

Distribution Sub-Group (2020) Paper 08 –Populations Projections

This discussion paper has been written by officials of the Welsh Government. Ministers have not had an opportunity to comment on the contents. Exemplifications of changes are provided simply to inform discussion by DSG members. They are not Welsh Government proposals or statements of Government policy for or against changes.

2018-based subnational population projections

Summary

1. Welsh Government knowledge and analytical services have published a new set of population projections for Wales. This paper exemplifies the impact of the latest population projections on the 2020-21 settlement.

Views sought

2. DSG are asked to consider the use of the latest set of population projections data for future settlements, acknowledging that these will be the last set of projections until after the 2021 census.
3. The group are asked to consider, prior to making a decision on this data, whether they would like to re-assess the rescaled projections approach as outlined to the group in late 2019.
4. Members are asked to provide their views on whether to continue to manually adjust Wrexham's population figures, in respect of the opening of Berwyn prison.

Background

5. The population projections used within the settlement get re-based every 2-3 years by Welsh Government Knowledge and Analytical Services to ensure the projections remain as accurate as possible.
6. The latest 2017-based population projections were scheduled to be published in October 2019, ahead of the 2020-21 provisional settlement. On 24 October 2019, the Chief Statistician announced that the 2017-based subnational population and household projections were to be postponed. This was because of new data published by the Office for National Statistics, which showed a very different trend from the previous data, along with further issues raised during quality assurance of the projections that required further work to overcome.
7. On 31 October 2019, the Welsh Government published a statistical article outlining the decision to postpone the 2017-based projections and move to publishing 2018-based subnational projections instead.
8. As DSG's recommended approach of using the 2017-based population projections was no longer available for the 2020-21 settlement, a teleconference was held with DSG members on 7 November to agree a recommended way forward.
9. The group considered four options for the 2020-21 settlement:
 - to freeze the data;
 - to roll the 2014-based projections forward to 2020;
 - to use the most up-to-date 2018 mid-year population estimates;
 - Or to use the rescaled projections approach of 2018 mid-year estimates and 2014 based population projections.

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10. The majority of the group recommended that the 2018 mid-year estimates offered the most robust and relevant population estimate for the 2020-21 settlement year.
11. Given the lateness of the decision, and to adhere to the principle of stability within the terms of reference of DSG, the majority of the group agreed to phase the data change over two years, to reduce the turbulence in the funding distribution.
12. The group agreed to continue to adjust Wrexham's prisoner population, in light of Berwyn prison not being fully captured within the data.
13. The group also agreed to continue to use the phased population estimates for the final local government settlement, regardless of whether the 2018-based subnational population projections were published in the interim.
14. The 2018-based subnational population projections were published in late February 2020, after the publication of the final local government settlement for 2020-21. This paper analyses the data and exemplifies the financial implications of using this data within the 2020-21 settlement.
15. Although this data is now available, the group should be reminded of the rescaled projections approach that was suggested in late 2019. Using this method would provide a mechanism to artificially rescale the projection base year through using the latest mid-year estimates. Using this methodology would mitigate against any large financial step changes observed when a new set of projections are updated and would provide a better estimate of the current base population in the settlement year.
16. Members are asked to consider whether they would like to see the financial exemplifications of this approach, once the 2019 mid-year estimate data is available in June 2020.

Analysis

17. The latest set of projections, published on 27 February 2020, cover the period between 2018 and 2043. The analysis in this paper concentrates on the population projections for 2021 which would be the year used within the 2021-22 settlement and apply this to the 2020-21 settlement, for illustration of the isolated change in updating to the latest population projections.

Wrexham prison population

18. Within the 2018-population projections, the prison population included in the base was derived through a five-year average of prison populations for those prisons at capacity. In the case of Berwyn prison, in Wrexham, a two-year average was used.
19. Within the base estimates around 700 people were included in the special prison population for Wrexham. The latest MoJ figures estimate over 1,600 people within the prison, with the capacity yet to be reached.
20. DSG are asked to agree whether to continue to adjust Wrexham's population figures.

