

Article

Labour Force Survey Performance and quality monitoring report: October to December 2021

Response rates, sample size and quality assessment of the Office for National Statistics quarterly Labour Force Survey.

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Notice

20 July 2022

The ONS incorrectly stated the Wave 1 sample had reduced to 60% of pre-coronavirus level in April 2021 when the sample was reduced to 160% of the pre-coronavirus level.

The ONS incorrectly stated the Wave 1 sample had reduced to 50% of pre-coronavirus level in October 2021 when the sample was reduced to 150% of the pre-coronavirus level.

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1 . Executive summary October to December 2021

Summary of achieved sample size

The achieved sample size for the UK Labour Force Survey (LFS) during October to December 2021 (OD21) was 84,205 individuals in 38,136 households. Please note that there were no NHS households in this period. Compared with the previous quarter July to September (JS21) this represents a decrease of 6.8% in household interviews and a decrease of 6.9% in achieved person interviews.

Summary of response rates

Please note that [historical reports](#) can also be accessed.

In October to December 2021 (OD21), main response rates were as follows:

- response rates presented in this report cover the October to December 2021 survey period; coronavirus (COVID-19) social distancing measures were implemented towards the end of the January to March 2020 quarter and information has been added to this report to inform user understanding
- the total response rate for Great Britain excluding imputed cases (Table 4) was 21.1%; this is down 1.4 percentage points on the previous quarter
- the response rate excluding imputed cases (Figure 3) was 32% in wave 1 and 15.5% in wave 5; this compares with 37.1% and 15.7% respectively in the previous quarter
- the total response rate for Great Britain including imputed cases (Table 5) was 26.5%, down 0.5 percentage points on the previous quarter
- of non-response in OD21 (Figure 5), non-contacts comprised 22.8% (down 2.8 percentage points on the previous quarter), circumstantial refusals were 3.1% (up 0.1 percentage points from the previous quarter), outright refusals comprised 20.7% (up 3.2 percentage points on the previous quarter) and other refusals comprised the remainder
- the region with the highest accumulated response rate across the five waves (Table 8) was the South West (32.5%); the lowest was Inner London (16.7%)
- the overall proxy response rate (Table 9) was 37.9%; the highest proxy response rates occur in the 16 to 17 years age group (95.7%), in males (42.6%) and in the non-White ethnicity group (45.7%)
- the average income response rate (Table 10) was 85%
- the data on attrition rates are shown in Table 11; these data reveal in percentage change terms that those who drop out of the survey between waves 1 and 5 are over-represented in the 30 to 39 years age bands, self-employed, in households with six or more people, and West Yorkshire.

A breakdown of main characteristic changes have been included in the 'Impact of Coronavirus (COVID-19) on the LFS' section.

There have been a number of methodological and operational changes that may have affected response rates. More details on these changes are outlined in the [Comparability section](#) of the report.

Impact of Coronavirus (COVID-19) on the LFS

Response rates presented in this report cover the October to December 2021 survey period. Coronavirus (COVID-19) social distancing measures were implemented towards the end of the January to March 2020 quarter. The timeline of events for the LFS is:

9 March 2020

- The public's heightened awareness of COVID-19 started to affect participation in LFS.

17 March 2020

- Wave 1 face-to-face data collection temporarily suspended while systems developed to allow interviewers to conduct telephone interviewing from their homes.
- Telematching used for north of the Caledonian Canal cases extended to Great Britain to obtain additional telephone numbers for wave 1 cases.
- LFS waves 2 to 5 continued to be conducted via telephone where possible.

23 March 2020

- Commencement of official UK lockdown measures.
- Face-to-face interviewers restarted interviewing intermittently using telephone mode. Additional advance materials prepared to allow respondents to contact the interviewers.

30 March 2020

- Telephone interviewing rolled out fully to face-to-face interviewers.

20 April 2020

- New online portal put in place to allow improved collection of respondent details.

1 May 2020

- Unconditional incentive increased to £10 for all wave 1 households.

1 July 2020

- Wave 1 LFS sample size doubled to account for lower response rates.

12 April 2021

- Wave 1 sample reduced to 160% of pre-coronavirus level.
- knock to nudge (KtN) introduced for April to June 2021.

11 October 2021

- Wave 1 sample reduced to 150% of pre-coronavirus level.

Phone contact details for respondents are obtained through different sources. The main methods in which phone numbers are obtained are through tele-matching, an online portal, and knock to nudge.

Tele-matching phone contact details are achieved by taking sampled addresses and matching details through a database provided by REaD to obtain both landline and mobile phone numbers, which are subsequently provided to interviewers. Phone contact details obtained through the online portal are achieved by respondents receiving a letter in advance with materials containing information about the study, which have been adapted since the start of the pandemic to reflect the pausing of face-to-face interviews.

The advance letter asks for sampled addresses to enter their name and phone number into the portal, which is then used to contact them. An additional reminder letter has also been developed specifically because of the pandemic, to allow interviewers to follow-up on addresses where no phone contact information was obtained via tele-matching or through the online portal.

The majority of telephone numbers obtained through tele-matching and uploaded through the portal are mobile phone numbers.

KtN is where interviewers encourage respondents to provide their phone number and arrange an appointment by knocking on their door. The increase in response rate from April 2021 was in part related to KtN.

From wave 2 onwards sampled addresses are contacted by telephone interviewers. If a respondent has moved address during the time of the study the interviewer records that the original respondent no longer lives at the address. This address is then reassigned to a field interviewer for them to make contact with the new occupants at the original address.

Respondent characteristics

To identify any potential impact on the estimates, a range of characteristics have been investigated, including age, sex and tenure. The main changes to respondent characteristics are:

- age – there are a higher proportion of wave 1 respondents aged 65 years and over; 27% in wave 1 in October to December 2021 (OD21), which has increased from 25% in July to September 2021 (JS21) (see Table 1); the number of respondents aged under 16 years in wave 1 has increased from 15% in January to March 2021 (JM21) to 17% in OD21
- tenure – the proportion of responding household reference person (HRPs) who own their property outright has decreased from 48% in OD20 to 45% in OD21, and there are a greater number of responding HRPs who are renting (26% in OD21, compared with 22% in OD20) (see Table 2)
- country of birth – non-UK born respondents comprised, on average, 13% of all interviews at wave 1 through 2019, the average through 2020 was 10% (see Figure A); in OD21, 11.3% of wave 1 interviews comprised non-UK born respondents

These percentages relate to wave 1 cases. Looking at waves 2 to 5 there is a similar pattern. For waves 2 to 5, respondents aged 65 years and over have remained stable with 26.9% in OD21 compared with 26.1% in JS21. This has increased compared with earlier periods as the proportion of respondents aged 65 years and over was 23.4% in OD20. For waves 2 to 5, 48% of responding HRPs owned their property outright in OD21, compared with around 44% previously.

