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Employers' Pension Provision Survey 2017 Technical report

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Research Report 964

A report of research carried out by Kantar Public and the National Institute of Economic and Social Research on behalf of the Department for Work and Pensions

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1 Introduction

The Department for Work and Pensions (DWP) commissioned Kantar Public (formerly TNS BMRB) and the National Institute of Economic and Social Research (NIESR) to undertake the 2017 Employers' Pension Provision Survey (EPP). The EPP survey is a series of biennial surveys dating back to the mid-1990s, with EPP 2017 being the twelfth in the series. The survey collects quantitative information on pension provision and non-provision amongst private sector employers within Great Britain. EPP 2017 is the first survey in the series to be conducted where the vast majority of companies have implemented the automatic enrolment reforms. The previous EPP survey (2015) was conducted at a time when only large and medium companies would have passed their staging date; as such EPP 2017 offers the first insight into the impact of these workplace pension reforms on smaller companies.

The main aims of the survey were to:

- Provide an up-to-date picture of current workplace pension provision made by employers;
- Obtain data on recent changes made to the type of pension provision offered;
- Measure how employers have responded to automatic enrolment, contribution rates and meeting the increased cost of automatic enrolment;
- Measure how employees have responded to automatic enrolment, levels of opt-out and ceasing saving.

2 Overview of survey method

The survey interviewed a representative sample of 2,859 private sector employers in Great Britain. The sample was obtained from the Office for National Statistics' (ONS) Inter-Departmental Business Register (IDBR).

Following this, the sample was put through a number lookup process, whereby telephone numbers were automatically matched to the business. If a number was not found, then for the larger businesses a more manual process of number lookup was undertaken. This left a selection of the original sample with a telephone number.

There were then three main stages of fieldwork:

Initial screening

This sample was then put through an initial telephone screening stage, where a telephone interviewer contacted the business and identified the most appropriate person to answer the survey.

Advance information sent to respondents

Respondents were then sent advance information with more details about the survey, inviting them to take part. Alongside this, for employers with more than 20 employees, an interview preparation form was also sent. This contained some of the key questions from the survey and allowed respondents to collect detailed and accurate responses prior to taking part in the survey. Respondents were given the opportunity to complete the interview preparation form online. Where an email address was provided at the screening stage, this information was sent via email. For all other cases the information was sent via post.

Main interview

The survey was conducted using Computer Assisted Telephone Interviewing (CATI) and achieved a response rate of 45 per cent. Conducting the interview by telephone ensured methodological consistency with previous sweeps of the survey. Telephone interviewing also offered a number of advantages, namely that it benefits from higher response rates than self-completion methodologies, and the quality of data collected is more reliable as the telephone interviewer is present to help respondents with any queries that may arise during the interview.

The survey was an average of 20 minutes in length and covered the following areas:

1. Organisation details
2. Current scheme provision
3. Awareness of and responses to the workplace pension reforms

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4. Communications about the reforms
5. Contribution rates
6. Response to increased costs of the reforms and their administration
7. Re-enrolment
8. Stakeholder pension schemes
9. National Employment Savings Trust (NEST) scheme
10. Master Trusts other than NEST schemes
11. Occupational schemes
12. Group Personal Pensions (GPPs)
13. Recent/planned changes to pensions and multiple pension membership

The final completed interviews were weighted back to the population of private sector businesses.

3 Sample

The Employers' Pension Provision (EPP) survey is intended to provide estimates of pension provision that are representative of private sector employers in Great Britain in 2017. For the 2017 survey, as for previous sweeps, the sample was obtained from the Inter-Departmental Business Register (IDBR)¹. The IDBR is a government database maintained by the Office for National Statistics (ONS) which is based on Value Added Tax (VAT) and Pay As You Earn (PAYE) records. It was preferred over alternative sampling frames due to its greater coverage, particularly of smaller companies, and the amount of detail that could be obtained from the frame such as number of employees, legal status, and *Standard Industrial Classification (SIC) 2007* code. The main drawback with the IDBR for this particular survey was that only a small proportion of records had telephone numbers. Therefore, telephone numbers had to be obtained after the sample was drawn through a tracing exercise.

