

Civil service wellbeing over time

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Photo credit: Nicholas Capello (Unsplash)

About the author

Michael is Interim Head of Evidence at the What Works Centre for Wellbeing and a Professor of Public Policy at Kings College University's Policy Institute. His research has three main strands: the use of causal methods and particularly randomised trials to evaluate policy interventions, the use of behavioural science in policy design, and increasing social mobility and opportunity.

Michael has previously served as the Founding Chief Executive of What Works for Children's Social Care, and Chief Scientist at the Behavioural Insights Team, where he has led diverse teams of researchers, policy specialists and practitioners to improve outcomes for vulnerable people in the UK and overseas.

He holds an MSc in Economics and Public Policy, and a PhD in Economics, both from the University of Bristol. He previously taught public policy analysis at the University of Bristol, worked as a Teaching Fellow at the University of Bath, and has completed post-doctoral research at the Harvard Kennedy School of Government.

About the What Works Centre for Wellbeing

We are an independent collaborating centre and the aim of our work is to improve wellbeing and reduce misery in the UK. We believe that this is the ultimate goal of effective policy and community action.

By accelerating research and democratising access to wellbeing evidence, we develop and share robust evidence for governments, businesses, communities and people to improve wellbeing across the UK.

Introduction

Employee wellbeing is an important concern for employers. An unhappy and unmotivated workforce is likely to experience greater absence, turnover, and lower productivity than one that has higher wellbeing.

Collecting and analysing workplace wellbeing data provides an insight into how staff wellbeing is affected across organisations and type of work, over time, and in the context of the wider world.

Through the Civil Service People Survey¹, the UK government has collected wellbeing data in the civil service with results available from as far back as 2014. This provides valuable insight into employee wellbeing in different government organisations before, during and through recovery from the pandemic. In this short paper, we consider:

1. How civil service wellbeing has changed through the pandemic, and since the survey started;
2. Whether the experience of the pandemic has been the same across the civil service, and;
3. Whether civil service wellbeing has recovered from the pandemic, and how different departments are affected.

¹ <https://www.gov.uk/government/collections/civil-service-people-surveys>

Civil service wellbeing: how has it changed through the pandemic?

Our first analysis looks at how wellbeing has changed over the last few years. The pandemic is likely to have had a major impact on the subjective wellbeing of civil service employees, as it has across the nation as a whole. We also expect 2021 to be different to 2020, and potentially different to pre-pandemic trends as well.

This dataset is valuable not just for understanding wellbeing in the civil service, but also across the country; not necessarily because civil service wellbeing is representative, but because the response rate for the civil service people survey is high, compared to many other surveys.

To investigate both the overall trends and the two 'outlier' years of 2020 and 2021, we conduct a basic linear regression analysis, in which departmental wellbeing is regressed on a pre-pandemic trend, and in which 2020 and 2021 appear separately as binary indicators for those years.

Through this analysis, we are able to compare the average proportion of people scoring highly on the four wellbeing questions asked in the civil service people survey. For the first three of these indicators (life satisfaction, worthwhile and happiness), a higher score is better, while for anxiety, it is worse. The results of a straightforward OLS regression made on these data can be found below.

Table 1: Changes in wellbeing among civil servants, comparing 2020 and 2021 with the pre-pandemic trend

	Life satisfaction	Worthwhile	Happiness	Anxiety
2021	-0.031*** (0.008)	-0.017* (0.007)	-0.018* (0.007)	0.092*** (0.007)
2020	-0.082*** (0.007)	-0.045*** (0.006)	-0.057*** (0.007)	0.149*** (0.006)
Pre-pandemic trend 2014-2019	0.005*** (0.001)	0.002* (0.001)	0.002* (0.001)	-0.042*** (0.001)
Regression constant	0.636	0.698	0.613	0.589
N	832	832	832	832

Notes: * = $p < 0.05$ ** = $p < 0.01$ *** = $p < 0.001$

Data used are drawn from HMG departmental breakdowns of Civil Service People Surveys from 2014-2021. Huber-White Robust standard errors in parentheses.

What are p-values?

P values denote whether the difference between two numbers is 'statistically significant'. They relate to the confidence with which we are able to reject the null hypothesis of no effect. In the regression results shown above, this denotes whether the value attached to a variable (for example, the trend) is significantly different from zero.