Table 1: Age of respondents from October to December 2020 to October to December 2021, wave 1

Wave 1 responding	Under 16	16-24	25-34	35-44	45-54	55-64	65 and over
OD20	15%	7%	9%	11%	13%	16%	28%
JM21	15%	7%	10%	11%	13%	16%	28%
AJ21	17%	8%	10%	12%	13%	15%	25%
JS21	17%	7%	10%	12%	13%	15%	25%
OD21	17%	7%	10%	12%	13%	15%	27%

Source: Office for National Statistics – Labour Force Survey

Notes

1. Because of rounding some totals for one quarter may equal more than 100%.

Table 2: Tenure of Household Reference Person from October to December 2020 to October to December 2021, wave 1

Wave 1 responding HRP	Owned outright	Being bought with mortgage or loan	Part rent	Rented	Rent free
OD20	48%	29%	1%	22%	1%
JM21	48%	28%	1%	22%	1%
AJ21	44%	29%	1%	25%	1%
JS21	43%	29%	1%	26%	1%
OD21	45%	28%	1%	26%	1%

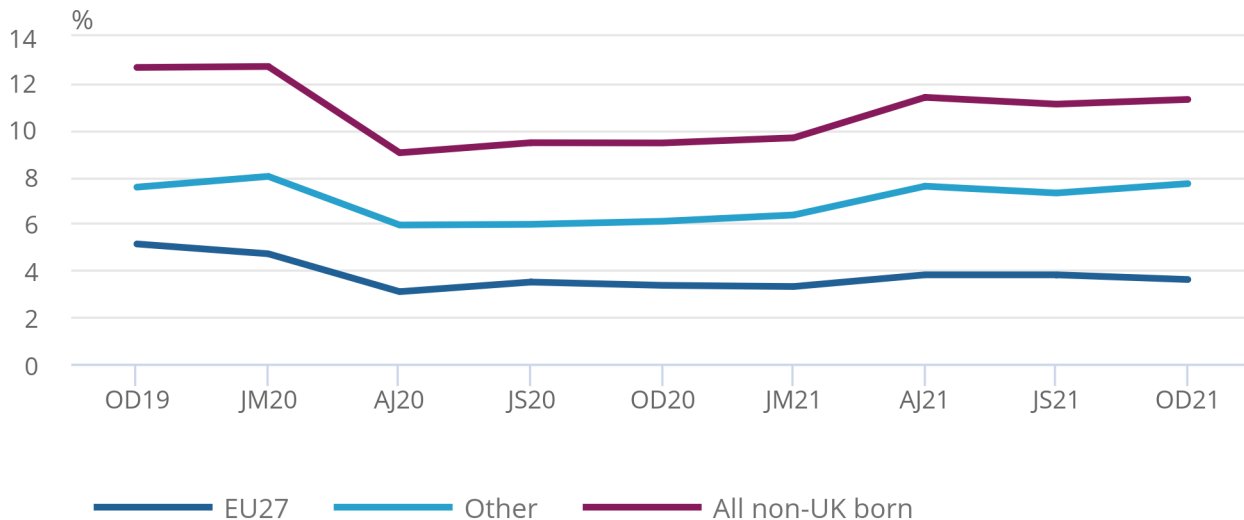
Source: Office for National Statistics – Labour Force Survey

Notes

1. HRP – Household Reference Person some questions like tenure are only asked of one person in the household. For example say there is a 4-person household. The HRP answers the question TEN1 saying that they rent the household. On the household (and person) datasets everyone in that household will then have a value of TEN1=4 (although 3 of the respondents have not been asked the question).
2. Because of rounding, some totals for one quarter may equal more than 100%.

Figure A: Country of birth of respondents from October 2019 to December 2021, wave 1

Figure A: Country of birth of respondents from October 2019 to December 2021, wave 1



Source: Office for National Statistics - Labour Force Survey

Notes:

1. OD19 refers to October to December 2019; JM20 refers to January to March 2020; AJ20 refers to April to June 2020; JS20 refers to July to September 2020; OD20 refers to October to December 2020, JM21 refers to January to March 2021, AJ21 refers to April to June 2021; JS21 refers to July to September 2021, OD21 refers to October to December 2021.

While some changes in the demographic coverage of the survey would be dealt with in the weighting processes, this only covers age, sex and location. In order to mitigate the impact of the non-response bias in the LFS caused by changes to the way people were contacted for initial interviews since March 2020, the LFS has introduced housing tenure into the weighting methodology. While not providing a perfect solution, this has redressed some of the issues that had previously been noted in the survey results.

As a result we have moved to using the new tenure weighting from January to March 2020 onwards for all LFS and Annual Population Survey (APS) microdata, to help ensure they are produced on a consistent basis. There may also be further refinements to the methodology, such as constraining the tenure weighting within region, that lead to further improvements and revisions in the future. We will continue investigating these options and implement them if they are of sufficiently significant benefit.

Because of the sharp decrease in response rates with the onset of the coronavirus pandemic, the LFS wave 1 sample was doubled from JS20 onwards to ensure achieved sample sizes could be maintained. As all interviewing had to be conducted over the phone since March 2020, phone contact details had to be obtained for the wave 1 sample. To reduce the unproductive case work rotated forward into future waves, and with that the interviewer burden, a decision was taken to code out wave 3 cases as refusals from JM21 that were unproductive in the previous two waves.

This change in methodology is now reflected in the refusal rates for wave 2, wave 3, wave 4 and wave 5 cases in OD21 (see Tables 4 to 7 and Figure 5). A large increase in refusals to head office can be seen for wave 2, wave 3, wave 4 and wave 5 cases resulting from cases that were unproductive in wave 1 (JM21), wave 2 (AJ21), wave 3 (JS21) and wave 4 (OD21) being intentionally coded as refusal to influence case rotation.

More [information on the work being carried out](#) and an [outline of changes to other ONS surveys during the coronavirus \(COVID-19\) pandemic](#) are available.

The [impact of changes made to the LFS in response to the coronavirus \(COVID-19\) pandemic, and the methods used to adjust the data](#) is available.

[Indicative estimates of the LFS reweighting methodology on key indicators](#) for January to March 2020 to October to December 2020.

[New population weights using PAYE Real-Time Information data](#) to allow for changes to LFS collection methods, and changes to population movements in 2020. To be applied to LFS results from July 2021.

2 . Summary of quality

Relevance

The degree to which the statistical product meets user needs for both coverage and content.

Primary purpose

The primary purpose of the Labour Force Survey (LFS) is "the prompt publication of key aggregate, whole economy, indicators, for the integrated assessment of labour market conditions" (Review of the Labour Force Survey, Office for National Statistics (ONS), 2002). The labour market covers all aspects of people's work, including the education and training needed to equip them for work, the jobs themselves, job-search for those out of work, and income from work and benefits.

Users and uses

Users of LFS data often combine them with related data from other sources to provide an overall view of the state of the labour market. One of the most important users of this sort of assessment is the Bank of England's Monetary Policy Committee, which sets interest rates to meet the government's inflation target.

Other important users of LFS data are HM Treasury and the Department for Work and Pensions. Because they are responsible for UK economic and labour market policy, they are interested in a variety of indicators of the state of the labour market, including the number of people in employment, the number of hours worked and the number of unemployed people (defined according to the International Labour Organization (ILO)). They often analyse these series by age groups, by regions and by sex. Other government users include the Department for Business, Energy and Industrial Strategy (BEIS); the Home Office; the Health and Safety Executive; the Scottish Government; and the Welsh Government.

At the international level, LFS data are used by the Organisation for Economic Co-operation and Development (OECD) and the ILO.

Other users include local authorities; the Trades Union Congress (TUC); the Employer's Association; the Confederation of British Industry; the Institute of Employment Studies; the Institute for Public Policy Research; the National Institute of Economic and Social Research; the Policy Studies Institute; the Institute for Fiscal Studies; academic researchers; the media; and the general public.

Strengths and limitations

The main strengths of the LFS include:

- it has the largest coverage of any household survey in the UK and can therefore generate statistics for small geographical areas
- the sampling errors are relatively small, as a result of the wave structure and the size of the survey
- the survey covers a large range of employment-related variables and non-employment-related variables, allowing cross-linking analyses to be undertaken (for example, earnings against educational attainment)

The main limitations of the LFS include:

- the sample design provides no guarantee of adequate coverage of any industry, as the survey is not industrially stratified
- the LFS coverage omits communal establishments, except NHS housing and students in halls of residence and at boarding schools; members of the armed forces are only included if they live in private accommodation and workers aged 16 years and under are not covered
- while the LFS data are used alongside other sources to feed into the estimates of population change, the main focus of the survey is to collect labour market information and as such is not designed to measure migration flows

Main definitions

The definitions of the three economic activity groups – employed, unemployed and economically inactive – that are used in the LFS are the standard ILO definitions. It should be noted that although the LFS uses ILO definitions, these definitions are not interpreted and applied in exactly the same way in different countries. For example, although "working age" is a common term, different countries have different statutory school-leaving and retirement ages. However, Eurostat collects data from member states and adjusts them to produce comparable estimates.

