

Summary Quality Report for the Labour Force Survey Religion Report 2016

May 2018

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1. Introduction

This report is intended to provide users with information on how the statistics in the Labour Force Survey Religion Report 2016 have been compiled and upon the quality of the data on which it is based. The report uses the Labour Force Survey (LFS), which is the largest regular household survey in Northern Ireland. The LFS is a sample survey carried out by interviewing individuals about their personal circumstances and it provides a rich source of information on the labour force.

As a National Statistics publication, the Labour Force Survey Religion Report complies with all aspects of the Code of Practice for Statistics¹, and was awarded this status following an assessment by the UK Statistics Authority.

1.1. Notes for Tables

The tables used in the report use the following conventions where applicable:

- 'P' represents Protestant.
- 'C' represents Catholic.
- Numbers in the relevant tables are rounded to the nearest thousand.
- Totals may not add to the sum of the constituent categories due to rounding.
- Percentages are based on unrounded figures unless otherwise stated.
- The use of [] brackets reflect percentages where the total adds to 100% for Protestants and Catholics only.
- * indicates a number or percentage based on a small sample size below the publication threshold (less than 6,000 grossed for the annual dataset) and will therefore not be released.

¹ UK Statistics Authority, Code of Practice for Statistics,
<https://www.statisticsauthority.gov.uk/osr/code-of-practice/>

2. Relevance

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

The statistics published in the LFS Religion Report are intended to compare the labour market outcomes of Protestants and Catholics in Northern Ireland.

The data are primarily used by The Executive Office, statutory organisations such as the Equality Commission, and by researchers. The users are interested in a variety of indicators relating to religious affiliation and the labour market, including the employment, unemployment, economic inactivity and economic activity rates (defined according to the International Labour Organisation (ILO)). They also occasionally require more detailed analysis of these series by age groups and gender, which the report provides.

3. Accuracy and Reliability

The proximity between an estimate and the unknown true value.

Estimates from the LFS are subject to various sources of error that can be categorised into sampling and non-sampling error. The errors encountered in the LFS are described in detail in the 'Labour Force Survey User Guide - Volume 1: LFS Background and Methodology 2016'. This is available at:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance>

3.1. Sampling Error

Labour market outcomes derived from the LFS are subject to sampling error. This occurs because the estimates are based on a sample rather than a census of all individuals. Sampling error is minimised on the LFS through the use of high quality sampling methodology.

LFS samples are selected monthly using a systematic random sample of addresses from the POINTER address database. Pointer is the address database for Northern Ireland maintained by Land & Property Services (LPS). The database is ordered by District Council, Ward and Unique Property Reference Number (UPRN). Using an interval for selection and a random start point the sample is selected to cover all of Northern Ireland.

The population covered is all persons resident in private households and young people living away from the parental home in a student hall of residence or similar institution during term time. The weighting process used on the LFS reduces standard errors because it ensures that the weighted dataset is representative of the population.

Because the LFS results are subject to sampling error, the actual proportion of the population in private households with a particular characteristic may differ from the proportion of the LFS sample with that characteristic. Accordingly, the percentages in tables and commentary are rounded and caution is required regarding the degree of accuracy of the figures reported.

The following tables show the estimates obtained from the 2016 LFS survey for some key LFS variables and indicate their sampling accuracy. The confidence intervals represent the ranges either side of the LFS estimates which are 95% certain to include the true values of the quantities estimated e.g. the 95% confidence interval for economic activity for working age Protestant males is interpreted as follows:

'We can be 95% certain that the true level of economic activity for working age Protestant males in 2016 was between 77.8% and 83.4%'

Table 1: Confidence intervals for working age economic activity rates, 2016

	Rate	Confidence Interval	Lower Limit	Upper Limit
P Males	80.6%	+/-2.8 pps	77.8%	83.4%
C Males	79.9%	+/-2.7 pps	77.2%	82.7%
P Females	68.7%	+/-3.1 pps	65.6%	71.8%
C Females	67.7%	+/-3.0 pps	64.7%	70.7%
P both sexes	74.5%	+/-2.1 pps	72.4%	76.6%
C both sexes	73.6%	+/-2.1 pps	71.5%	75.6%

