

Statistical Standard for Income Bands

Rationale

Income bands are a convenient and alternate way of collecting income information when income is not the prime focus of a survey. Bands reduce respondent burden by providing a simple way to obtain contextual information about income. Income bands are often tabulated with other variables such as age, occupation and education qualifications to provide information on the relationship between these variables and the income distribution of the population.

In addition, when income information has been collected as dollar amounts, it may be output as income bands. This provides statistics on the distribution of income across the population, which is not provided by average income.

Income band statistics are used extensively within Statistics New Zealand, across government, and by other agencies and academics for:

- formulating social and economic policy
- calculating school deciles
- use as an indicator for poverty statistics and the New Zealand Index of Deprivation
- research and planning
- monitoring programmes.

Definition

The concept currently used to collect income band information is gross annual income. This is defined as income received by the individual, family or household before the deduction of income tax, levies or withholding payments, and includes such items as income sourced from wages and salaries, self-employed income, property and rental income, dividends and investments, social insurance, superannuation, government assistance schemes and private transfers such as child support.

It does not include social transfers in kind such as public education or government subsidised health care services. Also excluded are reimbursement of expenses, money received from borrowing, contingent income and unrealised income.

Irregular payments such as lump sum inheritance payments are excluded.

Operational issues

Detailed income and income bands

Collecting income data has historically been judged as a sensitive topic for those responding. When detailed income data is not the primary objective for a collection, the use of income bands is seen as more appropriate than collecting the actual dollar amount. However, the use of income bands does not always address the sensitivity that respondents may have with the income topic. Some reasons why the income band question is not well answered are:

- social aversion, including a perceived connection to government departments monitoring individuals
- embarrassment due to low income or reticence about revealing high incomes.

Other reasons why the income band question is not well answered that may affect the quality of the data include:

- those answering income on a proxy basis may not know the incomes of those they are responding for. This particularly affects people in hospitals and retirement homes
- pooling of household incomes, for example in family businesses and shared investments, which means it is difficult for the respondent to provide individual income
- individuals may not be involved with the management of income in the home, or not know the gross amount received from a benefit or pension
- individuals receiving income from multiple sources during the year may have difficulty assessing their total annual income from all sources
- individuals whose income has varied substantially throughout the year, for example, they have moved between employment and non-employment during the year and may have difficulty calculating their total income for the year.

Where the survey requires detailed information then the actual dollar value of gross income should be sought.

Explanatory notes

Income bands provide:

- for the collection and output of gross income for a stated period
- data comparability between different collections when using standard income bands
- the ability to derive family and household income band data.

Income bands vary in size based on socio-economic and statistical factors. Policy makers and researchers are interested in particular population groups and the bands have been designed to reflect this.

A question on source of income may be asked immediately before the income question to prompt individuals about the different sources they have received income from during the year. This helps to ensure that income from these sources is included in their response to the income question.

Why annual income is collected

Annual income is collected as it has the advantage of smoothing short term income fluctuations and individual and irregular payments. It may also provide a better indication of economic wellbeing than using measures for a point in time. Additionally, annual income provides a practical reference period, given that individuals with unincorporated businesses have to assess their annual income for taxation purposes. There are some disadvantages in using annual income, such as:

- the data are from the last year and may not reflect current trends or practices
- people have difficulty recalling the income received over a year, in particular those
 - with periods of employment, interspersed with unemployment, or not being in the labour force
 - in casual work
 - in short term contracts
 - remunerated on commission
 - in part-time work
- income received in the previous financial year may not reflect socio-economic and other characteristics of the household at the time of collection.

Why gross income is collected

Gross income is collected because it is easier for respondents to supply and is more accurate than collecting net income. For the person providing income information it makes it easier for them to consult their wage receipts or Inland Revenue (IR) information. Gross income has the advantage of offering income comparability with other countries as each country administers taxes differently. Gross income is not affected by tax changes over time.

Net income is not often collected, as although people may be able to report net income after tax, deductions made after tax and before it is received may not be included, and respondents are often unable to estimate tax payable on all sources. Interest on assets or investments, if collected separately, normally has to be collected as net income.

