

Dwelling Stock Estimates- 2011 census count and rolled forward estimates

Introduction

This statistical article covers the differences between the number of dwellings recorded during the 2011 Census and the rolled forward estimates based on the 2001 Census. The article will describe the methodology used for calculating the dwelling stock estimates on an annual basis, the difference between the estimate of dwellings for 31 March 2011 and the 2011 Census count at a Wales and local authority level and the factors which may have impacted on this difference between the two sets of data.

The dwelling stock estimates provide an estimate of the number of residential dwellings for each tenure type and by local authority, at the end of March each year. The data are used by the Welsh Government, local authorities and other housing organisations to help monitor trends in the overall level of Welsh housing stock, to assess any changes in its tenure distribution over time and as an indication of whether housing need is being met. A statistical release presenting the revised dwelling stock estimates is available at the following link:

<http://wales.gov.uk/topics/statistics/headlines/housing2013/dwelling-stock-estimates-2011-12/?lang=en>

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1. Issues

Estimates of the total number of dwellings are based on data from the population censuses held every ten years which are then updated annually to take account of changes to the dwelling stock through new build completions plus any gains or losses through conversions and demolitions. This method of 'rolling forward' the estimates from a census provides estimates annually in between the census years.

The 2011 Census gave a total of 1,383,814 dwellings in Wales at 27 March 2011. This is 34,178 more dwellings (3 per cent) than the previously published rolled forward estimate for 31 March 2011 which was 1,349,636 dwellings. This is equivalent to around 3,418 dwellings per year, over the 10 year period from 2001-02 to 2010-11, above the published totals. In 2001 this difference between the 'rolled forward' estimates and the 2001 Census count was minimal at around 340 dwellings more, accounting for 34 dwellings per year above the published totals. To ensure consistency with the 2011 Census figures the previously published rolled forward dwelling stock estimates for Wales and the individual local authorities from 2001-02 to 2010-11 were therefore revised in line with the 2011 Census figures and published in the statistical release '[Dwelling Stock Estimates, 2011-12](#)'.

Dwelling stock estimates are based on a combination of survey and administrative data from local authorities and registered social landlords. They cannot be exact and will inevitably be subject to some error. Discrepancies are usually observed between the rolled forward estimates and the Census estimates. There is no single reason for the discrepancy in the 2011 figure, it will have been influenced by a number of factors. This article will focus on some of the main factors which may have impacted on this discrepancy.

2. Methodology

2.1 Estimate of total dwellings

During a census year the total number of dwellings in Wales is taken directly from the Census. Between censuses the total number of dwellings is estimated as follows:

$$\begin{array}{rclcl} \text{Total number of} & = & \text{Number of dwellings} & + & \text{Number of dwellings} & - & \text{Number of} \\ \text{dwellings in Wales} & & \text{in previous year} & & \text{completed during the year} & & \text{residential} \\ & & & & \text{(including conversions)} & & \text{demolitions} \end{array}$$

2.2 Tenure distribution

The total estimated number of dwellings is then distributed by tenure type.

The numbers of both local authority and registered social landlord (RSL) dwellings are taken directly from the annual stock returns from the 22 local authorities and all Welsh registered social landlords which is published in the following release:

<http://wales.gov.uk/topics/statistics/headlines/housing2012/120726/?lang=en>

The annual stock return collects information on all self-contained and non self-contained socially rented dwellings as well as intermediate and other tenures which are not at social rents. The intermediate and other tenures not at social rents are excluded from the local authority and RSL dwelling stock estimates as they are already included in the owner-occupied, privately rented and other tenures categories. As the annual local authority and RSL stock returns collect the number of non self-contained bed spaces rather than dwellings, it is assumed on average that 3 non self-contained bed spaces is equal to one dwelling.

Private sector dwellings are calculated by subtracting the number of local authority dwellings and RSL dwellings from the total number of dwellings in Wales. In order to estimate the number of private sector dwellings that are privately rented the current methodology estimates what proportion of the private

sector are privately rented using information from the Annual Population Survey (APS). The owner-occupied tenure is then calculated as the residual after the other tenures have been removed.

