
Rounding and Suppression Policy

Introduction

1. Data about individual people, including students and staff in tertiary education, may be 'Personal Data' in its raw form and needs to be protected from unauthorised exposure.
2. This document outlines the SFC rounding and suppression policy and provides examples of its application in an Annex. The purpose of the methodology is to minimise the risk of the re-identification of individuals from data or analysis produced by SFC.
3. While the policy seeks to minimise risk of reidentification, it should be noted that the Data Protection Act 2018 [makes it an offence to knowingly or recklessly re-identify information](#) relating to a person.
4. Individual staff remain responsible for ensuring the accuracy and appropriateness of the data they supply. While this guidance aims to enable consistent and robust application of the policy, it cannot cover every possible circumstance or context, and professional judgement must be applied where necessary.
5. Any SFC staff who are unsure how to apply the policy, particularly in complex circumstances, may contact the Analytics team for advice and guidance.
6. This policy will be published on the SFC website to ensure transparency and enable SFC staff to directly reference the policy.

The rounding and suppression methodology

When to apply the methodology

7. The SFC Standard Rounding Methodology must be applied in all SFC publications and data releases, including in response to third-party requests for data.
8. The policy must also be implemented by other organisations publishing data provided to them by SFC.
9. In circumstances where it has been necessary to supply data in unrounded or non-suppressed form, for example to enable a research project which has been reviewed and approved by the Analytics team and Data Governance team, the rounding and suppression methodology must be adhered to in any publication or presentation of the data.

The rounding and suppression methodology

Rounding and suppression of data about humans

10. These requirements apply to all figures about humans, including college and university enrolments, headcounts, Full-Person Equivalents (FPE) and Full-Time Equivalents (FTE).

11. There are four equally important components of the methodology:

1 Counts of individuals are rounded to the nearest multiple of 5:

- Any number greater than zero and less than 7.5 is rounded to 5
- Actual zero values are reported as either 0 or blank
- All other numbers are rounded to the nearest multiple of 5
- Halves are always rounded upwards (e.g. 12.5 is rounded to 15)

2 Percentages (e.g. % of students who are female) are not published if they are fractions of small groups of individuals. They must be suppressed if **either**:

- The denominator is less than 22.5. This includes percentage change calculations ($[\text{New}-\text{Old}]/\text{Old}$) where either the old or new number is less than 22.5

OR

- The numerator is less than 10.0

3 If counts of individuals / enrolments are below 22.5, credits are not published

4 Averages (for example average age or average salary) are not published if they are averages of 7 or fewer individuals

12. These rules are applied **after** any calculations (sums, averages, percentages etc.) have been undertaken so that rounding or suppression applied to the data don't result in inaccurate results. Please note that this sometimes means numbers in tables don't appear to tally.

Rounding and suppression of financial data

13. The following rounding and suppression of financial data is required:

- 1 **Credits** based on fewer than 22.5 individual people must be suppressed
 - 2 **Credits** should always be rounded to the nearest credit
 - 3 **Price groups** calculations must be based on credits **rounded** to the nearest credit
 - 4 **Averages** (for example average salary) are not published if they are averages based on 7 or fewer individual people
-

The rounding and suppression methodology rationale

Rounding

14. Rounding of all figures, even very large ones, to the nearest 5 prevents multiple tables being used to identify small numbers. For example, one table might show 150 students studying at a university. Another table might be restricted to UK domicile students and show 149 students. The two tables would identify that there's exactly one foreign student on that course but rounding the numbers obscures this potentially personal information.
15. Our rounding methodology is applied to our own publications, but also to outputs from other researchers. Consistently rounding all numbers is easy to understand and easy to apply in any situation. It is also easy to spot so that readers can see it has been applied.

Percentages

16. Percentages are suppressed for small groups to prevent percentages from exposing the real un-rounded figures in a table. Suppressing percentages where the total is less than 22.5 (rounding to 20) reduces this risk significantly but doesn't eliminate it completely. Any percentage with a numerator lower than 10 (no matter the denominator) must also be suppressed. Where a total may give away a suppressed value, consideration should be given on the display of total values.
17. Consideration must be given in each circumstance that percentages are being presented, this policy aims to mitigate the risk of identifying individuals but there is a personal responsibility to ensure work is quality assured and data is being presented in most suitable format to avoid identification. We must balance the small risk of working out real un-rounded figures against being able to publish useful statistics.
18. It is important to also define how percentages are displayed. Percentages should be displayed **to zero decimal places** unless there is a defensible statistical reason for using more precision. This reduces the risk of deducing un-rounded figures and the risk of drawing unwarranted conclusions from small differences between percentages.

-
19. Percentages are based on **unrounded** numbers to ensure that differences, and comparisons between percentages, are meaningful.

Credits

20. Although the number of credits by themselves might not enumerate individual people, **suppression** of credit counts is required when the individuals or enrolment counts report below 22.5 (rounding to 20). This mitigates the risk of enumerating small numbers of individual people when credits are being reported alongside other information such as counts by mode of study.
21. Calculations made in relation to the cost of credits (price group x credits), must be based on credits **rounded to zero decimal places**. This is to ensure that the total price group value does not identify the exact number of credits.

Averages

22. Averages are suppressed for groups of less than 7.5 individuals. This is necessary because, for example, an average salary of one person will be that person's actual salary. Suppressing averages based on groups of 7 or fewer people (those groups which would be rounded to 0 or 5) eliminates the most likely chances of being able to calculate the personal information relating to an individual.

Annex: Examples of application of the policy

1. The following examples are **fictitious** showing simulated data and are intended to illustrate how the rounding and suppression policy should be applied.

Example A: Numbers of students by SIMD quintile

SIMD quintile	BEFORE application of policy		AFTER application of policy	
	Student headcount		Student headcount	
1	12		10	
2	7		5	
3	2		5	
4	14		15	
5	8		10	

Example B: Percentages of staff by mode

Staff group	BEFORE application of policy		AFTER application of policy	
	Count	Percentage	Count	Percentage
Full-time	12	63%	10	
Part-time	7	37%	5	
Total	19	100%	20	

Example C: FTE of students by university subject area (A–L)

Subject of study	BEFORE application of policy	AFTER application of policy
	Student FTE	Student FTE
agriculture, food and related studies	31	30
architecture, building and planning	7	5
biological and sport sciences	18	20
business and management	2	5
combined and general studies	20	20
computing	0	0
design, and creative and performing arts	35	35
education and teaching	14	15
engineering and technology	18	20
geography, earth and environmental studies	5	5
historical, philosophical and religious studies	33	35
language and area studies	35	35
law	1	5

Example D: Percentages of students by level of study

Staff group	BEFORE application of policy		AFTER application of policy	
	Count	Percentage	Count	Percentage
Undergraduate	120	62.5%	120	63%
Taught Postgraduate	63	32.8%	65	33%
Research Postgraduate	9	4.7%	10	
Total	192	100%	190	100%

Example E: Credits by level of study

Staff group	BEFORE application of policy		AFTER application of policy	
	Count	Credits	Count	Credits
Undergraduate	120	1,264.49	120	1264
Taught Postgraduate	19	325.35	20	
Research Postgraduate	9	127.94	10	
Total	148	1,717.78	150	1718