaboration**  
**Location: Auditorium B**

Chair: Arthur Turrell (Office for National Statistics)

**Victor Meirinhos** (Office for National Statistics) and Francois Lafond (University of Oxford and The Alan Turing Institute)

'Economic Networks and Transaction Data'

Samuel N Cohen, Lingyi Yang (The Alan Turing Institute and University of Oxford), **Giulia Mantoan** (The Alan Turing Institute and Office for National Statistics), Lars Neisham, Aureo de Paula (The Alan Turing Institute and University College London), Silvia Lui, Will Malpass, Jeremy Rowe, Craig Scott and Emma Small (Office for National Statistics)

'Nowcasting with Signature Methods'

**Owen Daniel** (Office for National Statistics)

'Synthetic Data and Privacy Preservation'



## Contributed Session G: New and Old Products and Activities: Statistical Challenges

Location: Level 3 Conference Room 2

Chair: Miriam Steurer (University of Graz)

**Arash Hajikhani** and Arho Suominen (VTT Technical Research Centre of Finland)

'Beyond Legacy Economic Activity Classification: Novel Application of Website Scraped Content and Microsoft Academic Graph to Identify Firm's Activity'

**Jack Philips** (Department for Digital, Culture, Media and Sport)

'Valuing Culture and Heritage Capital'

Robert J. Hill, Norbert Pfeifer, **Miriam Steurer** (University of Graz) and Radoslaw Trojanek (Poznan University of Economics and Business, Poland)

'Warning: Some Transaction Prices can be Detrimental to your House Price Index'

## Contributed Session H: Gender Bias, Well-being and Inequality

Location: Level 3 Conference Room 3

Chair: Eléonore Richard (Paris School of Economics)

**Tho Pham** (University of Reading)

'Gender Bias in Online Job Ads: Uncovering Hidden Preferences'

**Eléonore Richard** (Paris School of Economics)

'Who Feels Poor? Transitions into Poverty and Subjective Well-Being'

## Contributed Session I: Regional Inequality

Location: Level 3 Conference Room 4 & 5

Chair: Alexander Lembcke (OECD)

**Tommaso Ciarli** (UNU-MERIT), Mattia Di Ubaldo and Maria Savona (University of Sussex)

'Where do Wages Benefit from Productivity Growth? Evidence from UK Firms and Labour Markets'

**Alexandre Banquet**, Paul Delbouve (OECD), Michiel N. Daams (University of Groningen) and Paolo Veneri (OECD)

'Monitoring Land-Use in Cities Using Satellite Imagery and Deep Learning'

Marcos Diaz Ramirez, Paolo Veneri and **Alexander Lembcke** (OECD)

'Where Did it Hit Harder? The Geography of Excess Mortality During the COVID-19 Pandemic'

## Workshop A: Measuring the Economy

Location: Auditorium C

Chair: Ed Palmer (Office for National Statistics)

**Sumit Dey-Chowdhury** (Office for National Statistics)

'Measuring the Economy' is an online textbook produced by the Office for National Statistics (ONS). It aims to explain key economic concepts and show how these apply in real life and can be measured, including the evolving challenges and opportunities. The session will cover:

- why the topic is important, with real-life examples of how the related statistics matter
- the statistics compiled and why they are measured

- how this is relevant to policymakers, economists and the wider public
- the latest controversies and issues
- current developments in compiling these statistics and likely future ones

## 10.30-11.00: Coffee

Location: Level 2 Foyer

## 11.00-12.15: Plenary Session II

Location: Auditoria B & C

Chair: Gary Koop (University of Strathclyde)

Chiara Criscuolo (OECD and London School of Economics)

'The Role of Telework for Productivity During and Post-COVID-19: Results from an OECD Survey among Managers and Workers'

## 12.15-13.30: Lunch

Location: Level 2 Foyer

## 13.30-15.30: Contributed Sessions J/K/L/M and Workshop B

Contributed Session J: Productivity, Labour and Wages  
Location: Level 3 Conference Room 3

Chair: Francois Lafond (University of Oxford)

**Yanwan Ji** (University of Warwick)

'Artificial Intelligence, Human Capital and Productivity Growth'

**Elodie Andrieu** (King's College London) and Malgorzata Kuczera (OECD and University of Cambridge)

'The Impact of the Minimum Wage on Education and Tech Skill Requirements in Jobs: Evidence from Job Vacancy Data'

Nicholas Bloom (Stanford University), **Takafumi Kawakubo** (London School of Economics), Charlotte Meng (National Institute of Economic and Social Research), Paul Mizen (University of Nottingham), Rebecca Riley (King's College London), Tatsuro Senga (Queen Mary University of London) and John Van Reenen (London School of Economics)

'Do Well Managed Firms Make Better Forecasts?'

