



Rebasing of Australia's population estimates using the 2021 Census

The Australian Bureau of Statistics (ABS) have used data from the 2021 Census of Population and Housing to rebase Australia's estimated resident population (ERP) from September 2016 to June 2021.

Australia's ERP at 30 June 2021 was 25,688,000, a downward revision of 50,000 (0.2 per cent).

There were significant revisions to state population estimates. The populations of New South Wales and Victoria were revised down, Queensland was largely unchanged, while other states and territories saw upwards revisions.

The ACT and Tasmania were the two fastest growing jurisdictions between 2016 and 2021 (the intercensal period), having grown much faster than previously estimated.

The Census was collected in August during an outbreak of the Delta variant of COVID-19 and lockdowns in most Eastern jurisdictions. Despite this, early indicators suggest that the Census was of high quality, with the lowest net undercount recorded, and a response rate of 96.1 per cent.

On 28 June 2022, the ABS released the first stage of data from the 2021 Census of Population and Housing (2021 Census). After each Census, the ABS uses new information to update ERP for Australia and its states and territories. This note presents the preliminary rebased estimates of Australia's population. For analysis of the latest quarterly population statistics please see *National, state and territory population, December 2021* at population.gov.au. More information on the 2021 Census can be found at abs.gov.au/census.

Population rebasing

Australia's ERP includes all people who usually reside in Australia (regardless of nationality, citizenship or visa status). To calculate ERP between Censuses, the ABS uses administrative data to estimate flows of population change (births, deaths, and migration) which it adds to the stock population estimate (the base).

Rebasing is the revision of ERP based on the latest Census. The ABS have rebased the ERP at 30 June 2021 to provide a more accurate base from which to estimate population. In addition, the ABS has also revised all previously published quarterly ERP estimates from 30 September 2016 to 30 June 2021.

The difference between the rebased ERP and previously published quarterly estimates is referred to as the **intercensal difference**. The intercensal difference cannot be attributed to any particular component of population change and is assumed to accumulate evenly over the intercensal period (between 30 September 2016 and 30 June 2021). The intercensal difference may result from error in the start population estimate, the end population estimate, and quarterly estimates of the components of growth.

Revisions to the June 2021 population estimates

The preliminary rebased ERP for Australia, at 30 June 2021, was 25,688,000, a downward revision of 50,000 (or 0.2 per cent) from the 2016 Census based estimate of 25,738,000.

Compared to the national level, revisions to state and territory population estimates were much more significant (see Table 1). Victoria's population was revised down by 1.5 per cent (101,000) and New South Wales' by 1.2 per cent (95,000). Queensland's population was largely unchanged (down 0.1 per cent, or 4,000 people).

The populations of the smaller states and territories were revised up, with some of the largest rebasing revisions recorded in 30 years. The largest revisions were to the ACT (5.1 per cent) and Tasmania (4.9 per cent). Western Australia (2.5 per cent), South Australia (1.7 per cent) and the Northern Territory (1.3 per cent) were also revised upwards.

Table 1. 2021 REBASING OF 30 JUNE 2021 ERP, IMPACT ON JURISDICTIONS

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Aust
2016 based ERP ('000)	8,189	6,649	5,221	1,773	2,682	541	246	432	25,738
2021 based ERP ('000)	8,094	6,548	5,218	1,803	2,750	568	249	454	25,688
Intercensal Difference ('000)	-95	-101	-4	30	68	27	3	22	-50
Difference (per cent)	-1.2	-1.5	-0.1	1.7	2.5	4.9	1.3	5.1	-0.2

Note: Positive difference reflects an upward revision to population; negative difference represents a downgrade.