Negative income (loss)

In principle, all incomes are required net of the expenses (except income tax) that are necessarily incurred in earning them. Some sources of income may have zero or negative value because they are 'net of expenses' measures. In practice, this only applies to self-employment income from a business and investment income resulting in negative income for individuals.

Why tax credits are included as income

Whilst technically tax credits should not be included in income, as they increase disposable income but not gross income, they are often perceived as income by recipients and it is difficult to prevent respondents counting them as income. As a result they may be included as income and it is not possible, in most cases, to know if tax credits have been included or not.

Specific sources of income

Some surveys may only require the collection of a subset of income, for example benefit income, rather than income from all sources. This may require aggregation or disaggregation of the standard income bands.

Classification criteria

The income bands within the classification are determined by the analysis of income data collected by Statistics New Zealand's detailed income collections. This analysis identifies emerging income trends in areas such as benefit levels, and middle and upper income earners. These bands are reviewed periodically to remain relevant to societal trends.

The income band data is collected for gross income where detailed information is unable to be collected or where it is not required. This classification has been developed to primarily cater for self-administered collections and collections requiring less detailed income band data. Collections that obtain detailed income data may output income within bands following the methodology outlined by subject matter experts, currently in the Standard of Living unit at Statistics NZ.

Aggregation and disaggregation of the standard classification of income bands are known as flexible classifications and remain standard if they are comparable to the standard classification of income bands.

Classification

The standard classification of income bands is a flat classification. The first two categories reflect income loss and zero income; there are 13 income bands and a list of residual categories.

Classification	Income bands - standard classification 2009
Abbreviation	INCOMEBANDS
Version	V1.0
Effective date	April 2009

INCOMEBANDS V1.0

11	Loss
12	Zero income
13	\$1-\$5,000
14	\$5,001-\$10,000
15	\$10,001-\$15,000
16	\$15,001-\$20,000
17	\$20,001-\$25,000
18	\$25,001-\$30,000
19	\$30,001-\$35,000
20	\$35,001-\$40,000
21	\$40,001-\$50,000
22	\$50,001-\$60,000
23	\$60,001-\$70,000
24	\$70,001-\$100,000
25	\$100,001-\$150,000
26	\$150,001 or more
44	Don't know
55	Refused to answer
77	Response unidentifiable
88	Response outside of scope
99	Not stated

Coding process

Guidance to support best practice in the collection and output of income band data.

1. Collection

Income bands are able to be aggregated or disaggregated as required to match the purpose of the survey and the detail required by users, as long as they remain comparable to the standard classification. Criteria are as follows:

- aggregation and disaggregation must compare to the standard classification
- categories must be structured in the same format used in the standard classification of income bands, for example, using categories \$10,001–\$15,000 rather than \$10,501–\$15,500
- aggregation and disaggregation must be whole bands
- output groupings must not exceed '\$150,001 or more' if the standard classification has been used for collection
- groupings must meet the standard classification criteria.

Examples of the guidelines:

Aggregation must compare to the standard classification.

Standard	Alternate comparable to standard
\$1 - \$5,000	\$1 - \$20,000
\$5,001 - \$10,000	
\$10,001 - \$15,000	
\$15,001 - \$20,000	

Disaggregation must compare to the standard classification.

Standard	Alternate comparable to standard
\$35,001 - \$40,000	\$35,001 - \$40,000
\$40,001 - \$50,000	\$40,001 - \$45,000
	\$45,001 - \$50,000
\$50,001 - \$60,000	\$50,001 - \$70,000
\$60,001 - \$70,000	

Aggregation and disaggregation must be whole bands

Standard	Alternate comparable to standard
\$1 - \$10,000	\$1 - \$20,000
\$10,001 - \$15,000	
\$15,001 - \$20,000	

Standard	Non standard
\$1 - \$10,000	\$1 - \$16,000
\$10,001 - \$15,000	
\$15,001 - \$20,000	\$16,001 - \$20,000

Loss income

If a respondent has indicated that they receive income from any source of income except self-employment and/or investments in the source of income question, then they should not respond as loss in the income band question.