Jangho Yang (University of Waterloo), Torsten Heinrich (University of Bremen), Julian Winkler, **Francois Lafond**, Pantelis Koutroumpis (University of Oxford) and J. Doyne Farmer (Institute for New Economic Thinking at the Oxford Martin School)

'Measuring Productivity Dispersion: A Parametric Approach Using the Lévy Alpha-Stable Distribution'

## Contributed Session K: Through the COVID-19 Pandemic Statistical Challenge Location: Auditorium C

Chair: Gueorguie Vassilev (Office for National Statistics)

Ellis Best, Niamh McAuley, **Craig McLaren** and Andrew Walton (Office for National Statistics)

'Recent Production Challenges in the Compilation of the UK National Accounts'

Omar Bamieh (University of Vienna) and **Lennart Ziegler** (University of Vienna)

'Are Remote Work Options the New Standard? Evidence from Vacancy Postings During the COVID-19 Crisis'

**Sophie Barrand**, Ellis Daniel, Sumit Dey-Chowdhury and Andrew Walton (Office for National Statistics)

'Meeting the Challenge of Economic Measurement During the COVID-19 Pandemic Through Extended Use of Administrative VAT Data and Implications for UK National Accounts'

Robynne Davies and **Gueorguie Vassilev** (Office for National Statistics)

'Understanding the Impacts on UK Human Capital Stocks During the Pandemic Period'

## Contributed Session L: Capital, Investment and Growth Accounting Location: Level 3 Conference Room 2

Chair: Oscar Lemmers (Statistics Netherlands)

Kevin Lee, **Michael Mahony** and Paul Mizen (University of Nottingham)

'Investment and Capacity Utilisation in a Putty-Clay Framework'

Pierre-Alain Pionnier, **Maria Belen Zinni** and Kéa Baret (OECD)

'A Sensitivity Analysis of Capital and MFP Measurement to Asset Depreciation Patterns and Initial Capital Stock Estimates'

**Ilias Kostarakos** (European Commission, JRC), Petros Varthalitis (Athens University of Economics and Business) and Kieran McQuinn (Economic and Social Research Institute)

'Is Ireland the Most Intangible Intensive Economy in Europe? A Growth Accounting Perspective'

**Oscar Lemmers** (Statistics Netherlands)

'Measuring the Economic Contribution of Firms and Activities in Terms of National Income'

## Contributed Session M: Nowcasting and Forecasting Location: Auditorium B

Chair: Martin Weale (King's College London)

**Tony Chernis** (Bank of Canada and University of Strathclyde)

'Combining Large Numbers of Density Predictions with Bayesian Predictive Synthesis'

Eiji Goto (University of Missouri-St. Louis), Jan P.A.M. Jacobs (University of Groningen) Tara Sinclair (George Washington University) and **Simon van Norden** (HEC Montréal)

'Employment Reconciliation and Nowcasting'

Joshua C. C. Chan (Purdue University), **Aubrey Poon** (Örebro University) and Dan Zhu (Monash University)

'Efficient Estimation of State-Space Mixed-Frequency VARs: A Precision-Based Approach'

**Martin Weale** (King's College London) and James Mitchell (Federal Reserve Bank of Cleveland)

'Censored Density Forecasts: Production and Evaluation'

## Workshop B: The Language of (Economic) Data is Visualisation

Location: Level 3 Conference Room 4 & 5

Workshop lead: **Dénes Csala** (Economics Observatory and University of Bristol)  
The Economics Observatory uses data visualisation as the main information support method to amplify and distil the analysis in our articles. This 2-hour workshop will introduce some of our guiding principles on visualisation, including how to select appropriate tools and methods for different datasets. It will also include a 'code along', where participants will have the opportunity to develop an interactive data visualisation using Vega-Lite.

