

National Survey of Employers 2013/14: Summary Findings

Appendix 1: Methodology

ISSN 2382-1493

Survey method

Respondents to the NSE 2013/14 were given the option to be interviewed by telephone, or to complete the questionnaire online. Pre-notification letters about the survey were sent by Research New Zealand on behalf of MBIE (and using MBIE's letterhead) to all sampled businesses. The letters were addressed to the business owner or manager, and explained the purpose of the research and Research New Zealand's involvement as an independent market research company. The letter also advised respondents that participation was voluntary and on a confidential basis, and that results would be reported as aggregated statistics, with verbatim comments anonymised.

In the letter, potential respondents were advised that an interviewer from Research New Zealand would call them to ask if they would like to participate in the survey and to make an appointment for the interview at a time convenient for the respondent. Respondents were also invited to complete the survey online instead if they wished. To facilitate this, the letter contained the survey's URL (hosted on Research New Zealand's secure website), and each potential respondent was issued with a unique login and password to ensure that a business could only complete the survey once.

Surveying was undertaken between the dates of 6 November 2013 and 20 March 2014, with interviewing suspended between 14 December and 20 January, due to increasing refusal rates over the Christmas and New Year's holiday period. Contact was attempted a minimum of eight times with each sampled business that had not completed the online version of the survey by a predetermined date, prior to the business being deemed as unavailable to participate in the survey. Contact attempts were made on different days of the week and during different hours of the day to try and maximise survey response rates. In total, 1,043 businesses completed the survey by the close-off date (775 by telephone and 268 online). The average telephone interview length was just over 17 minutes.

Sample design, weighting and response rate

The survey sample was drawn from Statistics New Zealand's Business Frame of New Zealand businesses. The target population for the NSE was New Zealand businesses (at the geographic establishment level) employing one or more staff (in addition to the owner).

The sampling scheme involved the selection of a probability sample, based on the available numbers of businesses in each of six target industry groups, broken down by the number of employees (at the establishment level) across four size band groupings. In total, 4,663 'unique' records were selected from Statistics New Zealand's Business Frame (using a random stratified sampling approach) and provided to Research New Zealand for the purposes of the survey.

The achieved sample of 1,043 businesses was weighted to adjust for the sampling scheme and any non-response biases among businesses of certain size within any of the 24 different sampling strata. This involved calculating a sampling weight that reflected the probability of selection in each stratum based on the six different industry and four employee band groupings, where the weight was equal to the number of establishments in each stratum on the Business Frame divided by the number of respondents in each stratum.

Tables 1 and 2 below provide the unweighted and final weighted frequency counts of the achieved sample by industry grouping and the reported number of employees regularly working at the business site.

Table 1: Achieved sample – Unweighted counts: Industry group by reported number of employees at the business site

ANZSIC* Description by Reported Number of Employees	1 to 5	6 to 19	20 to 49	50+	Grand Total
A – Agriculture, Forestry and Fishing	52	44	21	37	154
C – Manufacturing	36	51	36	68	191
E – Construction	32	42	41	50	165
G + H – Retail Trade and Accommodation and Food Services	30	29	28	45	132
Q – Health Care & Social Assistance	21	49	39	49	158
D, B, G,I, J, K, L, M, N, O, P, R, S – All Other Industries	47	65	60	71	243
Grand Total	218	280	225	320	1043

* Australian and New Zealand Standard Industrial Classification.

Table 2: Achieved sample – Weighted counts: Industry group by reported number of employees at the business site

ANZSIC* Description by Reported Number of Employees	1 to 5	6 to 19	20 to 49	50+	Grand Total
A – Agriculture, Forestry and Fishing	17,014	3,823	639	193	21,669
C – Manufacturing	6,360	4,052	1,326	775	12,513
E – Construction	13,605	3,725	848	314	18,492
G + H – Retail Trade and Accommodation and Food Services	18,616	11,930	2,124	941	33,611
Q – Health Care & Social Assistance	5,598	3,155	1,035	721	10,509
D, B, G,I, J, K, L, M, N, O, P, R, S – All Other Industries	49,632	20,972	5,860	3,112	79,576
Grand Total	110,825	47,657	11,832	6,056	176,370

* Australian and New Zealand Standard Industrial Classification.

The survey achieved a 32 per cent response rate. Factors impacting on the response rate included:

- increased refusal rates as surveying got closer to Christmas
- ‘gatekeeper’ refusals when asking to speak to the business owner/manager (pre-calls were made to identify the business owner or manager so that pre-notification letters could be sent to a named respondent)
- some respondents being unwilling to participate in a survey requiring more than 10 to 15 minutes to complete.