Table 2: Confidence intervals for unemployment rates (16+), 2016

	Rate	Confidence Interval	Lower Limit	Upper Limit
P Males	5.8%	+/-1.8 pps	4.0%	7.6%
C Males	7.9%	+/-2.0 pps	5.8%	9.9%
P Females	*	*	*	*
C Females	6.3%	+/-1.9 pps	4.4%	8.2%
P both sexes	4.7%	+/-1.2 pps	3.5%	5.9%
C both sexes	7.1%	+/-1.4 pps	5.7%	8.5%

Table 3: Confidence intervals for religious composition of those in employment (16+), 2016

	Rate	Confidence Interval	Lower Limit	Upper Limit
P Males	49.9%	+/-2.8 pps	47.1%	52.7%
C Males	50.1%	+/-2.8 pps	47.3%	52.9%
P Females	49.3%	+/-2.8 pps	46.4%	52.1%
C Females	50.7%	+/- 2.8 pps	47.9%	53.6%
P both sexes	49.6%	+/-2.0 pps	47.6%	51.6%
C both sexes	50.4%	+/-2.0 pps	48.4%	52.4%

Table 4: Confidence intervals for religious composition of the working age economically active, 2016

	Rate	Confidence Interval	Lower Limit	Upper Limit
P Males	48.6%	+/-2.8 pps	45.8%	51.3%
C Males	51.4%	+/-2.8 pps	48.7%	54.2%
P Females	47.9%	+/-2.8 pps	45.1%	50.7%
C Females	52.1%	+/-2.8 pps	49.3%	54.9%
P both sexes	48.3%	+/-2.0 pps	46.3%	50.2%
C both sexes	51.7%	+/-2.0 pps	49.8%	53.7%

Table 5: Confidence intervals for unemployment differential (ratio of rates), 2016

	Ratio	Confidence Interval	Lower Limit	Upper Limit
C/P Males	1.35	+/-0.55	0.80	1.90
C/P Females	*	*	*	*
C/P both sexes	1.51	+/-0.48	1.03	1.99

Table 6: Confidence intervals for unemployment differential (gap measure), 2016

	Gap	Confidence Interval	Lower Limit	Upper Limit
Males	2.04	+/-2.73	-0.69	4.77
Females	*	*	*	*
Both sexes	2.42	+/-1.82	0.60	4.24

Please note: The number of unemployed female Protestants fell below the publication threshold in 2016, and it is not therefore possible to perform any calculation based on this. As a result, these cells are denoted with an asterisk in the tables above.

Sampling error needs consideration in relation to differences in survey estimates between the two communities. For example, when overall (both male and female) unemployment rates for Protestants and Catholics and the subsequent derivation of the unemployment differential measures (ratio and gap) are considered and the confidence intervals of the survey estimates do not overlap, we can be fairly certain that the differences reflect a 'real' difference.

If these unemployment-related estimates overlap we can be less certain that the differences reflect a 'real' difference. However, whilst confidence intervals may result in overlapping estimates, weight should also be given to the stability of any inter-relationship and trends in this inter-relationship over time.

3.2. Non-sampling Error

3.2.1. Coverage Error

The population covered was all persons resident in private households and young people living away from the parental home in a student hall of residence or similar institution during term time. However, most of the population living in communal establishments (CE) and non-private households such as residential care homes are not included in the LFS sample.

The 'Labour Force Survey User Guide Volume 1: LFS Background and Methodology 2016' states that comparisons between the LFS and Census estimates of the residents of CEs, suggest that residents of CEs tend to differ from the rest of the population in terms of their demographic characteristics. The main differences are:

- There are proportionately more women in CEs.
- The population is generally older in CEs, especially for women.
- The economic activity rate is considerably lower amongst CE residents.²

² Office for National Statistics, Labour Force Survey User Guide - Volume 1: Background and Methodology 2016, p.10

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance>.