Schedule: Places on this workshop are limited and by registration only. Participants will be notified in advance of the conference if they have a place and sent the schedule.

## 15.30-16.00: Coffee

Location: Level 2 Foyer

## 16.00-17.00: Panel Session II in collaboration with the Economics Observatory

Location: Auditoria B & C

Chair: Sam Beckett (Office for National Statistics)

Panellists: Johnny Runge (National Institute of Economic and Social Research), James Fransham and Ainslie Johnstone (The Economist)

'Communicating Data'

## 17.00-19.30: Poster Session and Drinks Reception

Location: Level 2 Foyer

Posters to be presented:

**Behzod Alimov** (Westminster International University in Tashkent)

'Private Debt, Public Debt and Capital Misallocation'

**Michelle Cheng** (Office for National Statistics)

'The Integrated Data Service: Using the Power of Data for the Public Good'

Diane Coyle and **Rehema Msulwa** (University of Cambridge)

'Digital Concrete'

Sharada Nia Davidson, **Kevin Connolly**, Ciara Crummey, Niccolò Brazzelli and Mairi Spowage (University of Strathclyde)

'Building a Suite of Subnational Socioeconomic Indicators for the United Kingdom: Opportunities, Challenges and Recommendations'

**David Freeman** (Office for National Statistics)

'Transforming the Labour Force Survey'

Winner of the Office for National Statistics Renaissance Prize: **Joel Harris, Joséphine Precetti** and **Thaïs Nuvoli** (London School of Economics)

'Should Measures of the Nation's Capital Stock be Expanded to Include Types of Assets that are Currently Excluded, and if so What Measurement Changes are Needed?'

Kim Huyn (Bank of Canada), Danny Leung (Statistics Canada), **Robert Petrunia** (Lakehead University) and Marcel Voia (University of Orleans)

'Investigating Heterogeneous Effects of the COVID-19 Pandemic on Canadian Firm Dynamics'

**Scott Kilbey** (Office for National Statistics)

'Data Sources - Representing their Quality and Influence on Statistics'

Andy King and **Abi Casey** (Office for National Statistics)

'Cost of Living - How ONS' Work is Informing the Narrative'

Gary Koop, Stuart McIntyre, **Ping Wu** (University of Strathclyde), James Mitchell (Federal Reserve Bank of Cleveland) and Aubrey Poon (Örebro University)

'Sub-Regional Nowcasting of Economic Growth in the UK'

Riikka Korhonen, **Holly Hickman** and **Rob Bucknall** (Office for National Statistics)

'Deflator Development: Exploring Quality Adjustment and Unit Value Indices'

**Alexandr Kulakov** (University College London)

'How Well is Productivity of the UK Construction Industry Measured on a Sectoral Basis'

**Josh Martin** (Bank of England) and Jon Franklin (Pro Bono Economics)

'Fuller Measures of Output, Inputs and Productivity in the Non-profit Sector: A Proof of Concept'

Cristina Lafuente and **Astrid Ruland** (European University Institute)

'Measuring Labour Market Participation in Europe During COVID: The Role of Short-Time Work Schemes'

**Bart Los** and Xianjia Ye (University of Groningen)

'Functional Specialization in Global Supply Chains and the Environmental Performance of Countries'

**Johnny Runge** (National Institute of Economic and Social Research) and Anna Killick (University College London)

'What can Economists Learn from Public Perspectives on the Economy and Economic Statistics?'

Cath Sleeman, Genna Barnett, **Karlis Kanders**, India Kerle, Joel Klinger, Adeola Otubusen and Jack Vines (Nesta)

'Open Jobs Observatory'

**Matthew Whipple** (Office for National Statistics)

'VAT Flash! Faster Estimates of the UK Economy'

**Peter Zadrozny** (Bureau of Labor Statistics)

'Cost-of-Living Index of an Estimated Generalized CES Utility Function that Accounts for Changes in Preferences for and Qualities of Goods'

# Friday 27 May

TIME	SESSIONS				
08.30 - 09.00	Registration. Tea and Coffee				
09.00 - 10.30	Special Session D: Measuring the Digital Economy (Auditorium B)	Special Session E: Are Traditional Periodic Seismic Shifts to New SIC & SOC Classification Systems Old-Fashioned? (Auditorium C)	Special Session F: Diagnostics of the UK Productivity Puzzle (Room 4 & 5)	Contributed Session N: COVID-19 II (Room 2)	Contributed Session O: Income and Wealth Inequality (Room 3)
10.30 - 11.00	Tea and Coffee				
11.00 - 12.30	Plenary Session III: The Green Economy and the Path to Net Zero Closing Remarks (Auditoria B & C)				