Continued on next page.

If the difference is statistically significant, for example at the $p < 0.05$ level, denoted by a single *, then we are 95% confident that the number is greater than 0.

In the case of the trend in life satisfaction, we see that life satisfaction is rising over time. The point estimate is 0.005, and this is statistically significant at $p < 0.001$. This does not tell us how likely 0.005 is to be the correct value - instead, it only confirms that we are confident that the trend is in an upward direction.

The analysis indicates positive wellbeing trends pre-pandemic, with:

- The proportion of civil servants with high life satisfaction rising by 0.5% point per year.
- The proportion with high happiness and worthwhile scores rising by 0.2% points per year.
- The level of anxiety falling on average by 4.2% per year.

These trends are slower than we observe in the general population (see for example our recent paper on wellbeing trends across local authorities), but are nonetheless encouraging.

The pandemic has overturned these trends. In 2020:

- Life satisfaction fell by 8.2% points, overturning the equivalent of 16 years at pre-pandemic trends.
- Worthwhile and happiness experienced smaller percentage points drops (4.5% point and 5.7% point respectively), but due to the slower pre-pandemic growth, this is the equivalent of more than 20 years progress for those measures.
- Anxiety experienced the largest change, rising by 14.2% points in 2020.

For 2021, all four wellbeing indicators were significantly worse than pre-pandemic levels, but significantly better than 2020 levels:

- For life satisfaction, worthwhile and happiness, approximately two thirds of the proportion of high wellbeing lost in 2020 is recovered by 2021.
- For anxiety, recovery has been slower. Around a third of the proportion of the 2020 increase in high anxiety has been recovered by 2021.

We can now look at these data graphically to help us to evaluate the changes compared to prior trends. This panel data is not balanced - there are fewer departments' data earlier in the time series, and some departments move in and out of measurement (one prominent example is the Test and Trace service, which for obvious reasons first appears in 2020).

The graphs below show averages across all departments reporting (without weighting for department size), from 2014-2021. As with the regression results, there is a clear trend - things got substantially worse in 2020 - reaching their worst level on record for 3 of the 4 indicators, but we see substantial average recovery in 2021.

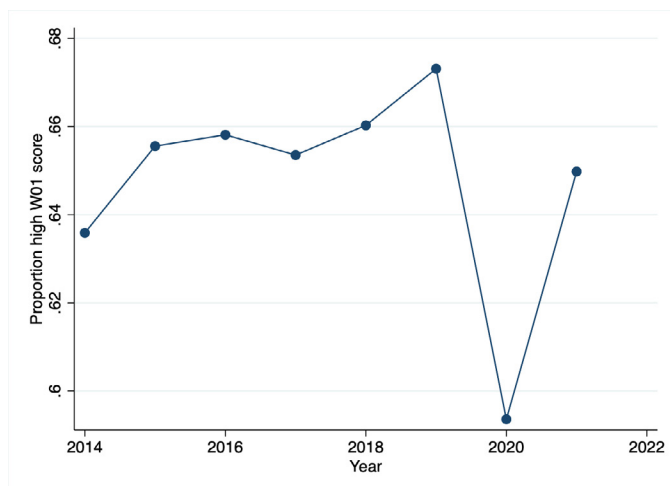


Figure 1: Changes in proportion of civil servants with high life satisfaction over time

