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Small business benchmarks methodology and ratio calculations

What you need to know about the methodology and labels used to develop small business benchmarks.

Last updated 14 March 2024

Benchmarking methodology ›

Our benchmarking methodology consists of 10 steps.

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Find out how we calculate benchmark ratios.

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See the review of Statistical Methodology.

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Benchmarking methodology

Our benchmarking methodology consists of 10 steps.

Step 1: Identify industries to benchmark

This step determines the industries we benchmark.

Small business benchmarks are currently limited to businesses that supply goods and services directly to consumers. Identification of an industry type to benchmark is based on a number of factors, including the size of the industry.

Industries identified for benchmarking are based on their ATO business industry codes (BIC). BICs are unique 5-digit identifiers adapted from the 4-digit Australian and New Zealand Standard Industry Classification (ANZSIC) code. To help you find the correct code, use the **BIC tool**. The 5-digit codes refine the industry classifications.

We allocate businesses to a benchmark industry based on both:

- BICs

- keywords reported at the main business activity and trading name labels on their tax returns and business registration (see step 3).

Step 2: Identify the starting population of industry business types

This step determines the starting population that are in business.

The starting population for a benchmarked industry is identified 12 months after the statutory due date for lodging the tax return.

This allows for most of the tax return and activity statement lodgments to occur, including for those businesses with extended lodgment periods. For example, the starting population for the 2021–22 financial year was identified after 31 October 2023.

Firstly, the starting population of a benchmarked industry is selected based on businesses that:

- lodged their tax return for the year to be benchmarked

- are registered and have an active ABN

- report the selected BIC on their tax returns or business registrations.

Secondly, businesses are excluded from the starting population if they:

- are currently insolvent

- are deceased

- are in the not-for-profit, government or large market segments

- are not companies, partnerships, trusts or individuals

- have a compromised tax file number (TFN).

Thirdly, further data is captured and filters applied to:

- exclude businesses with turnovers of less than $30,000 and more than $15,000,000

- exclude businesses that reported multiple activities on their tax returns

- exclude those that have been in business for less than one year before the start of the financial year

- capture the latest returns lodged for the benchmark year, including amendments

- limit the population to those that have lodged returns within one year from the statutory due date.

Step 3: Industry allocation – group businesses into industries

This step allocates businesses to specific industry sub-groups, based on having a common business model.

We use keywords in the **Main business activity** and **Trading name** labels on tax returns and business registrations to allocate a business to a sub-group.

BICs may include more than one industry sub-group. For example, 32430 – **Tiling and Carpeting Services**, has 3 benchmark industry sub-groups:

- Carpet laying services

- Tiling services – floor and wall

- Timber floor sanding

A benchmark industry can also include multiple BICs where similar sub-groups report within multiple codes. This is because businesses can have diverse product lines but similar financial performance. For example, the **Meat and poultry retailing – fresh** benchmark industry consists of:

- Meat retailing – BIC 41211

- Fresh poultry retailing – BIC 41213.

Industry allocation keyword process

The keyword process allocates a business to an industry sub-group based on a 3-step keyword process.

1: Tax return

Assign business to an industry sub-group population if they have reported either of the relevant:

- BIC and keyword description at the **Trading name** label

- keyword description at the **Main business description** label.

We also use keywords to exclude businesses that report certain descriptions at the **Trading name** label.

2: Business registration

Assign business to an industry sub-group population if they report the relevant information for **all** the following:

- BIC in their GST business registration

- keyword description at the **Trading name** label on the tax return

- keyword description at the **Main business description** label on the GST business registration.

We also use keywords to exclude businesses that report certain descriptions at the **Trading name** label on their tax return.

3: Keyword

The keyword process identifies businesses that incorrectly reported their BICs and allocates them into an appropriate industry sub-group.

We only apply this to businesses already within a BIC selected for benchmarking. The process is not applied to all benchmark industry sub-groups.