The population for the survey was defined as all private sector employers in Great Britain, including private companies, sole proprietorships, partnerships, and non-profit making organisations. All public sector employers such as central government, local government and other public bodies such as health authorities, educational institutions and universities were excluded from the survey. Since the survey was only concerned with the pension provision of private sector employers who employed at least one employee, extremely small businesses that consisted only of owner-proprietors or owning partners (i.e. with no employees) were also excluded from the survey.

As in previous years, the sample design placed a great emphasis on large organisations. Although such organisations are relatively few in number, they account for a large proportion of the total labour force and so are important in terms of providing estimates for pension provision among private sector employees. In order to achieve a degree of over sampling among larger organisations, the IDBR was first stratified by size band. Within each size band the file was further stratified by number of employees, SIC (2007) division, legal status and alphabetically by postcode.

¹ Note that in 2015 the sample for EPP was drawn from a different source (The Pensions Regulator).

Table 3.1 shows the sample fractions applied for each size band and the percentage of the universe sampled within each size band. In order to achieve the required initial sample in each size band, a different sampling fraction was applied to each.

Table 3.1 Sample fractions for each size band in the relevant universe

Employee Size bands	Initial sample provided from IDBR	% of universe sampled	Sample 1 in N
1	14,043	1.39%	71.71
2	5,962	1.41%	70.87
3	4,159	2.62%	38.18
4	3,592	2.81%	35.55
5-9	3,198	1.19%	84.04
10-19	1,776	2.92%	34.23
20-49	2,400	3.35%	29.89
50-99	915	4.21%	23.73
100-249	981	8.34%	11.99
250-499	1,555	39.60%	2.53
500-999	1,653	78.73%	1.27
1,000-4,999	1,619	100.00%	1.00
5,000+	382	100.00%	1.00
<i>Total</i>	<i>42,235</i>		

Prior to the telephone number look-up, a number of records were excluded from the sample. There were a number of SIC (2007) categories where it was felt the majority of employees would be covered by a public sector pension scheme. These were mainly in the education sector. Thus, all organisations with the following SIC codes were excluded from the sample at this stage.

- 85200 (Primary education)
- 85310 (General secondary education)
- 85320 (Technical and vocational secondary education)
- 85410 (Post-secondary non-tertiary education)
- 85420 (Tertiary education)
- 85421 (First degree level higher education)
- 85422 (Post-graduate level higher education)

This resulted in a total of 536 organisations being removed from the sample.

The remaining sample (employers with fewer than 500 employees) was then divided into four random batches. Batch 5 included all employers with 500+ employees. Table 3.2 provides a breakdown of the sample by batch number.

Table 3.2 Sample allocation to batches prior to number lookup and de-duping

Employee Size bands	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5	Total
1	3,505	3,505	3,505	3,505		14,020
2	1,488	1,488	1,488	1,488		5,952
3	1,038	1,038	1,038	1,038		4,152
4	896	896	896	896		3,584
5-9	796	795	795	795		3,181
10-19	442	443	443	442		1,770
20-49	595	595	594	595		2,379
50-99	222	222	223	223		890
100-249	238	238	238	237		951
250-499	361	361	361	361		1,444
500-999					1,526	1,526
1,000-4,999					1,490	1,490
5,000+					360	360
<i>Total</i>	<i>9,581</i>	<i>9,581</i>	<i>9,581</i>	<i>9,580</i>	<i>3,376</i>	<i>41,699</i>

A total of 35,194 records were sent for number lookup – these were the records that didn't already have a number in the IDBR sample. Table 3.3 shows the sample broken down by size band both pre- and post-tracing for telephone numbers.

Of the sample sent for matching, telephone numbers were obtained for 27 per cent. This was achieved through a variety of methods and sources. These included both electronic tracing with multiple providers and, where this failed to generate a number, manual tracing of numbers. Finally, once the tracing process was exhausted, the small number of large companies (1,000+) where a number had not already been obtained were re-examined to try to obtain a contact number through company websites.

In total, 40 per cent of the total sample had a telephone number: 27 per cent from matching and 13 per cent from the original sample.

The success rate in obtaining numbers for small employers was lower than for larger employers, but this had been anticipated in advance and was taken into account when specifying the initial sample sizes by size band.