3. Re-based estimates

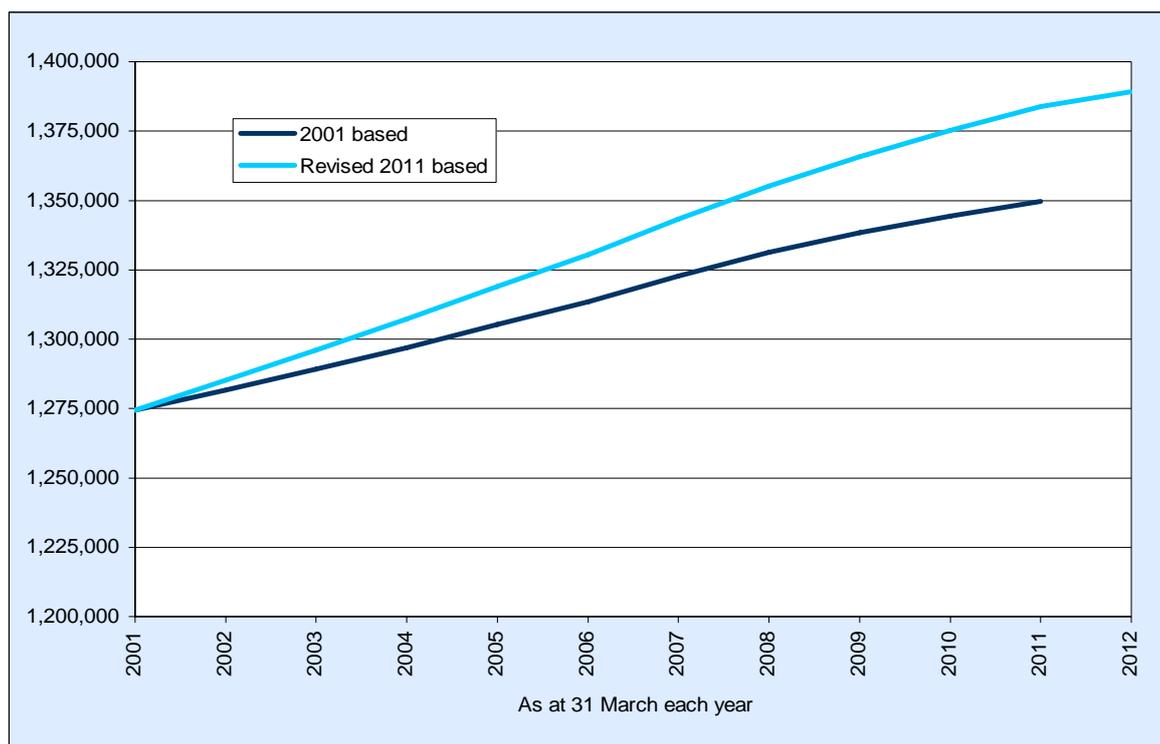
To ensure consistency and make allowance for incremental differences in the rolled forward estimates, each Census year the rolled forward estimates for Wales and the individual local authorities are rebased to align them with the current and previous Census figures.

Rebasing the rolled forward dwelling stock estimates involves producing estimates based on the new census, in this case the 2011 Census, assessing the accuracy of the estimates of dwellings at the end of the last intercensal period and revising the historic series so that it is consistent with both the previous and the latest census.

The difference between the rolled forward estimates at 31 March 2011 and the 2011 Census was divided by the number of years in the intercensal period (10 years) to produce an adjustment factor. This factor is multiplied by the number of years elapsed since the starting point (2000-01) to produce an adjustment for each particular year. These adjustments were then added to the 2001 based estimates to produce the revised estimates.

The Department of Communities and Local Government (DCLG) use a similar method to adjust the annual figures with any difference spread evenly across the ten years since the previous census.

Chart 1. Trends in dwelling stock estimates, Wales (a)



(a) The 2011 figures for the revised 2011 based series are the 2011 Census figures.

The differences between the 2011 Census count and the 2001 based estimates for 31 March 2011 are not evenly spread across the local authorities. Cardiff had the largest difference in 2011 (5,711 dwellings) followed by Pembrokeshire (3,577 dwellings) and Powys (2,855 dwellings). The biggest percentage difference was seen in Pembrokeshire and the Isle of Anglesey at 6 per cent each. For 3 of the 22 local authorities the estimated dwellings were actually higher than the 2011 census count including Denbighshire with an overestimate of 916 dwellings, Blaenau Gwent with an overestimate of 267 dwellings and Ceredigion with an overestimate of 220 dwellings (Table 1).