Zero income

People can respond with a zero amount if they have:

- no source of income
- have a source of income but have not yet received anything from that source
- have received a net zero amount because some of their income came from self-employment and/or investment income.

Collection of family or household income as bands

A survey may ask a question about family income or household income rather than deriving it from the income of each individual in the family or household. In doing this, some income bands may be aggregated or disaggregated in line with the guidelines (above).

Proxy responses

In some limited situations proxy response may be used to provide income band data. Proxy responses should not be used to provide detailed income data.

Intra-household transfers

Intra-household transfers, such as pocket money and payment of board, should be excluded from income collected as bands, as this may inflate household or family income.

2. Output

Income for families and households can be derived by taking an income value for each individual in the family or household (usually the median of the income band) and combining the results for all individuals in the household. For each derivation a representative value should be assigned to each input income band by the Housing, Income and Expenditure (HIE) section in the Standard of Living (SoL) business unit of Statistics NZ. The highest output income band for derived variables cannot exceed the highest input income band used.

Disaggregation and aggregation guidelines that apply to input, also apply to output of income band data. Input bands may be aggregated for output purposes but not disaggregated.

Information on the criteria used for income data collection is required when releasing income band data. For example, reference period, and definition of source of income.

Any income data derived from income bands is an estimate and a caution to this effect should be noted in publications and releases.

Income bands may be output as median income, as quartiles, quintiles and deciles, by following a method that removes residuals and ranks the bands in ascending numerical order, and then applying the method of linear regression. See the Housing, Income and Expenditure (HIE) section in the Standard of Living (SoL) business unit of Statistics NZ for advice.

Metadata is required with the release of income band data as median, quartiles, quintiles and deciles, to explain the method and the constraints. Guidance can be sought from the Client Services and Liaison and Standard of Living business units of Statistics NZ.

Residual categories are assigned to the classification for specific surveys to meet their requirements and cater for mode differences. 'Absent' is an additional residual category required for some collections. The residual categories may be output separately or combined. Where a combination item of residuals is to be used in output, this item should be labelled 'not elsewhere included' and should have a footnote indicating its composition.

3. Data comparison

Comparability issues may exist when integrating income data from different collections and these factors need to be considered:

- reference period of collection
- individual or household income bands data
- sources of income used
- income concepts used in each collection and operationalisation of the concepts
- collection mode
- context within which the income data was collected
- non-response for the collection and non-response for the income question.

Questionnaire module

Requirements

A questionnaire module is required to:

- be suitable for the collection modes: self-completion, telephone or personal interview questionnaires
- elicit a single response
- either have two separate categories to collect data on zero or loss income, or one combined category for zero or loss income
- ensure aggregations and disaggregations compare to the standard classification, for example
 - categories must be structured in the same format used in the standard classification, such as using categories \$10,001–\$15,000 rather than \$10,500–\$15,500
 - aggregations and disaggregations must be whole bands, for example, \$1–\$16,000 is not a full band and is not comparable to the standard, whereas \$1–\$20,000 is comparable to the standard.
 - splitting a whole band into separate categories that add back to the whole band, for example, \$10,001–\$15,000 split to \$10,001–\$12,500 and \$12,501–\$15,000.

A source of income question may be used to prompt a response that includes all annual income.

Collection mode

The mode of collection and the way the respondent is asked for annual income data varies between collections. For example, where income band information is collected by telephone interview, the use of the income band classification in full is deemed too time-consuming and burdensome for the interviewee. Interviewers need to take a standard approach in using survey specific leading questions to obtain the band relevant to the person being interviewed. This strategy is currently under review.

A Census of Population and Dwellings question module for 2011 is being developed and will be inserted into the standard.

The questionnaire module below is an example that meets the requirements documented in this statistical standard. Other questionnaire modules may vary in format but should conform to the requirements in this statistical standard. Classifications and standards policy allows for flexibility in conforming to all the questionnaire requirements in any particular statistical standard, and the following example is to be used as a guide.

