Were there really 1 million unoccupied dwellings in Australia on census night 2021?



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Abstract

Background

The 2021 Census in Australia revealed that just over 1 million dwellings were 'unoccupied' on census night. This finding was widely reported and may have given the impression of a large number of vacant dwellings ready for households to move into, potentially offering a solution to homelessness and those struggling to find suitable or affordable accommodation.

Aims

The aim of the paper is to investigate whether there really were 1 million unoccupied dwellings in Australia in 2021, to shed some conceptual and empirical light on exactly what is meant by an 'occupied' and an 'unoccupied' dwelling, and also try to understand why dwellings were unoccupied.

Data and methods

We used a variety of census, population, and dwelling data to estimate the number of private dwellings disaggregated by occupancy on both a de facto basis (whether people were present in dwelling on census night or not) and on a usual residence basis (whether people are usually resident in a dwelling or not). A comparison with the situation at the time of the 2016 Census is made.

Results

The results show that there were indeed about 1 million dwellings unoccupied on a usual residence basis in Australia in 2021. But they were not the exact same 1 million unoccupied on census night, and not all of these dwellings were available to households to live in. There was a substantial increase in the number of dwellings unoccupied by usual residents between 2016 and 2021; we suggest some possible reasons for this, including Covid-related effects.

Conclusions

Greater clarity and more detail are needed in census dwelling data. In addition, it would be useful if there were detailed annual official statistics on dwellings and households to better inform housing policy and research.

Key words

Unoccupied dwellings; Census of Population and Housing; de facto; de jure; Australia.

1. Introduction

Shortly after the release of 2021 Census data in mid-2022, several media outlets focused on the "1,043,776 unoccupied dwellings" in Australia recorded by the census (ABS 2022a). For example, news.com.au announced that "Almost one-in-10 Australian homes were 'vacant' on Census night" (Smith 2022), while ABC News declared "One million homes were unoccupied on census night. How that could help people struggling to find housing" (Lohberger 2022). The Daily Mail Australia ran with headline "Alarming statistic reveals the depths of Australia's housing crisis as more than one million homes remain empty while renters struggle to find a place to live" (Heaton 2022). These headlines might give the impression that the 2021 Census counted 1 million perfectly habitable dwellings sitting permanently empty, or at least unused for most of the time. This sits uncomfortably in the context of homelessness (O'Donnell 2020), overcrowded housing (Dockery et al. 2022), people living in precarious circumstances, and those struggling to find affordable accommodation to live in (Gurran et al. 2021).

Is the interpretation of an unoccupied dwelling as a vacant property ready for a household to move into correct? The ABS count of unoccupied dwellings strictly refers to private dwellings where no-one was present on census night (ABS 2021a). However, many of these 'unoccupied' dwellings have people usually living in them; it is just that all members of the household were absent on census night – perhaps on holiday, visiting relatives, or away for a few days for work. At the same time, the census counted many 'occupied' dwellings where there were no usual residents. The people in them on census night were just there temporarily – in holiday rentals or second homes, for example.

In the past, the ABS recorded reasons for private dwellings not having anyone present on census night. According to the 1986 Census, 35% of dwellings were empty due to the usual residents being temporarily absent, 27% were for sale, for rent, newly-built, under repair, or scheduled for demolition, 25% were holiday homes, and 14% were for other/not stated reasons (ABS 1988 p. 175). So about 6 in 10 'unoccupied' dwellings were only unoccupied for a short period because the residents were away, or because of the normal operations of the housing market and turnover of housing stock. In later censuses, the reasons for dwellings being unoccupied on census night have not been provided.

The classification of populations by usual residence (de jure) or location at a particular point in time (de facto) is a fundamental concept of demography, and discussed early on in introductory demography textbooks (e.g. Rowland 2003). It is rarely applied to dwellings – yet it an essential concept when considering the use of dwellings by people. Census dwelling data on occupied and unoccupied dwellings is published by the ABS on a de facto basis – which means that dwellings are classified exactly as they were on census night, and census night only. This differs from how dwellings are occupied on a usual residence basis. The ABS classifies usual residence as a place where someone is living for at least 6 months (ABS 2021b). We accept that in the messiness of the real world the concept of usual residence is problematic for some regularly mobile people (Charles-Edwards 2021), but addressing this issue is beyond the scope of the paper, and for simplicity we assume that usual residence, at least approximately, applies to everyone.