## 08.30-09.00: Registration and Coffee

Location: Level 2 Foyer

## 09.00-10.30: Special Sessions D/E/F and Contributed Sessions N/O

### Special Session D: Measuring the Digital Economy Location: Auditorium B

Chair: Anaïs Bauduin (Department for Digital, Culture, Media and Sport)

**John Mitchell** (OECD)

'The Development of Digital Supply-Use Tables'

**Clíodhna Taylor** (Office for National Statistics)

'A Framework for UK Digital Economy Statistics'

**Diane Coyle** (University of Cambridge)

'Are Digital-using UK Firms More Productive?'

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**Special Session E: Are Traditional Periodic Seismic Shifts to New SIC and SOC Classification Systems Old-Fashioned and can a Fully Dynamic Model of Classification be Viable as an Alternative?**

**Location: Auditorium C**

Chair: Iain Russell (Office for Statistics Regulation)

Panellists: Ed Humpherson (Office for Statistics Regulation), Suzanne Fry (Office for National Statistics) and Alex Craven (Data City)

**Special Session F: Diagnostics of the UK Productivity Puzzle**

**Location: Level 3 Conference Room 4 & 5**

Chair: Bart van Ark (The Productivity Institute and University of Manchester)

**Myungun Kim** (University of Cambridge) and Chander Velu (The Productivity Institute and University of Cambridge)

'Vertical Integration and Firm Productivity'

**Peter Goodridge** (The Productivity Institute and University of Manchester) and Jonathan Haskel (Bank of England, Imperial College London, Centre for Economic Policy Research and Institute of Labor Economics)

'Productivity and Innovation in the UK Market Sector at Detailed Industry Level'

**Colin Lindsay** (University of Strathclyde)

'Insights from ESRC PROPEL Hub'

**Contributed Session N: COVID-19 II**

**Location: Level 3 Conference Room 2**

Chair: Peter Levell (Institute for Fiscal Studies)

Carlo Corradini, Jesse Matheson and **Enrico Vanino** (University of Sheffield)

'How Important is Neighbourhood Labour Structure in the Spread of COVID-19? Within-city Evidence from England'

**Moatazbellah Farid** (University of Kent)

'Land Tax Holiday and House Prices: Evidence from the UK'

**Peter Levell** (Institute for Fiscal Studies) and Lars Nesheim (University College London)

'The Impact of 2020 Lockdowns on Consumer Welfare'

