

How Real-time Indicators can be used to add context for Official Statistics

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National Accounts Coordination Division

UNECE Session 2 - New developments in
communication, globalisation and digitalisation
Tuesday, 17th May 2022



Overview

- History and background
- Impact of COVID-19
- Identifying real-time indicators and their appropriateness?
- Stakeholder engagement
- Dissemination: then and now
- Quality dimensions
- User feedback
- Future work on the horizon

What instigated the need for “Big Data” and Real-time data

- Professor Sir Charles Bean: London School of Economics and Political Science
- Big Data
- Innovation
- Real-time data
- Data Science Campus
- Coronavirus

Impact of COVID-19 on surveys at the ONS

Businesses shut down

Coronavirus Job Retention Scheme

Work from home

Suspension of enforcement

Lower response rates

Some of the surveys affected were:

- Monthly Business Survey
- Construction Outputs Survey
- Labour Market Survey
- Prices surveys

Two new surveys introduced

Business

Business Impact of Coronavirus (BICS)

- Initial sample of 17,786
- Initial response rate of 25-35%
- Industry and regional coverage
- 10-15 number of questions

Individuals

Opinions and Lifestyle Survey (weekly)

- Sample of 2,000 individuals
- Initial response from 70-80%
- Boosted to 4,000 response to enable greater regional and demographic
- Approx. 30 mins long, COVID focus

Two key surveys transformed further

Business

Business Insights and Conditions Survey (BICS)

- Sample ramped up to 39,000
- Response rate of approx. 25%
- Industry and regional coverage
- 80 questions, peaking at approx. 90

Individuals

Public Opinions and Social Trends Survey (fortnightly)

- Sample of 5,000 individuals
- Response rate of 50% (no £ incentive to ensure sustainability)
- Regional and demographic coverage continues by pooling waves of data
- Approx. 20 mins long, wider continuing policy relevant focus

Further “timely” sources for information

- UK flights (EUROCONTROL) ^{d, w}
 - Online job adverts by region and industry (Adzuna) ^{d, w}
 - Seated diner restaurant reservations (OpenTable) ^{d, w}
 - Retail footfall by category (Springboard, BEIS) ^{d, w}
 - Traffic camera data: vehicles and pedestrians (ONS) ^d
 - GB motor vehicle traffic by type (Department for Transport) ^d
 - UK ship visits by category (exactEarth, ONS) ^{d, w}
 - Google mobility data ^{d, w}
 - Company incorporations and dissolutions (Companies House) ^w
 - CHAPS spending on debit and credit cards (Bank of England) ^{d, m}
 - Value Added Tax turnover and expenditure diffusion indexes (HMRC) ^{m, q}
- ← Third party data suppliers
- ← Data science methods
- ← Administrative data

Source: ONS - *Economic activity and social change in the UK, real-time indicators* * Note: (d) daily, (w) weekly, etc.

Working with other government departments

Quality Assurance Group

Department for Transport

Bank of England

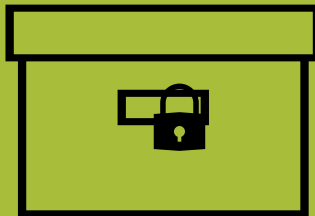
Department for Environment, Food
and Rural Affairs

Her Majesty's Revenue and
Customs

Department for Trade

Her Majesty's Treasury

Fiscal Commission



Devolved Administrations

NISRA

Scottish Government

Welsh Government



Task forces set up to tackle specific issues:

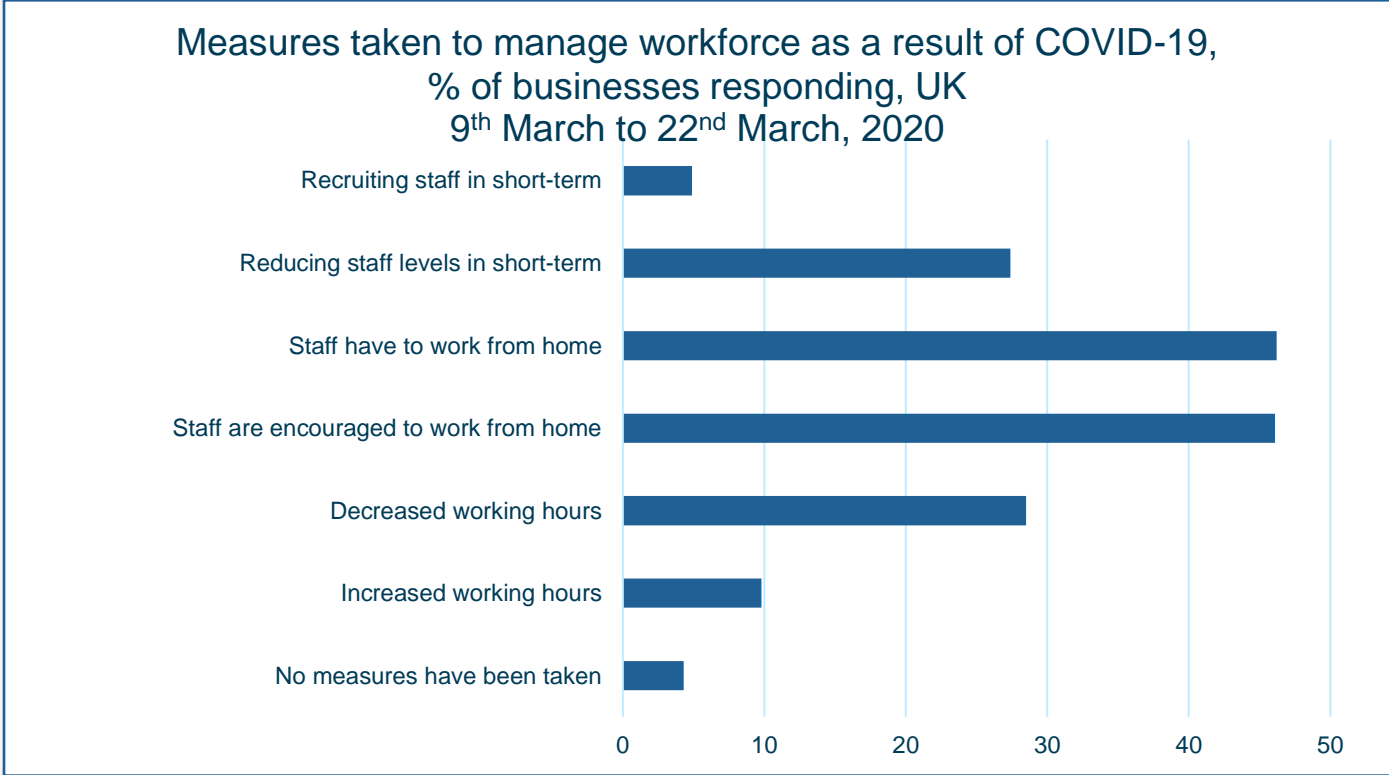
Supply Chains Crisis

Brexit and Trade through EU

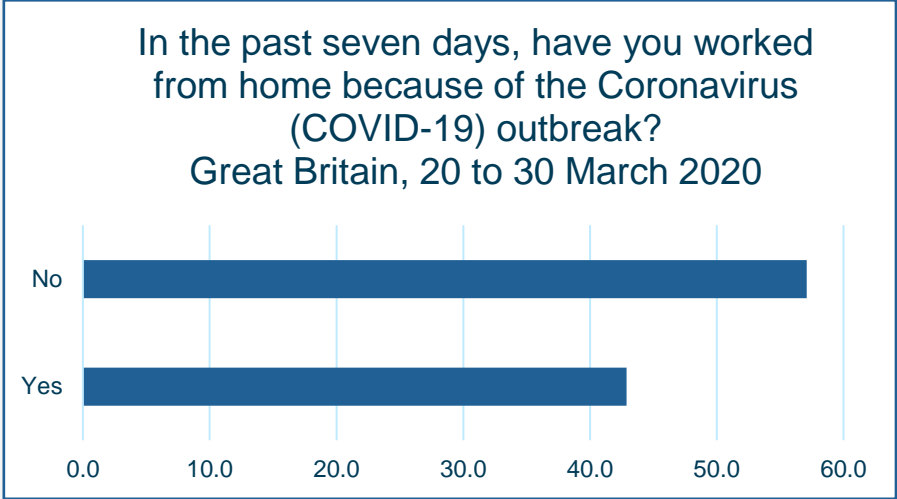
Cost of Living



Communicating results: Then



Source: Business Impact of Coronavirus Survey, Office for National Statistics



Source: Opinions and Lifestyle Survey, Office for National Statistics

Communicating results to a wide range of audience: Now

Real time indicators span across 4 main themes

Business Insights and Workforce

Weekly	Monthly
Business Insights and Conditions Survey (BICS)	VAT administrative dataset
Incorporations and Dissolutions	XERO: Small business resilience
Online job adverts	HR1 Redundancies