Table 3.3 Telephone number lookup success rates by size band

Employee size band	Telephone number on IDBR	Sample sent for number lookup	Sample successfully matched to telephone number	Success rate	Total sample with telephone number	% of total sample with telephone number
1	381	13,639	1,785	13%	2,166	15%
2	257	5,695	1,252	22%	1,509	25%
3	278	3,874	1,256	32%	1,534	37%
4	231	3,353	1,292	39%	1,523	42%
5-9	301	2,880	1,334	46%	1,635	51%
10-19	424	1,346	651	48%	1,075	61%
20-49	1,323	1,056	493	47%	1,816	76%
50-99	556	334	149	45%	705	79%
100-249	526	425	206	48%	732	77%
250-499	710	734	342	47%	1,052	73%
500-999	693	833	629	76%	1,322	87%
1,000-4,999	631	859	650	76%	1,281	86%
5,000+	194	166	119	72%	313	87%
<i>Total</i>	<i>6,505</i>	<i>35,194</i>	<i>10,158</i>	<i>29%</i>	<i>16,663</i>	<i>40%</i>

De-duping

After the telephone number lookup, a comprehensive check for duplicate records was conducted across the entire sample. This was initially based on full postcode and telephone number. Where duplicate postcodes or duplicate telephone numbers were identified, all the records were manually checked. Where it was established that duplicate records did exist in the sample, they were removed. This resulted in the removal of 45 records.

Once the process of eliminating duplicate records was completed, a final sample for the initial screening stage was drawn. Sample to the screener was issued in the same batches as used for the number lookup process. Sample was issued based on response probability specific to each size band. This allowed the amount of sample loaded and the response rate to be monitored throughout the screener stage.

In total **13,906** records were loaded into the screener (detailed in Table 3.4).

At the initial screening stage, a number of businesses (1,737) were identified as being out of scope – because they had gone out of business, they were a public-sector organisation, they had no employees, or the telephone number was unobtainable or incorrect.

Of the remaining 12,169 records in scope, contact names were obtained and contact details confirmed for 61 per cent of the sample (7,385 records).

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In total, 6,362 records were selected for the main stage. All employers received a letter and an interview preparation sheet.² The distribution of the sample selected for the main stage according to size band is detailed in Table 3.4.

Table 3.4 Selected Screener stage and Main stage sample by size band

Size band	Final sample loaded into screener		Successful screener outcome		Loaded main stage sample		
	Number of employees	Number	% of employers contacted	Number	% of employers contacted	Number	% of employers contacted
1		1,940	14.0%	621	8.4%	621	9.8%
2		1,292	9.3%	470	6.4%	410	6.4%
3		1,095	7.9%	507	6.9%	236	3.7%
4		1,077	7.7%	534	7.2%	260	4.1%
5-9		1,348	9.7%	733	9.9%	660	10.4%
10-19		970	7.0%	581	7.4%	581	9.1%
20-49		1,536	11.0%	1,020	13.8%	927	14.6%
50-99		543	3.9%	358	4.8%	358	5.6%
100-249		681	4.9%	459	6.2%	384	6.0%
250-499		830	6.0%	529	7.2%	529	8.3%
500-999		1,023	7.4%	637	8.6%	555	8.7%
1,000-4,999		1,261	9.1%	751	10.2%	656	10.3%
5,000+		310	2.2%	185	2.5%	185	2.9%
Total		13,906	100.0%	7,385	100.0%	6,362	100.0%

² An interview preparation sheet was only sent to organisations with 20 or more employees.

4 Fieldwork

Fieldwork for the survey was conducted in three stages between 9 June 2017 and 27 October 2017.

The three main stages of fieldwork were:

Stage One: The screener stage of the survey involved contacting sampled organisations to identify the most appropriate person to interview. This was an essential stage to ensure that the interview was conducted with the person who was most capable of answering the questions asked during the interview. Interviewers identified the correct person by asking to speak to the person responsible for making decisions about pension provision in the organisation. If the eligible person was not available, their name and contact details were collected from someone else in the organisation. Fieldwork for the screener stage was conducted between 9 June 2017 and 1 August 2017.

This stage also checked that all the organisations had one or more employees and were still trading.