The academic literature contains many contributions on temporary movements of population (from the perspective of people) and temporary populations (from the perspective of places) (e.g., Bell and

Ward 2000; Panczak et al. 2020). Yet the demography of dwellings, and the connections between populations and dwellings remains very undeveloped in the literature, a sentiment expressed by Myers (1990) over 30 years ago, which still largely applies today. Good conceptual frameworks and high-quality data on the demography of dwellings are essential for understanding the usage of housing, determining housing need, developing well-informed housing policy, and monitoring the impacts of policy change.

In this paper, we hope to shed some conceptual and empirical light on the issue of unoccupied dwellings in Australia. The aim of the paper is to provide estimates of the number of private dwellings in Australia by occupancy on census night and by occupancy on a usual residence basis. The estimates were calculated for the time of the 2021 Census, and also the 2016 Census for comparison. By doing so, we will be able to answer the question 'Were there really 1 million unoccupied dwellings in Australia on census night 2021?' The paper also attempts to answer the question why the number of dwellings unoccupied on a usual residence basis increased so much between 2016 and 2021. Our study focuses only on private dwellings, and therefore excludes non-private dwellings such as boarding schools, staff quarters, student halls of residence, prisons, and nursing homes.

Following this introduction, we outline a simple dwelling classification framework for describing dwelling occupancy on both a usual residence and a de facto basis. The method for calculating dwelling estimates for this classification is described, along with the census and other input data used. Section 3 presents the dwelling estimates by occupancy status for census night 2021 and 2016, while section 4 suggests some reasons for the growth in the number of dwellings unoccupied on a usual residence basis between 2016 and 2021. We conclude by recommending more comprehensive official statistics on dwellings and households in Australia.

2. Data and methods

2.1 Dwelling classification framework

A simple four-way classification of private dwellings by occupancy on both a de facto (census night) basis and a usual residence (de jure) basis is shown in Table 1. The ABS census classification of private dwellings as either occupied or unoccupied depends on whether there are people present in those dwellings on census night or not, and are represented by the totals in the bottom row of the table. The totals in the right-hand column of the table classify dwellings according to whether people are *usually resident* in dwellings or not, which is probably how census counts of occupied and unoccupied dwellings are interpreted by many.

Cell A in the table comprises the majority of dwellings, those with usual residents where people (generally, members of the household) were present on census night. Cell B refers to dwellings with usual residents but without anyone present on census night, and includes situations such as:

- the whole household being away on holiday or visiting relatives,
- single person households temporarily away for work, and
- individuals from single person households in living-apart-together relationships spending a couple of nights at their partner's address.

		Dwelling occupancy on census night		
		Occupied	Unoccupied	Total
Dwelling occupancy on a usual residence basis	Occupied	A. Dwellings with usual residents, and person(s) present on census night†	B. Dwellings with usual residents, but without anyone present on census night	All private dwellings with usual residents
	Unoccupied	C. Dwellings without usual residents, but person(s) present on census night†	D. Dwellings without usual residents, and without anyone present on census night	All private dwellings without usual residents
	Total	All private dwellings with people present on census night†	All private dwellings without anyone present on census night†	All private dwellings†

Table 1: Private dwellings by census night and usual residence occupancy

Source: authors. Note: + Italicised text denotes where dwelling numbers are directly available from the census.

Cell C represents dwellings without usual residents but where people were present on census night, such as:

- holiday rentals, and
- second homes.

Cell D refers to dwellings which were unoccupied on census night and without any usual residents currently living there. These include:

- properties for let or for sale where one household has departed and a new household has not yet moved in
- newly built dwellings without residents yet
- properties where the resident(s) recently died (deceased estates)
- properties undergoing renovation or repairs
- properties slated for demolition where the previous residents have moved out
- holiday rentals with no-one present on census night
- second homes with no-one present on census night, and
- empty investment properties.