Transport

Weekly	Monthly
Roads sensor data	Vehicles around ports
Traffic Cams	
Shipping visits	
Flights to and from UK	

Consumer Behaviour

Weekly	Fortnightly
Restaurant seated diners	OPN Survey results
Google Mobility	Shelf availability *
Pret A Manger Index	
CHAPS card payments	
Retail Footfall *	

Energy and Housing

Weekly
Energy Performance Certificates
Wholesale gas prices

Communication outlets for real-time indicators

Weekly Bulletin

Home > Economy > Economic output and productivity > Output > Economic activity and social change in the UK, real-time indicators

Economic activity and social change in the UK, real-time indicators: 5 May 2022

Early experimental data and analysis on economic activity and social change in the UK. These faster indicators are created using rapid response surveys, novel data sources, and experimental methods.

This is the latest release. [View previous releases](#)

Contact: [Emelia D'Silva-Parker](#) Release date: 5 May 2022 Next release: 12 May 2022

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[View all data used in this statistical bulletin](#)

Contact details for this statistical bulletin

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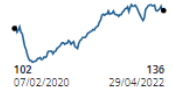



1. Main points

- Consumer behaviour indicators show growth in UK credit and debit card purchases (by 6 percentage points), with growth in all spending categories, while Google Mobility data shows growth in

Dashboard

2. Latest indicators at a glance

Business insights and workforce Transport Consumer behaviour Energy and housing

Indicator	Latest data compared with previous period	Latest data compared with equivalent period the previous year	Latest data compared with pre-coronavirus (COVID-19) baseline	Timeline
Total online job adverts Source Units	2%▲	29%▲	36%▲	
Potential redundancies Source Units	-3pp▼	7pp▲	-15pp▼	
Employers proposing redundancies Source Units	-2pp▼	-3pp▼	-24pp▼	
Company incorporations Source Units	9%▲	4%▲	14%▲	

Datasets

Dataset

Daily UK flights

Contact: [Emelia D'Silva-Parker](#) Release date: 05 May 2022 Next release: 12 May 2022

About this Dataset

Experimental daily UK flight numbers and rolling seven-day average, including flights to, from, and within the UK.

Edition in this dataset

Current edition of this dataset

[xlsx \(51.3 KB\)](#)

i Previous versions of this data are available.

API's - Developer Hub: developer.ons.gov.uk **BETA**

Experimental indicators user and compiler guidance

1. How to interpret experimental statistics
2. Labelling experimental statistics
3. Why we publish experimental statistics
4. Experimental statistics evaluation*

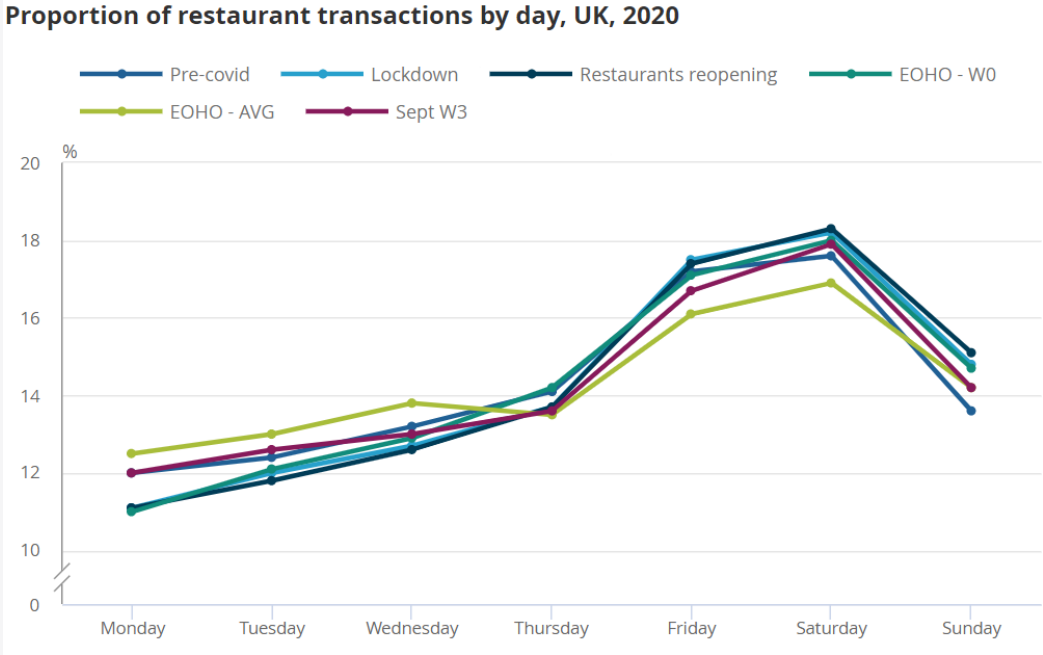
*These are short-term real-time indicators and not national accounts statistical concepts