Revised growth between 2016 and 2021

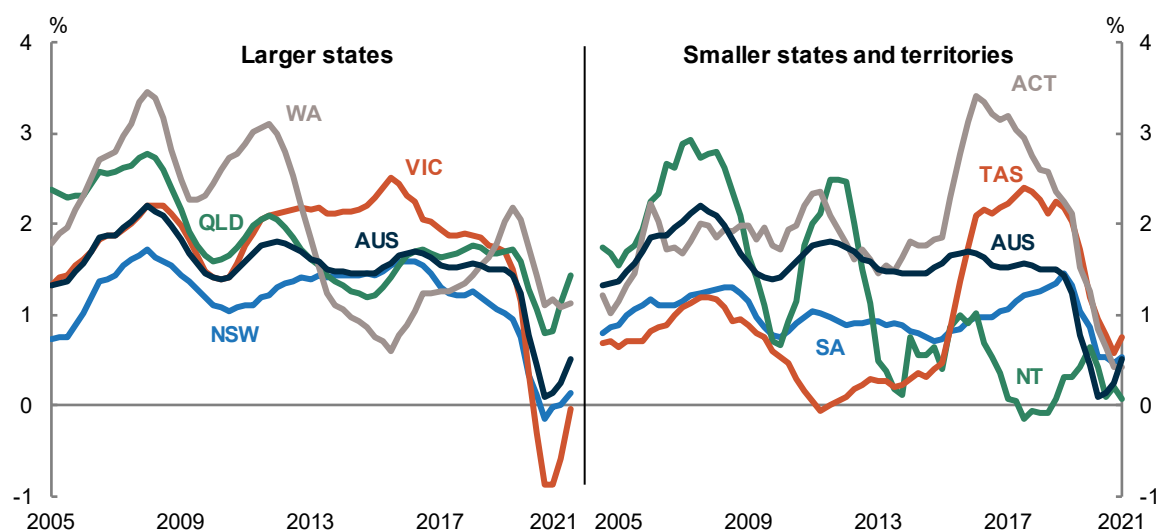
Revision to ERP for June 2021 necessitated revision to estimates of quarterly population growth over the intercensal period (30 September 2016 to 30 June 2021).¹ At the national level, the small size of revisions mean that estimates of quarterly growth are unchanged from what was previously published. However, population growth at the state and territory level has been significantly revised (see Table 2).

Prior to rebasing, Victoria's and Queensland's growth had been estimated to be the fastest during the intercensal period, with an average annual growth rate of 1.5 per cent. Following the revisions, the ACT and Tasmania were the fastest growing jurisdictions over the intercensal period, with growth rates revised up by a percentage point.

Table 2. CHANGE IN AVERAGE ANNUAL POPULATION GROWTH OVER THE INTERCENSAL PERIOD

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Aust
2016 based growth (per cent)	1.2	1.5	1.5	0.7	1	0.9	0	1.4	1.2
2021 based growth (per cent)	0.9	1.2	1.5	1	1.5	1.9	0.3	2.4	1.2
Difference	-0.2	-0.3	0	0.3	0.5	1	0.3	1	0

These revisions have resulted in estimates of growth in the ACT (from the March quarter 2017 to the September quarter 2018) surpassing 3 per cent annually, comparable to levels seen in Western Australia during the 2000's mining boom. Tasmania has moved from the slowest growing state in the decade prior to 2016 to the second fastest growing state between 2016 and 2021 (see Chart 1). Western Australia grew as quickly as Queensland, and South Australia experienced slightly higher growth than New South Wales.

Chart 1. ANNUAL POPULATION GROWTH TO 30 JUNE 2021

Quality of the 2021 Census

Shortly after each Census, the ABS run a Post Enumeration Survey (PES) to measure how well the Census counted people on Census night. The PES estimated a **net undercount** of 0.7 per cent, the lowest on record for an Australian census (see Table 3).²