Accuracy

(The closeness between an estimated result and the (unknown) true value.)

The main threats to accuracy are sources of error, namely sampling error and non-sampling error, where non-sampling error includes:

- coverage error
- non-response error
- measurement error
- processing error
- model assumption error

Many of the sources of non-sampling error are difficult to measure. However, the LFS publishes detailed response rates for all waves of the survey and an overall response rate, including data time series (Tables 4 to 7 and Figures 3 and 5). Response rates are also published by government region for each wave during the particular quarter (Table 8). The LFS also publishes proxy response rates (Table 9), response rates for income questions by National Statistics Socio-economic Classification (NS-SEC) (Table 10) and attrition rates (Table 11).

Surveys, such as the LFS, provide estimates of population characteristics rather than exact measures. In principle, many random samples could be drawn and each would give different results, owing to the fact that each sample would be made up of different people, who would give different answers to the questions asked. The spread of these results is the sampling variability, which generally reduces with increasing sample size. A confidence interval is a range of values, defined by a lower and upper bound, that indicates the variability of an estimate. Statistical methods are used to calculate the sampling variability from which the confidence interval can be determined. For example, with a 95% confidence interval, it is expected that in 95% of the survey samples, the resulting confidence interval will contain the true value that would be obtained by surveying the whole population.

The LFS routinely publishes details of achieved sample sizes in terms of achieved number of household and person interviews (Table 3 and Figures 1 and 2) and sampling variability for estimates of main variables. Sampling variability (95% confidence intervals) can be found in the Sampling variability section (Dataset A11) of the [Labour market statistical bulletin](#).

3 . Achieved sample

Table 3: Achieved sample by type of household, October to December 2021

	GB		UK	
	Includes imputed	Excludes imputed	Includes imputed	Excludes imputed
Private households	35,335	28,084	38,136	30,735
Individuals in private households	77,810	60,088	84,205	66,079
NHS Households	0	0	0	0
Individuals in NHS households	0	0	0	0
Total households	35,335	28,084	38,136	30,735
Total individuals	77,810	60,088	84,205	66,079

Source: Office for National Statistics - Labour Force Survey

Notes

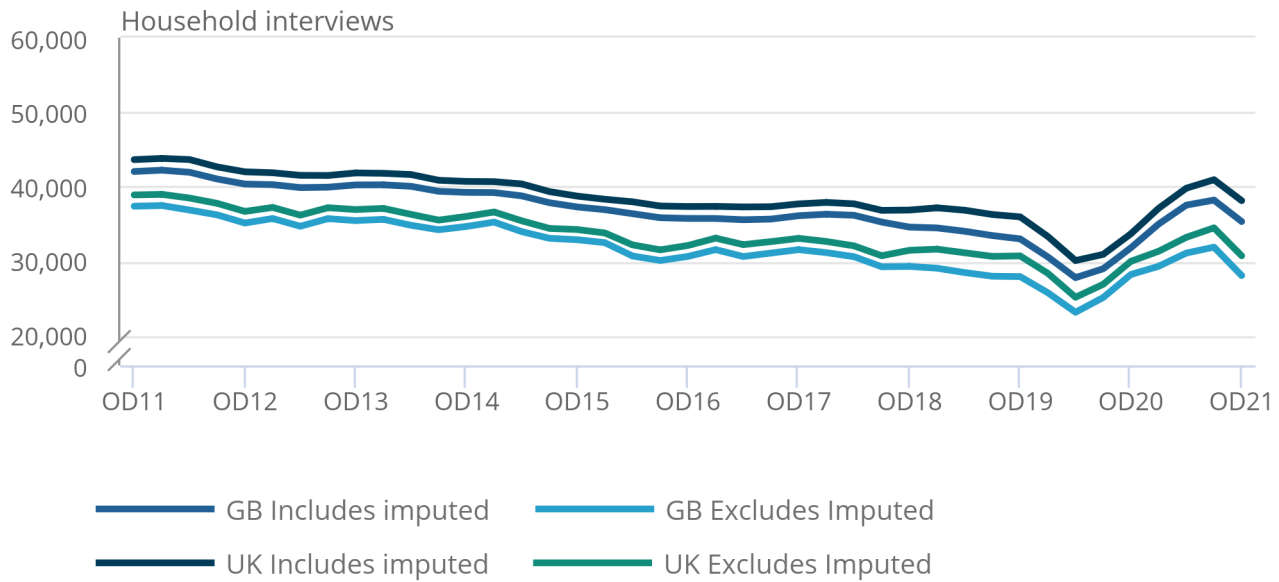
1. For a full definition of response categories and the method used to calculate the response rates see Section 10 Technical definitions.

Figure 1: Achieved number of household interviews

Great Britain and UK, October to December 2011, to October to December 2021

Figure 1: Achieved number of household interviews

Great Britain and UK, October to December 2011, to October to December 2021



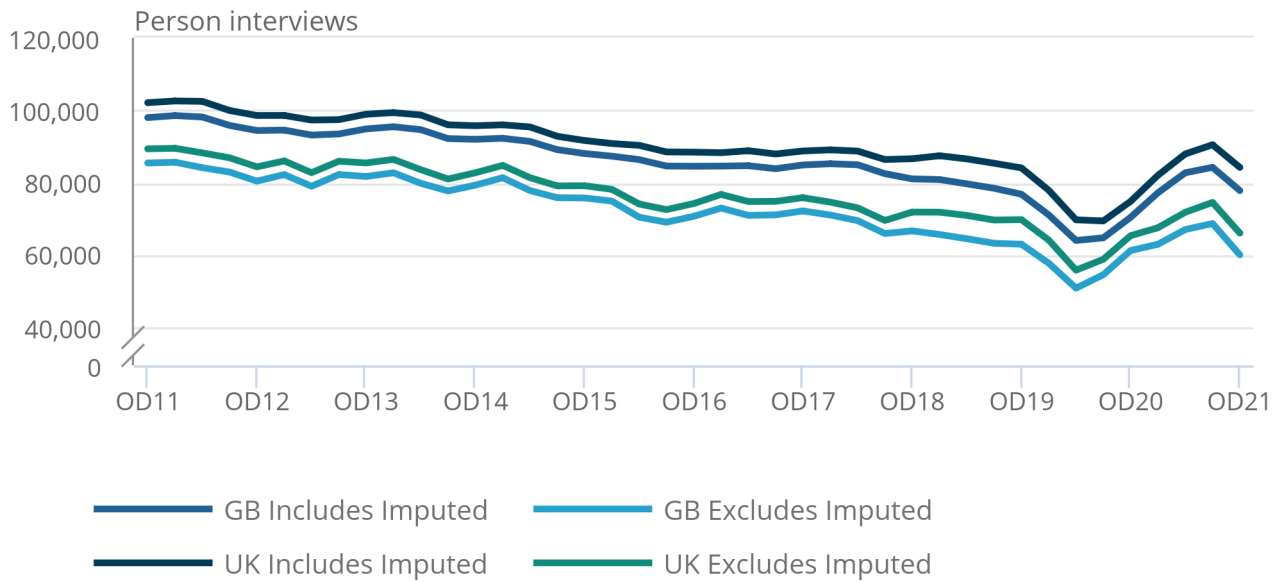
Source: Office for National Statistics - Labour Force Survey

Figure 2: Achieved number of person interviews

Great Britain and UK, October to December 2011, to October to December 2021

Figure 2: Achieved number of person interviews

Great Britain and UK, October to December 2011, to October to December 2021



Source: Office for National Statistics - Labour Force Survey

4 . Response rates

Table 4: Wave-specific response rates, Great Britain, excluding imputed households, October to December 2021