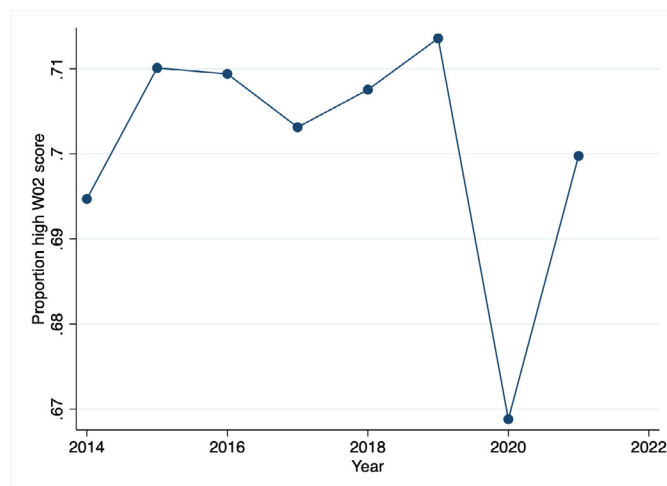


Figure 2: Changes in proportion of civil servants with high worthwhile over time

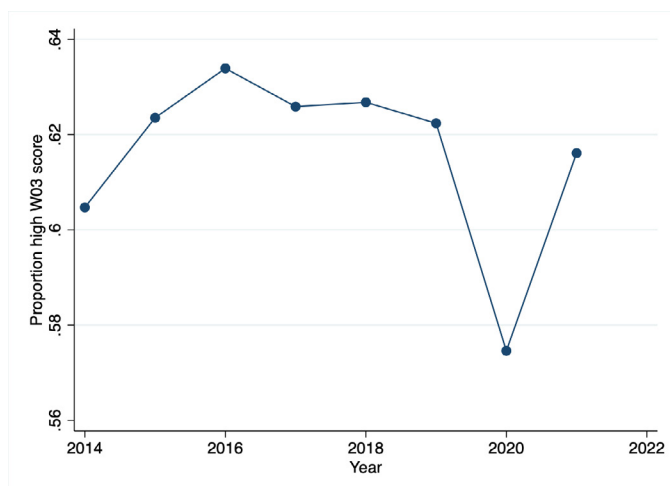


Figure 3: Changes in proportion of civil servants with high happiness over time

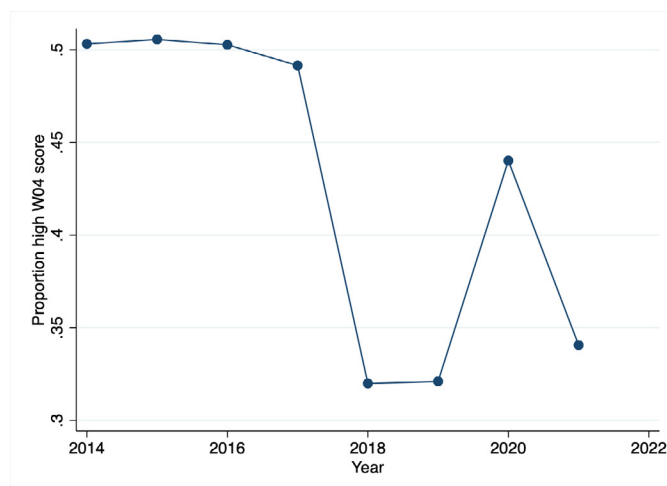


Figure 4: Changes in proportion of civil servants with high anxiety over time

Were changes uniform across the civil service?

On average, the civil service has experienced declines in wellbeing over the pandemic. We want to understand if these are uniform, or whether activities of specific departments had a greater or worse impact on wellbeing and recovery. This could shed insight on how to manage recovery more broadly.

To do this, we establish an unbalanced panel within our data, and look at changes within the same cluster over time. We take the first difference of each of our measures, between 2019 and 2020 – that is, how much the scores change for these four measures in that cluster over that twelve months. These are then mapped in kernel density plots, which can be found below.

The results show a central tendency towards worsening situations. However, there is some measure of spread, with each of the values having some values that fall on the other side of the origin to the central tendency. Different measures have different levels of spread. Only the results of question W04 (anxiety), do not exhibit significant levels of