The process can consist of up to 4 parts:

- Allocate the businesses to an industry sub-group only when the **Trading name** and **Main business description** labels from the tax return both contain one of the key words.

- Allocate the business to an industry sub-group only when the **Trading name** and **Main business description** labels from the GST business registration both contain one of the key words.

- Allocate the business to an industry sub-group only when the **Main business description** label from the tax return and the **Main business description** label from the GST business registration both contain one of the key words.

- Use keywords from the trading name or the main business descriptions to exclude a particular business from an industry sub-group.

Step 4: Calculate benchmark ratios

This step calculates the benchmark ratios using labels on the tax returns and activity statements.

For more information, see how we calculate benchmark ratios.

Step 5: Calculate the outliers

This step removes statistical outliers so the benchmarks are based on data representative of the population.

Outliers are taxpayers whose reported data is significantly different from the majority of the other observations in the population. Outliers are removed because they may be:

- extreme cases

- mistakes

- not part of the industry population, for example the business misclassified itself but did not change its name.

Outliers are identified using *Mahalanobis Distances*, a statistical measure that examines each ratio in relation to the sample mean and the distribution of all the other ratios. Those with a high *Mahalanobis Distance* measure are considered to have a significant influence on the rest of the sample and are excluded as an outlier.

Step 6: Assign turnover ranges to benchmark industries

This step assigns the turnover ranges to the industry.

Benchmark industry populations are segmented into turnover groups to account for the variations in business performance that may occur due to the size, location and turnover of a business.

The turnover ranges are different for each of the benchmarked industries.

Three turnover ranges are used for most of the benchmarked industries – low, medium and high.

Benchmarked industries with smaller populations may be presented with only 2 turnover ranges.

Turnover ranges are determined by analysing the distribution of results for each benchmark industry. Industry specific factors, including clusters and trends in reporting are considered. The ranges may be influenced by:

- variability in the distributions of results

- the gradual increase in the average of the key benchmark ratios.

Step 7: Calculate the benchmark ranges

This step assigns the ratio ranges around the average (mean). For example, the ratio of total expenses to turnover for each range.

For every industry benchmarked, we calculate the average ratio for each turnover range. Business model, location and region affects business performance, so we determine a range around the average.

The range is represented by 30% of the population around the average. For example, a benchmarked industry with a regional area ratio of 37% and a metro area ratio of 35% would be captured in the benchmark range of 32% to 40%.

All benchmark ratios are published as whole numbers. Conventional rounding rules apply.

Step 8: Statistical assurance

This step ensures the populations are statistically valid and allows us to determine whether the ratio is a valid indicator of turnover

Normality and homogeneity testing

The statistical validity of the benchmarks is tested by checking that the benchmark populations are normally distributed and homogenous. The selection of the key benchmark ratios and the secondary benchmark ratios for publication is dependent on the outcome of the normality and homogeneous testing.

Benchmark ratios are only published if they pass these tests.

Key benchmark ratios

The key benchmark ratio is the benchmark we use to identify businesses which may not be reporting some or all their income.

We identify these ratios to make it clear to businesses and tax practitioners what benchmark we consider to be the most accurate predictor of business turnover.

For a benchmark ratio to be selected as a key benchmark ratio, the benchmark industry population must satisfy the following requirements:

- It is normally distributed and homogenous.

- 50% or more of the population in the industry within the turnover range is reporting the benchmarked expense.

- There are 50 or more businesses in the industry within the turnover range.

If more than 2 tax return benchmark ratios satisfy the key benchmark ratio test, we consider the percentage of the population reporting the expense to select the most accurate predictor of turnover for an industry.

For example, cost of sales is considered an accurate determinant of sales for retailers because it is a variable cost that generally changes in direct proportion to the increase or decrease in sales.

Secondary benchmark ratios

Secondary ratios are those not identified as a key benchmark ratio. For a benchmark ratio to be selected as a secondary benchmark ratio, the benchmark industry population will satisfy the following requirements:

- It is normally distributed and homogenous.