	Wave 1 in OD21		Wave 2 in OD21		Wave 3 in OD21		Wave 4 in OD21		Wave 5 in OD21		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Eligible households found at selected units	23,897	100	23,990	100	23,831	100	30,782	100	30,848	100	133,348	100
Responding units												
Total	7,644	32	5,596	23.3	5,125	21.5	4,926	16	4,795	15.5	28,086	21.1
Full	7,304	30.6	5,216	21.7	4,761	20	4,640	15.1	4,457	14.4	26,378	19.8
Partial	340	1.4	380	1.6	364	1.5	286	0.9	338	1.1	1,708	1.3
Non-responding units												
Circumstantial refusal	1,258	5.3	1,429	6	1,228	5.2	1,096	3.6	832	2.7	5,843	4.4
Outright refusal	3,740	15.7	4,672	19.5	5,065	21.3	3,188	10.4	3,664	11.9	20,329	15.2
Refusal to HQ	195	0.8	5,301	22.1	8,571	36	17,881	58.1	17,791	57.7	49,739	37.3
Non-contact	11,060	46.3	6,451	26.9	3,185	13.4	3,019	9.8	3,113	10.1	26,828	20.1
Addresses not issued for interviewing												
Refusal to re-interview	n/a	n/a	541	2.3	657	2.8	672	2.2	653	2.1	2,523	1.9
Co-operation rate		59.5		32.9		25.6		18.2		17.7		27
Contact rate		52.9		49.9		49.3		30.6		30.8		41.5

Source: Office for National Statistics - Labour Force Survey

Notes

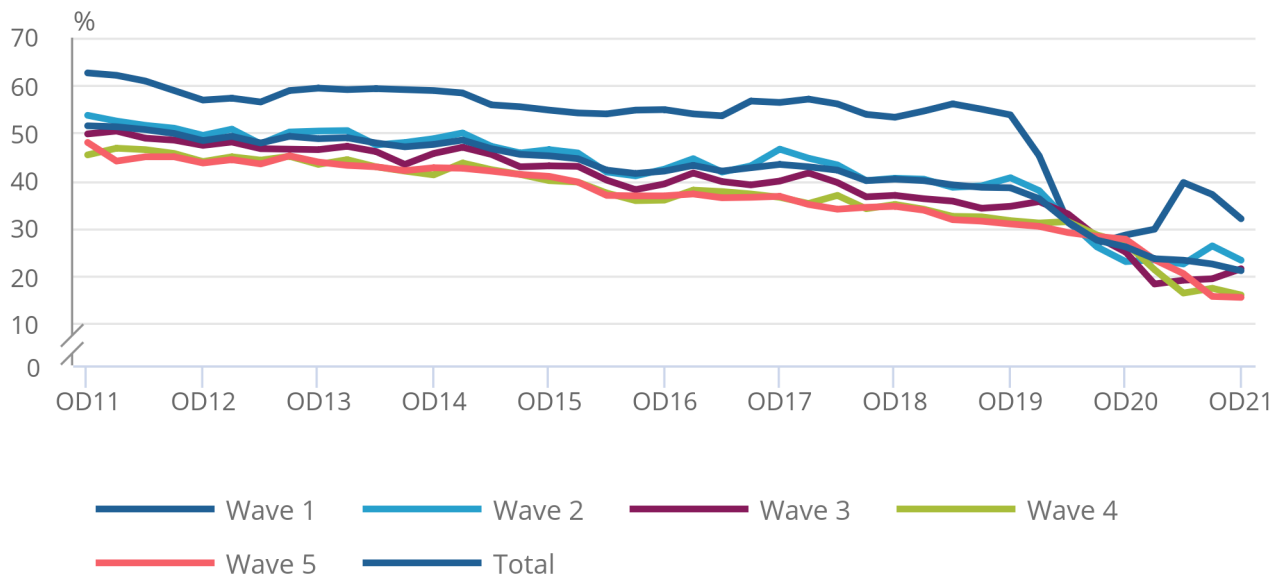
1. Excludes households for which response has been imputed.
2. The total response rate is the aggregate response rate for the quarter across all waves, based on all eligible, in-scope households.
3. For a full definition of response categories and the method used to calculate the response rates, see Section 10 Technical definitions.

Figure 3: Wave-specific response rates

Great Britain, excluding imputed households, October to December 2011, to October to December 2021

Figure 3: Wave-specific response rates

Great Britain, excluding imputed households, October to December 2011, to October to December 2021



Source: Office for National Statistics - Labour Force Survey

Notes:

1. The total response rate is the cumulative response rate for the quarter across all waves, based on all eligible, in-scope households.
2. For a full definition of response categories and the method used to calculate the response rates, see Section 10 Technical definitions.

Table 5: Wave-specific response rates, Great Britain, October to December 2021, including imputed households

	Wave 1 in OD21		Wave 2 in OD21		Wave 3 in OD21		Wave 4 in OD21		Wave 5 in OD21		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Eligible households found at selected units	23,897	100	23,990	100	23,831	100	30,782	100	30,848	100	133,348	100
Responding units												
Total	7,644	32	8,341	34.8	6,898	28.9	6,487	21.1	5,991	19.4	35,361	26.5
Full	7,304	30.6	5,216	21.7	4,761	20	4,640	15.1	4,457	14.4	26,378	19.8
Partial	340	1.4	380	1.6	364	1.5	286	0.9	338	1.1	1,708	1.3
Imputed	-	-	2745	11.4	1773	7.4	1561	5.1	1196	3.9	7,275	5.5
Non-responding units												
Circumstantial refusal	1,258	5.3	372	1.6	516	2.2	475	1.5	389	1.3	3,010	2.3
Outright refusal	3,740	15.7	4,672	19.5	5,065	21.3	3,188	10.4	3,664	11.9	20,329	15.2
Refusal to HQ	195	0.8	5,301	22.1	8,571	36	17,881	58.1	17,791	57.7	49,739	37.3
Non-contact	11,060	46.3	4,763	19.9	2,124	8.9	2,079	6.8	2,360	7.7	22,386	16.8
Addresses not issued for inter-viewing												
Refusal to re-interview	n/a	n/a	541	2.3	657	2.8	672	2.2	653	2.1	2,523	1.9
Co-operation rate		59.5		44.6		32.8		23.1		21.5		32.6
Contact rate		52.9		57.1		53.8		33.7		33.3		44.9

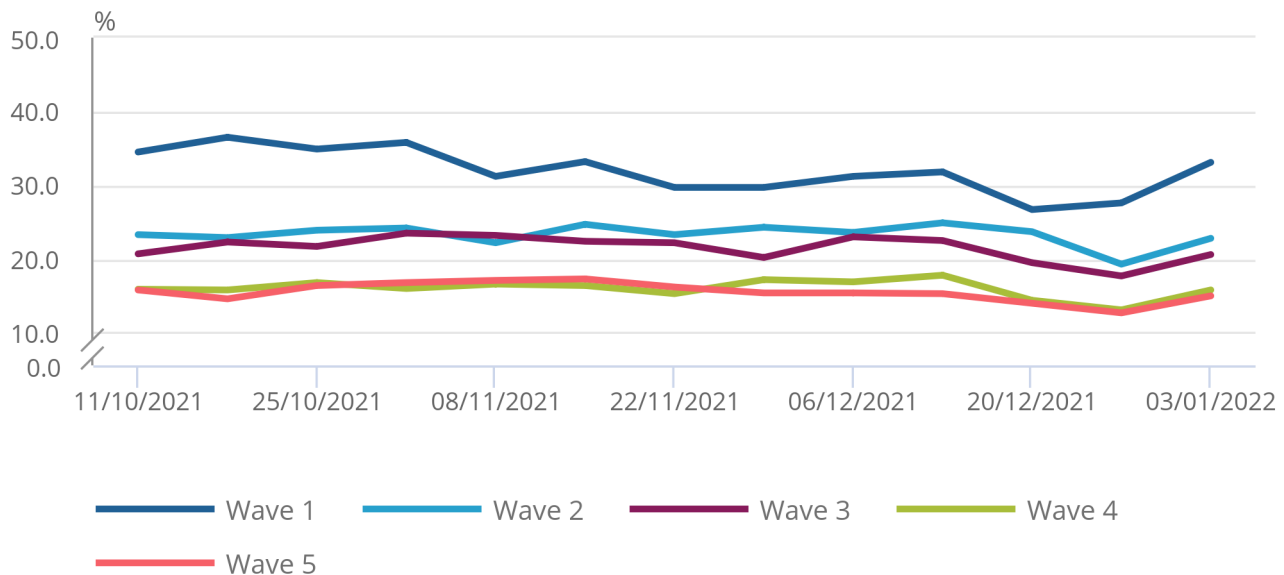
Source: Office for National Statistics - Labour Force Survey