Table 1. Dwelling stock estimates, by tenure and local authority, at 31 March 2011

	2001 based rolled forward dwelling stock estimates for 2011	2011 Census dwellings count	<i>Number and percentage</i>	
			Difference	Percentage difference %
Isle of Anglesey	32,373	34,168	1,795	5.5
Gwynedd	58,307	61,009	2,702	4.6
Conwy	53,340	56,106	2,766	5.2
Denbighshire	43,564	42,648	-916	-2.1
Flintshire	64,093	65,795	1,702	2.7
Wrexham	58,666	59,005	339	0.6
Powys	60,561	63,446	2,885	4.8
Ceredigion	34,789	34,569	-220	-0.6
Pembrokeshire	57,091	60,668	3,577	6.3
Carmarthenshire	82,026	84,115	2,089	2.5
Swansea	106,024	108,729	2,705	2.6
Neath Port Talbot	63,664	63,978	314	0.5
Bridgend	59,218	61,445	2,227	3.8
The Vale of Glamorgan	54,092	55,644	1,552	2.9
Cardiff	142,382	148,093	5,711	4.0
Rhondda Cynon Taf	103,445	105,269	1,824	1.8
Merthyr Tydfil	25,741	26,245	504	2.0
Caerphilly	75,826	77,217	1,391	1.8
Blaenau Gwent	32,219	31,952	-267	-0.8
Torfaen	39,701	40,224	523	1.3
Monmouthshire	39,444	40,044	600	1.5
Newport	63,070	63,445	375	0.6
Wales	1,349,636	1,383,814	34,178	2.5

Source: Welsh Government and Office for National Statistics (ONS)

For England, the 2011 census gave a total of 22.976 million dwellings at 27 March 2011 which was 162,000 more dwellings than the previously published DCLG estimate for April 2011 of 22.814 million dwellings. This represented an underestimate in the 2001 based rolled forward estimates of 9per cent over the 10 year period from 2001 to 2011, equivalent to 16,000 extra dwellings per year above the published totals. As in Wales these differences were not evenly spread across districts with the largest underestimates in Westminster (900 dwellings less per year), Bradford (800 dwellings less per year) and Liverpool (700 dwellings less per year) and the largest over estimates in Leeds (500 dwellings more per year), Greenwich (500 dwellings more per year) and Merton (400 dwellings more per year).

4. Reasons for Differences

Whilst there are usually some discrepancies between the rolled forward dwelling stock estimates and the Census based estimate of dwellings, the difference in 2011 was large and cannot be explained by one single reason but rather was influenced by a number of separate factors the most significant of which are covered in more detail below.

4.1 2001 Census undercount

The source of the baseline for dwelling stock estimates, the 2001 Census and the 2011 are subject to an intensive validation process and are considered to be some of the most reliable National Statistics produced. However the 2001 Census is known to have undercounted the population in a number of Local Authorities. Whilst the subsequent mid-year population estimates were adjusted to account for the undercount, the 2001 Census data, including the number of dwellings, was not revised. This potential undercount in the 2001 Census count of dwellings would have meant less dwellings carried forward each year in the annual dwelling stock estimates.

There was an overall difference of 476,000 between the 2011 Census population estimates for England and Wales and the rolled forward population estimates for Census day (27 March 2011) based on the 2001 Census. For Wales this difference was around 36,000. This difference is explained in more detail in the document '[Explaining differences between 2011 Census estimates and Rolled forward population estimates](#)' which was published by the Office for National Statistics in July 2012. The report points to two main factors for the difference, these being an underestimation of net international migration over the 10-year period and the 2001 Census underestimating the population.

The Office for National Statistics have also published information at local authority level on the difference between the 'rolled forward' population estimates based on the 2001 Census for mid 2011 (30 June) and the 2011 Census based mid year population estimates for 30 June 2011.

The differences at a Wales and individual local authority level between the rolled forward mid year estimates of population for 2011 and the 2011 mid year population estimates based on the 2011 Census are shown in Table 2 below.

Table 2. Rolled Forward Mid-2011 Population Estimates and 2011 Census-based Mid-Year Estimates (a)

	Rolled-Forward New Method Mid-2011 Population Estimates (b)	2011 Census-Based Mid-Year Estimates	Difference	<i>Number and percentage</i>
				Percentage difference %
Isle of Anglesey	68,815	69,913	1,098	1.6
Gwynedd	120,428	121,523	1,095	0.9
Conwy	111,313	115,326	4,013	3.6
Denbighshire	97,186	93,919	-3,267	-3.4
Flintshire	151,123	152,666	1,543	1.0
Wrexham	137,413	135,070	-2,343	-1.7
Powys	131,914	133,071	1,157	0.9
Ceredigion	76,738	75,293	-1,445	-1.9
Pembrokeshire	117,778	122,613	4,835	4.1
Carmarthenshire	182,967	183,961	994	0.5
Swansea	234,208	238,691	4,483	1.9
Neath Port Talbot	137,983	139,880	1,897	1.4
Bridgend	135,942	139,410	3,468	2.6
The Vale of Glamorgan	125,012	126,679	1,667	1.3
Cardiff	341,343	345,442	4,099	1.2
Rhondda Cynon Taf	236,345	234,373	-1,972	-0.8
Merthyr Tydfil	56,408	58,851	2,443	4.3
Caerphilly	173,412	178,782	5,370	3.1
Blaenau Gwent	68,484	69,812	1,328	1.9
Torfaen	90,975	91,190	215	0.2
Monmouthshire	88,436	91,508	3,072	3.5
Newport	143,543	145,785	2,242	1.6
Wales	3,027,766	3,063,758	35,992	1.2