Stage Two: An advance letter and interview preparation form (to companies with more than 20 employees) were sent via email. Where an email address was not collected at stage one this information was sent in the post. The option to complete the interview preparation form online was also offered at this stage. In total, 189 employers completed the interview preparation form online.

Stage Three: The main interview was conducted electronically with all questions and routing programmed automatically, leaving interviewers free to focus on respondents answers and to ensure that data was recorded accurately. This was a vital consideration for this particular survey, where complex and detailed information was being collected.

Telephone fieldwork encouraged participation and also allowed respondents to participate at a time that suited them. Interviewers scheduled appointments at times convenient to respondents, ensuring that both the respondents' and interviewers' time was used efficiently and respondents were committed to taking part. On some occasions, these appointments were broken due to the busy nature of the organisations and individuals surveyed. However, a simple electronic process allowed the interviewer to reschedule an appointment and then move on to the next interview.

Interviewers first attempted to conduct the interview with the person identified at stage one. However, in some cases it became apparent that they were not the most relevant person to speak to. In such cases, interviewers took referrals within the company to the most appropriate person and conducted the interview with them. Fieldwork for this stage was conducted between 10 July 2017 and 27 October 2017.

4.1 Response rates

Table 4.1 shows that from the initial issued sample of 6,411 a total of 110 cases (two percent) were established as being out of scope for various reasons. From the remaining sample, a total of 2,859 interviews were achieved, representing a response rate of 45 per cent. The main reason for non-response was refusal (36 per cent).

Table 4.1 Response rate for main stage sample

	Screened Sample	
	N	%
Total issued sample	6,411	100
Out of scope		
Number incorrect/unobtainable	43	0.67%
Duplicate record	7	0.11%
Ineligible company ³	60	0.94%
Total out of scope	110	1.72%
Total eligible sample	6,301	100
Unproductive outcomes		
Abandoned/incomplete interviews	36	0.57%
No reply/engaged	185	2.90%
40+ unsuccessful calls (with contact)	474	7.57%
Refused	2,249	35.69%
Away during fieldwork period	360	5.71%
General call back	137	2.17%
Total unproductive	3,442	54.63%
Total interviews	2,859	45.37%

³ Reasons for ineligibility included companies with no employees, companies that had closed down or moved, and companies that categorised themselves as being in the public sector.

Table 4.2 shows response rate broken down by size category. Among smaller companies, the main reason for ineligibility was primarily because it was established they had no employees or the company had gone out of business. For larger companies very few were recorded as being out of scope, a small proportion had closed down, and a small number of duplicate numbers were identified during fieldwork. This shows that there were no strong non-response biases based on employer size. The highest response rate (50 per cent) was recorded amongst small companies.

Table 4.2 Main stage response rates by size band

Size band	Issued sample	Out of scope		Total in scope	Total non-response	Achieved interviews ⁴	Response rate
	N	N	%	N	N	N	%
Micro (1-4)	1,565	64	4.1%	1,501	874	627	41.8%
Small (5-49)	2,177	30	1.4%	2,147	1,075	1,072	49.9%
Medium (50-249)	743	4	0.5%	739	426	313	42.4%
Large (250+)	1,926	12	0.6%	1,914	1,067	847	44.3%
Total	6,411	110	1.7	6,301	3,442	2,859	45.4%

⁴ It should be noted that the response analysis has been done on the basis of the number of employees as taken from the IDBR. Since the analysis in the rest of the report uses the number of employees given in the interview, the number of interviews achieved in each size band will not match the tables in the main part of the report.

5 Fieldwork documents

The following fieldwork documents were used in administering the survey:

- Advance letter/email
- Interview preparation form
- Survey website (www.surveyofpensions.org)

Following identification of the most appropriate contact at stage one, an advance letter/ email – and for employers with more than 20 employees, an interview preparation form – were sent to prior to interview at stage three. Where full contact details were identified at stage one, including an email address, the information was emailed to the contact. When an email address was unavailable, the information was sent by post.

Advance letter/email

Primarily, the letters/emails explained the reasons for the research, how the business' details were obtained, and how they could take part. It also stressed that participation was voluntary. Both contained a Department for Work and Pensions (DWP) heading, and were signed by a member of the team at DWP in order to reassure recipients of the genuine nature of the research. Contact details for a member of the Kantar Public research team and a member of the DWP research team were provided, in the event of any queries from respondents.