3.2.2. Non-response Error

Due to the fact that the 2016 LFS Religion Report is comprised of two fifths of the households surveyed each calendar quarter, response rates relating specifically to the households included in the LFS Religion Report are not available.

Given that the annual 2016 dataset was constructed from the relevant respondents across four calendar quarters, the response rates for each of these quarters are presented in Table 7.

Table 7: Response rates in each quarter

	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
	2016	2016	2016	2016
Fully and partially responding households	1,302	1,494	1,427	1,468
Eligible sample	1,876	2,339	2,306	2,287
Response rate	69.4%	63.9%	61.9%	64.2%

3.2.3. Using a stated religion question compared to a religion brought up in question

In England, Scotland and Wales, LFS respondents were asked: “*What is your religion?*”, with the responses from all three countries amalgamated to form a derived variable for the whole of Great Britain. Respondents in Great Britain were shown a showcard and allowed time to answer. If they did not answer immediately they were prompted for a response. However, this was not a forced question in Great Britain and the interview continued if the individuals did not give a response.

In Northern Ireland, respondents were asked: “*What is your religious denomination?*” Unlike in Great Britain, individuals were not shown a showcard, but instead they were categorised based upon the response given. While this is a voluntary question in Northern Ireland, individuals who did not answer the stated religion question were recorded as unwilling to answer, in order to enable the interview to continue.

The responses were coded based on the interviewee’s response. There were differences in how the responses were coded across the UK. In England and Wales, Christians were categorised as one group. In Scotland they were categorised into three groups (‘Church of Scotland’, ‘Roman Catholic’ and ‘Other Christian’). In Northern Ireland, Christians are classified as either ‘Catholic’, ‘Presbyterian’, ‘Church of Ireland’, ‘Methodist’, ‘Other Protestant’ or ‘Other religion’.

In Northern Ireland, analysis of responses to this stated religion question over time reveals a rise in the proportion of those surveyed who have responded to the stated religion question in terms of: stating ‘no denomination’; refusing to answer the question; or having a religion other than Catholic or Protestant. For the working age population particularly, this has been reflected by a rise in the proportion who could not be assigned a Catholic or Protestant religion from 6% in 1990 to 16% in 2016.

In addition, there was evidence in the 2001 and 2011 Censuses that a higher proportion of individuals from a Protestant community background stated that they had no religious denomination compared to individuals from a Catholic Background.³

From 2010 onwards LFS respondents who reported no religious denomination in the stated religion question were asked about the community background in which they were brought up. The question asked was “May I just check then, what religious denomination, if any, where you brought up in?” The community background data have not been incorporated into the main Labour Force Survey Religion Report 2016, as further analysis and consultation is required in order to determine how best to do this. An analysis of the 2016 community background data is outlined below.

3.2.4. Using the community background question to examine those persons who stated ‘no denomination’ in the religion question

The community background question has been used to examine those persons who stated ‘no religious denomination’ in the religion question. There were 205,000 individuals aged 16 and over in the ‘other/non-determined’ group in 2016. This category comprised 144,000 (70%) individuals of no religious denomination, 49,000 (24%) of other (neither Protestant nor Catholic) religions and 13,000 (6%) individuals who were either unwilling to answer or whose response was missing.

Of the 144,000 individuals who stated no religious denomination in 2016: 44,000 (31%) reported a Protestant community background; 23,000 (16%) reported a Catholic community background; 6,000 (4%) reported ‘other religion’ as their community background; 63,000 (44%) reported no religious community background; and 6,000 (4%) either refused to answer or their response was missing.

Because the numbers of individuals with no religious affiliation with either a Protestant or Catholic community background is small, limited analysis could be completed.

Further analysis and consultation is required to determine whether to incorporate the community background data into future editions of the LFS Religion Report. It is possible that a separate analysis relating to community background may be produced in the future.

Table 8 gives a breakdown by gender of the community background of those individuals aged 16 and over with no religious denomination in 2016.