Source: Office for National Statistics

(a) All persons

(b) The rolled-forward mid-2011 population estimates use the new method of distributing international immigration to local authorities. 'New method' estimates are based on an indicative series of immigration estimates that is based on distributions from a range of administrative sources. Further information is available at the following link:

<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/population-statistics-research-unit--psru-/index.html>

At an overall Wales level the 2011 Census based mid year population estimates are 1 per cent higher than the rolled forward mid 2011 population estimates. This is slightly lower than the 3 per cent difference between the 2011 count of dwellings and the rolled forward dwelling stock estimates and shows that while the 2001 population undercount is likely to be a significant factor it is not the only reason for the difference in the dwelling numbers.

At a local authority level Merthyr Tydfil was the authority with the largest percentage difference in population estimates at 4.3 per cent though the difference in the estimate of dwellings was below the Wales average at 2 per cent. Pembrokeshire had the second highest percentage difference in population estimates (4.1 per cent) and was also the authority with the highest percentage difference in the estimate of dwellings at 6.3 per cent. Denbighshire had the highest negative percentage difference in both population estimates (-3.4 per cent) and dwelling stock estimates (-2.1 per cent).

For most authorities the 2011 Census count was higher for both population and dwellings than the 2001 based rolled forward estimates. The exceptions to this were Rhondda Cynon Taf , Blaenau Gwent, Wrexham, Ceredigion and Denbighshire.

In both Rhondda Cynon Taf and Wrexham, the 2011 Census count of dwellings was higher than the 2001 based rolled forward dwelling stock estimates while the 2011 Census based mid year population estimates were lower than rolled forward mid 2011 population estimates. In Blaenau Gwent, the opposite was the case with the 2011 Census count of dwellings 1 per cent lower than rolled forward dwelling stock estimates and the 2011 Census based mid year population estimates 2 per cent higher than rolled forward mid 2011 population estimates.

In Denbighshire and Ceredigion both the rolled forward dwelling stock estimates and the rolled forward mid 2011 population estimates were higher than the 2011 Census count of dwellings and the 2011 Census based mid year population estimates (Tables 1 and 2).

More information on the difference between the rolled-forward mid-2011 population estimates and the 2011 Census-based MYEs at local authority level and on revision methods used is available from the ONS Population Statistics Research Unit at the following link:

<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/population-statistics-research-unit--psru-/latest-publications-from-the-population-statistics-research-unit/index.html>

4.2 2011 Census address register

The term 'address register' refers to a list of all residential addresses including postal address, location and nature of the dwelling/establishment. In 2001 the address register used for the 2001 Census had been frozen a number of years prior to the Census and was significantly out of date and missing changes in some areas by the time the Census took place. The enumerators were asked to physically canvass the area updating the lists if they found new properties, or buildings had been demolished.

The development of an improved, fit for purpose, address register was one of the Office for National Statistics (ONS) main projects leading up to the 2011 Census and was aimed at ensuring consistency, reducing under-coverage and clarifying the distinction between residential household addresses and communal establishments. The ONS reports that their target of less than 1 per cent under-coverage of all existing residential addresses in England and Wales on census day was exceeded with only 0.1 per cent of households identified as new addresses during the field operation. ONS worked closely with address suppliers (Royal Mail, Ordnance Survey and Local Government Information House) and local authorities combining a number of sources for the address register and as such they may have picked up dwellings that could have been missed in 2001. The 2011 address register allowed ONS to uniquely barcode all census questionnaires prior to distribution enabling individual questionnaires to be tracked and monitored centrally and the targeting of non-responding households to be more focused.

4.3 Response methods

For the 2001 Census, questionnaires were delivered by hand though the public were, for the first time, able and encouraged to return completed questionnaires by post. Despite using hand delivery, in 2001 census enumerators were unable to contact householders at more than a third of addresses and ended up simply posting the questionnaire through their letterboxes. Field staff also had difficulty delivering questionnaires inside dwellings with controlled access.