Example

- 31** From all the sources of income you marked in question **30**, what will the total income be:
- that you yourself got
 - before tax or anything was taken out of it
 - in the 12 months that will end on 31 March 2010
- loss
 - zero income
 - \$1 – \$5,000
 - \$5,001 – \$10,000
 - \$10,001 – \$15,000
 - \$15,001 – \$20,000
 - \$20,001 – \$25,000
 - \$25,001 – \$30,000
 - \$30,001 – \$35,000
 - \$35,001 – \$40,000
 - \$40,001 – \$50,000
 - \$50,001 – \$60,000
 - \$60,001 – \$70,000
 - \$70,001 – \$100,000
 - \$100,001 – \$150,000
 - \$150,001 or more

See the Guide Notes to help work out your income

Standard output

The standard output classification matches the input classification. Output categories are also dependent on meeting survey requirements such as confidentiality rules. See 'Guidelines for adherence to the standard'.

Income bands collected from individuals may be grouped for output.

Grouped total personal income (2006 Census example)

The standard income band classification cannot be used for outputting data about small geographic areas (meshblocks, area units or user-defined combinations of these) from the 2006 census. Instead, grouped income categories must be used for these areas:

- Grouped personal income
- \$5,000 or Less
 - \$5,001 - \$10,000
 - \$10,001 - \$20,000
 - \$20,001 - \$30,000
 - \$30,001 - \$50,000
 - \$50,001 or more
 - Not stated

Standard household and family output groupings

The standard outputs for family and household income bands are derived from the income bands of all the respondents in the family or household.

If derived income bands need to be grouped for output, due to survey requirements or confidentiality rules, then different groupings may be required to those used for individual groupings - since the distributions of these variables differ from the individual income band distribution. The following were used for the 2006 census:

Grouped household income	Grouped family income	Grouped parent income
\$20,000 or less	\$20,000 or less	\$30,000 or less
\$20,001 - \$30,000	\$20,001 - \$30,000	\$30,001 - \$50,000
\$30,001 - \$50,000	\$30,001 - \$50,000	\$50,001 - \$70,000
\$50,001 - \$70,000	\$50,001 - \$70,000	\$70,001 - \$100,000
\$70,001 - \$100,000	\$70,001 - \$100,000	\$100,001 or more
\$100,001 or more	\$100,001 or more	Not stated
Not stated	Not stated	

Related classifications and standards

New Zealand

The Statistical Standard for Personal Money Income Statistics from Household Surveys 1994.1

Glossary

Current income

Current (or recent) income is timely and it generally relates directly to the demographic and social characteristics of the individual, family or household at the time of the collection. A disadvantage is that current income may not be a true reflection of the financial resources usually available to the individual, family or household providing income information. This can occur, for example, where an individual suffers a short period of unemployment affecting individual, family or household income.

Contingent income

Contingent income is income that depends on the unknown outcome of a course of action, for example, real estate commissions that are contingent on the sale being completed. It is excluded from collection of annual gross income for income bands.

Extended family

An extended family is a group of related persons who usually reside together and consists of:

- a family nucleus and one or more other related persons; or
- two or more related family nuclei, with or without other related persons.

Household

One person who usually resides alone or two or more people who usually reside together and share facilities (such as eating facilities, cooking facilities, bathroom and toilet facilities, a living area).

Irregular income

Irregular income is received from inheritances, matrimonial settlements, lump sum life insurance pay outs, lump sum bursaries and prizes, and gifts of money from other New Zealand households. Also included are lottery and gambling winnings, unless these were received as part of a person's occupation (registered as a professional gambler with Inland Revenue), when they would be classed as regular income.

Regular income

(Source: 2006 Census definitions)

Total personal income

Information on total personal income received is collected from individuals in the 2006 census. It represents the before-tax income for the respondent in the 12 months ending 31 March 2006. To overcome collection difficulties, total personal income is collected as an income range rather than an actual dollar income.

Total personal income is aggregated to form a number of other income outputs including:

- grouped total personal income
- total household income
- grouped total household income
- total family income
- grouped total family income
- combined parental income for couples with child(ren)
- grouped combined parental income for couples with child(ren)
- total extended family income
- grouped total extended family income.

Sources of personal income

This variable identifies the various sources from which an individual aged 15 years and over received their total personal income in the 12 months ending 31 March 2006.