³ Data on stated religion and community background in the 2001 census are available at <http://www.ninis2.nisra.gov.uk/public/Theme.aspx?themeNumber=135&themeName=Census+2001>. Data from the 2011 Census is available at: <http://www.ninis2.nisra.gov.uk/public/Theme.aspx?themeNumber=136&themeName=Census+2011>

Table 8: Community background by gender (aged 16+), 2016

	Male		Female		Total (=100%)
	Number	%	Number	%	
Protestant	24,000	53%	21,000	47%	44,000
Catholic	14,000	59%	10,000	41%	23,000
Other religion	*	*	*	*	6,000
No denomination	36,000	57%	27,000	43%	63,000
Missing/not stated	*	*	*	*	6,000
Total	81,000	56%	62,000	44%	144,000

Table 9 shows the breakdown by age group of the community background of those individuals aged 16 and over with no religious denomination in 2016. Breaking the information down by age is difficult for both Protestants and Catholics, with the numbers in the 16-24 and 65+ age brackets not meeting the minimum threshold for publication.

Table 9: Community background by age group, 2016

	Protestant		Catholic	
	Number	% of all aged 16+	Number	% of all aged 16+
Working age	39,000	88%	21,000	91%
Aged 16-24	*	*	*	*
Aged 65+	*	*	*	*
Aged 16+	44,000	100%	23,000	100%

Table 10 and 11 show that for both those aged 16 and over and the working age population, respondents who stated a Protestant community background were estimated to be more likely to be in employment and economically active than those who stated a Catholic community background. These differences were not statistically significant, however.

Table 10: Economic status by community background, 16+ population, 2016

	Protestant			Catholic		
	Number	% of all aged 16+	Confidence Interval	Number	% of all aged 16+	Confidence Interval
Employed	30,000	68%	+/-7.6pp	14,000	61%	+/-10.7pp
ILO Unemployed	*	*	*	*	*	*
Economically active	33,000	74%	+/-7.2pp	16,000	66%	+/-10.4pp
Inactive	11,000	26%	+/-7.2pp	8,000	34%	+/-10.4pp
Total	44,000	100%		23,000	100%	

Table 11: Economic status by community background, working age population, 2016

	Protestant			Catholic		
	Number	% of working age	Confidence Interval	Number	% of working age	Confidence Interval
Employed	30,000	76%	+/-7.5pp	14,000	67%	+/-10.8pp
ILO Unemployed	*	*	*	*	*	*
Economically active	32,000	83%	+/-6.6pp	16,000	72%	+/-10.3pp
Inactive	7,000	17%	+/-6.6pp	*	*	*
Total	39,000	100%		21,000	100%	

3.2.5. Combining ‘stated religion’ and ‘community background’ into one category

Using the stated religion question only, Protestants comprised 44% of the population aged 16 and over, Catholics comprised 42% and 14% were ‘other/non-determined’ in 2016. By combining the stated religion and community background question, 47% of the population aged 16 or over were Protestants or had a Protestant community background, 44% were Catholic or had a Catholic community background, and 9% were classed as ‘other/non-determined’ (Table 12).

Table 12: Composition of population aged 16+ by religion and community background, 2016

	Protestant		Catholic		Other/non-determined		Total (=100%)
	Number	%	Number	%	Number	%	
Religion only	640,000	44 [51]	610,000	42 [49]	205,000	14	1,454,000
Religion and background	684,000	47 [52]	633,000	44 [48]	137,000	9	1,454,000

Using the stated religion question only, Protestants comprised 40% of the working age population; while Catholics comprised 44% and 16% were ‘other/non-determined’ in 2016. By combining the stated religion and community background question, 44% of the working age population were Protestants or had a Protestant community background, 46% were Catholic or had a Catholic community background, and 10% were classed as ‘other/non-determined’ (Table 13).