In 2011 however the improved address register meant that the post could be used as both the main delivery and collection method for census questionnaires. This freed up resources for the follow-up of non-responding households particularly in those areas difficult to enumerate and reduced the variation in levels of undercounting that had been experienced in the 2001 Census.

Other factors which may have influenced the increased level of response compared with 2001 included :

- the introduction of a secure on-line facility for submitting responses,
- an online help facility,
- a national publicity campaign,
- the employment of better trained, higher quality field staff, and
- increased local authority and community liaison.

For Wales, in 2001 the lack of a Welsh tick box had caused problems as some people considered their feelings were being ignored. The response level in Wales in 2011 may have been influenced therefore by the inclusion of a question on national identity allowing respondents to note their identity as Welsh if desired. There were also specific provisions for the Welsh language such as the provision of bilingual questionnaires and information leaflets, the ability to complete the online and paper versions of the questionnaires in English or Welsh, a dedicated bilingual online help facility; bilingual managers and field staff and a bilingual publicity campaign.

4.4 Local Authority and Community engagement

In 2001 local authority engagement was carried out only in the few months prior to the census and was not as comprehensive as it could have been. In 2011 there was significantly greater involvement with, and contribution by, local authorities and community organisations which may have helped improve the overall response rate as well as reducing variability of response rates across local authority areas and population groups. The local authorities provided assistance in the development of the address register to ensure fullest coverage at a local level. Their local knowledge and intelligence also helped to effectively target the enumeration process particularly in relation to the more challenging areas to count such as those with more diverse communities. Local authority council tax records could be utilised to assess areas with high proportions of student or single person households as well as vacant second addresses such as holiday homes. Their understanding of local communities and ethnic minority groups and language skills were seen as particularly important in raising awareness amongst community groups where engagement in the Census would usually be more difficult to achieve such as the elderly, disabled, black minority ethnic groups, students, refugees and asylum seekers, migrants, Gypsy and Traveller communities, and the homeless.

In Wales, local authorities were invited to participate in many consultations and workshops during the development of the 2011 Census and Census area managers in Wales implemented a programme of national and local engagement with stakeholders and community groups across Wales including national organisations such as the Muslim Council for Wales, the Welsh Refugee Council, RNID Cymru, RNIB Cymru, housing associations and many others.

4.5 Vacant properties

The mailing out of questionnaires removed the need to employ vast numbers of enumerators to hand deliver forms and allowed field staff to promptly follow-up non-receipt. This significantly improved the process for dealing with properties found to be vacant in 2011 compared with 2001, with field staff having to account for these properties if they were on the address register and therefore ensuring that more vacant dwellings were included. For unoccupied second homes or holiday homes, the information would be either provided by the homeowner or estimated by field staff using proxy information provided by neighbours or from another reliable source. This was particularly relevant in local authorities with a large number of second homes or holiday homes. In Wales, as seen in Table 1 above, the rural authorities of Pembrokeshire, the Isle of Anglesey, Conwy, Powys and Gwynedd were those showing the largest difference of between 5 and 6 per cent between the 2011 Census count of dwellings and the rolled forward estimates for 31 March 2011. These authorities generally have high levels of second or holiday homes. The 2011 Census showed that across England and Wales, Gwynedd had the highest rate of people with second addresses used for holidays, with 64 people from outside of Gwynedd having such an address for every 1,000 usual residents. The Isle of Anglesey, Pembrokeshire and Conwy were also among the 20 authorities with the highest rates of second addresses used for holidays in 2011.

4.6 Temporary dwellings

In 2011 there was a significantly improved process for ensuring that non permanent (or 'temporary') dwellings were included if they were the occupant's main residence and subject to council tax. These include caravans, mobile homes, converted railway carriages and houseboats and permanent traveller pitches. The improved address register and the support and local intelligence provided by local authorities and through community engagement also helped field staff target operations more effectively to reduce the variability in responses between different population groups and areas.

4.7 Communal Establishments

For the purposes of the 2011 Census, ONS defines a communal establishment as 'an establishment providing managed residential accommodation'. Examples include:

- prisons
- university halls of residence
- care homes
- hotels and holiday complexes
- military barracks and other defence establishments (excluding married quarters)

For the 2011 Census, a separate address register for communal establishments was established utilising specialist data sources. Local authorities and county councils were also consulted to review and validate the addresses in their area providing lists of new communal establishment addresses as well as addresses which had changed from communal establishments to households. This led to improved and more consistent enumeration in relation to certain types of households and dwellings such as student and Armed forces accommodation. Communal establishments are not included in the Census estimate of dwellings, however the stricter guidance provided to enumerators in 2011 ensured more consistent inclusion of those students and military personnel living in separate dwellings rather than in student halls or barracks.