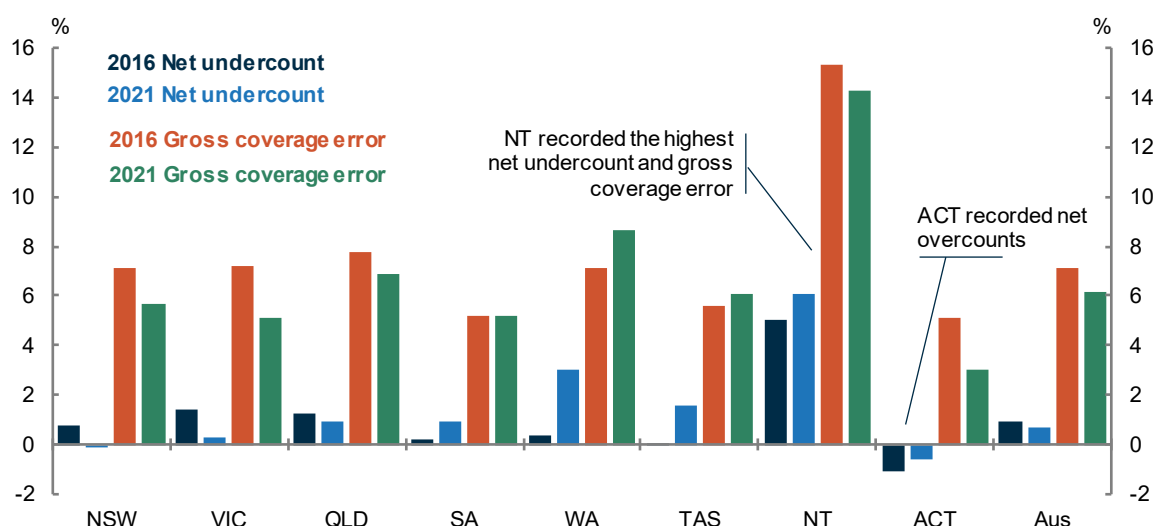
Table 3. HISTORICAL CENSUS NET UNDERCOUNTS

	1971	1976	1981	1986	1991	1996	2001	2006	2011	2016	2021
Net Undercount (per cent)	1.4	2.7	1.9	1.9	1.8	1.6	1.8	2.7	1.7	1.0	0.7

The **gross coverage error** is the difference between the PES population estimate and the number of people from which Census received a response, providing an estimate of the response rate for the Census. The gross coverage error decreased from 7.1 per cent in 2016 to 6.1 per cent in 2021, indicating a higher proportion of the population completed the 2021 Census.

At the state and territory level, the net undercount and gross coverage error decreased between 2016 and 2021 in New South Wales and Victoria, representing fewer people missed and higher census coverage (see Chart 2). These jurisdictions were subject to COVID-19 related restrictions at the time of the Census and PES, limiting people's movement and potentially contributing to the lower gross coverage error. The Northern Territory recorded the highest net undercount rate of all state and territories, potentially driven by COVID-19 restrictions limiting access to some remote Indigenous communities.

Chart 2. NET UNDERCOUNT AND GROSS COVERAGE ERROR BY STATE AND TERRITORY



Note: 2016 Net undercount for Tasmania is 0.1%, and so is not clearly visible in the above chart.

Notes

The Census data can be found at abs.gov.au/census and can be accessed through a variety of *Census data tools*, including community profiles which provide detailed tables for most Census variables.

The ABS will release the 2021 Census data in a staged approach. The second phase of the release will be available in October 2022 and will include other key Census topics, including employment and location-based variables (i.e., occupation and industry of employment, internal migration and method of travel to

¹Quarterly population estimates are revised by assuming intercensal difference is accumulated evenly across the five-year period, except for Tasmania and the Australian Capital Territory where more intercensal difference was allocated to quarters before June 2020. An error in allocation of migration estimates contributed to the relatively large intercensal difference in these two states.

²Net undercount is the difference between the estimate of how many people should have been counted in the Census as determined by PES and the actual Census count.

work). The third phase of the Census release will be available early to mid-2023 and will include topics such as distance to work and socio-economic indexes for areas (SEIFA).

Final population estimates will be available in June 2023, following final revisions to components of population growth for the 2016 to 2021 period.

The preliminary rebased population estimates for the latest quarter are available from the ABS in [National, state and territory population, December 2021](#).