**Contributed Session O: Income and Wealth Inequality**

**Location: Level 3 Conference Room 3**

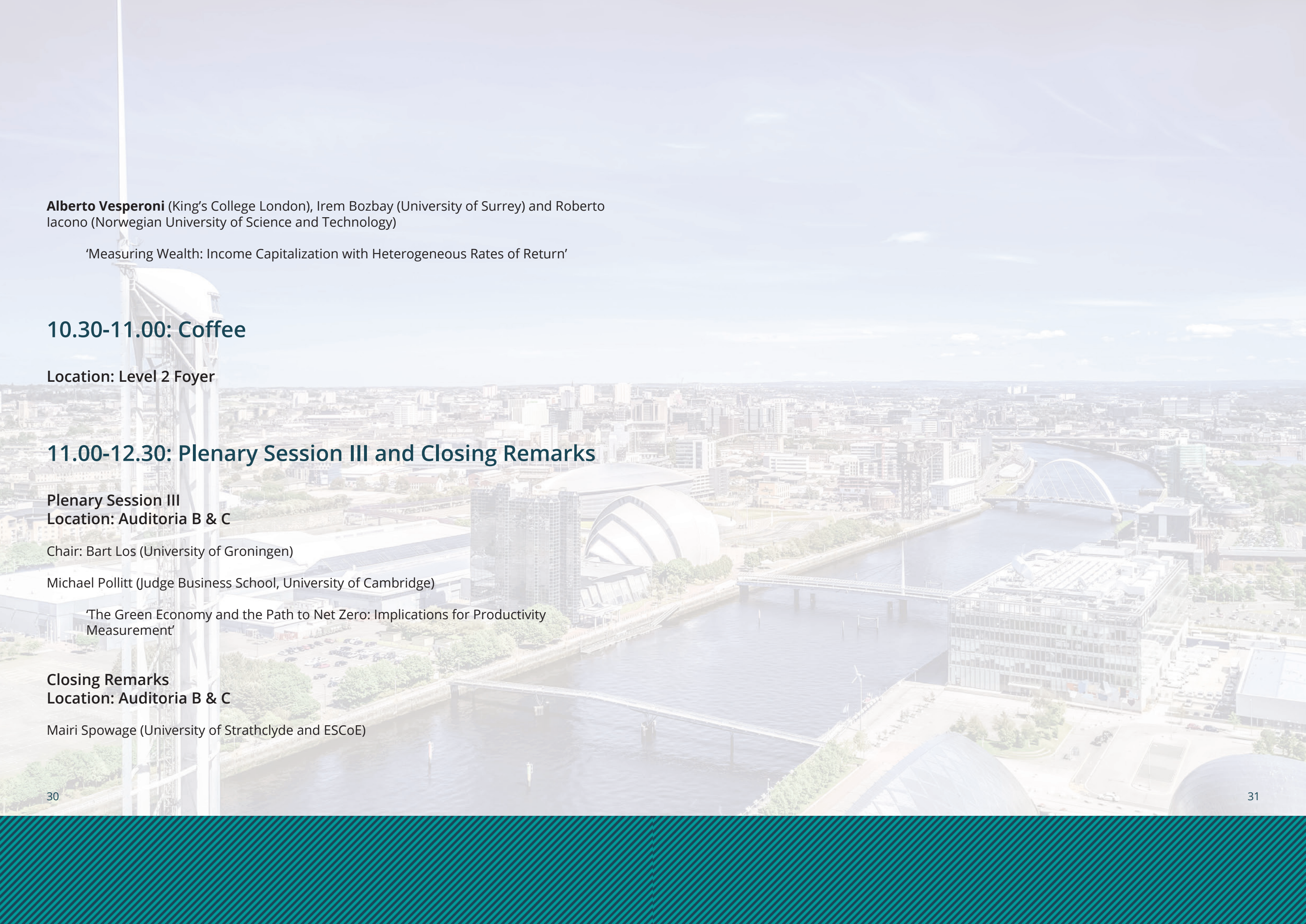
Chair: Alberto Vesperoni (King's College London)

Pierre-Alain Pionnier and **Johannes Schuffels** (OECD)

'Estimating Regional House Price Levels'

Luisa Corrado (University of Rome, Tor Vergata) and **Aicha Kharazi** (Free University of Bozen-Bolzano)

'Collateral, Household Borrowing, and Income Distribution'

An aerial photograph of a city, likely London, showing a wide river (the River Thames) flowing through the center. A large, modern stadium with a distinctive white, curved roof is prominent in the middle ground. The city skyline is visible in the background under a clear blue sky with some light clouds. The foreground shows a bridge crossing the river.

**Alberto Vesperoni** (King's College London), Irem Bozbay (University of Surrey) and Roberto Iacono (Norwegian University of Science and Technology)

'Measuring Wealth: Income Capitalization with Heterogeneous Rates of Return'

## 10.30-11.00: Coffee

Location: Level 2 Foyer

## 11.00-12.30: Plenary Session III and Closing Remarks

**Plenary Session III**

Location: Auditoria B & C

Chair: Bart Los (University of Groningen)

Michael Pollitt (Judge Business School, University of Cambridge)

'The Green Economy and the Path to Net Zero: Implications for Productivity Measurement'

**Closing Remarks**

Location: Auditoria B & C

Mairi Spowage (University of Strathclyde and ESCoE)



# Acknowledgements

## EM2022 Scientific Committee Co-chairs

Gary Koop (University of Strathclyde)  
Bart Los (University of Groningen)  
Sanjiv Mahajan (Office for National Statistics)

## EM2022 Scientific Committee

Diane Coyle (University of Cambridge)  
Rutger Hoekstra (MetricsForTheFuture.com and Leiden University)  
Juan Mateos-Garcia (Nesta)  
Stuart McIntyre (University of Strathclyde)  
Mairi Spowage (University of Strathclyde)  
Philip Wales (Office for National Statistics)

