



LOCAL GOVERNMENT PRODUCTIVITY INDEX (LGPI)

The purpose of this factsheet is to define a non-market productivity index for local government. This index is based on the information submitted by councils in their annual financial statements and produces a measure of each council's productivity performance for the past 10 years. This fact sheet provides the background, method used and components that make up the Local Government Productivity Index (LGPI).

What is the Local Government Productivity Index?

The LGPI measures the change in year-on-year productivity of all 128 councils in NSW. It uses data published by councils in their annual audited financial statements to provide an enterprise whole of council view¹ of productivity for the financial year ending 30 June 2018.

Why has it been created?

Until the creation of the LGPI, productivity was not measured in the NSW Local Government sector². The absence of a reliable and accurate measurement of productivity, makes it difficult for regulators, custodians, and their communities to gauge an enterprise's operating performance over time and to recognise and reward improvement.

Since 2010, the NSW Independent Pricing Tribunal (IPART) has measured and published a Local Government Cost Index (LGCI) which it uses to determine the allowable annual increase in NSW local government general income (rate peg)³. In establishing the annual rate peg, IPART also considers the annual productivity factor. This productivity factor has until now, been based on a theoretical productivity (or efficiency) dividend expected to be available to be delivered by each local government council and is deducted from the rate peg amount (%).

How is it measured?

Councils are required by NSW Government legislation to submit their completed audited financial statements by early December each year⁴. In addition, the NSW Department of Local Government maintains annual data sets for all NSW councils⁵.

There is no requirement for additional data from any source to

produce the LGPI. The purpose of this fact sheet is to provide background on the way the LGPI is calculated, maintained and published.

The LGPI measures outputs and inputs that are used by councils to deliver services to their community in the last financial year.

An example of how a productivity index is calculated is shown below and has been established from data on outputs and inputs as provided in each council's audited financial statements for the financial year that ended on 30 June 2018.

The productivity adjustment factor derived by IPART for use in the annual Rate Peg outlined earlier, is separate to the LGPI.

How a productivity index works – a simplified example

To calculate the productivity of an enterprise, the actual values of the outputs produced by the enterprise are divided by the actual values of the inputs consumed by the enterprise to determine the enterprise productivity. The productivity formula for any period is:

$$\text{Productivity} = \text{Outputs} / \text{Inputs}^6$$

The productivity values created each financial year are included in a productivity index (PI). This allows for year-on-year comparison and measuring change. The formula simply put is:

$$\text{Result} = (P_2 = O_2 / I_2) - (P_1 = O_1 / I_1)$$

The result being an increase (improvement) or decrease (reduction) in the enterprise's year-on-year productivity. The current period (P_2) result is deducted from the (P_1) (expressed as a percentage) to establish either a gain, a loss, or no change in the enterprise productivity over the two periods P_1 to P_2 .

If there are outputs or inputs that are unique to one financial year, the LGPI can be adjusted, e.g. special rates, projects, etc.

Information used in completing the LGPI

The index uses the council fees⁷ (outputs) and the operating costs (inputs) incurred in delivering these services to their community. To be included in the LGPI, items must directly impact the day-to-day activities of the council.

1 Data is from Published Audited Annual Financial Statements for all 128 NSW Councils

2 NSW Auditor-General's Report Performance Audit "Monitoring Local Government" September 2012

3 IPART Local Government Cost Index – Local Government — Information Paper December 2010

4 NSW Legislation Section 416 (1), a council's financial reports for a year must be prepared and audited within 4 months after the end of the year concerned

5 <https://www.olg.nsw.gov.au/public/my-local-council/yourcouncil-website>

6 <https://hbr.org/1988/01/no-nonsense-guide-to-measuring-productivity>

7 Section 505 of the Local Government Act 1993 defines 'General Income' as applying to income from ordinary rates, special rates and annual charges, other than rates and charges relating to water supply and sewerage services, and annual waste management and stormwater charges and annual charges referred to in Section 611 of the legislation.

Outputs

Outputs are the fees a council receives for delivering services to their community. There are five output components in the LGPI:

- » Ordinary Rates (or)
- » Special Rates (sr)
- » Annual Charges (ac) (Section 611)
- » User charges (uc)
- » Other Income (oi)

The sum of outputs for council delivering services to their community in any period (p) being:

Sum of (Rates + Special Rates + Annual Charges + User Charges + Other Income)

$$O_p = \sum (or_p + sr_p + ac_p + uc_p + oi_p)$$

Inputs

Inputs are the costs incurred by council in procuring and delivering services to their communities. This is both in house and contracted out costs. There are three input components in the LGPI for each period:

- Employee and on-costs (eo)
- Materials and contracts (mc)
- Other Costs (oc)

The sum of Input for any period (p) being:

Sum of (Employee and Oncost + Materials and Contracts + Other Expenses)

$$I_p = \sum (eo_p + mc_p + oe_p)$$

Exclusions

Items such as borrowings costs, depreciation, grants and contributions are excluded from the LGPI. This is because it is concerned with productivity changes. Specifically, in how the councils use the inputs to acquire and deliver outputs to their communities, not the cost of financing their acquisition.