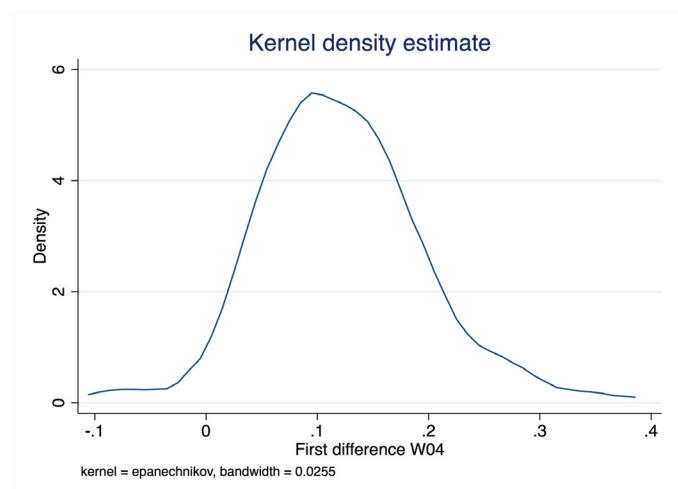
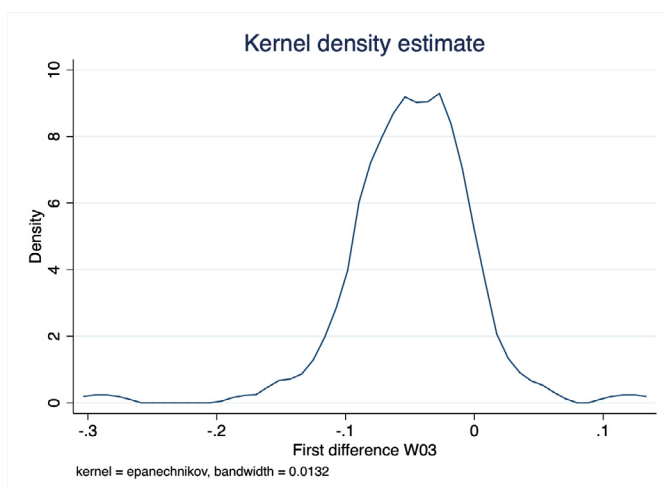
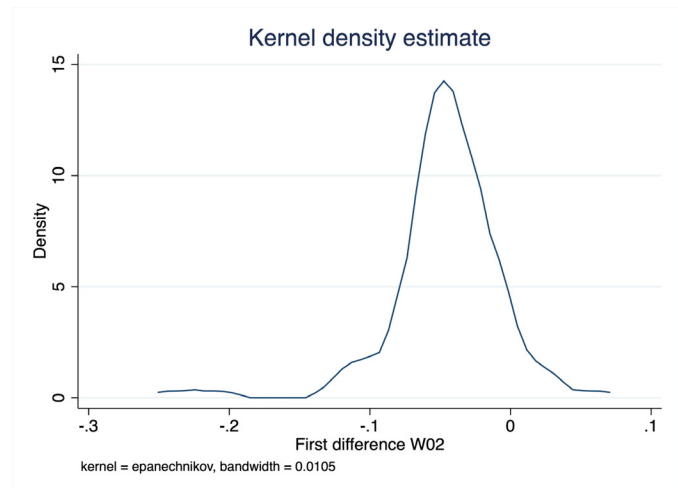
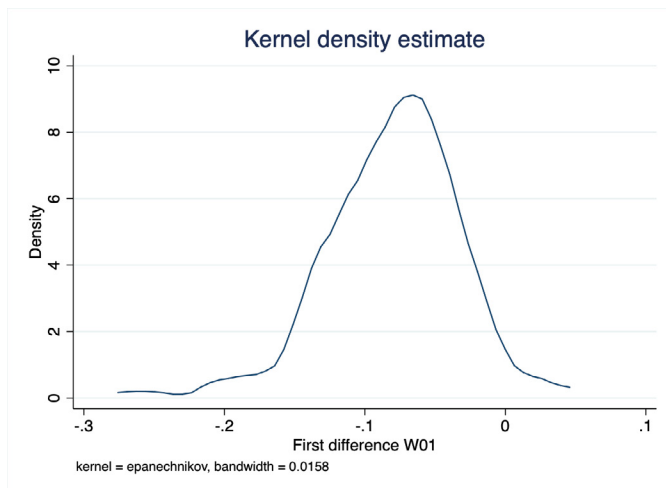
skewness and kurtosis compared to the normal distribution.

What does a Kernel Density Plot show?

A kernel density plot maps the distribution of a numeric variable using a continuous curve. For any given value on the variable (shown on the x axis), the height of the graph shows the density of the distribution at that point.

Where the y axis value is high, there are lots of people around values of the variable. Where the y axis value is low there are fewer people around values of the variable. Where the y axis is twice as high at some value than it is around some other value, that means there's about twice as many people with the first value than the second.

The area under the curve sums to 1, and so we can derive the proportion of people with values of the variables between x_1 and x_2 , as the integrand of the curve between x_1 and x_2 .



Another, more binary indicator of experiences across departments is to consider how many clusters have negative first differences on all of the measures, and how many have positive first differences on all of the measures.