Table 13: Composition of working age population by religion and community background, 2016

	Protestant		Catholic		Other/non-determined		Total (=100%)
	Number	%	Number	%	Number	%	
Religion only	474,000	40 [48]	514,000	44 [52]	182,000	16	1,169,000
Religion and background	512,000	44 [49]	536,000	46 [51]	121,000	10	1,169,000

3.2.6. Response types

Labour Force Survey data are gathered through interviews. In order to maximise response in the short fieldwork period available and to contain the cost of recall interviews, interviewers are allowed to accept information by proxy for those household members not available when the interview takes place.⁴ If no members of the household were present for the interview, but they had supplied information in the previous quarter, then this data would be brought forward. It should also be noted that economically inactive individuals aged 70 years and over were not asked all the questions in the interview (e.g. highest level of qualification obtained).

⁴ For further information see: ‘Section 11 – Report on Proxy Response Study Based on LFS Questions’ in Office for National Statistics, Labour Force Survey User Guide - Volume 1: Background and Methodology 2016, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance>

Table 14 shows the response type by religion for the 2016 annual dataset. These proportions are based on **un-weighted** LFS data to give a true representation of the types of response received. Overall there was a higher proportion of personal responses and proxy responses from Catholics, and a higher proportion of responses from economically inactive individuals aged 70 years and over from Protestants.

This would have limited impact on the overall report as the economically inactive aged 70 years and over were not included in the analysis relating to the working age economic activity and inactivity rates, or employment and unemployment rates.

Table 14: Response type by religion (all aged 16+), 2016

	Protestant	Catholic	Other/non-determined
	%	%	%
Personal response	47%	49%	52%
Proxy response	32%	37%	38%
Data brought forward from previous quarter	5%	4%	3%
Economically inactive 70+	16%	9%	7%
Total	100%	100%	100%

The ‘Labour Force Survey User Guide - Volume 1: Background and Methodology 2016’⁵ contains a section outlining the effects of proxy responses. This section looked at the proxy responses in Great Britain - there has been no comparable work based on the LFS in Northern Ireland. The agreement levels between information given by proxy informants and the same information given by the subjects themselves were found for many key variables to be above 80%, with several above 90%. Taking account of the proportion of LFS responses given by proxy, this implies overall gross error rates of around 1-5% for these variables. Those variables requiring less straight-forward information (such as training in the last week and highest qualification obtained) and those requiring very detailed numerical information (such as hours worked and income) showed a less satisfactory match between proxy and subject responses, meaning higher gross error rates.

4. Timeliness and Punctuality

Timeliness refers to the time gap between publication and the reference period. Punctuality refers to the gap between planned and actual publication dates.

The aim is to publish the LFS Religion Report within 12 weeks from the date of receiving the LFS Annual Dataset from NISRA Economic and Labour Market Statistics (ELMS) (part of the Department of Finance (DoF)). The annual dataset covers the calendar year from 1 January to 31 December. Allowing time for the data to be compiled and validated by ONS and ELMS, this means that the report should be published within 12-13 months of the end of the reference period of the report.

⁵

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance>

LFS datasets used for the 2016 report were revised and re-weighted to mid-year population estimates (affecting annual data from 2012 onwards and quarterly data from 2013 onwards). The data revision process required additional resource within PfG Analytics. As a result, the 2016 report was published in January 2018.

Prior to the release of the 2016 LFS Religion Report, the scheduled release date was published on the Executive Office's website and the Gov.uk website. The release was delivered on time.

5. Accessibility and Clarity

Accessibility is the ease with which users are able to access the data, also reflecting the format 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 LFS Religion Report is available on the Executive Office's website and through the Gov.uk website. The report is also available in alternative formats upon request. Tables contained in the report are also available in Excel and OpenDocument Spreadsheet formats, again available on the Executive Office's website.

The report contains a summary, commentary and graphs of the main findings for the main demographic and labour market outcomes of the two largest religious communities in Northern Ireland. This includes changes from previous years, where appropriate, and a 'Technical Notes' section which provides summary background information about the survey and links to other relevant sources of information.

In addition, an infographic has been produced and included in the main report, presenting the main findings.