Movements in Population

21. Table 1 in Annex A compares the total 2018-based population projections for 2021 to both the mid-year estimates for 2018 and the 2014-based population projections for 2019 (all having being adjusted for the prisoner population for Wrexham) – the average of which was used in the calculation of the 2020-21 settlement, as a result of the phasing agreed by the DSG.

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22. The population in Wales is projected to be 16,275 higher in 2021 than the latest (2018) mid-year estimates. This change varies across the local authorities, with six authorities seeing a decrease comparing the two.
23. As the 2020-21 settlement used a phased approach it is also worth comparing the data to the previous set of projections used in the 2018-19 settlement (2014-based 2019 projections).
24. When comparing the 2018-based 2021 population projections and the 2014 based population projections for 2019, the population is projected to be 21,570 higher in the 2018-based 2021 projections than the 2014-based 2019 projections. This varies across the local authorities, with six authorities seeing a decrease.
25. Table 1 provides an overview of the change in total population. As the settlement uses various population indicators with various SSA units, it's important to consider the individual element and not just the total population.
26. Table 2 in Annex A shows the relative percentage change between the data used in the 2020-21 settlement and the most recent set of population projections.
27. The SSA units are included for each indicator to give an indication of the financial impact of updating each individual indicator.
28. Updating the aged 3 population which is used in the *primary school pupils modelled nursery school pupils* indicator sees differences ranging from -0.07 percentage point (pp) in Cardiff to 0.02pp in Newport.
29. Similarly the population aged 85 and over indicator ranges from a -0.28pp difference in Cardiff to a 0.28pp difference in Pembrokeshire.

Financial Impact

30. Table 3 in Annex B exemplifies the financial impact of the 2018-based population projections for 2021 on the published 2020-21 Total SSA. [For the 2020-21 settlement, an average of the 2018 mid-year estimates and the 2014-based population projections for 2019 (both adjusted for Wrexham's prisoner population) was used.]
31. The overall changes in percentage shares across Wales range from -1.27% in Ceredigion to 0.85% Newport. As expected from the population changes, Ceredigion and Wrexham see the largest decreases in funding of approximately £1.9m and £1.7m respectively. Newport would have the largest increase in funding of approximately £2.6m, followed by the Vale of Glamorgan up nearly £1.5m.

Conclusion

32. Moving to the most recent set of population projections would result in re-distributional impacts amongst local authorities.
33. Given the effect that updating the projection base year can have on the funding level, the group are asked to consider waiting until the 2019 mid-year estimates are published to assess the practicalities of using the rescaled approach.

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Annex A

Table 1: Difference between 2014-based population projections 2019, 2018 mid-year estimates and the 2018-based population projections for 2021

Unitary Authority	2014 based population projections 2019	Percentage share	MYE 2018	Percentage share	2018 based population projections 2021	Percentage Share
Isle of Anglesey	70,174	2.2%	69,961	2.2%	69,591	2.2%
Gwynedd	124,034	4.0%	124,178	4.0%	124,826	4.0%
Conwy	117,048	3.7%	117,181	3.7%	117,402	3.7%
Denbighshire	95,729	3.1%	95,330	3.0%	95,232	3.0%
Flintshire	155,186	5.0%	155,593	5.0%	156,344	5.0%
Wrexham	140,893	4.5%	136,514	4.3%	136,177	4.3%
Powys	131,721	4.2%	132,447	4.2%	131,640	4.2%
Ceredigion	76,563	2.4%	72,992	2.3%	71,398	2.3%
Pembrokeshire	124,149	4.0%	125,055	4.0%	125,467	4.0%
Carmarthenshire	186,428	5.9%	187,568	6.0%	188,289	6.0%
Swansea	245,801	7.8%	246,466	7.9%	248,797	7.9%
Neath Port Talbot	141,486	4.5%	142,906	4.6%	143,621	4.6%
Bridgend	143,272	4.6%	144,876	4.6%	146,740	4.7%
Vale of Glamorgan	128,424	4.1%	132,165	4.2%	134,202	4.3%
Rhondda Cynon Taf	238,945	7.6%	240,131	7.7%	241,903	7.7%
Merthyr Tydfil	59,254	1.9%	60,183	1.9%	60,605	1.9%
Caerphilly	181,296	5.8%	181,019	5.8%	181,416	5.8%
Blaenau Gwent	69,374	2.2%	69,713	2.2%	69,441	2.2%
Torfaen	92,087	2.9%	93,049	3.0%	93,638	3.0%
Monmouthshire	93,070	3.0%	94,142	3.0%	94,506	3.0%
Newport	149,243	4.8%	153,302	4.9%	156,427	5.0%
Cardiff	370,299	11.8%	364,248	11.6%	368,171	11.7%
Wales	3,133,336	100.0%	3,138,631	100.0%	3,154,906	100.0%
Wales adjusted for prisoner population	3,134,478		3,139,019		3,155,833	