- 25% or more of the population in the industry within the turnover range is reporting the benchmarked expense.

Not all benchmark ratios apply to every industry as they do not satisfy the 2 requirements given above. For example, many service entities are unlikely to have significant cost of sales.

Step 9: Quality assurance testing

A quality assurance process is conducted on both the benchmark process and the final output.

All benchmark ratios are reviewed prior to publication. This review ensures:

- there have not been any calculation errors

- the results are consistent with our expectation of the relevant industry.

For example, a decrease in the average of a key benchmark may indicate a change in the industry population reporting.

We may compare the **Small business** benchmarks to external information and other published industry benchmarks when developing a new industry benchmark.

Step 10: Industry names and overviews

Benchmarks are published by industry name and include an overview of the industry characteristics.

The main focus of the industry overview is to describe the businesses captured within the benchmarked industry.

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How we calculate benchmark ratios

Find out how we calculate benchmark ratios.

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Overview – benchmark ratio calculations

Tax return – benchmark ratio calculations

Activity statement – benchmark ratio calculations

Overview – benchmark ratio calculations

Benchmark ratios are calculated from information reported at specific labels on tax returns and activity statements of businesses that operate in similar industries.

Depending on the entity type, we use labels from the company, partnership, trust or individual tax returns.

Each ratio has a set of rules for instances where a label is blank or zero. For example, the labels used to calculate turnover.

Not all benchmark ratios apply to every business. You should refer to the performance benchmark specific to your business.

Tax return – benchmark ratio calculations

All tax return benchmark ratios are expressed as a percentage of turnover (excluding GST).

The basic formula to calculate the tax return benchmark ratio is:

(amount at the relevant labels ÷ turnover) × 100 = benchmark ratio %

There are 5 tax return benchmark ratios:

- Total expenses/turnover

- Cost of sales/turnover

- Labour/turnover

- Rent expenses/turnover

- Motor vehicle expenses/turnover

Turnover

We use turnover to calculate the tax return benchmark ratios. Turnover is the revenue businesses receive from providing goods or services. This amount excludes GST.

For turnover, we generally use the amount reported at the **Other sales of goods and services** label on the tax return.

The **Other sales of goods and services** labels vary according to the type of tax return.

Other sales of goods and services label by tax return type

Tax return type	Label
Company	**6C**
Partnership or trust	**5G + 5H**
Individual	**P8 I + P8 J**

If the amount reported in these labels is blank, zero, or less than 50% of the amount at the total business income label, we use the total business income amount instead.

Total business income labels by tax return type

Tax return type	Label
Company	**6S**
Partnership or trust	**5** – total business income primary production plus non-primary production
Individual	**P8** – total business income primary production plus non-primary production

If the amount in the **Total business income** label is zero, blank or incomplete, we calculate the total business income as the sum of the following labels for the relevant entity type.

Companies – labels summed to calculate the total business income

Item	Label
Other sales of goods and services	**6C**
Gross payments subject to foreign resident withholding (excluding capital gains)	**6B**

Gross payments where ABN not quoted	**6A**
Gross distribution from partnerships	**6D**
Gross distribution from trusts	**6E**
Forestry managed investment scheme income	**6X**
Gross interest	**6F**
Gross rent and other leasing and hiring income	**6G**
Total dividends	**6H**
Fringe benefits employee contributions	**6I**
Assessable Government industry payments	**6Q**
Unrealised gains on revaluation of assets to fair value	**6J**
Other gross income	**6R**

Partnerships and trusts – labels summed to calculate the total business income

Item	Label
Other business income	**5G + 5H**
Gross payments where ABN not quoted	**5C + 5D**
Gross payments subject to foreign resident withholding (excluding capital gains)	**5B**
Assessable Government industry payments	**5E + 5F**

Individuals – labels summed to calculate the total business income

Item	Label

Gross payments where Australian business number not quoted	**P8C + P8D**
Gross payments subject to foreign resident withholding (excluding capital gains)	**P8B**
Gross payments – voluntary agreements	**P8E + P8F**
Gross payments – labour hire or other specified payments	**P8N + P8O**
Assessable governments industry payments	**P8G + P8H**
Other business income	**P8I + P8J**

Total expenses/turnover

For this ratio we divide the total expenses amount by the turnover amount.

