Office for National Statistics

Statistical bulletin

# Personal and economic well-being in Great Britain: May 2020

Estimates looking across personal well-being and economic well-being covering the period October 2019 to April 2020 to understand the impact of the coronavirus (COVID-19) pandemic on people and households in Great Britain.

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# 1 . Main points

- Between 20 March and 30 March 2020, almost half (49.6%) of people in Great Britain reported "high" (rating 6 to 10) anxiety; this was sharply elevated compared with the end of 2019 (21%), and equates to over 25 million people (out of the population aged 16 years and over).

- There were some marked changes to "low" (rating 0 to 4) ratings for life satisfaction, feeling that things done in life are worthwhile, and happiness; the proportion of people reporting "low" happiness was 20.7% between 20 and 30 March, for reference it was only 8.4% in Quarter 4 (Oct to Dec) 2019.

- People's most common concerns related to their well-being, their work, and their finances; those who think they will not be able to save money in the next year reported anxiety 33% higher on average compared with those who think they will.

- People who had already been impacted financially were also reporting lower well-being; people who had experienced a reduction in household finances because of the coronavirus (COVID-19) reported 16% higher anxiety on average.

- People who rent and the self-employed were more likely to have had their household finances and their jobs negatively impacted due to coronavirus (COVID-19), through reduced income, using savings to cover living costs, reduced working hours, and the inability to save for the future.

# 2 . Understanding the impact on personal and economic well-being

This bulletin presents a range of statistics, from different sources - including the weekly Opinions and Lifestyle Survey (OPN) recently set up by the Office for National Statistics (ONS) to understand the impact of the coronavirus (COVID-19) pandemic on Great Britain. The established monthly OPN and Annual Population Survey (APS) are also used to talk about the context of these statistics over a longer time period. Further information on how these data are used in the bulletin are provided in Section 8: Measuring the data.

# 3 . Elevated levels of anxiety

Recent weekly figures show a substantially elevated level of anxiety compared with the end of last year. Between 20 March and 30 March 2020, which follows the closure of cafes, pubs, bars and restaurants, 49.6% people in Great Britain aged 16 years and over reported "high" anxiety (rating 6 to 10). This equates to over 25 million people.

Average anxiety ratings in this period were 5.18 and remained elevated over the periods between 27 March and 6 April, and between 3 and 13 April 2020. As a point of reference, 21.0% people in the UK reported high anxiety in Quarter 4 (Oct to Dec) 2019, and the average anxiety rating was 2.97, although it should be noted that these figures come from different surveys.

For the most recent period between 9 April and 20 April, the average anxiety rating was 4.2 – this was lower than previous weeks but still much more elevated than before the COVID-19 pandemic. Further analysis on impacts in that particular week can be found in our release Coronavirus and the social impacts on Great Britain: 30 April 2020.

**Figure 1: Average anxiety ratings were at 5.18 (out of 10) over the period 20 to 30 March 2020**

**Average anxiety ratings, UK and Great Britain, Quarter 2 (Apr to Jun) 2011 to 13 April 2020**
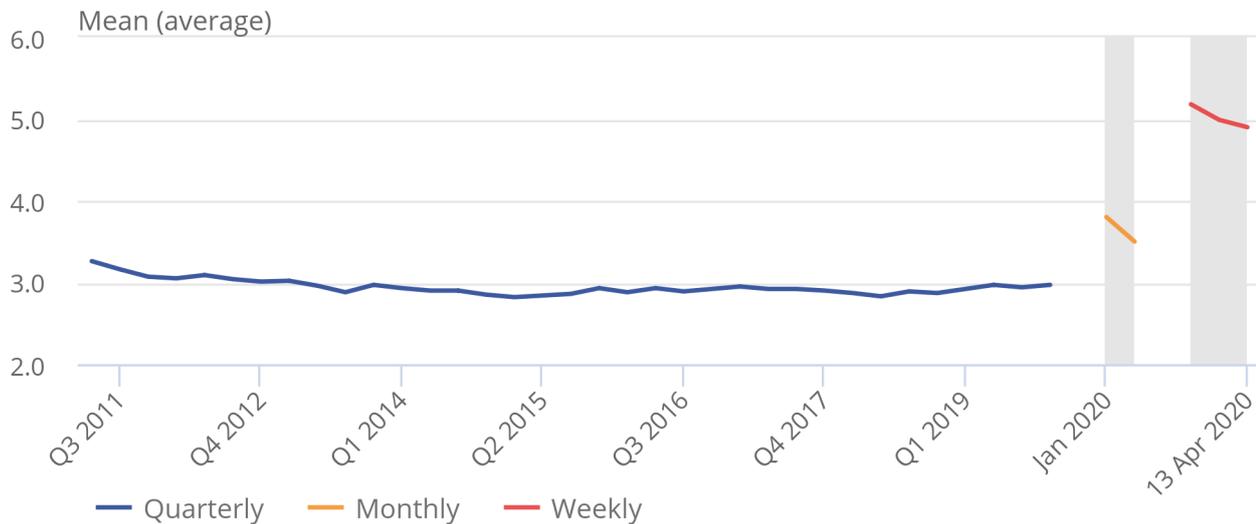
**Source: Office for National Statistics – Annual Population Survey and Opinions and Lifestyle Survey**

**Notes:**

1. Chart axis has a break in it.

2. Quarterly data are seasonally adjusted – see Personal well-being quarterly estimates technical report for more information, monthly and weekly data are non-seasonally adjusted.

3. Quarterly data refer to UK population, Monthly and weekly data refer to Great Britain population.

4. Q1 equals Quarter 1 (January to March), Q2 equals Quarter 2 (April to June), Q3 equals Quarter 3 (July to September) and Q4 equals Quarter 4 (October to December).

5. The weekly data on the chart covers the period leading up to the dates shown.

# Happiness

There was also a reduction in levels of happiness at the end of March 2020, with ratings remaining low between 3 April and 13 April. The proportion of people reporting low levels of happiness (rating 0 to 4) was 20.7% in the period between 20 March and 30 March 2020; for reference, 8.4% of people reported low happiness in Quarter 4 (Oct to Dec) 2019. The average happiness rating was 6.36 between 20 and 30 March 2020, whereas it was 7.52 in Quarter 4 2019.

## Life satisfaction and feelings that things done in life are worthwhile

Average ratings of life satisfaction, and feelings that things done in life are worthwhile were also substantially lower. The average rating of life satisfaction was 6.91 between 3 and 13 April 2020, with 11.4% of people reporting "low" life satisfaction in the same period; for reference, the average rating was 7.67 in Quarter 4 2019. Average ratings for feelings that things done in life are worthwhile were lowest at 7.42 between 20 March and 30 March 2020; as a reference the average rating was 7.86 in Quarter 4 2019.