These dwellings can essentially be classified into two broad groups: (i) those intended for usual residents but without them at a particular point in time (the first four dot points), and (ii) those not available to usual residents (the last four dot points).

2.2 Dwelling estimation method

Private dwelling numbers for the bottom row of Table 1 can be obtained directly from available census data. The number of dwellings with usual residents with one or more persons present on census night (cell A), and the number of dwellings with no usual residents but with people temporarily present on census night (cell C), are also available. The values of cells B and D remain to be estimated. Due to data availability, we calculate the value of cell B and then find the value of cell

D as the column residual, i.e. the total number of private dwellings without anyone present on census night minus the value of cell B.

The number of wholly-absent households – dwellings usually occupied but empty on census night because all residents were temporarily away – was calculated by taking the number of people temporarily away from home from these households and dividing by average household size. The number of people in these households cannot be determined directly, but can be estimated indirectly from census data, ERP rebasing data, and some assumptions about non-private dwelling residents. The calculation is:

People temporarily away from home from wholly-absent households =

- people counted away from their home address in Australia (1)
- non-private dwelling residents counted away from
 - their non-private dwelling in Australia (2)
- + Australian residents temporarily overseas (3)
- non-private dwelling residents temporarily overseas (4)

all private dwelling
 residents temporarily
 away from home

- private dwelling residents away from households where at least 1 person was present (5).

The subtotal from data inputs 1-4 provides an estimate of the number of private dwelling residents temporarily away from home. The last item (5) in the equation is a count of people temporarily away from dwellings which were not unoccupied on census night. The difference between them is an estimate of the number of people away from wholly-absent households. Each of the five data inputs to the equation is described in turn.

The first of the data items, the number of people present in dwellings in Australia on census night who are visiting and away from home, is directly measured by the census. Visitors should be included in every household's census return, and can be identified from the question 'Where does the person usually live?' by the answer 'elsewhere in Australia' (ABS 2020).

Second, because we wished to calculate the number of private dwelling residents only, we then subtracted the estimated number of non-private dwelling residents temporarily away. This information is not available from the census, and an assumption was made that the ratio of people counted at home to those counted away amongst private dwelling residents also applies to the portion of the non-private dwelling resident population who can potentially travel (which excludes those with travel limitations, such as people in prisons, detention centres, and nursing homes).

Third, we added the number of Australian residents temporarily overseas on census night. The number temporarily overseas is estimated by the ABS for the purposes of rebasing the ERP from overseas arrivals and departures statistics (ABS 2022b).

Fourth, we subtracted the estimated number of non-private dwelling residents temporarily overseas. We simply assumed the ratio of all Australian residents temporarily overseas to those counted at home applied to the portion of the non-private dwelling resident population with the ability to travel. This is a relatively small number.

Then, to obtain the required estimate of the number of people temporarily away from home from wholly-absent households, we subtracted those private dwelling residents temporarily away from dwellings where at least one person was present on census night. These people return to households

which were counted as occupied on census night, and are therefore not from wholly-absent households. This count is available from the census, and is derived from information requested towards the end of the household census form. The person completing the form is asked to provide limited information on 'each person who usually lives in this dwelling but was away on [census night]' (ABS 2020).

Finally, the number of persons temporarily away from wholly-absent households was divided by average household size to give the estimated number of dwellings where people were usually resident but temporarily away on census night. Average household size was calculated from the census variable on the number of persons usually resident in a dwelling.

Obviously, there are several assumptions inherent in this dwelling estimate, and it should be regarded only as an approximate figure. We assume that: the number of people listed as visitors to dwellings (whose usual address is 'elsewhere in Australia') is accurately recorded by the census; that our estimates of the non-private dwelling population temporarily away in Australia and overseas are reasonable; that the count of persons listed at the end of the census form as temporarily away is reliable (noting there is only room for a maximum of 3 persons to be listed); and that overall average household size is a reasonable approximation for the average size of wholly-absent households. None of these assumptions holds perfectly.