90 clusters, of 105 for which first differences can be calculated, have negative first differences across all four measures. No clusters have positive first differences scores

across all four questions. Relaxing this condition to three positive first differences – only one, the Veterinary Medicines Directorate, makes the cut. This means that the people working at the Veterinary Medicines Directorate experienced increases in wellbeing during pandemic on three measures (all but anxiety), and is the only department to do so.

Levels of change in wellbeing

On average, the pandemic was negative for civil service wellbeing. However, as seen in the kernel plots, there was substantial heterogeneity across departments indicating that changes in wellbeing are not uniform.

Therefore, it is helpful to ask: which departments experienced the biggest drops in each measure; which experienced the smallest drops in each measure, and which have bounced back the quickest in 2021. The next three tables report the 'top ten' departments for each of these four wellbeing measures.

Table 2: Departments experiencing biggest drops in wellbeing during the pandemic

Position	Life satisfaction	Worthwhile	Happiness	Anxiety
1	Disclosure Scotland	Office of the Scottish Charity Regulator	Office of the Scottish Charity Regulator	UK Debt Management
2	Education Scotland	Revenue Scotland	Education Scotland	HM CPS Inspectorate
3	Government Legal Department	Disclosure Scotland	Revenue Scotland	Wilton Park
4	Office of the Scottish Charity Regulator	Public Health England	Disclosure Scotland	Estyn ²
5	Public Health England	Education Scotland	Public Health England	Her Majesty's Inspectorate of Constabulary
6	Revenue Scotland	Scottish Courts and Tribunals Service	Scottish Courts and Tribunals Service	National Crime Agency
7	Scottish Courts and Tribunals Service	Government Internal Audit Agency	Government Legal Department	Scottish Prison Service
8	Scottish Housing Regulator	Medicines and Healthcare products Regulator	Estyn	Education Scotland
9	Charity Commission	Government Legal Department	UK statistics authority	Ministry of Defence
10	Crown Office and Procurator Fiscal Service	DCMS	Her Majesty's Inspectorate of Constabulary	Scottish Housing Regulator

There is a marked drop in wellbeing in Public Health England during a public health crisis, although Public Health England does not appear in the worst increases in anxiety. The same logic might be applied to the Medicine and Healthcare Product Regulator.

² Welsh inspectorate for schools

Others, however, are less obviously pandemic-related. The two biggest trends that we can identify here are firstly that the regulators and inspectorates appear to have been particularly badly affected. Second, Scottish departments appear to have had an especially difficult 2020, making up between three and seven of the top ten drops in wellbeing. It should be noted that Scottish departments had slightly higher rates of wellbeing on most measures prior to the pandemic.

Table 3: Departments experiencing smallest drops in wellbeing during the pandemic

Position	Life satisfaction	Worthwhile	Happiness	Anxiety
1	Veterinary Medicines Directorate	National Infrastructure Commission	HM CPS Inspectorate	The National Archives
2	Criminal Injuries Compensation Authority	HM CPS Inspectorate	Veterinary Medicines Directorate	HM Treasury
3	Driver and Vehicle Standards Authority	Maritime and Coastguard Agency	Attorney General's Office	DCMS
4	UK Hydrographic Office	Attorney General's Office	UK Hydrographic Office	DEFRA
5	National Infrastructure Commission	Veterinary Medicines Directorate	Submarine Delivery Agency	Government Legal Department
6	UK debt Management Office	Government Property Agency	Accountant in Bankruptcy	Office of the Scottish Charity Regulator
7	Student Awards Agency Scotland	UK Debt Management Office	Food Standards Scotland	National Probation Service
8	Rural Payment Agency	UK Hydrographic Office	Welsh Revenue Authority	National Records of Scotland
9	Food Standards Scotland	Rural Payment Agency	Government Property Agency	Charity Commission
10	National Crime Agency	Criminal Injuries Compensation Authority	National Infrastructure Commission	UK Space Agency

As we described above, the department with the most positive experience of the pandemic is the Veterinary Medicines Directorate. Beyond this, there is little obvious commonality among the departments experiencing smaller negative effects of the pandemic on wellbeing, as measured by year-on-year change in the proportion of people scoring highly on life satisfaction, worthwhile, happiness and anxiety.

Whitehall departments, which are otherwise largely absent from this table and the one before, make up three of the ten best pandemic responses on the measure of Anxiety. Although not as consistent as in the biggest drops table, we should note that three Scottish agencies appear in this table, with one (Food Standards Scotland) appearing in two columns.