Figure 4: Wave-specific response rates by week

Great Britain, excluding imputed households, October to December 2021

Figure 4: Wave-specific response rates by week

Great Britain, excluding imputed households, October to December 2021



Source: Office for National Statistics - Labour Force Survey

Notes:

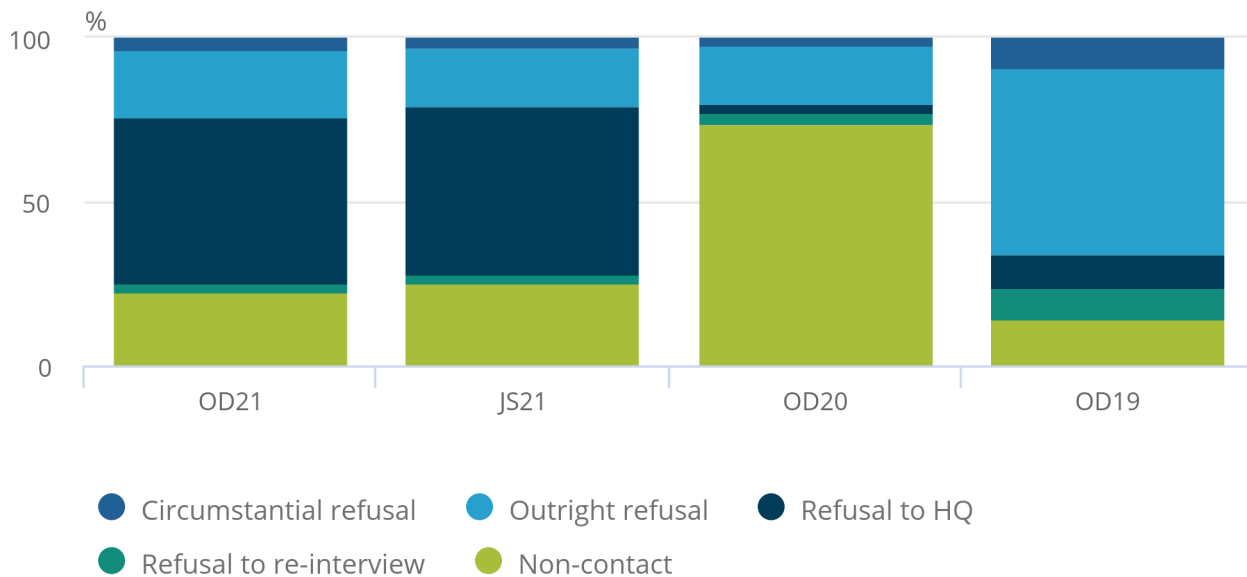
1. All selected addresses are distributed equally across the 13 weeks of the quarter. For more details see [Labour Force Survey user guidance](#)

Figure 5: Composition of non-response

Great Britain, including imputed households, October to December 2021

Figure 5: Composition of non-response

Great Britain, including imputed households, October to December 2021



Source: Office for National Statistics – Labour Force Survey

Notes:

1. For definitions of the types of non-response, see Section 10 Technical definitions. Figures are based on the aggregate response for the quarter covering all waves.
2. OD21 refers to the period October to December 2021.
3. JS21 refers to the period July to September 2021.
4. OD20 refers to the period October to December 2020.
5. OD19 refers to the period October to December 2019.

Table 6: Wave-specific response rates, United Kingdom, October to December 2021, excluding imputed households

	Wave 1 in OD21		Wave 2 in OD21		Wave 3 in OD21		Wave 4 in OD21		Wave 5 in OD21		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Eligible households found at selected units	25,114	100	25,187	100	26,357	100	33,284	100	33,343	100	143,285	100
Responding units												
Total	8,256	32.9	6,114	24.3	5,650	21.4	5,446	16.4	5,271	15.8	30,737	21.5
Full	7,877	31.4	5,711	22.7	5,245	19.9	5,144	15.5	4,913	14.7	28,890	20.2
Partial	379	1.5	403	1.6	405	1.5	302	0.9	358	1.1	1,847	1.3
Non-responding units												
Circumstantial refusal	1,320	5.3	1,463	5.8	1,248	4.7	1,110	3.3	848	2.5	5,989	4.2
Outright refusal	4,015	16	4,759	18.9	5,087	19.3	3,202	9.6	3,680	11	20,743	14.5
Refusal to HQ	199	0.8	5,301	21	8,576	32.5	17,881	53.7	17,794	53.4	49,751	34.7
Non-contact	11,324	45.1	6,727	26.7	5,058	19.2	4,857	14.6	4,967	14.9	32,933	23
Addresses not issued for inter-viewing												
Refusal to re-interview	n/a	n/a	823	3.3	738	2.8	788	2.4	783	2.3	3,132	2.2
Co-operation rate		59.9		34.7		27.5		19.7		19.1		28.7
Contact rate		54.1		50.6		46.8		30		30.1		41

Source: Office for National Statistics – Labour Force Survey

Notes

1. Excludes households for which response has been imputed.
2. The total response rate is the aggregate response rate for the quarter, based on all eligible, in-scope households.
3. See Section 10 Technical definitions for a full definition of response categories and the method used to calculate the response rates.

Table 7: Wave-specific response rates, United Kingdom, October to December 2021, including imputed households

	Wave 1 in OD21		Wave 2 in OD21		Wave 3 in OD21		Wave 4 in OD21		Wave 5 in OD21		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Eligible households found at selected units	25,114	100	25,187	100	26,357	100	33,284	100	33,343	100	143,285	100
Responding units												
Total	8,256	32.9	8,913	35.4	7,466	28.3	7,033	21.1	6,494	19.5	38,162	26.6
Full	7,877	31.4	5,711	22.7	5,245	19.9	5,144	15.5	4,913	14.7	28,890	20.2
Partial	379	1.5	403	1.6	405	1.5	302	0.9	358	1.1	1,847	1.3
Imputed	-	-	2,799	11.1	1,816	6.9	1,587	4.8	1,223	3.7	7,425	5.2
Non-responding units												
Circumstantial refusal	1,320	5.3	397	1.6	527	2	485	1.5	398	1.2	3,127	2.2
Outright refusal	4,015	16	4,759	18.9	5,087	19.3	3,202	9.6	3,680	11	20,743	14.5
Refusal to HQ	199	0.8	5,301	21	8,576	32.5	17,881	53.7	17,794	53.4	49,751	34.7
Non-contact	11,324	45.1	4,994	19.8	3,963	15	3,895	11.7	4,194	12.6	28,370	19.8
Addresses not issued for inter-viewing												
Refusal to re-interview	n/a	n/a	823	3.3	738	2.8	788	2.4	783	2.3	3,132	2.2
Co-operation rate		59.9		46		34.5		24.6		22.9		34.1
Contact rate		54.1		57.7		51.1		33		32.5		44.3

Notes

1. The total response rate is the aggregate response rate for the quarter based on all eligible in-scope households.
2. For a full definition of response categories and the method used to calculate the response rates, see Section 10 Technical definitions.