6. Coherence and Comparability

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

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

As far as is practical the LFS Religion Report adopts common definitions and methodology to other similar Government surveys using the LFS. The definitions of labour market concepts such as working age and unemployment applied in the LFS Religion Report are consistent with the definitions used by the Office for National Statistics (ONS) and ELMS in their respective Labour Market Bulletins. The definitions used can be found in the LFS user manuals, which are available via the following link:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance>

Most of the labour market outcomes can be compared over time. There are some exceptions due to revisions in the classification used. An example is the industrial classification of jobs, which was updated with effect from 2009.

In 2010 the working age definition was revised to take account of the change in the female pension age. The 2016 LFS Religion Report includes, where appropriate, the figures using both definitions in the tables. This allows a comparison to be made with previous reports.

6.1. Comparing Northern Ireland with Great Britain and the Republic of Ireland

Labour market statistics relating to the religious communities in Northern Ireland cannot be compared to statistics in either Great Britain or the Republic of Ireland. As outlined previously, the stated religion in Great Britain differs from the stated religion question in Northern Ireland and the responses are categorised differently. The Republic of Ireland does not provide a breakdown of the labour market statistics based on a person's religious affiliation.

7. Output Quality Trade-offs

Trade-offs are the extent to which different aspects of quality are balanced against each other.

It is an aim of the branch to publish the figures as soon as possible. LFS datasets used for the 2016 report were revised and re-weighted to mid-year population estimates for 2016 (affecting annual data from 2012 onwards and quarterly data from 2013 onwards). As a result of this reweighting and subsequent data revision process, the 2016 report was published in January 2018. A note regarding this process is included in the technical notes section of the report.

8. Assessment of User Needs and Perceptions

The processes for finding out about users and uses and their views on the statistical products.

There is an ongoing feedback facility on the Executive Office's LFS Religion Report web page which allows all users to give their views on the LFS Religion Report in the form of a survey. This survey can be accessed via the following link:

<https://www.surveymonkey.co.uk/r/LFSFEEDBACK>

A peer review, by a group of statisticians from across the Northern Ireland Statistics and Research Agency (NISRA), was carried out on the 2011 LFS Religion Report with the central purpose of improving the commentary, interpretation and presentation of the data in the report. As a result of this, some presentational changes were made to the 2013 LFS Religion Report, although the overall content remained unchanged. This format was retained for the 2016 LFS Religion Report.

PfG Analytics intends to undertake a review of the content and design of the LFS Religion Report in advance of the 2017 report. Full details of this review, including information on a public consultation, will be available in advance on the Labour Force Religion Report webpage:

<https://www.executiveoffice-ni.gov.uk/articles/labour-force-survey-religion-reports>

9. Performance Cost and Respondent Burden

The effectiveness, efficiency and economy of the statistical product.

DoF commissions the LFS in Northern Ireland. NISRA, an agency of DoF, carries out the data collection and database creation. The questionnaire is designed to mirror the one used for other parts of the UK. The estimated annual cost for running the LFS is approximately £550,000; this includes sampling, data collection, data processing and staffing costs.⁶

10. Confidentiality, Transparency and Security

The procedures and policy used to ensure sound confidentiality, security and transparent practices.

The LFS datasets received from ELMS have been anonymised. The variables that could be used to identify the participants such as the date of birth and postcode have been removed. The variables included in the datasets PfG Analytics receives mainly include sufficient detail for the LFS Religion Report to be produced. The datasets are stored on a secure network which is only accessible to staff working on the survey who are trained on the protocols for protecting and maintaining the confidentiality of the data.

NISRA follows the 'National Statistician's Guidance: Confidentiality of Official Statistics' in the collection and dissemination the LFS Religion Report statistics. This can be found at: <https://www.statisticsauthority.gov.uk/archive/national-statistician/ns-reports--reviews-and-guidance/national-statistician-s-guidance/confidentiality-of-official-statistics.pdf>.

Standard disclosure control methodology is applied to the data. This ensures that information attributable to an individual is not identifiable in any published outputs and that the outputs are only seen by authorised staff prior to their publication.

⁶ Information provided by ELMS, May 2018