**Figure 2: Over 20% of people reported "low" (rating 0 to 4) levels of happiness between 20 and 30 March 2020**

**Proportions of people reporting in happiness thresholds, UK and Great Britain, Q4 (Oct to Dec) 2019 and 20 March and 30 March 2020**



Figure 2: Over 20% of people reported "low" (rating 0 to 4) levels of happiness between 20 and 30 March 2020

Proportions of people reporting in happiness thresholds, UK and Great Britain, Q4 (Oct to Dec) 2019 and 20 March and 30 March 2020
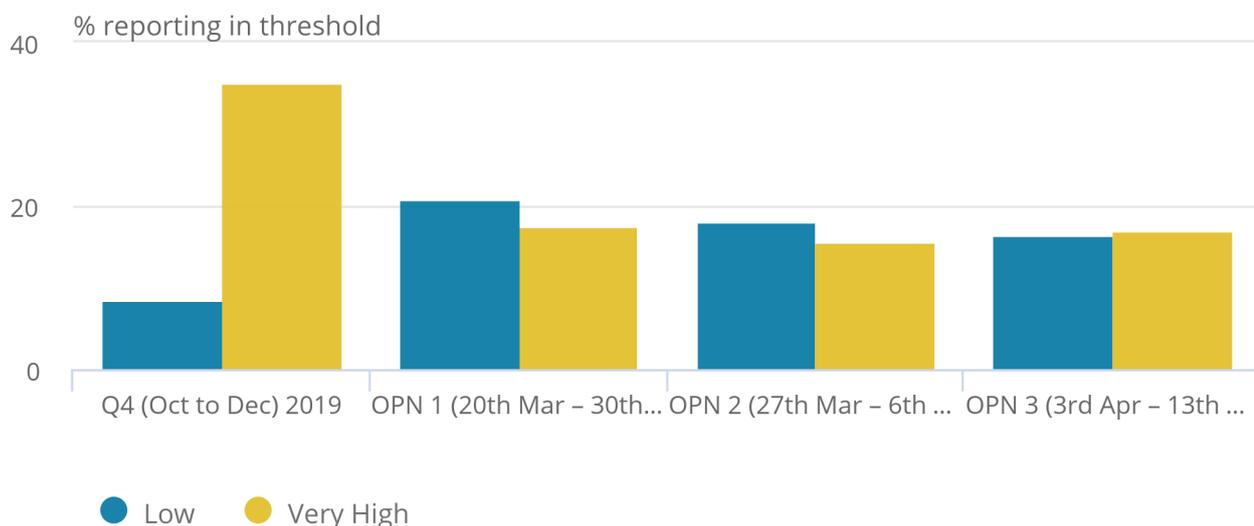
**Source: Office for National Statistics – Annual Population Survey and Opinions and Lifestyle Survey**

**Notes:**

1. "Very high" happiness refers to those reporting a rating of 9 to 10 and "Low" happiness refers to those reporting a score of 0 to 4 (on an 11-point scale from 0 to 10).

2. Quarterly data are seasonally adjusted – see [Personal well-being quarterly estimates technical report](#) for more information, monthly and weekly data are non-seasonally adjusted.

3. Quarterly data refer to UK population, Monthly and weekly data refer to the Great British population.

# 4 . Worries and expectations for the future

People were feeling worried about a range of impacts to their lives from the coronavirus (COVID-19) pandemic during the first part of this lockdown. Of those worried about the impact of coronavirus on their lives, approximately 5.3 million people in Great Britain were most concerned about the impact to their finances in the reporting period up to 13 April 2020, with 8.5 million people most concerned about their well-being and 6.2 million people most concerned about their work.

**Figure 3: People are most concerned about their well-being, household finances and their work, of all impacts from the coronavirus (COVID-19)**

**"What are you most concerned about from all the things you raised worries over?", Great Britain, 3 to 13 April 2020**

## Figure 3: People are most concerned about their well-being, household finances and their work, of all impacts from the coronavirus (COVID-19)

"What are you most concerned about from all the things you raised worries over?", Great Britain, 3 to 13 April 2020
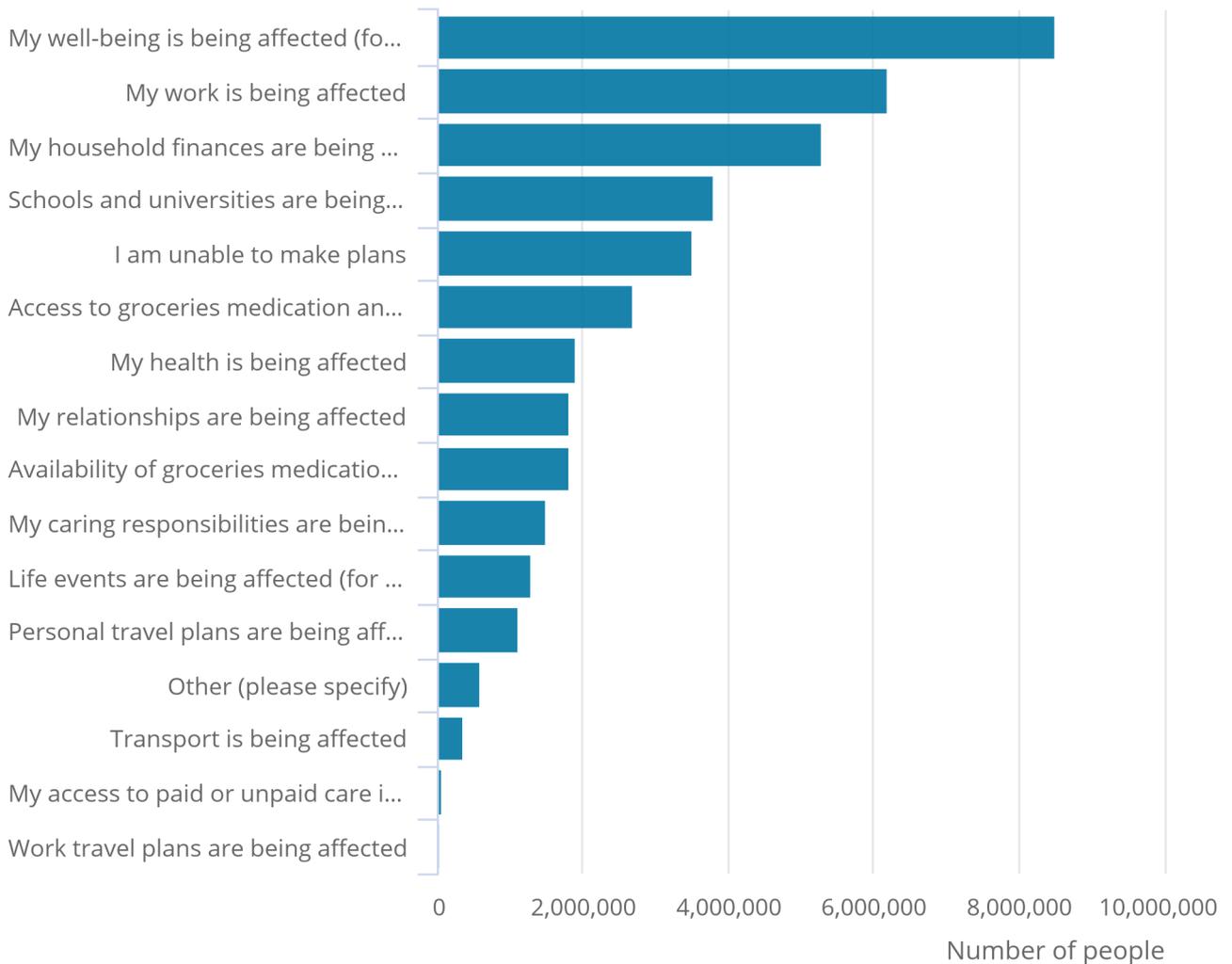