Table 8: Wave-specific response rates, October to December 2021, including imputed households, by region

Region	Wave 1 in OD21	Wave 2 in OD21	Wave 3 in OD21	Wave 4 in OD21	Wave 5 in OD21	Total
Tyne & Wear	39.7	41.2	27.9	24.6	20.7	30
Rest of North East	40.9	43.3	34	23.6	21.4	31.5
Greater Manchester	28.1	32.1	28.7	17	16.4	23.6
Merseyside	18.6	24	21.7	18.9	17.3	19.9
Rest of North West	34.4	41.3	31.3	19.6	18.8	28
South Yorkshire	37.8	39.4	27.7	17.2	19.2	27.3
West Yorkshire	37.4	34.6	25.2	20.5	19.1	26.4
Rest of Yorkshire and Humberside	39.8	38.5	31.8	24.3	22.5	30.6
East Midlands	32.9	37	32.4	22.2	20	28.1
West Midlands Metropolitan Council	27.5	30.1	23.5	16.6	15.9	22
Rest of West Midlands	32.5	36.6	31.7	22.8	22.4	28.5
East of England	29.1	36	30.3	21.9	20.3	26.9
Inner London	20.8	20.9	17.9	13.4	12.8	16.7
Outer London	27.1	29.1	22.8	15.6	15.4	21.3
South East	32.8	34.7	29.5	24.9	20.5	27.9
South West	38	42.2	35.2	26.4	24.5	32.5
England	31.9	34.9	28.7	21.1	19.4	26.5
Wales	35.7	39.2	34.8	24.1	22.6	30.4
Strathclyde	31.8	29.6	26.6	16.7	14.5	22.9
Rest of Scotland	30.2	31.8	28.5	20.6	20.1	25.6

Scotland 30.9 30.9 27.7 18.9 17.7 24.5

Northern Ireland 50.3 47.8 22.5 21.8 20.2 28.2

Source: Office for National Statistics – Labour Force Survey

Notes

1. The total response rate is the aggregate response rate for the quarter based on all eligible in-scope households.
2. Each wave reported here is an independent sample; for example, the wave 2 response in OD21 is based on response in that quarter plus the previous quarter (JS21) where it was issued as a wave 1 case.

Table 9: Proxy response, Great Britain, October to December 2021

		All responses Proxy %		
Age	Total (16+)	64,726	24,541	37.9
	16-17	1,644	1,574	95.7
	18-19	1,235	1,120	90.7
	20+	61,847	21,847	35.3
Sex	Total	64,726	24,541	37.9
	Male	30,934	13,191	42.6
	Female	33,792	11,350	33.6
Ethnicity	Total	64,726	24,541	37.9
	White	58,792	21,819	37.1
	Non-white	5,874	2,687	45.7
	Refused	60	35	58.3
Economic activity (INECAC05)	Total	64,726	24,541	37.9
	Employees	32,332	12,555	38.8
	Self-Employed	5,479	2,244	41
	Government schemes	47	27	57.4
	Unpaid family workers	123	33	26.8
	ILO Unemployed	1,278	575	45
	Inactive	25,467	9,107	35.8

Source: Office for National Statistics – Labour Force Survey

Notes

1. For definition of “unpaid family workers” see Section 7 Comparability.

Table 10: Income response rates by NS-SEC, Great Britain, October to December 2021

	Wave 1 in OD21	Wave 5 in OD21	Total
NS-SEC	%	%	%
Higher managerial and professional	85.7	90.6	87.8
Lower managerial and professional	83.7	87.7	85.3
Intermediate occupations	82.8	88.2	84.9
Small employers and own account workers	69.2	81.3	75.9
Lower supervisory and technical	79.6	88.5	82.8
Semi-routine occupations	81.3	83.5	82.1
Routine occupations	81.1	86	82.8
Total	83.2	88	85

Source: Office for National Statistics – Labour Force Survey

Notes

1. The percentages in Table 10 are based on all eligible in-scope respondents at wave 1 and all eligible in-scope respondents at wave 5.
2. The total response rate is the aggregate response rate for income for the quarter (wave 1 and wave 5), based on all eligible, in-scope respondents.

Table 11: Summary of attrition by key characteristics, Great Britain, October to December 2021

		Wave 1 in OD20	Wave 5 in OD21	Responds all waves	Non- responder
Age	<16	16.5	12.9	10	19.6
	16-19	3.6	2.9	2.4	4.3
	20-29	9	6.5	5.8	11
	30-39	11.1	8	6.3	13.7
	40-49	13.3	12	10.2	14.4
	50-59	17	16.8	16.3	17.1
	60-69	18.3	24.2	28.1	13.3
	70+	11.2	16.7	20.8	6.6
Sex	Male	48.3	48.2	48.4	48.5
	Female	51.7	51.8	51.6	51.5
Econ Activity (INECAC05)	Employees	43.1	38.9	35.6	46.6
	Self Emp	7.7	6.8	6.5	8.5
	GovTraining Scheme	0	0	0	0
	UPFW (Unpaid Family Workers)	0.1	0.1	0.1	0.1
	ILO Unemp	2.2	2	1.9	2.3
	Inactive	30.4	39.2	45.9	22.9
Number of people in household (TOTNUM)	1	11.1	13.9	16	8.8
	2	36.3	42.4	46.6	31.3
	3	20.7	18.3	16.1	22.6
	4	22.4	17.6	14.7	26.5
	5	6.4	5.6	4.7	7.1
	6 or more	3	2.2	1.8	3.7
	Region (GOVTOR)	Tyne & Wear	2	2.1	1.9
	Rest of North East	2.7	2.7	2.4	2.7

Greater Manchester	3.6	3.6	3.6	3.6
Merseyside	2.1	1.8	1.7	2.3
Rest of North West	5	4.4	3.8	5.5
South Yorkshire	2.2	2.1	2	2.3
West Yorkshire	3.8	3.2	3.3	4.2
Rest of Yorkshire and Humberside	3.2	3.2	3.6	3.2
East Midlands	8.1	7.5	7.6	8.5
West Midlands Metropolitan Council	3.6	3.4	3.5	3.8
Rest of West Midlands	5.6	5.8	5.9	5.4
East of England	10.7	11	11.1	10.4
Inner London	3	2.7	2.4	3.3
Outer London	6.4	6.1	5.8	6.6
South East	14.8	15.5	16.1	14.3
South West	10	11.3	11.8	8.9
Wales	5.6	5.7	5.6	5.5
Strathclyde	2.9	2.8	2.6	2.9
Rest of Scotland	4.9	5.1	5.1	4.7

Source: Office for National Statistics – Labour Force Survey

Notes

1. The column wave 1 in OD20 Responds shows the percentage of responders in each key characteristic's category at wave 1.
2. The column, wave 5 in OD21 Responds, shows the percentage of responders in each key characteristic's category at wave 5.
3. A significant decline in the values between waves 1 and 5 denotes a higher rate of attrition than where values are consistent between waves 1 and 5 or higher at wave 5.

5 . Timeliness and punctuality

(Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the time lag between the actual and planned dates of publication.)

To the Office for National Statistics (ONS) Labour Market Division (LMD)

Scheduled delivery date for file: 21 January 2022.

Achieved delivery date for file: 21 January 2022.

Time lag between achieved delivery date and the end of the reference period: 12 days.

Data file for other users

Scheduled availability date for regional public and government normal release user files: 15 February 2022.