Looking at the 2021 data, we can assess which departments or agencies are recovering quicker from the pandemic. Recovery to date is measured by the increase in the

proportion of people with high wellbeing on the first three indicators (life satisfaction, worthwhile, happiness) and the largest decrease in proportion of people with high anxiety.

Table 4: Departments recovering quicker from the pandemic

Position	Life satisfaction	Worthwhile	Happiness	Anxiety
1	Revenue Scotland	Revenue Scotland	Office of the Scottish Charity Regulator	Accountant in Bankruptcy
2	Disclosure Scotland	Welsh Revenue Authority	Revenue Scotland	Food Standards Scotland
3	Scottish Forestry	Scottish Forestry	Scottish Housing Regulator	Ministry of Defence
4	Crown Commercial Service	Disclosure Scotland	Disclosure Scotland	Welsh Revenue Authority
5	Education Scotland	Student Awards Agency Scotland	Government Actuary's Department	Wilton Park
6	Office of Qualifications	Serious Fraud Office	Scottish Forestry	National Crime Agency
7	Student Awards Agency Scotland	Criminal Injuries Compensation Authority	Food Standards Scotland	Estyn
8	Charity Commission	Food Standards Scotland	Office of Qualifications	Scottish Prison Service
9	The National Archives	Crown Commercial Service	Welsh Government	UK Debt Management Office
10	Competition and Markets Authority	Government Internal Audit Agency	Education Scotland	HM CPS Inspectorate

Many departments in Table 4 also appeared in Table 2, suggesting that departments who experienced the worst pandemic are also experiencing the fastest bounce-back. This indicates that the wellbeing effects of the pandemic on civil servants is likely temporary.

This pattern does not allow us to look at who has had the best pandemic overall. After all, a modest dip and a modest recovery are probably better than a big fall and a rapid recovery. To rectify this, we look instead at the second-difference of wellbeing, measuring changes from between 2019 and 2021 data - these findings can be found in Table 5 on the next page.

Table 5: Departments with least bad changes to wellbeing from 2019-2021

Position	Life satisfaction	Worthwhile	Happiness	Anxiety
1	Veterinary Medicines Directorate	National Infrastructure Commission	HM CPS Inspectorate	The National Archives
2	Criminal Injuries Compensation Authority	HM CPS Inspectorate	Veterinary Medicines Directorate	HM Treasury
3	Driver and Vehicle Standards Authority	Maritime and Coastguard Agency	Attorney General's Office	DCMS
4	UK Hydrographic Office	Attorney General's Office	UK Hydrographic Office	DEFRA
5	National Infrastructure Commission	Veterinary Medicines Directorate	Submarine Delivery Agency	Government Legal Department
6	UK Debt Management Agency	Government Property Agency	Accountant In Bankruptcy	Office of the Scottish Charity Regulator
7	Student Awards Agency Scotland	UK Debt Management Agency	Food Standards Scotland	UK Space Agency
8	Rural Payments Agency	UK Hydrographic Office	Welsh Revenue Authority	National Records Office
9	HM Prison Service	Rural Payments Agency	Government Property Agency	Charity Commission
10	Submarine Delivery Agency	Criminal Injuries Compensation Authority	National Infrastructure Commission	Department of Health and Social Care

Central departments

Central government departments, which employ huge numbers of officials, do not make major appearances in our analysis so far; perhaps because they sit in the middle of the distribution of wellbeing overall.

To zoom in on these large and influential departments in particular, we show below three tables. The first of these (Table 6) shows levels of wellbeing in 2021. Table 7 shows changes from 2019-2020 and table 8 shows changes from 2020-2021.

Proxy stress is a combined measure of stress (good/bad) in the organisation based on the HSE management standards. PERMA is a combined measure of the protective aspects of wellbeing based on the PERMA model of flourishing³.

³ <https://whatworkswellbeing.org/blog/what-can-we-learn-about-wellbeing-and-social-capital-from-south-australia/>

The latest department wellbeing data: 2021

Table 6. Levels of civil service wellbeing in 2021.