The EM2022 Scientific Committee and Co-chairs are very grateful to the following

### Programme Committee

Matthew Agarwala (University of Cambridge), Andrew Aitken (OECD), Torsten Bell (Resolution Foundation), Sharada Davidson (University of Strathclyde), Augustin de Coulon (King's College London), Isaac Denton (Office for National Statistics), Huw Dixon (Cardiff University and National Institute of Economic and Social Research), Adam Dutton (Office for National Statistics), Bram Edens (United Nations Statistics Division), Sian Evans (Office for National Statistics), Jack Fosten (King's College London), Fernando Galindo-Rueda (OECD), Daniel

Hain (Aarhus University), Susan Harkness (University of Bristol), James Healy (Office for National Statistics), Richard Heys (Office for National Statistics), Emma Hickman (Office for National Statistics), Hugo Hollanders (Maastricht University), George Kapetanios (King's College London), Kevin Lee (University of Nottingham), Michael Leftley (Office For National Statistics), Peter Levell (Institute for Fiscal Studies), Larissa Da Silva Marioni (National Institute of Economic and Social Research), Niamh McAuley (Office for National Statistics), Phillip McCann (University of Sheffield), James Mitchell (Federal Reserve Bank of Cleveland), Paul Mizen (University of Nottingham), Peter Mulder (TNO), David Nguyen (OECD), Raquel Ortega-Argiles (University of Birmingham), Ed Palmer (Office for National Statistics), Aubrey Poon (Örebro University), Stephen Roper (University of Warwick), Anna Rosso (University of Milan), Marianne Sensier (University of Manchester), Arho Suominen (VTT Technical Research Centre of Finland), Bart van Ark (The Productivity Institute and University of Manchester), Peter van de Ven (TNO), Ping Wu (University of Strathclyde) and George Zorinyants (Office for National Statistics)

### Organising Committee

ESCoE: John Barlow, Mercy Quaynor and Sarah Sheppard

Office for National Statistics: Nathan Birch, Emily Harris, Caroline Lewis, Sharon Shaw, and all who have provided additional assistance with hosting during the conference.

# Exhibitors

The following organisations and projects are exhibiting during the conference. Please take the opportunity to visit their stands in the Level 2 Foyer.



## The Economics Network

The Economics Network is the largest and longest-established academic organisation devoted to improving the teaching and learning of economics in universities.

It runs Europe's leading international economics education conference and offers training for early career lecturers and graduate teaching assistants, as well as bespoke workshops for university

departments. In addition, it provides a wide range of teaching and learning resources including a handbook, case studies, course materials and a list of datasets that can be effectively used for teaching or assessment.

Find out more at [www.economicnetwork.ac.uk](http://www.economicnetwork.ac.uk)



## The Economics Observatory

The Economics Observatory is an ESRC project established to provide balanced and accessible answers to the economic questions raised by challenges from COVID-19 to inequality and climate change. It aims to bridge the gap between academic research, government policy and the general public.

It publishes articles or data pieces on a daily basis and ECO magazine twice a year, past issues of which have focused on the COVID-19 pandemic and the climate crisis. The Observatory's data hub includes live and interactive charts and visualisations of headline metrics from unemployment and inflation to COVID-19 cases, bitcoin price and energy costs.

Find out more at [www.economicsobservatory.com](http://www.economicsobservatory.com)



## The Fraser of Allander Institute (FAI)

The Fraser of Allander Institute (FAI) is an economics research institute based in the Department of Economics at the University of Strathclyde. The FAI entered Scottish public life in 1975. In the 40+ years since, it has become established as a leading independent economic research institute focused on the Scottish economy. We undertake high quality applied economic research that has real-world impact through

knowledge-exchange projects for government, business, and the third sector. Our research areas include: poverty and inequality; devolved economic policy analysis; regional economic statistics; environmental and energy analysis; and economic modelling.