Recipients

- Bank of England
- Department for Business, Energy and Industrial Strategy
- Department for Levelling Up, Housing and Communities
- Department for Education
- Department for Enterprise, Trade and Investment (Northern Ireland)
- Department for Digital, Culture, Media and Sport
- Department for Transport
- Department for Work and Pensions
- Department of Finance and Personnel (Northern Ireland)
- Economic and Social Research Council and Data Archive
- Health and Safety Executive
- HM Treasury
- Home Office
- Low Pay Commission
- Office for Standards in Education
- Office of Manpower Economics
- Scottish Government and Scottish Executive
- Small Business Service
- Welsh Government

6 . Accessibility and clarity

(Accessibility is the ease with which users are able to access the data, also reflecting the format(s) in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.)

The [UK Data Archive](#) at the University of Essex provides free access to the various Labour Force Survey (LFS) datasets.

[NOMIS provide a free but highly disaggregated dataset](#), which covers a wealth of data for local areas.

The Social Surveys Team provide LFS data [for a fee](#) and can be contacted by phone on +44 1633 455678 or email at socialsurveys@ons.gov.uk.

[Labour market data](#), including data from the LFS, are published every month through statistical bulletins. These include text, tables and charts. Data contained within the bulletins are available to download, free of charge.

For questions relating to labour market statistics, please contact labour.market@ons.gov.uk.

For general queries about the LFS, please contact lfs@ons.gov.uk.

7 . Comparability

(Comparability is the degree to which data can be compared over time and domain.)

Background

The Labour Force Survey (LFS) began in 1973 and was carried out every two years until 1983. Between 1984 and 1991, data were collected annually, and the survey has been running in its present form, with quarterly sampling, since spring 1992. During the UK's membership in the European Union the survey was carried out under European Union regulations, which specified the way the survey should be conducted, the quality of the results that member states supply to Eurostat and the timetable for supplying results. Since the UK's exit from the European Union, these regulations do not apply anymore. Although the LFS began as a survey designed to meet international obligations, its primary purpose is now "the prompt publication of key aggregate, whole economy, indicators, for the integrated assessment of labour market conditions" (Review of the Labour Force Survey, Office for National Statistics, 2002).

Definitions

The definitions of the three economic activity groups – employed, unemployed and economically inactive – that are used in the LFS are the standard International Labour Organization (ILO) definitions.

Economically active

Those aged 16 years and over, who are either employed or unemployed in the survey reference week.

Employed

Those aged 16 years and over, who are regarded as in employment if they did at least one hour of work in the reference week (as an employee, self-employed, unpaid workers in a family business or participants in government-supported training schemes) and those who had a job that they were temporarily away from (for example, if they were on holiday).

Unemployed

Those aged 16 years and over, who are without work, want a job, have actively sought work in the last four weeks and are available to start work in the next two weeks, or are out of work but have found a job and are waiting to start it within the next two weeks.

Economically inactive

Those who are neither in employment nor unemployed. This group includes, for example, all those who are looking after a home or family, have a long-term illness or disability that prevents them working, or are retired.

Unpaid family workers

Those who are doing unpaid work in a family business.

October to December 2021 questionnaire changes

New questions

RtWrk

Deleted questions

Coro20a3, Coro20b3, Coro20Oth3, HomCoro, Coro20c2, Coro20d2

Amended questions

Enroll, CorFurSEM, CorFurSEM2B, HomWrk, Remote1, Remote2, EvrFur, Home, EVHM98, VocYr21A-G, BnkH11

Fieldwork and operational changes

A timeline of significant operational changes that may have had an impact on response include:

- July 2010 – households with residents aged 75 years and over are removed after their initial interview from October to December 2010 (JS10); this affects response rates, as these households generally have high response rates, see the previous Questionnaire changes section for more details
- January 2011 – a proportion of initial interviews were conducted by the telephone unit rather than face-to-face as an efficiency measure
- June 2017 – introduction of £5 and £10 incentives randomly allocated across the sample
- January 2018 – from January to March 2018 (JM18) onwards all initial interviews have been face-to-face, except for respondents north of the Caledonian Canal (NOCC)
- January 2018 – around 10 to 15% of the wave 1 sample moved from telephone operations to face-to-face
- April 2018 – introduction of new administrative systems for recording field time and expenses
- June 2018 – changes to advance materials and procedures because of the introduction of the General Data Protection Regulation
- July 2018 – change of incentive type from a paper voucher to a card voucher
- October 2018 – launch of a new fieldwork management tool for use in face-to-face mode
- March 2019 – issues with the telephone system used for some cases in waves 2 to 5 resulted in poor connectivity, which may affect response rates
- March 2020 – social distancing measures were implemented in the UK, face-to-face data collection paused and all interviewing moved to telephone mode; see 'Impact of Coronavirus (COVID-19) on LFS Data' in the Executive summary for more information
- May 2020 – unconditional incentive increased to £10 for all wave 1 households in Great Britain
- July 2020 – wave 1 LFS sample size doubled to account for lower response rates
- July 2020 – Northern Ireland moved from unconditional to conditional incentives for waves 1, 2 and 5, and increased the amount from £10 to £20 in wave 1
- April 2021 – wave 1 sample reduced to 160%, knock to nudge introduced
- October 2021 – wave 1 sample reduced to 150% of pre-coronavirus level

Survey methodology changes

Changes to State Pension age were introduced in 2010, which affected labour market and LFS publications as well as other social surveys. Under the Pensions Act 2011, the State Pension age of women was expected to increase more quickly (than originally planned) to aged 65 years between April 2016 and November 2018. From December 2018, the State Pension age for both men and women started to increase, expected to reach age 67 years by 2028.

From July to September 2010 (JS10), households that only contain respondents aged 75 years and over are removed from the sample after their wave 1 interview. This change was introduced to reduce the cost of the survey and reduce the burden on respondents. Households only containing individuals aged 75 years and over are largely economically inactive. Therefore, the value of interviewing these households is greatly reduced when considering the main aims of the LFS. The wave 1 interviews from aged 75 years and over households will receive a larger weight to make them representative of the UK population. This change results in around a 10% reduction in the household sample size and a 7% reduction in the individual sample size.

From JS10, the treatment of "concealed multi-households" on the LFS has also changed. Previously, if one sampled address turned out on inspection to be, for example, not one house but six flats, all six flats would be recorded as households and interviews would be attempted with each household. The number of households encountered could be in the hundreds. This would not be a practical approach. We decided to harmonise the approach to multi-households across all our social surveys. From JS10, if a concealed multi-household is recorded, only one household will be randomly selected to be interviewed.

8 . Coherence

(Coherence is the degree to which data that are derived from different sources or methods, but that refer to the same phenomenon, are similar.)

Data sources

The Labour Force Survey (LFS) is one of a number of sources of data about the labour market. Some sources provide data that overlap with LFS data on employment, unemployment and earnings. The Office for National Statistics (ONS) has published guidance about the strengths and limitations of each source in relation to these topics and has indicated which source is the most appropriate for different purposes. Details can be found in the [Labour market statistics guide](#).

Employment, unemployment and economic inactivity

The LFS is the source recommended by the ONS for certain employment-related statistics (for example, estimates of the number of people in employment or unemployed). The LFS is also a unique source of comprehensive, coherent information about economic inactivity, where it provides information separately about people who want a job and those who do not.

Number and industrial composition of jobs

The workforce jobs (WFJ) series provides estimates of the number of jobs in the UK economy and is the source recommended by the ONS for both the number of jobs and the industrial composition of jobs. Workforce jobs consist of the sum of employee jobs, self-employment jobs, jobs in the armed forces and government-supported trainees. Civilian workforce jobs are available by geographical region, sex and broad industry. Total workforce jobs are available by sex and broad industry.

Earnings

For estimates of change in earnings (for example, pay growth in the economy), a non-LFS source, the Average Weekly Earnings (AWE) measure (formerly the Average Earnings Index (AEI)), is the most suitable source. It provides industry and whole-economy information but excludes small employers, the self-employed and government-supported trainees. Pay, commission, bonuses, overtime and pay award arrears are included, but redundancy payments and benefits in kind are excluded.