Letters and emails were tailored dependent on the employer size. Small employers were sent a different version to medium and large employers. A website link was also provided within the communications.

Survey website

This website contained detailed information about the survey and access to previous years' reports on Employers' Pension Provision (EPP). Via the website, respondents were also able to access the online version of the interview preparation form and download a copy of the letter and paper interview preparation form.

Interview preparation form

For employers with more than 20 employees a copy of the interview preparation form was included in either the advance letter or email. This interview preparation form collected some of the information needed within the survey, to allow respondents to prepare accurate responses to complex questions, such as the number of members of a specific pension scheme. It also acted as a guide for the interview, with descriptions of the main types of pension schemes their organisation might offer.

Respondents were also invited to complete the form online, which was accessible via the survey website. Overall, 189 businesses opted to complete the form online. In these cases, the information provided in the form was automatically fed into the telephone interview, meaning that after some checks these questions did not need to be asked, making the main interview slightly shorter.

6 Questionnaire

The questionnaire took an average of 20 minutes. This is a reduction of ten minutes from the average length compared to the previous sweep of the Employers' Pension Provision (EPP) Survey in 2015. The questionnaire was structured in such a way that its length depended on the number of pension scheme types offered by an employer. As such, the length of interview varied depending on the size of the business, with smaller businesses having a slightly shorter interview and larger businesses having a slightly longer interview.

Questionnaire structure

1. Organisation details

Key details about the organisation, including company type and workforce composition.

2. Current scheme provision

Types of pension provision and arrangements offered by the organisation.

3. Awareness of and responses to the workplace pension reforms

Awareness of the reforms, including employer contribution requirements, staging dates, implementation of automatic enrolment, deferral periods, employee eligibility and scheme uptake rates.

4. Communications about the reforms

Ways in which employers communicated to employees about the reforms, the nature of information provided, and any reasons for not providing information.

5. Contribution rates

Contribution rates offered to workers, including whether different levels are offered to workers, the phasing in of contributions, what contribution levels employers expect to offer, and any reasons for offering higher than the legal minimum contribution.

6. Response to increased costs of the reforms and their administration

Asked of employers who have passed their staging date. Whether automatic enrolment has increased total contribution costs for the employer, how they have met these costs and the level of extra work required in the administration of automatic enrolment.

7. Re-enrolment

Awareness of employer duties to engage in re-enrolment, whether they sought information about re-enrolment, the proportion of workers who re-enrolled or opted out/ceased saving after being re-enrolled, what information on re-enrolment was provided to employees and, where applicable, what the organisation has done to prepare for re-enrolment.

8. Stakeholder pension schemes

Dependent on the number of stakeholder pension schemes used, this set of questions was asked up to a maximum of three times, collecting details on the three largest stakeholder schemes. Questions included: whether the scheme is being used for automatic enrolment, number of scheme members, scheme age, employer contribution levels and ways of meeting increased costs, who the scheme is open to, opt-out and cessation rates, reasons for cessation and the timescales in which employees ceased membership, and the enrolment rate of ineligible workers.

9. National Employment Savings Trust (NEST) scheme

Questions included: whether the scheme is being used for automatic enrolment, number of scheme members, who the scheme is open to, employer contribution levels and ways of meeting increased costs, opt-out and cessation rates, reasons for cessation and the timescales in which employees ceased membership, and the enrolment rate of ineligible workers.

10. Master Trusts other than NEST schemes

If employers used more than one Master Trust, they were asked to answer on the basis of their largest Master Trust.

Questions included: whether the scheme is being used for automatic enrolment, number of scheme members, who the scheme is open to, employer contribution levels and ways of meeting increased costs, opt-out and cessation rates, reasons for cessation and the timescales in which employees ceased membership, enrolment rate of ineligible workers.

11. Occupational schemes

Depending on the number of occupational schemes used, this loop of questions was asked up to a maximum of three times, collecting details on the three largest occupational schemes.