Source: Office for National Statistics – Opinions and Lifestyle Survey

**Notes:**

1. Responses to the question "What are you most concerned about from all the things you raised worries over?".

2. Figures are rounded to the nearest 100,000.

Results from the first weekly module of the Opinions and Lifestyle Survey (OPN1) - which were collected between 20 March and 30 March 2020 - also confirmed that individuals had strong concerns regarding the economy. Nearly all individuals (97%) who responded believed that the coronavirus (COVID-19) would cause problems for the UK economy, and 84% "strongly" or "somewhat agreed" that the coronavirus would cause problems for their work. Further analysis on impacts in that first week can be found in our OPN1 release Coronavirus and the social impacts on Great Britain: 9 April 2020.

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**More about coronavirus**
- Find the latest on coronavirus (COVID-19) in the UK.
- All ONS analysis, summarised in our coronavirus roundup.
- View all coronavirus data.

- Find out how our studies and surveys are serving public need.

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Individuals continued to have concerns between 27 March and 6 April 2020. Of those whose work was affected by the coronavirus, more than 30% of individuals stated it was because of a decrease in hours or being asked to work from home (36% and 32%, respectively).

Along with concerns about their work, many expected a negative impact on their household finances. Results from OPN1 show that 56% of people agreed to some degree that the coronavirus will cause problems for their household finances, whilst 21% of people strongly or somewhat disagreed with the statement.

People worried about potential impacts to their economic well-being were greatly affected in terms of their personal well-being, such as their anxiety and happiness. Happiness ratings between 27 March and 6 April were significantly lower for those who believed their household financial situation will get a lot worse (5.48) when compared with those who believed it is staying the same (6.79) or getting a little better (7.08). Similarly, those who feel they are not able to save in the year ahead reported average anxiety levels of 5.69, which was 33% higher than those who think they will be able to (4.29).

**Figure 4: Those who believed their household financial situation will get worse in the year ahead were significantly less happy than people who expect their situation to remain the same**

**"How do you expect the financial position of your household to change over the next 12 months?" by average happiness ratings, Great Britain, 27 March to 6 April 2020**

## Figure 4: Those who believed their household financial situation will get worse in the year ahead were significantly less happy than people who expect their situation to remain the same

&quot;How do you expect the financial position of your household to change over the next 12 months?&quot; by average happiness ratings, Great Britain, 27 March to 6 April 2020

Mean (average)

[Bar chart showing three bars. Y-axis from 0 to 10 with gridlines at 5 and 10. "Get better" bar at approximately 7, "Stay the same" bar at approximately 7, "Get worse" bar at approximately 6.]

| Get better | Stay the same | Get worse |
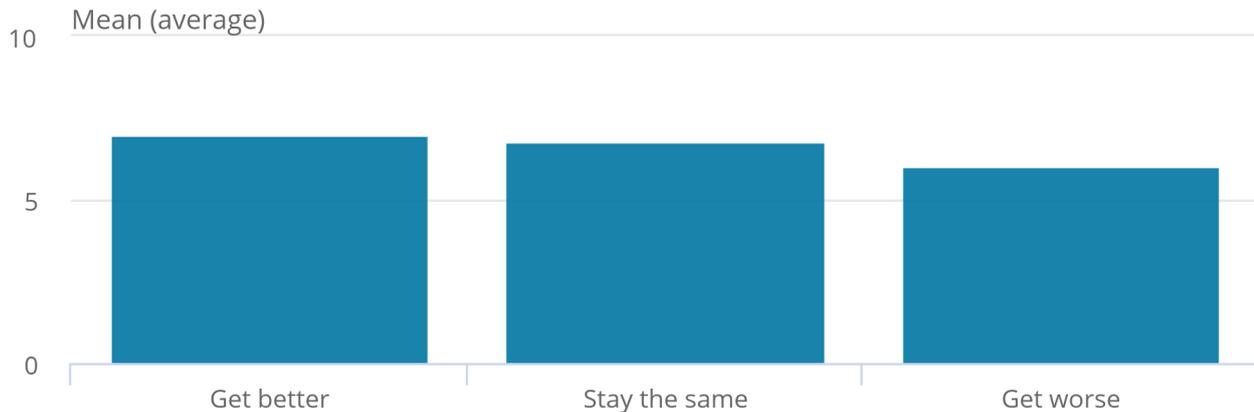
**Source: Office for National Statistics – Opinions and Lifestyle Survey**

**Notes:**

1. Respondents were asked "Overall, how happy did you feel yesterday?" and answered on a scale of 0 to 10, where 0 is "not at all" and 10 is "completely".

2. The estimate is calculated as a mean of answers to the happiness question by their response to the question "How do you expect the financial position of your household to change over the next 12 months?".

Many individuals have already reported that their household finances have been affected in the period between 3 April and 13 April - with 19.8% saying they had experienced a reduction in income. Note, this question is only asked of people who say they are worried about the impact of the coronavirus on their lives but the share shown is of the whole population, so the percentage may be higher.

Those who reported a negative impact on their household finances because of the coronavirus also reported lower levels of personal well-being at the beginning of lockdown. For example, those who experienced a reduction in their income reported anxiety 16% higher on average than those whose finances remained the same, if they had said they were worried about the impact of the coronavirus on their lives. Additionally, those whose finances worsened were also less satisfied with life than those whose finances were unaffected.