2.3 Data

To calculate the number of dwellings usually occupied but empty on census night the following 2016 and 2021 census data was obtained from the ABS. The variable Usual Address Indicator Census Night (UAICP) gives counts of people counted 'at home' or at another address 'elsewhere in Australia'. The dwelling variable Count of Persons Temporarily Absent from Household (CPAD) lists the number of dwellings where 1, 2, or 3 usual residents were temporarily absent. A cross-tabulation of persons by Type of Non-Private Dwelling (NPDD) by UAICP allows an estimate to be made of non-private dwelling residents counted 'at home' who have the ability to travel. Excluded were those in establishments such as prisons, detention centres, and nursing homes. Dwelling Type (DWTD) lists the number of private dwellings occupied and unoccupied on census night. A cross-tabulation of DWTD by UAICP enables the calculation of the ratio of people in private dwellings counted away to those counted at home. The same census table provides the denominator for the ratio of Australian residents temporarily overseas to those at home. The dwelling variable Number of Persons Usually Resident in Dwelling (NPRD) lists the number of dwellings where 1, 2, 3, 4, 5, 6, 7 or 8+ people are usually resident. This permits the calculation of average household size. The variable Household Composition (HHCD) lists the number of dwellings with only visitors present on census night. Census variables are described in the Census Dictionary (ABS 2021c).

In addition to census data, estimates of the number of Australians temporarily overseas on census nights 2016 and 2021 were supplied directly by the ABS. For section 4 of the paper, we also made use of ABS private dwelling estimates (ABS 2022c) and Estimated Resident Populations (ABS 2022d).

We also obtained data on the number of short-term rental properties from AirDNA, the main provider of data and analytics for the short-term rental industry (AirDNA, no date). The database contains booking and listing information that identifies the number of dwellings either available or reserved for rental in August 2016 and August 2021 (corresponding with the census timing). The data are primarily derived from bookings on digital platforms such as Airbnb and VRBO (Vacation Rentals by Owner), and while the coverage of short-term rentals is thought to be high, it is not 100%.

3. Dwelling estimates by occupancy status

Table 2 presents the estimated distribution of private dwellings in Australia by occupancy on census night 2021 and by usual residence. The widely reported 1.04 million dwellings unoccupied on census night includes an estimated 186,821 (18%) where the usual residents were only temporarily absent. A further 856,955 dwellings (82%) were unoccupied on census night but did not have any usual residents. The number of dwellings unoccupied on a usual residence basis included these 856,955 dwellings plus an additional 160,883 which contained only visitors on census night. In total, this means there were just over 1 million dwellings unoccupied on a usual residence basis at the time of the 2021 Census (row total of 1,017,838). Although the total number is similar, it differs in occupancy composition from the total number of dwellings unoccupied on census night, although there is substantial overlap.

Table 3 shows the equivalent figures in 2016 for comparison. The total number of dwellings unoccupied on census night 2016 was very similar at just over 1 million, though this represents a slightly higher share of the total number of private dwellings at the time (10.5% compared to 9.6% in 2021). The much larger estimated number of dwellings where the usual residents were only temporarily absent, 435,224, reflects the population mobility of pre-Covid times, and includes wholly-absent households temporarily away from home both in Australia and overseas. The large drop in the number of these

Table 2: Estimated number of private dwellings by census night and usual residence occupancy, Australia,10th August 2021

		Dwelling occupancy on census night		
		Occupied	Unoccupied	Total
Dwelling occupancy on a	Occupied	9,647,543†	186,821	9,834,364
usual residence basis	Unoccupied	160,883+	856,955	1,017,838
	Total	9,808,426†	1,043,776†	10,852,202†

Source: authors' calculations based on ABS census and population data described in section 2.3. *Note*: ⁺ Obtained directly from the census; other values are approximate estimates.