Questions included: whether the scheme is being used for automatic enrolment, number of scheme members, who the scheme is open to, employer contribution levels and ways of meeting increased costs, opt-out and cessation rates, reasons for cessation and the timescales in which employees ceased membership, enrolment rate of ineligible workers.

12. Group Personal Pensions (GPPs)

Depending on the number of GPP schemes used, this loop of questions was asked up to a maximum of three times, collecting details on the three largest GPP schemes.

Questions included: question to determine whether scheme is a GPP plan or a Group Self-invested Personal Pension, whether the scheme is being used for automatic enrolment, number of scheme members, who the scheme is open to, employer contribution levels and ways of meeting increased costs, opt-out and cessation rates, reasons for cessation and the timescales in which employees ceased membership, and the enrolment rate of ineligible workers.

13. Recent/planned changes to pensions and multiple pension membership

Asked of employers who have more than one type of pension scheme, including membership levels.

7 Data preparation and outputs

The Computer Assisted Telephone Interviewing (CATI) questionnaire included a number of 'other – specify' questions. All verbatim answers at these were inspected by Kantar's team of coders. Where possible these were coded into existing answers at these questions, or where deemed necessary additional answer codes were added to cover these. In all questions, the aim was to reduce the proportion of answers left in the non-specific "other" category to below ten per cent.

The CATI questionnaire incorporated a number of checks such as ranges, logic and consistency checks. These reduced the need for post-fieldwork editing and allowed interviewers to resolve the majority of inconsistencies with the respondent during the interview.

Further quality assurance checks were carried out during the data preparation stage, prior to providing the final Statistical Package for the Social Sciences (SPSS) file. The final SPSS file produced was at the level of the company or organisation and consisted of 2,859 records.

8 Weighting

The aim of weighting is to remove observed biases from the achieved sample. This ensures that the survey estimates are representative of the population along those dimensions that have been targeted in the weighting methodology. By removing these observed biases, one also expects to decrease the risk that unobserved biases remain present in the weighted data.

The survey population for the Employers' Pension Provision (EPP) Survey 2017 comprised all private sector enterprises in Great Britain with one or more employee, except those operating in primary, secondary or higher education (i.e. SIC (2007) Groups 85.2, 85.3 and 85.4). This population comprises 2.2 million enterprises which, together, employ around 23.9 million employees.

The sample for the survey was selected from the Inter-Departmental Business Register (IDBR) held by the Office for National Statistics (ONS). Enterprises on the register were divided into 15 strata, and a total of 42,235 units were then selected using disproportionate stratified sampling. The sampling fractions were smallest for those enterprises with one employee and largest for those with 1,000 or more employees.

Universe counts were provided by ONS along with the selected sample. However, these universe counts included enterprises from the education sectors listed above. The size and profile of the universe *without* these units was therefore estimated by Kantar Public by examining the prevalence of enterprises from the aforementioned SIC Groups within each cell of the selected sample, and projecting these figures back onto the population.

The weights for EPP 2017 were derived in four stages:

1. A design weight was applied to compensate for differences in the probability of selection within different IDBR size bands. The weight applied was the inverse of the effective sampling fraction within each size band, this being computed as: the number of units selected, divided by the estimated size of the universe in that size band. These sampling fractions are shown in Table 3.1. As the sampling fractions are lowest for the smallest enterprises, the design weights are largest for these enterprises.
2. As is common in surveys of employers, the employee information on the frame is often different to the information provided by the respondent. These differences can lead to 'stratum jumpers' – firms that move employee size stratum based on differences between their response and the information on the frame. These stratum jumpers can exert an unduly large influence on survey estimates in subgroups where most other firms have much smaller design weights. For example, a firm with one employee based on the frame has a design weight of 71.71. If the respondent in this firm actually identifies it as having 100-249 employees, then when we come to apply weights to the data to ensure it is representative of the business population (rim weight), this firm will have a pre-weight of almost seven times the pre-weight of the firms in the 100-249 size band who have not jumped stratum. Therefore, it is important to trim the

design weights of stratum jumpers prior to rim weighting so as to avoid them having undue influence on survey estimates. Table 8.1 provides information on the number of stratum jumpers by employee size band. In total, 42 per cent of firms jumped stratum. Not surprisingly, the majority of these were in the smaller employee size bands where there are only a few employees separating each of them. A large percentage (77 per cent) were also within two size bands either side of the original.