Total expenses amount is calculated as total expenses **minus** the payments to associated persons.

Total expenses labels by tax return type

Tax return type	Label
Company	**6Q**
Partnership or trust	**5O**
Individual	**P8S + P8T**

Payments to associated persons labels by tax return type

Tax return type	Label
Company	**8Q**

Partnership or trust	**45 M**
Individual	**P16 H**

If the amount reported at the **Total expenses** label is zero, blank or incomplete, then we calculate the total expenses amount as the sum of the following labels for the relevant entity type.

Companies – labels summed to calculate the total expenses

Item	Label
Foreign resident withholding expenses (excluding capital gains)	**6B**
Cost of sales	**6A**
Contractor, sub-contractor and commission expenses	**6C**
Superannuation expenses	**6D**
Bad debts	**6E**
Lease expenses within Australia	**6F**
Lease expenses overseas	**6I**
Rent expenses	**6H**
Interest expenses within Australia	**6V**
Interest expenses overseas	**6J**
Royalty expenses within Australia	**6W**
Royalty expenses overseas	**6U**
Depreciation expenses	**6X**
Motor vehicle expenses	**6Y**

Repairs and maintenance	**6Z**
Unrealised losses on revaluation of assets to fair value	**6G**
All other expenses	**6S**

Partnerships and trusts – labels summed to calculate the total expenses

Item	Label
Foreign resident withholding expenses (excluding capital gains)	**5P**
Contractor, subcontractor and commission expenses	**5C**
Superannuation expenses	**5D**
Cost of sales	**5E**
Bad debts	**5F**
Lease expense	**5G**
Rent expenses	**5H**
Total interest expenses	**5I**
Total royalty expenses	**5J**
Depreciation expenses	**5K**
Motor vehicle expenses	**5L**
Repairs and maintenance	**5M**
All other expenses	**5N**

Individuals – labels summed to calculate the total expenses

Item	Label
Cost of sales	**P8 K + L – M** expenses
Foreign resident withholding expenses (excluding capital gains)	**P8 U**
Contractor, subcontractor and commission expenses	**P8 F**
Superannuation expenses	**P8 G**
Bad debts	**P8 I**
Lease expenses	**P8 J**
Rent expenses	**P8 K**
Interest expenses within Australia	**P8 Q**
Interest expenses overseas	**P8 R**
Depreciation expenses	**P8 M**
Motor vehicle expenses	**P8 N**
Repairs and maintenance	**P8 O**
All other expenses	**P8 P**

Cost of sales/turnover

For this ratio, we divide the cost of sales amount by the turnover amount.

The cost of sales amount excludes salary and wages.

When the **Total salary and wages expenses** code equals **C** – meaning that the total salary and wages expenses are included in the cost of sales figure – we deduct the **Total salary and wages expenses** from the **Cost of sales**.

Otherwise, we use the **Total cost of sales** amount reported on tax return.

Cost of sales labels by tax return type

Tax return type	Label
Company	**6A**
Partnership or trust	**5E**
Individual	**P8 K + L − M** expenses

To identify if total salary and wages are included in cost of sales, we use the codes below based on the tax return type.

Total salary and wages label codes by tax return type

Tax return type	Label codes
Company	**8D** code
Partnership or trust	**44 L** code
Individual	**P15 G** code

For total salary and wages expenses, we use the amount reported at the labels below based on the tax return type.

Total salary and wages expenses by tax return type

Tax return type	Label
Company	**8D**
Partnership or trust	**44 L**
Individual	**P15 G**

Labour/turnover

For this ratio, we divide the labour amount by the turnover amount.