Table 3: Estimated number of private dwellings by census night and usual residence occupancy, Australia	э,
9th August 2016	

		Dwelling occupancy on census night		
		Occupied	Unoccupied	Total
Dwelling occupancy on a	Occupied	8,713,202†	435,224	9,148,426
usual residence basis	Unoccupied	148,418†	604,655	753,073
	Total	8,861,620†	1,039,879†	9,901,499†

Source: authors' calculations based on ABS census and population data described in section 2.3. *Note*: ⁺ Obtained directly from the census; other values are approximate estimates.

dwellings in 2021 to 186,821 is not surprising given the mobility restrictions imposed by state/territory governments in response to the Covid pandemic and the federal government's closure of the international border.

Another notable difference between 2016 and 2021 can be seen in the number of private dwellings unoccupied on both census night and on a usual residence basis. These dwelling numbers increased from an estimated 604,655 in 2016 to 856,955 in 2021 (an increase of 42%). By comparison, the dwelling stock overall increased by 9.6% over the five year period 2016 to 2021. The total number of dwellings unoccupied on a usual residence basis rose from about ³/₄ million in 2016 to just over a million in 2021 (an increase of 35%). If this total had increased in line with overall dwelling growth between 2016 and 2021, there would have been about 825,000 dwellings unoccupied on a usual residence basis in 2021.

4. Why were there so many unoccupied dwellings?

Why were there about 1 million dwellings unoccupied on a usual residence basis in 2021? Unfortunately, given the available data, it is difficult to go much beyond the disaggregation shown in Table 2, which shows that out of an estimated 1,017,838 dwellings unoccupied on a usual residence basis, 160,883 (16%) were occupied with visitors on census night, while 856,955 (84%) were empty. A large proportion of the latter category of dwellings were probably empty on census night for the same set of reasons recorded in the 1986 Census. These include housing market or turnover reasons (for sale, for let, deceased estates, under renovation, or newly-built), while others may have been empty second homes, unlet holiday rentals, or empty investment properties.

However, it is possible to consider why the number of dwellings unoccupied on a usual residence basis increased so much from 2016. Two potential proximate (and connected) reasons that we briefly explore here are: net additions to the dwelling stock outpacing household growth, and an increase in the number of holiday rental properties and second homes over the last few years.

Did dwelling construction outpace household growth? There are no annual household estimates produced by the ABS. However, approximate household estimates can be easily calculated for 2016 and 2021. The mid-year Estimated Resident Population in private dwellings for these two years can be calculated by multiplying the census share of the population usually resident in private dwellings by the total ERP (to give the private household ERP). Dividing this by average household size results in the estimated number of households. The census share of people in private dwellings and average household size can then be interpolated for years between 2016 and 2021, and household estimates then created for these years. Net dwelling growth was calculated from private dwelling estimates in the new ABS publication Estimated Dwelling Stock (ABS 2022c).

The results of these estimations are shown in Figure 1. Net dwelling growth exceeded household growth for each of the five years shown. This was especially the case in 2020-21 when household growth was subdued due to slow population growth from the international border closure and negative net overseas migration (ABS 2022d). Dwelling construction declined only moderately in 2019-20 and 2020-21, likely assisted by various housing market stimulus measures. These include the federal government's HomeBuilder program, which provided households below a certain income threshold with a grant of \$25,000 to spend on building a new house, and several state and territory

government incentives (Leishman et al. 2022). It seems plausible, therefore, that part of the explanation for the increase in the number of unoccupied dwellings on a usual residence basis lies in net dwelling growth outpacing household growth. However, in the absence of comprehensive annual official statistics on households and dwellings, we cannot be sure of the extent of this effect.