To minimise the impact of stratum jumpers on survey estimates, their design weight was trimmed so that they were no less or more than three times lower or higher than the expected design weight for each given employee size band.

Table 8.1 – Stratum jumpers: employer size as held in sample frame (IDBR) versus employer size reported by respondents

Stratum jumpers		Employment size based on survey response														
		1	2	3	4	5-9	10-19	20-29	30-39	40-49	50-99	100-249	250-499	500-999	1,000-4,999	5,000+
Employer size based on IDBR	1	77	42	30	11	28	14	7	3	2	9	5	4	2	0	2
	2	24	66	15	13	19	7	4	2	0	1	1	0	0	0	1
	3	7	18	36	23	23	4	5	0	0	1	2	0	1	0	0
	4	3	9	22	35	39	4	1	1	2	0	1	0	0	1	0
	5-9	3	7	12	28	204	50	9	3	0	2	0	1	0	0	0
	10-19	3	1	1	3	47	189	46	7	2	4	2	1	1	1	0
	20-29	0	0	1	0	5	47	146	35	6	9	1	1	1	1	0
	30-39	0	0	2	1	3	4	24	52	17	9	4	1	0	0	0
	40-49	0	0	1	0	2	1	4	12	27	25	3	0	0	0	0
	50-99	0	0	0	0	2	1	4	8	9	91	21	1	0	0	0
	100-249	0	0	1	0	1	0	1	1	0	24	131	14	2	0	1
	250-499	1	0	1	1	3	6	3	0	0	8	26	130	26	5	0
	500-999	0	0	0	0	1	2	2	4	5	5	6	34	184	24	1
	1,000-4,999	0	0	0	0	1	4	1	1	2	4	5	6	24	219	7
	5,000+	0	0	0	0	0	0	0	0	0	1	1	2	0	16	75

3. Once these differences in the probability of selection had been compensated for and then capped for stratum jumpers, the achieved sample was weighted to the IDBR population by means of a rim weighting procedure. The aim of the rim weighting is to ensure that the profile of the weighted sample by size (as reported in the interview) and industry closely match the population profile of the universe as indicated by the IDBR.

After applying design weights, the achieved sample typically has a lower proportion of small firms than suggested by the IDBR, because:

- (i) smaller firms are less likely to respond;
- (ii) the lower visibility of phone numbers for the smallest businesses causes proportionately more attrition among smaller firms than larger firms during the phone number matching process, even though we compensated for this to a greater extent in our original sample selection; and
- (iii) the time lag between sampling and fieldwork gives time for firms to grow out of the lowest size band.

The rim weighting, therefore, typically involves giving a further boost to the weights for smaller workplaces. The population totals that were used to derive the rim weights were based on the estimated distribution of the IDBR population by size of organisation (12 categories⁵) and industry group (19 categories⁶).

4. The under-representation in the selected sample of certain types of employer means that a small number of cases receive very large weights in the rim weighting procedure. To reduce the influence of a very small number of cases on individual estimates, very large weights were capped (fixed) at a maximum value. This was done with the aim that one firm should not account for more than:
 - one per cent of the weighted sum of firms in the full sample;
 - ten per cent of the weighted sum of firms in its size group; and
 - 20 per cent of the weighted sum of firms in its industry class (there being more industry classes than size groups).

These thresholds are, of course, arbitrary but they serve to reduce the dominance of any one case whilst also keeping the number of weights that are capped to a minimum. The process of capping large weights inevitably introduces some small element of sample bias, but it has the value of reducing the influence of individual cases and is also likely to reduce standard errors (thus reducing mean square error). In fact, the profile of the weighted sample was not altered to any substantial degree during the capping process.

5. Once the firm-level weight has been derived, it is multiplied by employment (as reported in the interview) to provide an employment-based weight. Checks are made to ensure that the weighted sample provides a reasonable approximation of the profile of employment in the universe (again using population data from the IDBR). Checks are also made to ensure that there are no large employment weights. Specifically, we seek to ensure that no individual firm accounts for more than:

⁵ Categories (number of employees): 1, 2, 3, 4, 5-9, 10-19, 20-29, 30-39, 40-49, 50-99, 100-249, 250 or more.