Web: <https://fraserofallander.org/>

Twitter: @Strath\_FA1 LinkedIn: <https://www.linkedin.com/school/fraser-of-allander-institute/>



## Historical Data UK

Historical Data UK is an online repository of historical datasets and statistical publications with its own dedicated section on ESCoE's website ([escoe.ac.uk/research/historical-data](https://escoe.ac.uk/research/historical-data)). The project is a joint initiative between ESCoE, the Office for National Statistics (ONS) and the Bank of England, which aims to make historical statistics more available to researchers and the general public. As well as being a new 'standalone' repository of historical British data and relevant statistical

publications, UK Historical Data is also a hub that links to other data websites and sources. The focus was initially on macroeconomic and financial market data but the site is now increasing its coverage of disaggregated economic data at a sector, industry and regional level. It includes 15 different thematic sections, each covering a particular subset of data. These cover a broader set of themes, which now also include historical data on climate change, regional data and international data. There are also dedicated sections on capital and productivity, on financial accounts, and on balance sheets.



## The National Institute of Economic and Social Research (NIESR)

NIESR is Britain's longest established independent research institute, founded in 1938 by a group of major social and economic reformers including John Maynard Keynes and William Beveridge. It is independent of all party-political interests and receives no core funding from government or other sources. In fulfilling its aim to improve the public's understanding

of the way that economic and social forces impact on their lives, and the ways in which policy can bring about change, it produces quarterly forecasts on both the UK and global economies together with an academic journal – The National Institute Economic Review. These seminal publications complement its wider work researching and modelling macroeconomic policy – the big picture – and public policy as they relate to regions, sections of society and households.



## Office for National Statistics (ONS): 'Measuring the Economy'

'Measuring the Economy' is an online textbook produced by the Office for National Statistics (ONS). It aims to explain key economic concepts and show how these apply in real life and can be measured, including the evolving challenges and opportunities in measuring the modern economy. We hope this material will help in enhancing the wider capabilities of

economics students, particularly at undergraduate and early graduate stages, as part of their journey into becoming professional economists. We have produced much of the teaching material, covering the theory and practice of how we measure gross domestic product (GDP), price inflation, the labour market to name a few. We are keen to show the efforts of our work so far as well as how we can collaborate with the academic profession in delivering how this textbook might be taught, including how this material can help in developing broader communication and analytical competencies.



## Office for National Statistics (ONS): Transformation

Ambitious, radical, sustainable and inclusive:  
Transforming economic statistics

The ONS Economic Statistics stand will provide information about the transformation journey underway within economic statistics at ONS, and how we are working towards our goals of producing higher quality, more granular statistics

that better meet user needs, as well as meeting the emerging challenges of measuring the modern economy. We will share details of key areas of development, including: Household Finance; Business Statistics; Prices; Labour Market; Public Sector; National Accounts Improvements; Financial Sector Accounts; Trade & Investment; and Subnational Data.

We'll also highlight opportunities for delegates to feedback and get involved, as well as key contacts for the different development areas.

The logo for The Productivity Institute, consisting of three overlapping horizontal bars in red, blue, and teal, with the text "THE PRODUCTIVITY INSTITUTE" overlaid in white.

THE  
PRODUCTIVITY  
INSTITUTE

## The Productivity Institute

The Productivity Institute is a nation-wide research institute focusing on identifying the causes of the stagnation in UK productivity and making proposals for solutions, with strong regional engagement with stakeholders across the whole country. The Institute is funded by the ESRC and headquartered at Alliance Manchester Business School. The research programme involves a collaboration of ten academic

partners across the UK, including ESCoE. The engagement programme is carried by eight business-led Regional Productivity Forums and the policy-focused Productivity Commission. One of the Institute's initiatives will be the launch of a Productivity Laboratory, which aims to become a one-stop shop providing access to productivity-related data sets as well as support new data initiatives in this field. Find out more at [www.productivity.ac.uk](http://www.productivity.ac.uk).

# About ESCoE

Economic statistics are fundamental to evidence-based policy making and the decisions we all make. To serve their purpose they need to keep up with constantly changing economies, drawing on new data sources and the best available methods. This calls for a creative, research-led approach to maintaining and developing them.

ESCoE is all about bringing to the fore this research-led approach to measuring the economy.