This was particularly relevant in areas where there is a high level of student accommodation which in 2001 may have been recorded as communal establishments but due to the nature of such accommodation separate student flats may in 2011 have been recorded as dwellings. In Wales, as seen in Table 1 above, Cardiff, Swansea and Gwynedd which are local authorities with large student populations all show a higher number of dwellings (between 3 and 5 per cent) in the 2011 Census than the rolled forward estimates. For Ceredigion however, which also has a large student population, the 2011 count of dwellings was 1 per cent below the rolled forward estimates. This may be because of a greater proportion of the student population being accommodated in student halls rather than separate student flats.

Further information on the differences between the operation of the 2001 and 2011 Censuses is available in a series of evaluation reports produced by the Office of National Statistics and available at the following link:

<http://www.ons.gov.uk/ons/guide-method/census/2011/how-our-census-works/how-did-we-do-in-2011-/index.html>

4.8 2011 Census definitions

Both the definition of a dwelling and the derivation of the number and type of dwellings used in the 2011 Census are very similar to that used in the 2001 Census. The definition of a household has however changed since 2001 as seen below:

Definition of a household	
2001 Census definition	2011 Census definition

One person living alone or a group of people (not necessarily related) living at the same address with common housekeeping - that is sharing either a living room or sitting room or at least one meal a day.	One person living alone or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining
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However it is expected that any impact on the balance of shared and unshared dwellings between the two Censuses will be small.

Whilst there is very little difference in the 2011 definitions of dwellings compared with 2001, in the interim there have been changes both in the amount and in the nature of certain types of shared accommodation such as ‘sheltered accommodation’ or ‘assisted living/supported housing’ which may have led to changes between the two Census years in the way these dwellings are counted. During the 2011 Census the ONS found that a high number of care homes (9,000 – some 25 per cent of care homes) were no longer operating and had to be removed from the list of communal establishments. This may be because of changes since 2001 in the way the care/support is being provided with a move away from large communal establishments to smaller self-contained units. Communal establishments such as care homes do not form part of the Census dwelling count however smaller self-contained units would be included and any increase in this type of accommodation would therefore be reflected in the 2011 Census count of dwellings.

For further information on how dwellings are defined in the 2011 Census and how this differs to the definition used in the 2001 Census please refer to the document titled ‘2011 Census Definition of Dwellings’ published alongside this release, which was produced by colleagues in the Office for National Statistics (ONS).

<http://wales.gov.uk/topics/statistics/headlines/housing2012/120222/?lang=en>

Information is also available on the Department for Communities and Local Government website at the following link:

<https://www.gov.uk/dwelling-stock-data-notes-and-definitions-includes-hfr-full-guidance-notes-and-returns-form>

4.9 New Builds and Conversions

Between the census years the annual dwelling stock estimates are calculated by taking the number of dwellings in the previous year and adding to this the number of residential dwellings completed during the year (including conversions) and taking away the number of residential dwellings demolished during the year. Some of the difference between the 2011 Census figures and the rolled forward dwelling stock estimates could potentially be due to both the number of new dwellings built and the number converted not being fully recorded.

The information on new dwellings completed in Wales is based on the reports of local authority building inspectors and the National House Building Council (NHBC) which is a private approved inspector (PAI). It does not include information from other PAIs. The exclusion of this information means that there is currently a small under count in the overall number of new dwellings completed. Previous investigations suggested that the number of PAIs for residential property in Wales was small. More recent work by the Department for Communities and Local Government suggests that their contribution equates to about 5 per cent of the total in England. The contribution of PAIs is likely to be smaller in Wales than in England. However, given the increase in England, it was considered worthwhile investigating whether the activity of PAIs has increased in Wales. The Welsh Government is therefore currently exploring the possibility of collecting and publishing data from PAIs other than the NHBC and will be looking to contact all those PAIs operating in Wales to investigate the extent of new house building that is captured by them. An assessment will then be made as to whether the burden of collecting this information is warranted.

Local authorities and the NHBC are required to include any new dwellings created through any conversion or improvement, where there has been either a change of use from for example a commercial dwelling, barn, warehouse or chapel or from the splitting of a house into flats or vice versa. When recording dwellings created through conversion or improvement, only the net increase or decrease should be counted e.g. if a house is converted into 3 flats, this should only be recorded as 2 new completed dwellings. As the local authorities and NHBC are not required to show this information separately on the data collection forms there is currently no way of validating the information provided to ensure that it includes conversions or whether any conversions included have been recorded correctly. A number of data providers have been contacted to establish whether they are regularly including information on conversions and to confirm that where these are included they are being counted correctly. Responses were received from 11 of the 22 local authorities contacted and all but one of these confirmed that they were recording conversions correctly. However since the non-responders may not be recording conversions correctly the issue will be investigated further along with other issues regarding the accuracy of the new house building data currently collected and published as outlined in the statistical articles, ([‘Quality Improvements to New House Building Statistics’](#)) published in August 2011 and ([‘Delay to Quality Improvements to New House Building Statistics’](#)) published February 2012.