Grants and contributions are excluded as grants are either "effort neutral"⁸ in the case of Federal Government financial assistance grants or tied to specific purposes or capital investment. Grants do not impact on the day-to-day operations of the council⁹.

8 https://www.olg.nsw.gov.au/sites/default/files/Information%20Sheet%202016-17_0.pdf

9 <https://www.audit.nsw.gov.au/news/news-archive/2012/monitoring-localgovernment>

Example of LGPI for councils

| No # | OLG Group | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------|-----------|------|------|------|------|------|------|------|------|------|------|------|
| 31 | 1 | 1.27 | 1.24 | 1.28 | 1.34 | 1.25 | 1.22 | 1.20 | 1.18 | 1.13 | 1.19 | 1.23 |
| 10 | 3 | 0.95 | 0.92 | 0.91 | 0.93 | 0.94 | 0.96 | 1.03 | 1.04 | 1.05 | 1.09 | 1.05 |
| 115 | 4 | 0.86 | 0.51 | 1.01 | 1.62 | 0.83 | 0.87 | 0.86 | 1.06 | 1.07 | 1.11 | 1.11 |
| 92 | 5 | 1.10 | 1.06 | 1.10 | 1.12 | 1.15 | 1.15 | 1.14 | 1.30 | 1.38 | 1.37 | 1.31 |
| 101 | 6 | 0.93 | 0.96 | 1.02 | 0.97 | 0.96 | 1.00 | 1.05 | 1.25 | 0.97 | 1.12 | 1.13 |
| 22 | 7 | 0.87 | 0.84 | 0.90 | 0.89 | 0.88 | 0.89 | 0.92 | 1.00 | 1.02 | 1.02 | 1.00 |
| 16 | 8 | 0.58 | 0.44 | 0.45 | 0.55 | 0.49 | 0.62 | 0.59 | 0.70 | 0.79 | 0.73 | 0.84 |
| 118 | 9 | 0.86 | 0.76 | 0.79 | 0.69 | 0.70 | 0.79 | 0.84 | 0.87 | 0.89 | 0.81 | 0.79 |
| 48 | 10 | 0.41 | 0.44 | 0.45 | 0.55 | 0.55 | 0.54 | 0.53 | 0.64 | 0.75 | 0.63 | 0.68 |
| 8 | 11 | 0.89 | 0.77 | 0.71 | 0.72 | 0.62 | 0.84 | 0.81 | 0.88 | 0.94 | 0.94 | 1.01 |

No # is unique number given to each of the 128 NSW councils by LSI

OLG Group is the NSW Department of Local Government Groups, each council is assigned to a group

2008-2018 are the financial years ending 30 June in each of the years 2008 through to 2018

Special items

Unique or one-off items (not common in both periods) such as special rates¹⁰, will be adjusted to ensure the data is valid and comparable. Data for both of the periods that make up the LGPI will be consistent with councils audited statutory accounts and the Financial Data Returns that the councils are required to submit to the Office of Local Government (OLG).

Non-Market Sector and Multi Factor Productivity

Productivity measures the volume of output relative to the volume of input and indicates how efficiently resources are used. An increase in productivity means that more output could be produced with the same level of input or, alternatively, that less input is needed to produce the same level of output. This would suggest that an increase in productivity means that resources are used more efficiently¹¹.

Multifactor Productivity (MFP) is the volume of output relative to the volume of the combined input of capital and labour. MFP growth represents the change in output that cannot be directly credited to changes in observed capital and labour¹².

MFP is measured for the market sector, where prices provide a gauge of quality to be used to compare the value of new goods and services to the old goods and services they replace. Conversely, it is difficult to separate price changes from changes in quality and quantity for the nonmarket sector; therefore, MFP is not estimated for these industries^{13,14}.

Local government councils are in the non-market sector and the LGPI offers the first productivity measure in Australia for this sector.

If you have any questions regarding this fact sheet or the data used for the LGPI, please contact
Ian Fahy on 0411 418 651

10 <https://www.audit.nsw.gov.au/news/news-archive/2012/monitoring-localgovernment>

11 [https://www.dpc.nsw.gov.au/Programs & Services - NSW Centre for Economic and Regional Development \(2017\). Multifactor Productivity: Industry-level estimates by jurisdiction](https://www.dpc.nsw.gov.au/Programs%20and%20Services%20-%20NSW%20Centre%20for%20Economic%20and%20Regional%20Development%20(2017).%20Multifactor%20Productivity:%20Industry-level%20estimates%20by%20jurisdiction)

12 NSW Centre for Economic and Regional Development (2017). Multifactor Productivity: Industry-level estimates by jurisdiction

13 Australian Treasury (2009), Raising the Level of Productivity Growth in the Australian Economy, https://archive.treasury.gov.au/documents/1633/RTF/4_Productivity_Growth_Submission.rtf

14 Productivity Commission 2017, Non-market Sector Productivity, Shifting the Dial: 5 year Productivity Review, Supporting Paper No. 2, Canberra.