Figure 1: Estimated net dwelling and household growth, Australia, 2016-17 to 2020-21 *Source*: authors' calculations based on ABS ERP and dwelling data

Another possibility is that there was a large increase in the number of holiday rental properties and second homes between 2016 and 2021. Was this the case? Data from AirDNA reveals a much greater number of short-term rental properties in Australia in August 2021 than in 2016. We focus on the 'entire home' category in the AirDNA data because it refers to a self-contained property with its own entrance, and closely resembles the ABS definition of a private dwelling. We excluded the AirDNA count of individual rooms available for rent because it is not possible to determine if these are in dwellings which are unoccupied on a usual residence basis or not. It is important to emphasise that the data we present here only provides a partial picture of the trend in the number of short-term holiday rentals and only includes second homes if they are rented out for some of the year.

Figure 2 shows the number of short-term rentals of 'entire homes' in the month of August in 2016 and 2021. It shows both active and professional listings. An 'active' listing is defined as one which is available for booking (or reserved) for at least 1 day in a month, while a professional listing is a particular type of active listing available for almost all of a month. The total number of active short-term rental listings in August 2021 (120,500) was about 2½ times the number in 2016, while the number of professional listings in 2021 (90,400) increased by a similar factor since 2016. Thus, the growth in short-term rental properties between 2016 and 2021 could provide part of the answer to the question about the increase in the number of dwellings without usual residents. However, the situation is complicated by the possibility that many holiday homes, not previously listed on short-term rental websites, are now let out for parts of the year. These dwellings would not have added to the stock of dwellings unoccupied on a usual residence basis.



Figure 2: Number of short-term rental listings of entire homes, Australia, at the time of the 2016 and 2021 censuses

Source: AirDNA data. Notes: An 'active' listing is available (or reserved) for at least 1 day in a month; a 'professional' listing is available (or reserved) for all but a maximum of 5 days in a month.

5. Conclusions

This paper has presented estimates of the number of private dwellings in Australia cross-classified by occupancy on census night and occupancy by usual residence in 2021 (and also 2016). The answer to the question 'Were there really 1 million unoccupied dwellings in Australia on census night 2021?' is yes – and no. Yes, there were about 1 million dwellings with no-one present in them on census night, and yes there were also about 1 million dwellings with no usual residents – though not the exact same 1 million. Consequently, the characteristics of dwellings unoccupied on census night as revealed by census data, including geographical patterns, will not be the same as those unoccupied on a usual residence basis. But the answer to the question is also no in the sense that many of the 1 million dwellings unoccupied on a usual residence basis were not available for people to move into. Many of these dwellings will have been only temporarily without usual residents (e.g. newly-built, or vacant for a couple of weeks following the sale of a property) or they were second homes, holiday rentals, or other dwellings which do not contain usual residents.

The distribution of dwellings by occupancy status was substantially affected by Covid-related restrictions and lockdowns, as a comparison of Tables 2 and 3 makes clear. Mobility was restricted and very few Australians were temporarily overseas in 2021. Not surprisingly, a greater proportion of dwellings with usual residents had people present in them on census night in 2021 (98%) than in 2016 (95%). The number of dwellings without usual residents but with people present on census night 2021 (cell C) was still reasonably high (and greater in number than in 2016), suggesting movement to holiday homes during lockdowns. In future research we aim to investigate the geographical pattern of dwelling occupancy by usual residence.

We presented evidence which provides some support for the suggestion that the growth in dwellings unoccupied on a usual residence basis between 2016 and 2021 was due to net additions to the dwelling stock exceeding household growth, and growth in the number of short-term rental properties. However, the evidence is broad brush and not conclusive due to data limitations, and other influences may also have contributed to the growth in the number of dwellings without usual residents. Much remains unknown. We were not able to examine trends in the number of second

homes which are not rented out, and the extent to which there are properties are being left vacant over the long-term for other reasons. It is difficult to determine the number of dwellings only temporarily unoccupied on a usual residence basis due to them being newly-built, temporarily between tenants or owners, or under renovation. And there are commercial property datasets which may also provide some of the answers, but these are not in the public domain.