Organisation code	W01: Life Satisfaction	W02: Worthwhile	W03: Happiness	W04: Anxiety	Proxy Stress	PERMA
WG	67	72	65	33	24	75
DCMS	66	71	62	37	24	75
DFE	66	71	60	35	24	75
SG	66	71	60	35	24	75
HMT	65	68	61	38	24	75
DIT	65	69	62	38	27	74
HMRC	64	68	60	35	27	72
CO	64	69	60	37	27	74
MHCLG	64	70	60	37	24	75
CS	64	69	60	35	28	74
BEIS	64	70	61	36	24	75
MOD	64	69	61	30	29	73
DHSC	64	71	61	36	26	75
DWP	64	70	61	35	29	74
DFT	63	68	59	37	25	74
DEFRA	63	69	59	38	26	74
HO	63	68	60	35	30	72
FCDO	60	67	59	37	29	74

Table 7. Changes in levels of civil service wellbeing between 2019 and 2020.

Organisation code	W01: Life Satisfaction	W02: Worthwhile	W03: Happiness	W04: Anxiety
MOD	-4	-2	-1	22
HMRC	-5	-2	-2	10
CS	-7	-5	-5	12
DWP	-9	-6	-7	12
DIT	-10	-6	-8	5
MHCLG	-10	-5	-9	6
CO	-11	-6	-6	5
FCDO	-11	-7	-8	6
DCMS	-11	-8	-9	0
BEIS	-11	-6	-8	7
DEFRA	-11	-7	-9	2
DFE	-12	-7	-8	8
DHSC	-12	-5	-9	5
HMT	-12	-4	-7	-6
DFT	-12	-6	-7	11
SG	-13	-7	-10	11

Table 8. Changes in levels of civil service wellbeing between 2020 and 2021.

Organisation code	W01: Life Satisfaction	W02: Worthwhile	W03: Happiness	W04: Anxiety	Proxy Stress	PERMA
DEFRA	8.35	4.74	6.57	0.00	-1.37	0.88
WG	7.81	3.68	8.62	-11.83	-0.02	0.26
DCMS	7.55	4.59	5.65	2.32	-1.13	1.24
SG	7.51	3.67	5.24	-7.23	-0.69	0.31
BEIS	7.43	3.74	6.16	-3.60	-0.75	0.73
DFE	7.10	3.87	4.23	-4.63	0.04	0.87
HMRC	6.83	4.49	4.76	-8.89	-1.59	0.49
HMT	6.60	1.75	6.85	4.06	-0.47	-0.25
DFT	6.17	2.91	3.12	-4.28	-0.40	0.80
DWP	5.89	4.07	4.57	-9.04	0.05	0.37
DHSC	5.77	3.02	5.88	-2.01	0.56	-0.09
CO	4.95	2.26	2.70	-2.85	0.40	-0.69
MHCLG	4.67	2.76	4.96	-2.35	0.09	-0.18
CS	4.58	3.01	3.22	-9.26	0.00	0.58
DIT	4.04	1.43	3.01	-1.43	-0.14	-0.25
MOD	2.16	0.65	1.38	-20.78	0.69	-0.94
FCDO	2.07	-0.19	1.49	-3.02	2.30	-1.48

Conclusions

Over the course of this paper we have considered the wellbeing of civil service departments and related organisations. This dataset, even aggregated to the level of the organisation and year, provides a rich picture of the wellbeing of one of Britain's largest employers, and one which is responsible for the design and execution of much of public policy.

While civil service wellbeing has generally been tracking upwards in the time that it has been measured, the Coronavirus pandemic has had an enormous and potentially lasting impact on the wellbeing of public servants in the UK.

This pattern is of course not a surprise. The pandemic, with its associated lockdowns and restrictions on everyday life – as well as the illness and mortality that accompanied it – was a bad time for wellbeing across society and up and down the country.

What is perhaps the most interesting is that these findings are not uniform across the public service. Some departments have fared well, experiencing much smaller losses than others, and have recovered more quickly. Some departments' wellbeing has been much worse hit, and recovered more slowly. These differences do not seem to be explained reliably either by the prior levels of wellbeing in those departments, nor by the nature of the department's work.

Although this work can only point to quantitative findings and trends, it suggests that future research could look more qualitatively at what departments did in the face of a major negative shock to wellbeing to aid bounce-back. Understanding how they averted the large scale drops in staff wellbeing that were experienced by others could generate testable interventions and approaches for the future.