⁶ SIC (2007) Divisions A-S.

- 2.5 per cent of the weighted sum of employment in the full sample;
- Five per cent of the weighted sum of active members in the full sample.

If a firm is found to exceed these thresholds, its firm-level weight is scaled back accordingly and the employment-weight re-derived as the multiple of this new weight and interview size (the aim is to ensure that the employment-based weight is always a simple multiple of the firm-based weight and interview size).

6. Finally, the weights are re-scaled so that the sum of weighted cases in the full sample equals the total number of cases (2,859 in EPP 2017). The individual weight for each case then indicates its percentage contribution to any statistic based on the full sample.

In practice, the derivation of the weights is an iterative process involving repeated applications of the rrm weighting procedure in order to identify a set of weights that performs best in bringing the sample profile into line with the population profile with respect to both firms and employment. These weights must then be examined in detail to identify dominant weights that exceed the thresholds noted in points 2 and 4 above. The final capped versions must then be evaluated against each other. The derivation of weights that meet each of the stated objectives is far from easy, and is an inherent challenge in any employer survey.

The final weighted profile for EPP 2017 is detailed in Table 8.2. This compares the universe profile with that of the final weighted sample for both employer and employee estimates.

Table 8.2 Population estimates and weighting profile for EPP 2017

Employer size	Employers		Employees	
	Universe %	EPP achieved weighted sample %	Universe %	EPP achieved weighted sample %
1	45.6%	45.4%	4.2%	4.2%
2	19.1%	19.2%	3.5%	3.5%
3	7.2%	7.2%	2.0%	2.0%
4	5.8%	5.8%	2.1%	2.1%
5 - 9	11.2%	11.3%	6.8%	6.8%
10 - 19	6.1%	6.1%	7.5%	7.5%
20 - 29	1.8%	1.8%	4.0%	4.0%
30 - 39	0.9%	0.9%	2.8%	2.8%
40 - 49	0.5%	0.5%	2.2%	2.2%
50 - 99	1.0%	1.0%	6.2%	6.2%
100 - 249	0.5%	0.5%	7.5%	7.5%
250+	0.3%	0.3%	51.2%	51.2%
<i>All</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>

The same process for deriving the weights was used in EPP 2007, 2009, 2011, and 2013. The only notable differences were that:

- The 2007 and 2009 data relied upon SIC (2003) whereas the 2011 and 2013 data rely upon SIC (2007). One implication is that Stage 2 of the rim weighting procedure used 19 industry categories in 2011 and 2013, compared with just 10 in 2007 and 2009.
- EPP 2013 was the first survey for which the weighting methodology used universe estimates that *excluded* enterprises from SIC (2007) Groups 82.2, 82.3 and 82.4. This represents a minor improvement on the weighting methodology when compared with earlier years.
- EPP 2017 was the first survey where we trimmed the design weights to account for stratum jumpers prior to rim weighting. This represents a minor improvement on the weighting methodology when compared with earlier years.

We do not expect these differences to have a substantive effect on the comparability of the data between years.

9 Calculating enrolment, opt-out and cessation rates

These calculations are based on data weighted to company level, ensuring that differently sized companies reflect their universe proportions. Below we detail how enrolment, opt-out and cessation rates have been calculated.

Enrolment rate: The number of ineligible workers who were enrolled into the scheme(s) used for automatic enrolment in the last financial year (2016-17), as a percentage of the number of workers who were not eligible for automatic enrolment immediately before starting to implement automatic enrolment. This could include both employees who had actively decided to join the scheme, as well as those employees enrolled as a result of company policy.

Opt-out rate: The number of employees who have opted out of a scheme within the one month period in the last financial year (2016-17), as a percentage of the total number of employees automatically enrolled in the last financial year.

Cessation: The total number of employees who were automatically enrolled in the last financial year (2016-17) and have left the scheme after the one month opt-out period, as a percentage of the total number of employees automatically enrolled into a scheme in the last financial year.

Cases that were missing or flagged 'don't know' for a specific scheme in either the top or the bottom of the calculations outlined above were assigned a 'zero' and effectively excluded from the sums used to calculate the rate in aggregate.