**Figure 5: People with worsened household finances were much more anxious on average than people financially unaffected**

**Average ratings of anxiety, split by "In the past seven days, have your household finances improved, remained the same or worsened because of the coronavirus (COVID-19) outbreak?", Great Britain, 20 to 30 March 2020**
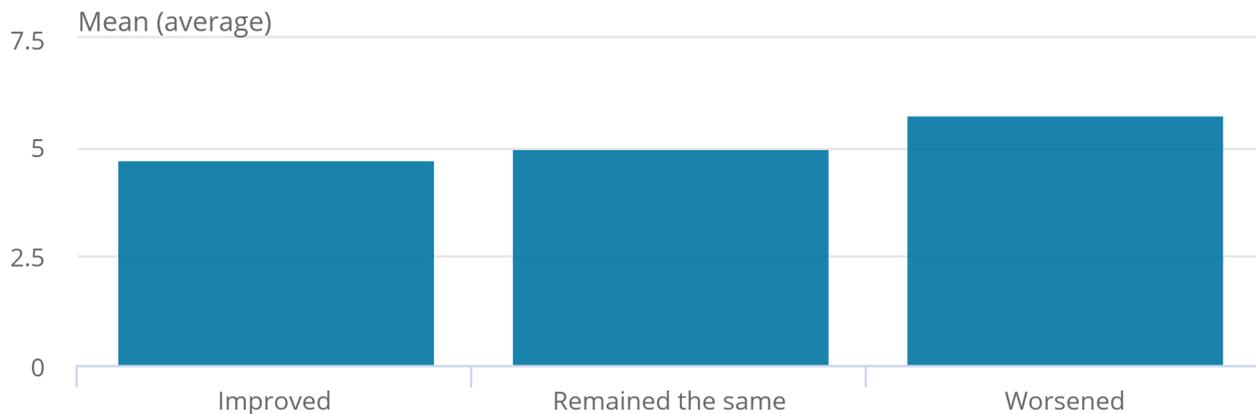
Mean (average)

| | Improved | Remained the same | Worsened |
|---|---|---|---|

**Source: Office for National Statistics – Opinions and Lifestyle Survey**

**Notes:**

1. Respondents were asked "In the past seven days, have your household finances improved, remained the same or worsened because of the coronavirus (COVID-19) outbreak?" and responded with "improved", "remained the same" and "worsened".

2. The estimate is calculated as a mean of answers to the anxiety question by their response to the question "In the past seven days, have your household finances improved, remained the same or worsened because of the coronavirus (COVID-19) outbreak?"

Looking further back, measures of people's objective economic well-being had been fairly robust towards the end of last year, with all main measures[1] of economic well-being showing improvement in the year to Quarter 4 (Oct to Dec) 2019 – with the exception of real household spending per head, which declined on a quarterly basis for the first time in four years. Further information on more retrospective indicators of economic well-being are presented in our dashboard of indicators in Section 6.

## Notes for: Worries and expectations for the future

1. The main measures of economic well-being referred to here are real household disposable income per head, real household spending per head, household net financial wealth per head and net real national disposable income per head.

# 5 . Disproportionately impacted groups

The impact on personal and economic well-being from the coronavirus (COVID-19) encompasses a range of factors, including changes to work and household finances, the ability to cover income reductions from savings, and the ability to buy essential household goods or pay bills. The 10 most commonly reported effects on economic well-being are summarised in Figure 6 - which also shows the average level of anxiety for groups of people who had experienced the impact.

Approximately 8.6 million people in Great Britain were estimated to have been affected by reduced income levels, and a reduction in income was associated with an average anxiety level of 5.97, compared with a rating of 4.99 for the whole population. Those struggling to pay bills had even higher anxiety ratings on average, with those who said they had been affected in this way reporting 6.27.

**Figure 6: 8.6 million people reported reduced household income as a result of the coronavirus (COVID-19)**

**Merged top responses to the questions "In which way is your work being affected?" and "In which way are your household finances being affected?", Great Britain, 27 March to 6 April 2020**

## Figure 6: 8.6 million people reported reduced household income as a result of the coronavirus (COVID-19)

Merged top responses to the questions "In which way is your work being affected?" and "In which way are your household finances being affected?", Great Britain, 27 March to 6 April 2020



● Number of people (millions)   ● Average anxiety (out of 10)
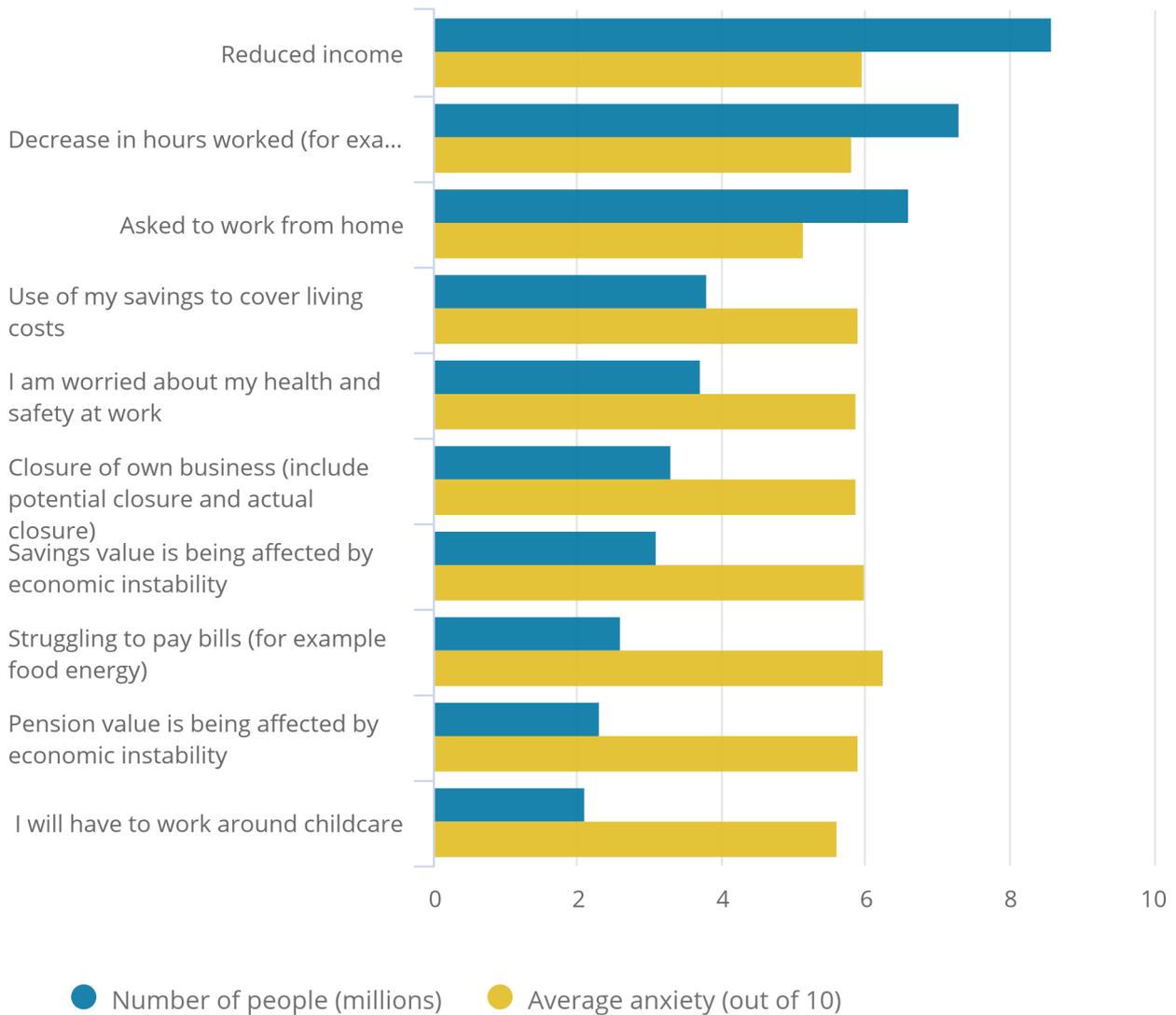
**Source: Office for National Statistics – Opinions and Lifestyle Survey**