The labour amount is calculated as follows:

> Total salary and wages expenses + Contractor subcontractor and commissions expenses − Payments to associated persons

If the amount reported at label **W1** (total salary, wages and other payments) on the **activity statement** is greater than the total salary and wages expenses reported on the **tax return,** then we use the activity statement amount in the calculation.

Total salary and wages labels by tax return type

Tax return type	Label
Company	**8D**
Partnership and Trust	**44 L**
Individual	**P15 G**

Contractor, subcontractor and commission expenses labels by tax return type

Tax return type	Label
Company	**6C**
Partnership or trust	**5C**
Individual	**P8 F**

Payments to associated persons labels by tax return type

Tax return type	Label
Company	**8Q**
Partnership or trust	**45 M**
Individual	**P16 H**

Rent expenses/turnover

Not all businesses have rent expenses.

For this ratio, we divide the rent expenses amount by the turnover amount.

Rent expenses by tax return type

Tax return type	Label
Company	**6H**
Partnership or trust	**5H**
Individual	**P8 K**

Motor vehicle expenses/turnover

Not all businesses have motor vehicle expenses.

For this ratio, we divide the motor vehicle expenses amount by the turnover amount.

Motor vehicle expenses by tax return type

Tax return type	Label
Company	**6Y**
Partnership or trust	**5L**

Activity statement – benchmark ratio calculations

From 1 July 2017, Simpler BAS reduced GST reporting for small businesses with a GST turnover of less than $10 million. Therefore, activity statement benchmark ratios will not be available for 2017–18 or later years.

The information in this section is **only relevant for 2016–17 and earlier financial years**.

All activity statement benchmark ratios are expressed as a percentage of total sales (including GST) from a complete year's activity statement data.

The activity statement benchmark ratios were developed using a complete financial year's activity statement data. To compare your performance against the benchmarks, you should use your activity statements for the complete financial year.

The formula to calculate the activity statement benchmark ratios is:

(amount at the relevant labels ÷ total sales) × 100 = benchmark ratio %

There are 2 activity statement benchmark ratios:

- Non-capital purchases/total sales

- GST-free sales/total sales

Total sales

We use the total sales amount, including GST, to calculate the activity statement benchmark ratios. This is label **G1** total sales.

Before using the data in our calculation, we check the status of the GST-inclusive indicator 'Does the amount shown at label **G1** include GST?'.

If the 'GST Included' indicator is marked as 'Yes' we use the amount shown at label **G1** total sales in our calculation.

If the indicator is marked 'No' we use the sum of label **G1** Total sales and label **1A** GST on sales.

Working out whether GST has been included

If the GST-inclusive indicator is **blank,** we use the formula below to determine if it should be set to 'Yes' or 'No':

> ((**G1** Total sales + **G7** Sales adjustments) – (**G2** Export sales + **G3** GST-free sales + **G4** Input taxed sales)) ÷ 11

If this result is equal to label **1A** GST on sales then the GST-inclusive indicator is set to 'Yes'.

If it isn't, we do a similar calculation but divide by 10:

> (G1 + G7) – (G2 + G3 + G4) ÷ 10

If this result is equal to label **1A** GST on sales then the GST-inclusive indicator is set to 'No'.

We also do these calculations if businesses have been inconsistent in their reporting of the GST-inclusive indicator throughout the financial year.

Non-capital purchases/total sales

To calculate this ratio, we divide the label **G11** Non-capital purchases amount by the total sales amount.

GST-free sales/total sales

To calculate this ratio, we divide the label **G3** GST-free sales amount by the total sales amount.

Where label **G3** GST-free sales is zero, we calculate the figure by multiplying the label **1A** GST on sales by 11 and then subtracting this amount from the **G1** total sales amount.

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Review of Statistical Methodology used in producing Small Business

Benchmarks

See the review of Statistical Methodology.