Sampling errors

Table 3 provides details of the survey respondents’ unweighted demographic characteristics (industry group and reported number of employees – as size groups) and the associated maximum sampling error estimate, at the 95 per cent confidence level, for each sub-group. Tables 4, 5 and 6

provide estimated margins of error (MoEs) for various proportions of 10 to 50 per cent for sub-samples of the population based on industry group and size groups.

The estimated maximum MoEs associated with the total sample and each sub-sample take into account a design effect coefficient *deft* which has been calculated based on the distribution of the final weights of each sub-sample. These indicative MoEs are provided as a 'guideline' to show the degree of accuracy likely to be associated with different survey findings, for both the total sample and key sub-samples of interest. More accurate finding-specific MoEs for results for the total sample, and by business size and industry, can be found in the tables in Appendix 2.

Table 3: Maximum margins of error (95 per cent confidence level)

	Sample size	Per cent of total sample %	Max MoE [^] for a 50% result (SRS) %	Design effect coefficient (<i>deft</i>)*	Adjusted Max MoE** %
Industry Type					
A – Agriculture, Forestry and Fishing	154	14.8	7.9	1.396	11.0
C – Manufacturing	191	18.3	7.1	1.356	9.6
E – Construction	165	15.8	7.6	1.724	13.1
G + H – Retail Trade and Accommodation and Food Services	132	12.7	8.5	1.397	11.9
Q – Health Care & Social Assistance	158	15.1	7.8	1.578	12.3
D, B, G, I, J, K, L, M, N, O, P, R, S – All Other Industries	243	23.3	6.3	1.518	9.5
Number of reported employees at site					
1 to 5	218	20.9	6.6	1.177	7.8
6 to 19	280	26.8	5.9	1.260	7.4
20 to 49	225	21.6	6.5	1.167	7.6
50+	320	30.7	5.5	1.249	6.8
Total	1,043	100	3.0	1.755	5.3

Note: Percentages may not total 100 per cent due to rounding.

[^] Maximum margin of error (MoE) assuming a Simple Random Sample (SRS). The MoE is calculated using the following formula, where *n* is the achieved sample size for the sub-group, *p* is 50 per cent, and a 95 per cent confidence level:

$$z(1.96) \times \sqrt{\frac{p(1-p)}{n}}$$

* The SRS MoE is multiplied by the design effect coefficient (*deft*) to get the approximate margin of error.

** Estimated MoE after application of *deft*.

Table 4: Estimated margins of error for proportional responses – industry grouping*

Proportional response	Total sample	Ag/Forestry & Fishing	Manufacturing	Construction	Retail/ Accommodation/ Food Service	Health/Social Services	All Other Industries
Base =	1,043	154	191	165	132	158	243
	%	%	%	%	%	%	%
50%	5.3	11.0	9.6	13.1	11.9	12.3	9.5
40%	5.2	10.8	9.4	12.9	11.7	12.0	9.3
30%	4.9	10.1	8.8	12.0	10.9	11.3	8.7
20%	4.3	8.8	7.7	10.5	9.5	9.8	7.6
10%	3.2	6.6	5.8	7.9	7.1	7.4	5.7

* Estimated MoEs have been calculated based on the relevant survey design effect and sample size.

^ Estimated MoEs for Retail/Accommodation/Food Service are lower than those for Construction and Health and Social Services, despite having a small size sample, due to variances in weightings applied to each sub-sample.

Table 5: Estimated margins of error for proportional responses – establishment size groups*

Proportional response	Total sample	1 to 5	6 to 19	20 to 49	50+
Base =	1,043	218	280	225	320
	%	%	%	%	%
50%	5.3	7.8	7.4	7.6	6.8
40%	5.2	7.7	7.2	7.5	6.7
30%	4.9	7.2	6.8	7.0	6.3
20%	4.3	6.2	5.9	6.1	5.5
10%	3.2	4.7	4.4	4.6	4.1

* Estimated MoEs have been calculated based on the relevant survey design effect and sample size.

Table 6: Estimated margins of error for proportional responses – collapsed establishment size groups*

Proportional response	Total sample	1 to 19	20+
Base =	1,043	713 [^]	816 [^]
	%	%	%
50%	5.3	5.6	5.4
40%	5.2	5.5	5.3
30%	4.9	5.1	4.9
20%	4.3	4.5	4.3
10%	3.2	3.4	3.2

* Estimated MoEs have been calculated based on the relevant survey design effect and sample size.

[^] Defts (1 to 19 staff, *deft*=1.277) (20 plus staff, *deft*=1.282).