**Notes:**

1. Responses to the questions "In which way is your work being affected?" and "In which way are your household finances being affected?" were merged. "Other" category for impacts to household finances not shown.

2. Respondents were asked to select all that apply, so the series will not sum to 100.

3. The average ratings of anxiety should not be compared between categories as people can answer multiple responses. Differences between categories are not statistically significant.

But as well as having different effects on the overall population, the virus is also having a disproportionate impact on some groups, in terms of their personal and economic well-being.

## By sex

Women reported much higher levels of anxiety compared with men, with their average rating 24% higher between 3 and 13 April 2020. Across the three periods before and during lockdown, both men's and women's anxiety levels remained significantly higher than seen before the coronavirus pandemic, although men and women experienced similar levels of feeling that things done in life are worthwhile.

One possible explanation as to why anxiety is higher in women is that a greater proportion are economically inactive compared with men (24.3% compared with 15.8%, respectively). In the UK, 21.8% of women with dependent children are economically inactive compared with 5.2% of men with dependent children. Women are also more likely to be in lower-paid jobs, being paid below the National Minimum Wage and are also more likely to work part-time jobs when compared with men.

## Disability

Disabled people also reported feeling worried about the impact of the coronavirus and how it may negatively impact their well-being compared with non-disabled people. More detail can be found in the Office for National Statistics (ONS) release Coronavirus and the social impacts on disabled people in Great Britain .

## Older age groups

Those aged 70 years and above reported being happier than those aged 16 to 69 years before the lockdown. By the third week of lockdown, however, this gap had closed so there was no significant difference in levels. The government have advised over 70s to be more stringent with social distancing measures and to ask friends, family and neighbours for support with essential supplies including food and medicine. This could be leading to higher anxiety for this group.

## Housing tenure

For those worried about the impact of the coronavirus, people who own their homes outright were significantly less likely to report a loss of household income, when compared with renters or those who own with a mortgage. Those who own their house with a mortgage were the most likely to say they would not be able to save money within the next 12 months. Additionally, once different demographic factors are controlled for - such as age, sex, education and income - those who rent are significantly less likely to be able to save in the year ahead than those who have a mortgage or own their home outright.

For reference, the typical household income for those renting was £33,700 for the latest year available up to March 2019, according to our latest [Effects of taxes and benefits on household income: financial year ending 2019 estimates](#), which was £16,700 lower than the average income for those who own their home.

**Figure 7: Those renting or who own their house with a mortgage have significantly higher levels of reporting reduced household income than those who own their property outright**

**"In which way are your household finances being affected?", share of the population 16 and over split by tenure type, Great Britain, 27 March to 6 April 2020**

## Figure 7: Those renting or who own their house with a mortgage have significantly higher levels of reporting reduced household income than those who own their property outright

&quot;In which way are your household finances being affected?&quot;, share of the population 16 and over split by tenure type, Great Britain, 27 March to 6 April 2020

Percentage of the population (%)



Own outright ● Rent ● Own with mortgage
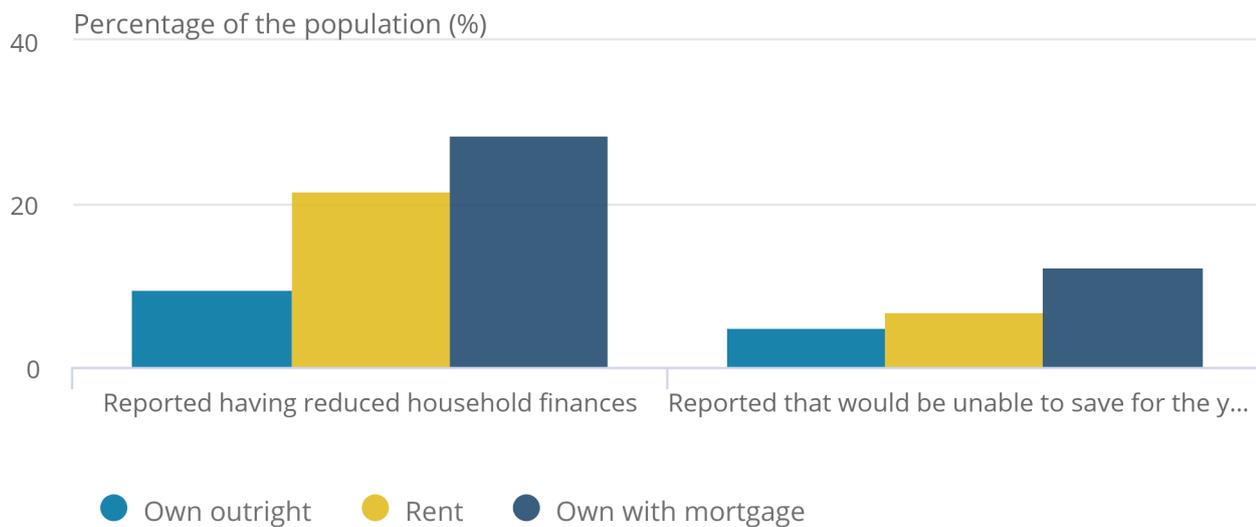
**Source: Office for National Statistics – Opinions and Lifestyle Survey**

**Notes:**

1. Responses to the question "In which way are your household finances being affected?"

2. The base population for these estimates is all adults aged 16 years or over who reported having impacted household finances and/or that they would be unable to save for the year, and who rented or owned their homes either with a mortgage or outright.

3. Only showing the responses "reduced household finances" and "unable to save for the year ahead", so shares will not sum to 100.