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Annex A

Table 2: Change in relative shares between the 2018-based population projections for 2021 and the population indicators used in 2020-21 settlement

	Population, all ages	Population aged 3 to 11	Population aged 3 to 16	Population aged 16 to 18 other than at school	Population aged 11 to 20	Population aged 18 to 64	Population aged 18 and over	Population aged under 60	Population aged 60 and over	Population aged 16 and over	Population aged 85 and over	Primary school pupils and modelled nursery school pupils	Population aged 11 to 15 and secondary school pupils in year groups 12 to 14	Enhanced population	Index-weighted working age population
Isle of Anglesey	-0.03%	-0.07%	-0.05%	-0.09%	-0.01%	-0.04%	-0.02%	-0.05%	0.00%	-0.03%	-0.04%	0.00%	0.02%	-0.03%	-0.05%
Gwynedd	0.00%	-0.07%	-0.02%	-0.08%	0.02%	0.03%	0.00%	0.02%	-0.07%	0.00%	-0.26%	0.00%	0.05%	-0.01%	0.03%
Conwy	-0.01%	0.00%	-0.01%	-0.10%	-0.05%	-0.04%	-0.02%	-0.05%	0.05%	-0.01%	0.22%	0.00%	-0.04%	-0.02%	-0.05%
Denbighshire	-0.03%	-0.08%	-0.04%	-0.07%	0.01%	-0.03%	-0.02%	-0.05%	0.01%	-0.02%	-0.06%	-0.01%	0.03%	-0.03%	-0.03%
Flintshire	0.00%	-0.02%	0.03%	0.05%	0.09%	0.00%	-0.01%	0.00%	0.00%	0.00%	0.05%	0.01%	0.07%	0.00%	0.00%
Wrexham	-0.11%	-0.17%	-0.11%	0.01%	0.02%	-0.14%	-0.11%	-0.13%	-0.04%	-0.10%	0.01%	0.00%	-0.01%	-0.09%	-0.12%
Powys	-0.04%	-0.07%	-0.07%	-0.19%	-0.16%	-0.06%	-0.04%	-0.06%	-0.01%	-0.04%	0.03%	0.01%	-0.10%	-0.04%	-0.06%
Ceredigion	-0.12%	0.01%	-0.03%	0.05%	-0.22%	-0.21%	-0.15%	-0.16%	-0.03%	-0.14%	0.05%	-0.01%	-0.09%	-0.11%	-0.21%
Pembrokeshire	0.00%	-0.06%	-0.02%	-0.05%	-0.02%	-0.03%	0.01%	-0.04%	0.09%	0.01%	0.28%	-0.01%	0.01%	0.00%	-0.03%
Carmarthenshire	0.00%	0.08%	0.04%	-0.09%	0.02%	-0.02%	-0.01%	0.00%	-0.01%	-0.01%	-0.22%	0.02%	0.00%	0.01%	-0.03%
Swansea	0.04%	0.07%	-0.02%	0.17%	-0.02%	0.08%	0.03%	0.10%	-0.10%	0.03%	-0.06%	0.02%	-0.15%	0.03%	0.09%
Neath Port Talbot	0.02%	0.08%	0.05%	-0.06%	-0.05%	0.03%	0.01%	0.04%	-0.04%	0.01%	-0.20%	0.00%	-0.03%	0.02%	0.04%
Bridgend	0.06%	0.16%	0.07%	-0.16%	-0.05%	0.06%	0.05%	0.06%	0.05%	0.05%	0.01%	0.02%	-0.08%	0.05%	0.05%
The Vale of Glamorgan	0.10%	0.13%	0.12%	-0.02%	0.01%	0.08%	0.09%	0.10%	0.09%	0.09%	-0.09%	0.01%	0.05%	0.09%	0.11%
Rhondda Cynon Taf	0.03%	-0.04%	-0.02%	0.29%	0.11%	0.07%	0.04%	0.05%	0.00%	0.05%	0.18%	-0.01%	0.01%	0.03%	0.09%
Merthyr Tydfil	0.02%	0.08%	0.07%	-0.01%	0.03%	0.01%	0.00%	0.02%	0.01%	0.00%	0.00%	0.00%	0.05%	0.02%	0.01%
Caerphilly	-0.03%	-0.10%	-0.14%	-0.04%	-0.01%	-0.01%	0.00%	-0.04%	0.01%	-0.01%	0.22%	-0.01%	-0.07%	-0.02%	-0.01%
Blaenau Gwent	-0.02%	-0.03%	-0.02%	-0.03%	-0.02%	-0.01%	-0.02%	-0.02%	-0.01%	-0.02%	-0.03%	0.00%	0.02%	-0.01%	-0.02%
Torfaen	0.02%	0.03%	0.03%	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.05%	0.00%	0.02%	0.02%	0.02%
Monmouthshire	0.01%	-0.01%	-0.02%	-0.17%	-0.07%	0.00%	0.02%	0.00%	0.03%	0.01%	0.14%	0.00%	-0.06%	0.01%	0.00%
Newport	0.13%	0.36%	0.27%	0.09%	0.06%	0.16%	0.10%	0.19%	0.02%	0.10%	0.00%	0.02%	0.13%	0.12%	0.12%
Cardiff	-0.04%	-0.28%	-0.10%	0.48%	0.26%	0.05%	0.00%	0.01%	-0.07%	0.00%	-0.28%	-0.07%	0.19%	-0.04%	0.04%
2020-21 SSA unit (£)	200.2	63.7	448.6	35.8	46.5	187.4	7.2	0.4	10.5	1.9	1,484.8	3,589.7	186.2	58.5	17.9