The paper has also demonstrated the complexity of census dwelling data, along with some of its strengths and limitations. While census data on population is available on both a de facto (location on census night) and a de jure (place of usual residence) basis, census data on dwellings is presented on a de facto basis. Some census variables, do in fact, include some information on persons normally resident in a dwelling but not present on census night, such as Number of Persons Usually Resident in Dwelling (NPRD), but most do not. It is essential for data users to be aware of the scope of each census dwelling and household variable. For example, the scope of census data on Relationship in Household (RLHP) is 'Persons present in the household on Census Night' (ABS 2021d). But actually, relationships recorded in this variable (e.g. lone parent, in a registered marriage, brother/sister) are only given for people usually resident in the dwelling and who were present there on census night (cell A in Table 1). People present in the dwelling, but not usually resident, are classified as visitors in RLHP. Household relationship data covers only about 90% of the census usually resident population, and in some local areas, much less. If a census dataset of dwellings on a usual residence basis was available, then it would provide a more comprehensive picture of dwelling occupancy in Australia.

But there is a case for further detail in dwelling and household data. It would be very beneficial to have regular, timely, accurate, and freely available statistics on Australia's dwelling stock and its occupancy. The recently-announced National Housing Supply and Affordability Council, which will focus on "increasing housing supply and improving housing affordability" (Collins, 2022), would greatly benefit from such statistics. To support the work of the council and housing policy more generally, the federal government should fund a program of annual dwelling and household statistics in the ABS. Importantly, these statistics should distinguish between dwellings without usual residents (i.e. dwellings used as second homes, short-term rentals, or not occupied for other reasons) and those intended for usual residents (most dwellings). Ideally, the data would also provide estimates of the number of dwellings temporarily unoccupied on a usual residence basis by broad reason for being without usual residents at the reference date of the data (newly-built, about to be demolished, etc.). If such comprehensive and regular dwelling data was available, then we would know whether dwelling occupancy was currently returning to 'normal' after Covid restrictions and lockdowns. Doubtless, the creation of detailed official statistics on dwellings and households would be a substantial, and challenging, undertaking. But they would provide a strong evidence base for housing policy, facilitate good-quality research to inform policy, and enable myths and assumptions made about the nation's housing market and dwelling stock to be countered.

Key messages

 It is useful to distinguish between the occupancy of dwellings on a de facto basis (whether people were present on census night) and on usual residence basis (whether people are usually resident there).

- The 2021 Census recorded just over 1 million dwellings unoccupied on census night. Our approximate estimates suggest a similar number of dwellings unoccupied on a usual residence basis but not the exact same 1 million.
- The increase in dwellings unoccupied on a usual residence basis between 2016 and 2021 is probably due, in part, by net dwelling growth exceeding household growth during the Covid pandemic and the increase in the number of short-term rental properties.
- Greater clarity around census dwelling data is needed. In addition, housing policy and research would benefit from a series of annual dwelling and household estimates from the ABS.

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References

- ABS (1988). Census 86 Cross-classified characteristics of persons and dwellings. Census of Population and Housing, 30 June 1986. Catalogue No. 2498.0. Canberra, ABS. <u>https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2102.01986?OpenDocument</u>
- ABS (2020). 2021 Census topics and data release plan. <u>https://www.abs.gov.au/statistics/research/2021-</u> <u>census-topics-and-data-release-plan</u>. Accessed 2 August 2022
- ABS (2021a). Dwelling type (DWTD). Census of Population and Housing: Census dictionary. <u>https://www.abs.gov.au/census/guide-census-data/census-dictionary/2021/variables-</u> <u>topic/housing/dwelling-type-dwtd</u>. Accessed 11 August 2022.
- ABS (2021b). Place of usual residence (PURP). Census of Population and Housing: Census dictionary. <u>https://www.abs.gov.au/census/guide-census-data/census-dictionary/2021/variables-</u> <u>topic/location/place-usual-residence-purp</u>. Accessed 11 August 2022.
- ABS (2021c). Census of Population and Housing: Census dictionary. <u>https://www.abs.gov.au/census/guide-census-data/census-dictionary/2021</u>. Accessed 11 August 2022.
- ABS (2022a). Housing: Census. Information on housing type and housing costs. <u>https://www.abs.gov.au/statistics/people/housing/housing-census/latest-release</u>. Accessed 2 August 2022.
- ABS (2022b). Methodology used in rebased population estimates, June 2021. <u>https://www.abs.gov.au/statistics/detailed-methodology-information/information-</u> <u>papers/methodology-used-rebased-population-estimates-june-2021</u>. Accessed 11 August 2022.
- ABS (2022c). Estimated Dwelling Stock. <u>https://www.abs.gov.au/statistics/industry/building-and-</u> <u>construction/estimated-dwelling-stock/latest-release</u>. Accessed 29 November 2022.
- ABS (2022d). National, state and territory population. <u>https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/dec-2021</u>. Accessed 11 August 2022.
- AirDNA (no date). Dataset on short-term rentals. <u>https://www.airdna.co/about</u>.
- Bell, M., & Ward, G. (2000). Comparing temporary mobility with permanent migration. *Tourism Geographies*, 2(1), 87–107. <u>https://doi.org/10.1080/146166800363466</u>