4. Split by the tenure types "own outright", "rent", and "own with a mortgage".

## Employment type

Another significant difference in impacts can be seen when comparing the self-employed with employees. The self-employed were far more likely to report a loss in household income, with 60% reporting reduced income, and 23% having to use savings to cover their living costs between 3 April and 30 April 2020. Note, people only reported a loss of income if they say they are worried about the impact of the coronavirus on their lives but the share shown is of the whole population, so the share may be higher.

The effects on their work were also more pronounced than for employees. A third of the self-employed reported having to work reduced hours during the first two weeks of lockdown, and a far greater proportion reported the closure of their place of work - although the share that are working from home was similar to that for employees between 3 April and 13 April 2020.

Even when controlling for differences in incomes, age, and other variation in characteristics between employees and the self-employed, the self-employed were less confident about being able to save for the year ahead, more likely to report reduced household income, and had worse expectations for their household financial position in the year ahead.

**Figure 8: Over half of the self-employed reported a loss of household income, compared with 22% of employees**

**Several economic well-being impact questions, split by employment type, Great Britain, 27 March to 6 April 2020**

Figure 8: Over half of the self-employed reported a loss of household income, compared with 22% of employees

Several economic well-being impact questions, split by employment type, Great Britain, 27 March to 6 April 2020
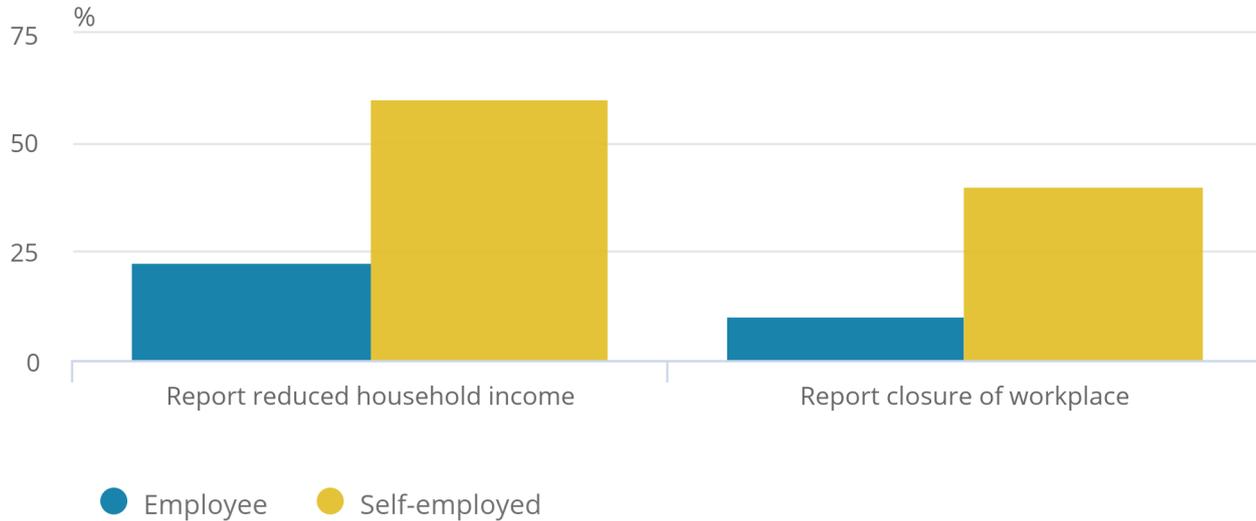


Source: Office for National Statistics – Opinions and Lifestyle Survey

Notes:

1. Responses to the questions "In which way is your work being affected?" with "response closure of workplace".

2. The base population for these estimates is all adults aged 16 years or over who reported having impacted household finances and/or the closure of their workplace, and who were either employed or self-employed.

3. Only showing the responses "reduced household finances" and "closure of workplace", so shares will not sum to 100.

4. Split by the employment types "employed" and "self-employed."

# 6 . Personal and economic well-being dashboard and data

Information relating to the main measures of personal and economic well-being up to the latest quarter available:

## Well-being dashboard: Quarter 4 (Oct to Dec) 2019

| Indicators | Change | Period | Description |
|---|---|---|---|
| Low levels of life satisfaction | +0.09 pp *** | Compared with last year | Proportion of people reporting low levels of life satisfaction (0 - 4 of a scale 0 - 10). When asked 'Overall, how satisfied are you with your life nowadays?' |
| Low levels of worthwhile | -0.09 pp *** | Compared with last year | Proportion of people reporting low levels of worthwhile ratings (0 - 4 of a scale 0 - 10). When asked 'Overall, to what extent do you feel the things you do in your life are worthwhile?' |
| Low levels of happiness | +0.10 pp *** | Compared with last year | Proportion of people reporting low levels of happiness (0 - 4 of a scale 0 - 10). When asked 'Overall, how happy were you yesterday?' |
| High levels of anxiety | +1.30 pp | Compared with last year | Proportion of people reporting high levels of anxiety (6 - 10 of a scale 0 - 10). When asked 'Overall, how anxious were you yesterday?' |
| Real household disposable income per head | +0.76 | Compared with last year | Money households have to spend on consumption or to save and invest, after Taxes, National Insurance, Pension Contributions and Interest that have been paid. |
| Net national disposable income per head | +1.28 | Compared with last year | Income available to all residents in the UK, which differs from GDP per head mainly due to adjustments for capital depreciation – such as the day-to-day wear and tear on vehicles and machinery – and the flows of income with the rest of the world - such as inward-income earned by UK investors on assets overseas, and outward-income foreign investors earn on assets in the UK. |
| Household net financial wealth per head | +6.23 | Compared with last year | Value of financial assets, such as current and savings accounts, investments, less the liabilities, such as loans and mortgages of the average person in the UK. |
| Real household expenditure per head | +0.32 | Compared with last year | Household spending on goods and services. |
| Unemployment rate | -0.2 pp | Compared with last year | The proportion of those actively looking for a job who are unemployed. |
| Household debt to income ratio | +0.9 | Compared with last year | The size of all loans and mortgages households have taken out in terms of the size of their disposable income. |
| Perception of financial situation | -1.7 | Change in aggregate balance compared with last year | Consumers' perception of their own personal financial situation over the past 12 months - A positive balance = improvement, negative balance = worsening. |
| Gini | 0.00% | Compared with the previous year | The Gini coefficient is a commonly-used measure of income inequality. Gini coefficients can vary between 0 and 100 and the lower the value, the more equally household income is distributed. |

Source: Office for National Statistics - Annual Population Survey and UK Economic Accounts

## Notes

1. p.p. refers to percentage point change.

2. "Compared with last year" refers to Quarter 4 (Oct to Dec) 2019 compared with Quarter 4 (Oct to Dec) 2018.

3. "Change in aggregate balance compared with last year" refers to Dec 2019 compared with Dec 2018.

4. "Compared with previous year" refers to 2018 to 2019 compared with 2017 to 2018.

5. *** means the value is not statistically significant.