The Annual Survey of Hours and Earnings (ASHE) includes information about the levels, distribution, and make-up of earnings and hours worked for employees in different occupations, industries, ages and regions. It should be used when the information required is not available from the AWE (such as for occupational groups, or regional analyses) and is the preferred source of the earnings of full-time employees and of the average hourly earnings of all employees. The LFS should be used when the information is not available from the AWE or from the ASHE and is the preferred source of data about the earnings of part-time and low-paid employees. There is an ONS guide to [sources of data on earnings and income](#).

9 . Summary of methods

The Labour Force Survey (LFS) covers private households, including persons who are temporarily absent. The resident population is made up of persons who regard the sample address as their main address and those who have lived in the dwelling for more than six consecutive months, even if they do not regard this as their principal dwelling. Persons absent for more than six months are not regarded as members of the resident population.

A private household comprises of one or more persons (not necessarily related) living at the same address who share cooking facilities and share a living room, sitting room or dining area. Students living in halls of residence and pupils at boarding schools are sampled through the private households of their parents. In Great Britain, an additional sample is drawn from persons living in NHS accommodation.

The year is divided into quarters of 13 weeks. Prior to January 2006, these were seasonal quarters:

- winter (December to February)
- spring (March to May)
- summer (June to August)
- autumn (September to November)

From January 2006, the LFS has been conducted based on calendar quarters:

- Quarter 1 – January to March
- Quarter 2 – April to June
- Quarter 3 – July to September
- Quarter 4 – October to December

For most of Great Britain, the survey base is the Royal Mail's Postcode Address File (PAF), a database of all addresses receiving mail. The list is limited to addresses receiving fewer than 25 items of post per day, to exclude businesses. Because of the very low population density in the far north of Scotland (north of the Caledonian Canal), telephone directories are used as sampling frames. Interviews in the far north of Scotland are also carried out by telephone because face-to-face interviews would be too expensive. In Northern Ireland POINTER, which is the government's central register of domestic properties, is used.

In Great Britain, a systematic sample is drawn each quarter from the three sampling bases, yielding 16,640 PAF addresses, 75 telephone numbers for the north of Scotland and 36 units of NHS housing. As the PAF is broken down geographically, the systematic sampling ensures that the sample is representative at regional level. In Northern Ireland, a simple random sample is drawn, each quarter, from each of three strata, giving 650 addresses in all.

A rotation system made up of five waves is used. Respondents are interviewed five times at 13-week intervals and one-fifth of the sample is replaced each quarter. Interviews are carried out on a face-to-face (CAPI) or telephone (CATI) basis with the help of portable computers for the interviews in the first wave. In the far north of Scotland (north of the Caledonian Canal) and for interviews in the second to fifth waves, wherever possible, interviews are carried out by telephone.

10 . Technical definitions

Imputation

If a household (or someone within a household) is unavailable for interview but was interviewed in the previous wave, responses from the previous wave are rolled forward. This is referred to as "imputation". Imputation is carried out to minimise non-response bias in estimates while simultaneously improving precision by boosting the sample size. The rationale is that most Labour Force Survey (LFS) variables do not change from one quarter to another for most people.

Responses are rolled forward for one wave only. Data are not rolled forward after a second consecutive non-response. Tables and charts (at person or household level) containing responses that have been rolled forward from the previous wave are denoted by the term "including imputed". Tables and charts that do not contain responses that have been rolled forward from the previous wave are denoted by the term "excluding imputed".

Method of calculating sampling variability

See [Summary of quality](#) for information on the method of calculating sampling variability.

Method of calculating response rates

The response rate indicates how many interviews were achieved as a proportion of those eligible for the survey. The formula used is as follows:

RR equals (FR plus PR) divided by (FR plus PR plus OR plus CR plus RHQ plus NC plus RRI*)

where RR is response rate, FR is full response, PR is partial response, OR is outright refusal, CR is circumstantial refusal, RHQ is refusal to HQ, NC is non-contact, RRI is refusal to re-interview, and the asterisk (*) applies to waves 2 to 5 only.

Definitions of response outcome categories

Full response – a household in which each household member has answered all applicable questions.

Partial response – a household in which questions were not completed because someone refused to be interviewed, refused part way through the questionnaire, or refused to let someone else answer on his or her behalf. However, at least one question block must have been completed. If only part of the information has been collected for a one-person household, it is coded as a refusal or non-contact.

Outright refusal – a household that refuses to respond to the survey and the interviewer feels that there is no chance of an interview at the current or in any future wave.

Circumstantial refusal – a household where the respondent refuses to respond because of a temporary circumstance (for example, going on holiday or being too busy during the field period). A circumstantial refusal enables an interviewer to call back at the next wave.

Refusal to HQ – a household that contacts headquarters to refuse to participate in the survey in response to the advance letter.

Non-contact – when an address is occupied, but where it has not been possible to contact any member of the household in the field period.

Refusal to re-interview – a household that takes part in the survey (at one or more of waves 1 to 4) but that, when asked to take part in the next wave (waves 2 to 5), refuses.

Method of calculating income response rates

The income question is asked at waves 1 and 5 only. Individuals aged 16 to 69 years who are in employment in the reference week form the sub-set of respondents who are eligible for these questions. The percentage response rates for the income questions are based on all eligible, in-scope respondents at wave 1 and all eligible, in-scope respondents at wave 5. The total response rate is the aggregate response rate for income for the quarter (wave 1 and wave 5), based on all eligible, in-scope respondents.

NS-SEC

NS-SEC is the [National Statistics Socio-economic Classification](#), which replaces previous classifications that were based on social class and social and economic group.

Proxy response

The LFS has to complete fieldwork to a tight timetable and interview as many of the sampled households as possible, which leaves limited time for recalls. LFS interviewers try to interview every adult (aged 16 years and over) in each sampled household. However, when a household member is unavailable for interview, interviewers accept information by proxy from another responsible adult in the household. The proxy respondents are normally people living with a partner on behalf of their partner and parents on behalf of their adult offspring who live with them.

Attrition

Attrition is the term applied to respondents who begin the survey but subsequently drop out. It has been known for some time that these respondents tend to have different characteristics to those who remain in all waves of the survey, which can, therefore, result in attrition bias. For example, if respondents in a particular age group have a higher tendency to drop out (attrition rate) than respondents in other age groups, then they will be under-represented in subsequent waves of the survey and in estimates.

11 . Related links

More information on the Labour Force Survey (LFS) is available:

[Labour Force Survey user guides](#)

Methodology | Updated 27 January 2022

Guidance about the background and methodology of the Labour Force Survey (LFS).

[Labour market statistics statistical bulletin](#)

Bulletin | Monthly

Estimates of employment, unemployment, economic inactivity and other employment-related statistics for the UK.

[Labour Force Survey Quality and Methodology Information \(QMI\)](#)

Methodology | Updated 13 January 2015

Quality and Methodology Information for the Labour Force Survey, detailing the strengths and limitations of the data, methods used, and data uses and users.

[Methodology for the calculation of sampling variability in the Labour Force Survey](#) (PDF, 175KB)

Technical note\The formulas used for the calculation of standard errors (SEs) on the quarterly LFS and describes how the impact of the sample design and weighting are captured in these calculations.

[NOMIS](#)

Nomis is a service provided by the Office for National Statistics to give you free access to the most detailed and up-to-date UK labour market statistics from official sources.

[Labour market QMI](#)

Methodology | Updated 31 October 2011

Quality and Methodology Information for labour market statistics in the UK, detailing the strengths and limitations of the data, methods used, and data uses and users.

[UK Data Archive, University of Essex](#)

Home to the UK's largest collection of social, economic and population data for over 50 years.