- Charles-Edwards, E. (2021). Living in more than one place: capturing dual-local lives in the 2026 Census. *Australian Population Studies*, 5(1), 3-8. <u>https://doi.org/10.37970/aps.v5i1.75</u>
- Collins, J. (2022). National Homelessness Conference 2022. <u>https://ministers.dss.gov.au/speeches/8756</u>. Accessed 26 August 2022.
- Dockery, A. M., Moskos. M., Isherwood, L., & Harris, M. (2022). How many in a crowd? Assessing overcrowding measures in Australian housing. AHURI Final Report No. 382, Australian Housing and Urban Research Institute Limited, Melbourne. <u>https://doi.org/10.18408/ahuri8123401</u>.
- Gurran, N., Pill, M., & Maalsen, S. (2021). Hidden homes? Uncovering Sydney's informal housing market. Urban Studies, 58(8), 1712–1731. <u>https://doi.org/10.1177/0042098020915822</u>
- Heaton, T. (2022). Alarming statistic reveals the depths of Australia's housing crisis as more than one million homes remain empty while renters struggle to find a place to live. Daily Mail Australia.
 https://www.dailymail.co.uk/news/article-10960139/One-million-vacant-homes-Australia-2021-Census.html. Accessed 2 August 2022.
- Leishman, C., Aminpour, F., Baker, E., Beer, A., Crowe, A., Goodall, Z., Horton, E., Jacobs, K., Lester, L., Torchia, S., Maclennan, D., Martin, C., Nash, M., Pawson, H., Rowley, S., Stone, W., & Vifor, J. R. (2022). Australia's COVID-19 pandemic housing policy responses. AHURI Final Report No. 376, Australian Housing and Urban Research Institute Limited, Melbourne, https://doi.org/10.18408/ahuri3227801.
- Lohberger, L. (2022). One million homes were unoccupied on census night. How that could help people struggling to find housing. <u>https://www.abc.net.au/news/2022-06-29/census-finds-1-million-empty-houses-amid-affordability-crisis/101190794</u>. Accessed 2 August 2022
- Myers, D. (ed.) (1990). *Housing Demography: Linking Demographic Structure and Housing Markets*. University of Wisconsin Press.
- O'Donnell, C. (2020). Estimating annual rates of homelessness. *Demographic Research*, 43(1), 1-34. <u>https://doi.org/10.4054/DemRes.2020.43.1</u>
- Panczak, R., Charles-Edwards, E., & Corcoran, J. (2020). Estimating temporary populations: a systematic review of the empirical literature. *Humanities and Social Sciences Communications*, 6, 87. <u>https://doi.org/10.1057/s41599-020-0455-y</u>
- Rowland, D. T. (2003). Demographic Methods and Concepts. Oxford University Press.
- Smith, R. (2022). Almost one-in-10 Australian homes were 'vacant' on Census night. <u>https://www.news.com.au/finance/money/investing/almost-onein10-australian-homes-were-vacant-on-census-night/news-story/e5da221268ad7331c2882a4feefd0db1</u>. Accessed 2 August 2022.