Communicating quality

Dimension	Key questions for real time indicators
Relevance	Do they meet users' needs? Are there significant gaps?
Accuracy and reliability	How close are estimates to true value? How consistent?
Timeliness	Time lag between period estimated and release date?
Coherence and comparability	Can they be reliably combined in different ways or uses? How do they compare between regions, sectors, over time?
Accessibility and clarity	Easy to obtain? Fomats? Metadata? Easy to understand?
Granularity and richness	Does the level of detail enable you to drill down? Are there a lot of variables for analysis?

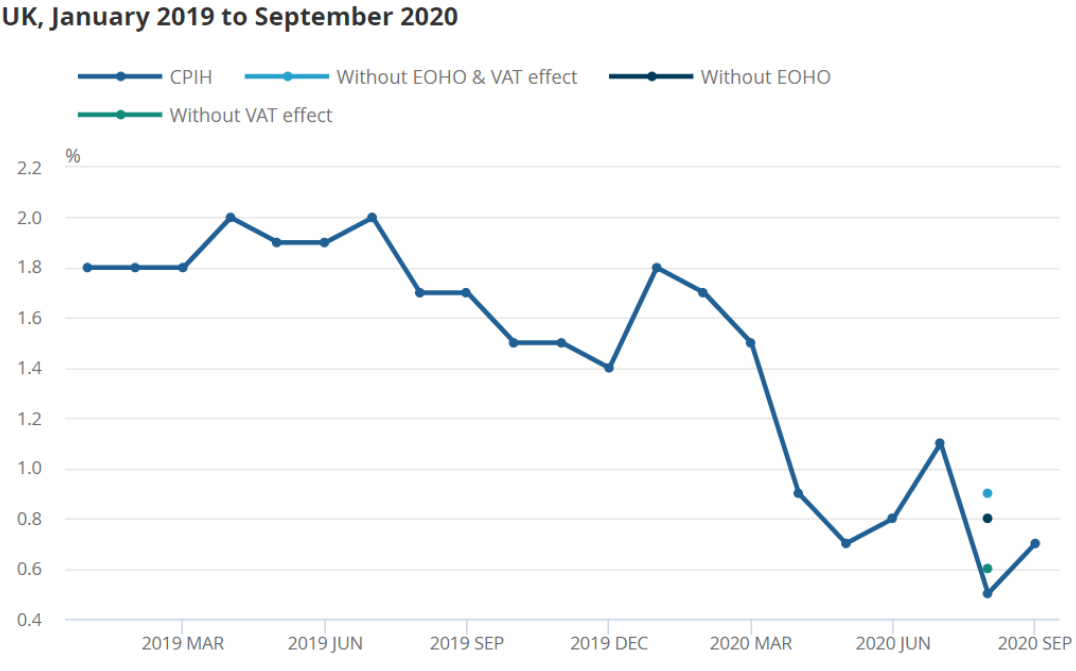
Real-time financial transactions data help inform adjustments for CPIH

Figure 1: A higher proportion of transactions were on Monday to Wednesday in August than in other periods



Source: Revolut and Office for National Statistics

Figure 3: 12-month growth rates of CPIH and CPIH removing the effects of Eat Out to Help Out and the VAT reduction pass through



Source: Office for National Statistics – Consumer Prices Index including owner occupiers’ housing costs

User feedback / Different strands of communication

Businesses

- CIPD Training firms
- Law firms
- Accountancy

Academia

- Economic Statistics Centre of Excellence (ESCoE) projects
- Researchers

Media

- Print
- Radio
- Television
- Social media

Enquiring citizen

Future work

- Shipping indicators of trade and supply chains
- Improved job market indicators
- Expenditure data to measure the digital economy
 - CHAPS
 - Foreign issued card spend data used by IPS
 - Financial transactions data to help meet government needs
 - Secondments to the ONS (Alan Turing Institute / ESCoE)
- Integrated Data Platform

Thank you

Any questions?

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