5. Conclusion

Dwelling stock estimates cannot be exact and there are usually differences between the Census based estimates and the rolled forward estimates from a previous Census. In 2011 however the difference at a Wales level was higher than that seen in 2001.

The 2001 Census population undercount is likely to have influenced the discrepancy as it would have meant fewer dwellings carried forward each year in the annual dwelling stock estimates. The 1 per cent difference between the 2011 Census population estimates and the rolled forward population estimates for 2011 probably accounted for a large part of the 3 per cent difference in the number of dwellings. For most authorities the 2011 Census count was higher for both population and dwellings than the 2001 based rolled forward estimates. However, the 2001 census population undercount was not the only reason for the discrepancy but was one of several different factors all of which impacted on the overall difference as outlined below.

In 2011 one of the main priorities was to ensure the national and local population counts were correct and to maximise overall response rates. The improved address register and more effective and targeted enumeration processes, as well as significant local authority support and community engagement all helped to ensure higher response rates and greater consistency in response levels across local authority areas. In Wales, the inclusion of a question on national identity allowing respondents to be identified as Welsh and the specific provisions for the Welsh language also played a role in maintaining the level of response.

Improved processes in 2011 for dealing with vacant properties and temporary dwellings also ensured the inclusion of a greater proportion of dwellings than was the case in 2001 particularly in areas with a large number of second or holiday homes or areas with a large number of caravans or other mobile homes which are the main residences and subject to council tax.

The separate address register for communal establishments developed in 2011 and the improved and more consistent enumeration of students and military personnel living in separate dwellings rather than halls of residence or military barracks was a further factor leading to a more inclusive and accurate dwelling count in 2011, particularly in areas with a large student or military population. Changes since 2001 in the way residential care is provided with a move away from large communal establishments to smaller self-contained units also influenced the dwelling count in 2011.

The possible undercount of newly built and converted dwellings in Wales may also have impacted on the differences between the rolled forward estimates and the 2011 census count of dwellings.

6. Glossary

2011 Census- definition of a dwelling

Dwellings are classified into two types, unshared and shared. The 2011 Census defines a dwelling as a single self-contained household space (an unshared dwelling) or two or more household spaces at the same address that are not self-contained, but combine to form a shared dwelling that is self-contained. A household space is the accommodation that a household occupies, and self-containment means that all rooms, including the kitchen, bathroom and toilet are behind a door (but not necessarily a single door) only that household can use. In most cases, a single household space will be an unshared dwelling.

2011 Census- definition of a household

One person living alone or a group of people (not necessarily related) living at the same address who share cooking facilities **and** share a living room or sitting room or dining area.

2011 Census - derivation of dwelling count

For the 2011 Census, the number and type of dwelling (shared or unshared) is calculated using address information of households together with information provided by householders to questions asked in the Census about the accommodation in which they live. These questions relate to the type of accommodation of the household and whether the accommodation is self-contained, with additional consideration given to the ethnic group of household members living in mobile accommodation.

Accommodation may be occupied or unoccupied (such as vacant properties or second or holiday homes). Unoccupied accommodation is included in the total dwelling count. However, accommodation in communal establishments such as halls of residences, care homes and other establishments do not form part of the dwelling count.

Shared and unshared dwellings

A household's accommodation is defined as being part of a shared dwelling if (a) the type of accommodation is 'part of a converted or shared house (including bedsits), (b) not all the rooms, including the kitchen, bathroom and toilet, are behind a door only that household can use, and (c) there is at least one other such household accommodation at the same address with which it can be combined to form a shared dwelling.

In the case of 'a caravan or other mobile or temporary structure' where at least one member of the household has a 'Gypsy or traveller' ethnic group, and conditions (b) and (c) also apply, then the accommodation is also defined as being part of a shared dwelling. All other accommodation which does not meet these criteria is classified as unshared dwellings.

Vacant unoccupied accommodation

The dwelling type (shared or unshared) for unoccupied accommodation is determined using the same criteria as for occupied accommodation. For the 2011 census count of dwellings, the accommodation type and self-containment of vacant/unoccupied accommodation was determined by Census field staff using proxy information provided by neighbours or from another reliable source. For unoccupied second or holiday homes, the information was provided either by the homeowner or estimated by field staff.