Last updated 21 April 2023

*Review of Statistical Methodology used in producing Small Business
Benchmarks
David Heath, Director, Cumpston Sarjeant Pty Ltd
Fellow of the Institute of Actuaries of Australia
30th September 2013*

Executive summary

Cumpston Sarjeant Pty Ltd is an actuarial consulting firm, based at
160 Queen Street, Melbourne. As actuaries we have expertise in
statistics and probability, as well as economic and financial analyses.
Cumpston Sarjeant were appointed to review the statistical
methodology in accordance with a recommendation from the Inspector
General of Taxation (IGT) within its July 2012 report, *'Review into the
ATO's use of benchmarking to target the cash economy'* ('the IGT
report').

That IGT report was prompted by concerns from stakeholders over the
production and use of the Small Business Benchmarks (SBB). It is not
possible to assess the statistical methodology without simultaneous
consideration of the context in which the SBB are used by the ATO and
other stakeholders. Accordingly, our analyses and findings occur
within the context in which the SBB are used.

Many of the aspects of the development and use of the SBB are
regarded as policy decisions of the ATO, so are beyond the scope of
our investigation. Nevertheless, there is considerable overlap between
the policy decisions of the ATO and the practical assessment of the
statistical methodology. The SBB have several uses in practice,
including:

- To provide guidance to users on the typical ranges of certain
  financial ratios which can be calculated from data used in the
  completion of tax returns and Business activity statements.

- Use as a tool (amongst other tools) by the ATO to select higher risk
  businesses for the purpose of audit activity.

- In some cases, where a taxpayer cannot provide sufficient taxation
  records, the ratios may be used to provide deemed assessments for

taxpayers. These are known as default assessments.

Having gained an understanding of the derivation of the published benchmarks, we requested further clarifying information from the ATO.

In order to perform some independent tests of the methodology, we selected 6 industries, and requested relevant data. This was supplied by the ATO, but in order to preserve confidentiality, did not contain any data that would allow identification of individual taxpayers.

For the sample industries, we are able to confirm that the published benchmarks for the 2010 financial year are in accordance with the methodology described by the ATO in its document, *Small Business Benchmarks methodology and ratio calculations*. The methodology outlined in that document is consistent with that described in the IGT report.

The document, *Small Business Benchmarks methodology and ratio calculations* provides a clear description of the process of the development of published benchmarks. Our analyses and assessment follow a similar path as described in that document.

In our assessment, we believe there are components of the methodology which while not strictly necessary, contribute to the objective whereby the published SBB appropriately reflect the financial performance of like businesses. The discrete steps employed by the ATO in the derivation of Small Business Benchmarks have been considered in our analyses. Some steps may be regarded as policy decisions, so are outside the scope of our investigation. Nevertheless, we believe that all steps described contribute to the appropriate identification of like businesses, and the derivation of ratios that reflect typical behaviour of these groups of like businesses.

While we have identified some steps which could be removed without significant differences to the published SBB, and without major loss of robustness, the use of all the procedures in the derivation of the SBB reflect an underlying thorough approach by the ATO in developing useful ratios for homogeneous groups. This is further indicated by the use of keywords to identify business type in order to maximise the relevant datasets.

Benchmark ratios are published as bands for relevant business types and within specified turnover ranges for a financial year. Clearly, they are calculated using business data from the relevant business type, turnover range and financial year. In turn, the ratios are used as a basis

of comparison for businesses within that same business type and turnover range.

I understand the use of SBB is just one method to identify taxpayers for audit activity. I support the policy that SBB is not the sole indicator of further investigation. Given the relatively narrow range from which published ratios are derived, only those entities with ratios significantly outside the benchmark ratios should be targeted for audit on the basis of the benchmark ratios.

Overall, it is my opinion that the statistical methodology adopted in the production of Small Business Benchmarks is sound and robust. Our analyses indicate the published benchmarks are correctly calculated and published.

We thank the staff of the ATO for their assistance in this process, particularly members of the Cash Economy Risk and Strategy Tax Practitioner and Lodgment Strategy Division.

You can download the complete report [Review of Statistical Methodology used in producing Small Business Benchmarks (PDF, 1.56MB)](#) .

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