6. The data for this dashboard can be found in the Personal and economic well-being combined estimates dataset.

## Data

Personal well-being estimates
Dataset | Released on 4 May 2020
Combined annual, quarterly (experimental), monthly and weekly estimates, confidence intervals and sample sizes for life satisfaction, feeling that the things done in life are worthwhile, happiness and anxiety in the UK.

Economic well-being estimates
Dataset | Released on 4 May 2020
Estimates of economic well-being in the UK, including household income, spending and wealth, distribution of wealth and income, whole economy wealth, and unemployment.

Personal and economic well-being combined estimates
Dataset | Released on 4 May 2020
Estimates of personal and economic well-being from the new module being undertaken through the Office for National Statistics (ONS) Opinions and Lifestyle Survey (OPN) for Great Britain to understand the impact of the coronavirus (COVID-19) pandemic.

# 7 . Glossary

## Economic well-being

Our economic well-being measures present a rounded and comprehensive basis for assessing changes in economic well-being through indicators that adjust or supplement more traditional measures such as gross domestic product (GDP).

## Personal well-being

Our personal well-being measures ask people to evaluate, on a scale of 0 to 10, how satisfied they are with their life overall, whether they feel they have meaning and purpose in their life, and about their emotions (happiness and anxiety) during a particular period.

## Thresholds

Thresholds are used to present dispersion in the data. For the life satisfaction, feeling that things done in life are worthwhile and happiness questions, ratings are grouped in the following way:

- 0 to 4 (low)

- 5 to 6 (medium)

- 7 to 8 (high)

- 9 to 10 (very high)

For the anxiety question, ratings are grouped differently to reflect the fact that higher anxiety is associated with lower personal well-being. The ratings for anxiety are grouped as follows:

- 0 to 1 (very low)

- 2 to 3 (low)

- 4 to 5 (medium)

- 6 to 10 (high)

# 8 . Measuring the data

## Data sources

Throughout this bulletin, analysis using the new weekly module of the Opinions and Lifestyle Survey (OPN) will refer to periods as follows.

- OPN1 refers to a survey of 1,588 adults sampled through the OPN, which was conducted online between 20 March 2020 and 30 March 2020 (inclusive). The 10-day data collection period spans the introduction of the "lockdown" measures by the government on Monday 23 March. Over three-quarters of responses were collected before this date, with the results more likely to reflect opinions at this time, so this period can be considered as "pre-lockdown".

- OPN2 refers to a survey of 1,581 adults sampled through the OPN, which was conducted online between 27 March 2020 and 6 April 2020 (inclusive). This period and those succeeding it can be considered as during government-imposed "lockdown".

- OPN3 refers to a survey of 1,203 adults sampled through the OPN, which was conducted online between 3 and 13 April 2020 (inclusive).

The data underpinning the personal and economic well-being indicators come from various sources with different timeliness and coverage. This release is based on the most recent data available as of April 2020. The personal well-being estimates are from the Annual Population Survey (APS), which is a continuous household survey, covering the UK, with the aim of providing estimates between censuses of important social and labour market variables at a local area level.

The economic well-being estimates are from the UK Economic Accounts, which aim to provide detailed estimates of national product, income and expenditure, UK sector accounts and UK balance of payments. The economic expectations estimates are sourced from the Eurobarometer Consumer Survey, which is collected by GFK (Growth from Knowledge) for the European Commission. The questions included in the survey (PDF, 285KB) provide information on the general perception of the financial and economic situation.

Joint personal and economic well-being analysis related to the coronavirus (COVID-19) uses the Opinions and Lifestyle Survey (OPN), a monthly omnibus survey. In response to the coronavirus pandemic, we have adapted the OPN to become a weekly survey used to collect data on the impact of the coronavirus on day-to-day life in Great Britain. In this wave, 2,010 individuals were sampled, with a response rate of 59.9% (or 1,203 individuals) for the survey conducted from 3 April to 13 April 2020.

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the Opinions and Lifestyle Survey QMI.

## Measuring "people and prosperity"

In November 2010, we set up the Measuring National Well-being programme to monitor and report UK progress by producing accepted and trusted measures of the well-being of the nation. We have pioneered the measurement of well-being in the UK in addition to traditional measures of prosperity, enabling policymakers to make better, well-informed decisions. We have also been monitoring economic well-being by assessing how households are faring using measures of household wealth and disposable income.

Traditionally, we reported our quarterly updates on personal well-being and economic well-being in separate publications; however, a recent user feedback survey suggested the need for more in-depth analysis on the relationship between personal and economic well-being.

In February 2019, we introduced a new series on "people and prosperity" as part of our "Beyond GDP" initiative bringing together personal and economic well-being for the first time. The aim is to provide timely, quarterly indicators and analysis of household financial health as well as personal well-being. In measuring economic growth, we want to know the extent to which it affects different groups in society. This will make it easier for policymakers and other users to consider questions such as whether changes in the size of the economy, and the distribution of that income, are reflected in our personal well-being.

## Quality and methodology information

The Personal well-being in the UK Quality and Methodology Information report contains important information on the strengths and limitations and uses of the data as well as how outputs are created, and the quality and accuracy of those outputs. For more information on personal well-being, please see the Personal well-being user guidance and Harmonised principles of personal well-being.

The framework and indicators for economic well-being used in this release were outlined in Economic well-being, framework and indicators, published in November 2014. Basic quality and methodology information for all economic well-being indicators included in this statistical bulletin is available from:

- Gross domestic product (GDP) Quality and Methodology Information report

- Consumer Price Indices Quality and Methodology Information report

- Wealth and Assets Survey Quality and Methodology Information report

- Effects of taxes and benefits on household income Quality and Methodology information report

- Labour Force Survey (LFS) Quality and Methodology Information report

# Logistical regression methodology

In order to consider the associated impact various personal and household characteristics have on the outcomes and impacts from the coronavirus, most of the analysis considers impacts, worries, and reported well-being cross-tabulated by personal characteristics or other well-being related questions.

However, we also produced some regression models, which can be found in the  datasets. By controlling for different factors, we may more specifically understand and report the role that certain factors such as age and income level have on people's personal and economic well-being responses during the pandemic, independent of other characteristics.

We have produced models across the three weekly survey periods, looking at what factors impact on:

- types of household finances impacts, including reduced household income, ability to save in the next year

- types of impacts to work, including reduced hours

- whether working from home

- whether you or others have purchased extra supplies

- expectations for the impacts on the future including to your work, household finances and to the UK economy

- personal well-being, particularly high levels of anxiety and low feelings of worthwhile

The measures we have used are categorical, meaning people can choose from a set of categories to answer, such as "Yes" versus "No", or "Strongly agree" versus "Somewhat agree" and so on. Additionally, some of the responses were not distributed in a way to allow for ordinary least squares regression. Hence, we have chosen to apply ordinal logistical regression models. The outcomes of those models give odds ratios. This tells us the odds of someone with a particular characteristic or circumstance reporting worse financial impacts, say, when compared with someone with another specified characteristic or circumstance, after taking other possible influences on financial impacts into account. A number above 1 can be interpreted as a larger likelihood of reporting the chosen variable of interest, while one below 1 is interpreted as a lower likelihood of reporting it, than the baseline category chosen.