Communal establishments

These are establishments providing managed residential accommodation and are not counted in overall housing supply statistics or form part of the 2011 census count of dwellings. They will include university and college student halls of residence, hospital staff accommodation, hostels, care homes, hotels and holiday complexes, military barracks and other defence establishments (excluding married quarters) and

prisons. However, purpose-built, separate homes such as self-contained flats clustered into units with 4 to 6 bedrooms for students and self-contained residential care units are included in the Census dwelling count and each self-contained unit is counted as a dwelling.

Non permanent/Temporary dwellings

These include caravans, mobile homes, converted railway carriages, houseboats and permanent traveller pitches that are or are likely to become, the occupants' main residence. These dwellings are included in the Census count of dwellings if they are the occupant's main residence and council tax is payable on them as a main residence.

New House Building

In Wales, new house building is undertaken by the private sector, RSLs and local authorities. Local authorities and the National House Building Council (NHBC) provide information on the progress of new house building in each sector, in respect of dwellings inspected by them under Building Control Regulations. It does not currently include information from private approved inspectors.

A dwelling or conversion is defined as 'started' when work commences and the requirements of the building regulations apply e.g. excavation of foundations, drainage, structural alterations.

It covers the number of new dwellings started, where building work has commenced and where building work has been completed and where the dwelling is ready for occupation.

A dwelling is defined as completed when a completion notice has been served and when it has become ready for occupation.

Private approved inspectors (PAIs)

In addition to local authorities and the NHBC, house building starts and completions can be certified by other independent Approved Inspectors known as Private Approved Inspectors (PAIs).

Registered Social Landlords (RSLs)

RSLs are organisations that provide and manage properties for people who would otherwise be unable to afford to rent or buy privately. Social landlords must be registered with the Welsh Government and are inspected on a regular basis to maintain a good standard of management.

Conversions

These are dwellings created through any conversion or improvement, where there has been a change of use e.g. from a barn, warehouse or chapel or by splitting a house into flats or vice versa.

When recording dwellings created through conversion or improvement, only the net increase or decrease should be counted.

Annex

Notes on the use of statistical articles

Statistical articles generally relate to one-off analyses for which there are no updates planned, at least in the short-term, and serve to make such analyses available to a wider audience than might otherwise be the case. They are mainly used to publish analyses that are exploratory in some way, for example:

- Introducing a new experimental series of data;
- A partial analysis of an issue which provides a useful starting point for further research but that nevertheless is a useful analysis in its own right;
- Drawing attention to research undertaken by other organisations, either commissioned by the Welsh Government or otherwise, where it is useful to highlight the conclusions, or to build further upon the research;
- An analysis where the results may not be of as high quality as those in our routine statistical releases and bulletins, but where meaningful conclusions can still be drawn from the results.

Where quality is an issue, this may arise in one or more of the following ways:

- being unable to accurately specify the timeframe used (as can be the case when using an administrative source);
- the quality of the data source or data used; or
- other specified reasons.

However, the level of quality will be such that it does not significantly impact upon the conclusions. For example, the exact timeframe may not be central to the conclusions that can be drawn, or it is the order of magnitude of the results, rather than the exact results, that are of interest to the audience.

The analysis presented does not constitute a National Statistic, but may be based on National Statistics outputs and will nevertheless have been subject to careful consideration and detailed checking before publication. An assessment of the strengths and weaknesses in the analysis will be included in the article, for example comparisons with other sources, along with guidance on how the analysis might be used, and a description of the methodology applied.

Articles are subject to the release practices as defined by the release practices protocol, and so, for example, are published on a pre-announced date in the same way as other statistical outputs.

Feedback

Further information is available from the statistics web site:

<http://www.wales.gov.uk/statistics>

More detailed data, including dwelling stock estimates by tenure, local authority and over time, are available on the StatsWales website: <https://statswales.wales.gov.uk/Catalogue/Housing/Dwelling-Stock-Estimates>

Information on the 2011 Census is available on the ONS website at the following link:

<http://www.ons.gov.uk/ons/guide-method/census/2011/index.html>

Further information on the differences between the 2001 and 2011 Census is available in a series of evaluation reports produced by the Office of National Statistics and available at the following link:

<http://www.ons.gov.uk/ons/guide-method/census/2011/how-our-census-works/how-did-we-do-in-2011-/index.html>

We actively encourage feedback from our users. If you have any comments please complete our [feedback form](#).