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Annex B

Table 3: Exemplification to show the impact of the latest projections on the 2020-21 Total SSA

LA Name	2020-21 SSA	2020-21 SSA with the 2018-based 2021 population projections	Change	Percentage change
Isle of Anglesey	142,316	141,787	-529	-0.37%
Gwynedd	254,380	254,126	-254	-0.10%
Conwy	229,516	229,442	-74	-0.03%
Denbighshire	205,890	205,225	-665	-0.32%
Flintshire	286,087	286,352	265	0.09%
Wrexham	256,883	255,157	-1,726	-0.67%
Powys	267,839	267,174	-665	-0.25%
Ceredigion	150,200	148,289	-1,912	-1.27%
Pembrokeshire	247,581	247,724	143	0.06%
Carmarthenshire	375,549	375,512	-37	-0.01%
Swansea	463,934	464,529	595	0.13%
Neath Port Talbot	292,996	293,135	139	0.05%
Bridgend	277,406	278,426	1,020	0.37%
The Vale of Glamorgan	244,317	245,782	1,466	0.60%
Rhondda Cynon Taf	494,615	495,258	643	0.13%
Merthyr Tydfil	122,423	122,825	402	0.33%
Caerphilly	366,320	365,930	-390	-0.11%
Blaenau Gwent	145,116	144,870	-246	-0.17%
Torfaen	186,317	186,698	381	0.20%
Monmouthshire	160,273	160,399	126	0.08%
Newport	309,475	312,114	2,639	0.85%
Cardiff	668,213	666,893	-1,320	-0.20%
Wales	6,147,646	6,147,646	0	0.00%