In the report, we only report on findings where the odds ratio is significantly different from 1 to a 95% confidence level. We have also tested for multicollinearity between explanatory variables, and have removed series, as well as grouped them, accordingly.

## Interpreting the term "aggregate balance"

Aggregate balance is a measure that shows the difference between positive and negative answering options, measured as percentage points of total answers. For example, if there are six options: "very positive", "positive", "stayed the same", "negative", "very negative" and "don't know", with PP, P, S, N, NN and D representing the respective percentages of respondents choosing these options, the aggregate balance (AB) is calculated as follows:

$$AB=(PP+0.5*P)-(0.5*N+NN)$$

Therefore, the aggregate balance is a scale from negative 100 (where all respondents chose "very negative") to positive 100 (where all respondents chose "very positive"). See section 3.3 of the Eurobarometer User Guide (PDF, 770KB) for more information.

## Feedback and future publications

In February 2019, alongside our previous publication, we launched a survey to gather user feedback about our personal and economic well-being outputs. Users told us that our work fitted their requirements well - the language used, analytical detail and visual analyses met their needs. But the feedback also highlighted ways in which we could improve the quality and usability of our outputs such as shortening the length of bulletins. Additionally, there were requests to focus on more in-depth analysis, such as more insights into regional data and inequalities, and providing more information or explanation of more technical aspects.

Over the coming months, we will continue to address feedback and engage further with our users to improve the usability and usefulness of our work. We also aim to better promote our well-being dashboard and explore opportunities to improve our interactive tools. Your feedback will be very valuable in making our results useful and accessible. If you have any questions, please contact us at PeopleAndProsperity@ons.gov.uk.

# 9 . Strengths and limitations

## Data quality

We first published quarterly data for the personal well-being figures in November 2019 as Experimental Statistics. The aim is to use the quarterly data to explore short-term changes in personal well-being by looking at fluctuation over the years and comparisons over quarters one year apart. Additionally, using quarterly estimates has the benefit of being more comparable with the economic well-being estimates, which use quarterly data for their indicators.

## Seasonal adjustment

The data published for our quarterly personal well-being figures are all seasonally adjusted (although non-seasonally adjusted estimates are also available). This aids interpretation by removing recurring fluctuations caused, for example, by holidays or other seasonal patterns. Further information on the seasonality in the quarterly personal well-being can be found in the accompanying Personal well-being quarterly estimates technical report.

## Annual Population Survey data reweighting

Weighting answers to survey questions ensures that estimates are representative of the target population. Each person in the survey data has a "weight", the number of people that person represents in the population, which is used to produce estimates for the population.

More accurate weighting is based on the latest available population estimates for that time period. When new population estimates become available, data can be reweighted to ensure better representation and so precision of estimates. For greater accuracy, it is common practice to revise previously published estimates when new weights become available. Based on new population estimates, new well-being weights have been available for the Annual Population Survey (APS) data since March 2019. We have used this reweighted data to produce our quarterly personal well-being estimates and our annual personal well-being estimates for the years ending September 2012 to 2019 at the UK level.

## Opinions and Lifestyle Survey (OPN) data weighting

Survey weights were applied to make estimates representative of the population.

Weights were first adjusted for non-response and attrition. Subsequently, the weights were calibrated to satisfy population distributions considering the following factors: sex by age, region, tenure, highest qualification, employment status, National Statistics Socio-economic Classification (NS-SEC) group and smoking status. For age, sex and region, population totals based on projections of mid-year population estimates for March 2020 were used. The resulting weighted sample is therefore representative of the Great Britain adult population by a number of socio-demographic factors and geography.

The main strengths of the Opinions and Lifestyle Survey (OPN) include:

- it allows for timely production of data and statistics that can respond quickly to changing needs

- it meets data needs: the questionnaire is developed with customer consultation, and design expertise is applied in the development stages

- robust methods are adopted for the survey's sampling and weighting strategies to limit the impact of bias

- quality assurance procedures are undertaken throughout the analysis stages to minimise the risk of error

The main limitations of the OPN include:

- the sample size is relatively small: with fewer completed interviews, meaning that detailed analyses for subnational geographies and other sub-groups are not possible

- the mode is online only, so the sample may be subject to more bias than usual

- comparisons between periods and groups must be done with caution as estimates are provided from a sample survey; as such, confidence intervals are included in the datasets to present the sampling variability, which should be taken into account when assessing differences between periods, as true differences may not exist

## Statistical significance

Please note that:

- any changes mentioned in this publication are statistically significant

- comparisons have been based on unrounded data

- the statistical significance of differences noted within the release are determined based on non-overlapping confidence intervals in the unadjusted data

- if a change is considered significant in the unadjusted data, we translate this as significant in the seasonally adjusted data

We are considering alternative measures of testing significance, because of the new methodology introduced in deriving quarterly estimates for personal well-being. One way is to examine the variance of change between quarters. This would allow us to analyse significance on seasonally adjusted data directly. We would be interested in getting your thoughts, and other ways that may be suggested; if you have any comments, please contact us at PeopleAndProsperity@ons.gov.uk.

# 10 . Related links

[Personal well-being quarterly estimates technical report](#)
Methodology | Released on 14 November 2019
Description of the statistical methods and techniques used to create and analyse quarterly estimates for personal well-being in the UK. This is the first time that we are publishing quarterly data for the personal well-being figures as Experimental Statistics, providing a more timely picture comparable with economic well-being statistics.

[Personal well-being in the UK: April 2018 to March 2019](#)
Bulletin | Released on 23 October 2019
Estimates of life satisfaction, feeling that the things done in life are worthwhile, happiness and anxiety at the UK, country, regional, county and local authority level.

[Personal and economic well-being: what matters most to our life satisfaction?](#)
Article | Released on 15 May 2019
Examines how socio-demographic and economic factors are associated with life satisfaction. These factors include sex, age, health, marital and economic status as well as household income and expenditure.

[Beyond GDP: How ONS is developing wider measures of well-being](#)
Article | 4 February 2019
A summary of how the ONS is continuing to develop new ways of measuring and reporting the UK's economic and social progress and an introduction to the Personal and economic well-being publication.

[Optimism and personal well-being: technical report](#)
Methodology | 12 March 2020
Exploratory analysis of the relationship between optimism and personal well-being using questions from the 2019 Opinions and Lifestyle (OPN) Survey.