In the census, it is generally only realistic to collect information on money income. This is income that the individual respondent can normally recall or can readily retrieve from their financial records. Money income is money flow from the deployment of one's labour, entrepreneurial skills and assets, and transfers received. The concept of money income therefore relies on identifying the sources from which money income is derived.

Excluded are income in kind, imputed income, unrealised income, and contingent income. Contingent income is that dependent on the unknown income of a course of action, for example, to sue. Money received by borrowing, making withdrawals from savings and receiving repayments of loan principal are excluded. Tax credits and reimbursements of expenses are also excluded.

Regular income

(Source: Household Economic Survey, other surveys may vary)

Regular income is received from the following sources.

Wages and salaries

Income received from all current and previous salary and wages held over the reference period, and any job related bonuses, commissions, redundancies or other taxable income such as honoraria or directors fees.

Self-employment income

Net profit or loss received from all current and previous self-employment over the reference period, including drawings (cash or goods the respondent takes out of the business instead of receiving a 'wage').

Investment income

Net profit or loss received from investments such as rent, Māori land or other leased land, dividends from New Zealand companies, royalties, interest from the following: banks, other financial institutions, bonds, stocks, money market funds, debentures or securities.

Private superannuation income

Includes income received from both job-related superannuation schemes and other private schemes.

New Zealand Superannuation and war pensions

In addition to New Zealand Superannuation, this category also includes Veterans, War Disablement and Surviving Spouse pensions.

Other government benefits

All family assistance payments, such as those receiving: the Working for Families package; main benefits (e.g. unemployment); sickness, domestic purposes and invalids benefits; student allowances; emergency benefits; and supplements.

Other sources of regular and recurring income

Includes income received from Accident Compensation Corporation and private compensation providers, trusts, annuities, alimony, educational scholarships, and income protection insurance.

Total income

(Source: Census 2006)

Total personal income

This represents the before-tax income for the respondent in the 12 months ended 31 March 2006. To overcome collection difficulties, total personal income is collected as an income range rather than an actual dollar income. Total personal income is also aggregated to form the following income outputs: total household income; total family income; combined parental income for couples with child(ren); total extended family income.

Total extended family income

Total extended family income is derived by aggregating the total personal income of all members aged 15 and over of the extended family.

Total family income

Total family income is derived by aggregating the total personal income of all members aged 15 and over of the family nucleus.

Total household income

Total household income is derived by aggregating the total personal income of all members aged 15 and over of the household.

Combined parental income for couples with child(ren)

Combined parental income for couples with child(ren) is derived by aggregating the total income for the couple.

Unrealised income

The increased market value of an asset that is still being held compared with its cost of acquisition. For example, deferred compensation where an employee chooses to forgo their wages in exchange for compensation at a future date.

Wages and salaries

See 'Regular payments'

Residual categories

Don't know

Use of this category is discretionary. The use of a category capturing don't know responses is most applicable to household surveys where don't know may be a legitimate response to certain questions.

Refused to answer

This category is **only** used when it is known that the respondent has purposefully chosen not to respond to the question. Use of this residual category in processing is optional. Its use is most applicable in face-to-face or telephone interviews, but may be used in self-completed questionnaires if the respondent has clearly indicated they refuse or object to answering the question.

Response unidentifiable

This category is used when there is a response given, but:

- the response is illegible, or
- it is unclear what the meaning or intent of the response is – this most commonly occurs when the response being classified contains insufficient detail, is ambiguous or is vague, or
- the response is contradictory, for example, both the yes and no tick boxes have been ticked, or
- the response is clear and seemingly within the scope of the classification, but can not be coded because no suitable option (particularly other residual category options such as 'not elsewhere classified' or 'not further defined') exists in the classification or codefile.

Response outside scope

This category is used for responses that are positively identified (that is, the meaning and the intent are clear) but which clearly fall outside the scope of the classification/topic as defined in the standard.

Not stated

This category is **only** used where a respondent has not given any response to the question asked, that is, it is solely for non-response.

References

Canberra Group report (2000).

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The Statistical Standard for Personal Money Income Statistics from Household collections 1994.1