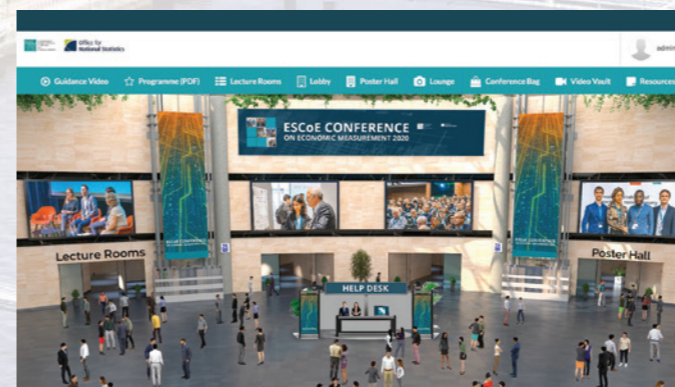
Established in 2017 with the support of the UK Office for National Statistics, ESCoE is the UK's first-ever dedicated academic centre of expertise for economic measurement and one of just a handful around the world. Its foundation followed the recommendations of the Independent Review of UK Economic Statistics by Professor Sir Charles Bean, published March 2016. This Review recommended that "in conjunction with suitable partners in academia and the user community, ONS should establish a new centre of excellence for the analysis of emerging and future issues in measuring the modern economy".

The Centre's ambition is to be an international point of reference for measurement research, supporting cultural change in the delivery of economic statistics.

Our approach is clear. It involves building expertise, increasing collaboration between statistics producers, academia, policymakers and other data users, and raising the profile of economic measurement issues. We do this by addressing both theoretical and practical questions that arise in describing the modern economy, relying on our large international network of Research Associates and Affiliates, and investing in the next generation of experts. We carry out our research in dialogue with statistics producers and promote constructive discussion through workshops and conferences.

There are many people involved in delivering our research programme. We bring together a partnership of over thirty UK and international institutions, including our host partner the National Institute of Economic and Social Research (NIESR) and our other founding partners Fraser of Allander Institute (University of Strathclyde), King's Business School (King's College London), innovation foundation Nesta, University of Cambridge and Warwick Business School (University of Warwick).

Visit [escoe.ac.uk](http://escoe.ac.uk) for more information on our research, people, events, about ESCoE, contact details, and news and blogs.



# Information

## The Technology & Innovation Centre (TIC)

The Technology & Innovation Centre (TIC) was officially opened by Her Majesty The Queen and His Royal Highness The Duke of Edinburgh in July 2015.

### Address

Technology & Innovation Centre  
99 George Street  
Glasgow  
G1 1RD

### Main reception

+44 (0) 141 444 7000  
TIC-reception@strath.ac.uk

### Wifi

Select 'TIC Conferences' and enter the password Tollcross

### Transport

#### Bike

Secure bike racks are available around the perimeter of the building.

#### Bus

- Buchanan Bus Station is 0.6 miles away, with frequent services to Glasgow International Airport.
- A direct bus connection to Glasgow International Airport is also available from North Hanover St, outside Queen St Station, every 15 mins. This is about an 8 minute walk away and the single fare is approximately £8. The journey time is around 20-30 minutes.

#### Car

- Discounted parking is available nearby – validate your ticket/token at TIC Reception for 24hr City Parking Duke Street, G4 0UW (0.3 miles) – capped at £5 per day.
- Download the ParkPass app for discounted parking at 24hr NCP Montrose Street, G1 1RS (0.2 miles) – capped at £7 for 12 hrs. Register with the code GVTR4X. Scan the QR code with the app on entry to the car park rather than taking a ticket to receive your discount.
- The most suitable car park for those with accessibility needs is 24hr City Parking Duke Street.
- Electric vehicle charging points are available at 24hr City Parking Duke Street.
- Blue badge holders may park free of charge at on-street parking meters and on-street pay and display areas – please visit Glasgow City Council's website for more information.
- Parking prices correct at January 2021.

#### Rail

The closest railway stations are:

##### National Services

- Queen Street (0.4 miles), 7 minute walk
- Glasgow Central (0.9 miles), 14 minute walk

##### Local Services

- High Street (0.1 miles), 4 minute walk
- Queen Street (0.4 miles), 7 minute walk
- Argyle Street (0.6 miles), 10 minute walk
- Glasgow Central (0.9 miles), 14 minute walk
- Buchanan Street Underground is an 8 minute walk away

#### Taxi

TIC staff at Reception will be happy to order taxis on demand for delegates.

**On Twitter: @ESCoEorg #econstats2022**  
**Online: [escoe.ac.uk](http://escoe.ac.uk)**

