

Household Analysis Review Group (HARG): 2008-based household projections

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**The results presented in this paper are provisional.
They are likely to differ from the final household projections published.
Please treat these figures as 'restricted' until after publication in May.**

1. Purpose

General Register Office for Scotland (GROS) is planning to publish the 2008-based household projections for Scotland in May. This paper describes the methodology used, ways in which the methodology has changed and an analysis of the initial findings.

HARG members are asked to note the initial findings and state whether they are satisfied with the approach used so far, or whether alternative methods or additional analysis may be required.

2. Methodology used

Household projections for Scotland are based on the sub-national population projections published by GROS. The proportion of people living in communal establishments is subtracted from the overall population, and information on the number of households is projected forward from the 1991 and 2001 Censuses, to provide figures on the number of households by type of household and age of the head of household. The Annex on page 4 contains a description of the processes involved, and the categories used.

3. Changes in methodology for the 2008-based projections

3.1 Communal establishment (CE) figures

Household projections involve removing the number of people living in a CE from the total population in order to establish the private household population. For the projections presented here, this was done by applying 2008 CE proportions to each year's population projections. This has been described in paper HARG 2010(3).

3.2 Age Groups

In previous household projections results were presented for 10 age bands. It is now possible to present results for 16 age bands. The Annex on page 4 provides information on new age bands that are now possible.

3.3 Variant projections

A sub-national low migration variant population projection was published by GROS for the first time this year. As a result it is now possible for both low and high migration variant household projections to be included in the 2008-based household projections publication. Analysis of these projections is provided in paper HARG 2010(2).

4. Results of the provisional household projections

4.1 Household projections for each council area:

[Table 1](#) shows the household projections for each council area in Scotland up to 2033 and [Chart 1](#) presents this information graphically. There is an average projected increase of around 19,700 households per year for Scotland. This ties in reasonably well with the household estimates, which have shown that the number of households has increased by between 11,700 and 22,400 a year since 1999, with an average increase of 18,400 households per year. This is greater than the 2006-based projections, which projected an average increase of 17,400 households per year.

4.2 Comparison between current and previous household projections:

[Chart 2](#) provides a comparison between the 2008-based household projections and previous household projections. They show the total number of households projected each year for Scotland as a whole. The 2008-based projections are higher than the 2006-based projections with much of the increase caused by the higher population projections. [Chart 3](#) illustrates this further – the 2008-based population and household projections are both higher than the 2006-based projections.

4.3 Comparison between population and household projections:

[Chart 4](#) shows the projected percentage change in population and households for each council area between 2008 and 2033. For all council areas the projected percentage change in the number of households is higher than that for the population, because of changes in household formation rates, with more people living alone and in smaller households.

[Chart 5](#) shows the percentage change in households over a 25 year period for 2006-based and 2008-based projections. For some councils such as Aberdeen City, Midlothian, Clackmannanshire and East Lothian there is a marked difference between these figures for the two sets of projections. By comparing [Chart 5](#) to [Chart 6](#) these differences can be explained by similar differences in the percentage change in population.

4.4 Household projections by type and age of head of household:

[Charts 7 and 8](#) show the 2008-based household projections by type of household and age of the head of household. They show a continuation of the trends observed in the past, an increase in the number of people living alone or in small households and a decrease in the number of larger households. The

household projections by age of head of household reflect the changing age profiles observed in the population projections, with increasing numbers of households headed by older people.

The analysis described above indicates that the draft household projections appear to be plausible, with no major discrepancies or unexplained phenomena. This suggests that it shouldn't be necessary to change the methodology greatly at this stage.

5. Next steps

GROS will continue carrying out checks on the provisional 2008-based household projections. Depending on the outcomes of this meeting HARG members may suggest other approaches or analysis which could be carried out. GROS will then produce a draft household projections publication, which will be sent to HARG members for further quality assurance before the final publication is produced.

Note:

HARG members are asked to note the initial findings and state whether they are satisfied with the approach used so far, or whether alternative methods or additional analysis may be required.

GROS: Household estimates branch
March 2010

Annex: Brief description of the household projections methodology

Calculate private household population

- Take 2008-based population projections
 - By gender and age group
- Subtract the proportion of people living in communal establishments
 - By gender and age group

Produce headship rates

- Take 'headship rates' from 1991 and 2001 Censuses (proportion of households of each type)
 - By household type and age group of head of household shown in the table below.
- Fit a modified 2-point exponential curve to project forward the figures for 2008 to 2033.

Produce household projections

Projections are produced for Scotland and the 32 Council Areas

- Apply each year's headship rate to the private household population to produce raw household projections.
- Constrain the figures to the Scotland total.
- Constrain the figures to the 2008 and 2009 household estimates for each council area. (Figures have not yet been constrained to the 2009 household estimates but will be when they become available and before publication in May).
- If necessary, constrain the figures to the total number of adults, by adjusting the household types.

Age groups and household types used for household projections

Age of head of household	Household types
16-19	
20-24	1 adult: male
25-29	1 adult: female
30-34	2 adults
35-39	1 adult + 1 child
40-44	3+ adults
45-49	1 adult, 2+ children
50-54	2+ adults, 1+ children
55-59	
60-64	
65-69	
70-74	
75-79	
80-84	
85-89	
90+	

Table 1: Provisional 2008-based household projections for Scotland, 2008-2033

Local authority	2008 - 2033						2008 - 2033		Average annual change
	2008	2013	2018	2023	2028	2033	Change	% Change	
Scotland	2,331,250	2,449,738	2,559,738	2,655,564	2,742,455	2,823,636	492,386	21%	19,695
Aberdeen City	102,899	108,900	112,978	116,258	119,633	122,915	20,016	19%	801
Aberdeenshire	101,516	108,580	116,258	123,851	130,817	137,384	35,868	35%	1,435
Angus	49,974	51,983	54,021	55,888	57,539	59,042	9,068	18%	363
Argyll & Bute	41,414	41,780	42,498	42,997	43,119	42,897	1,483	4%	59
Clackmannanshire	22,624	24,438	26,297	28,133	30,016	31,897	9,273	41%	371
Dumfries & Galloway	67,851	69,840	71,520	72,809	73,827	74,475	6,624	10%	265
Dundee City	68,381	70,358	71,007	71,206	71,644	71,860	3,479	5%	139
East Ayrshire	53,027	54,794	56,350	57,481	58,264	58,906	5,879	11%	235
East Dunbartonshire	42,833	43,481	43,974	44,141	43,987	43,415	582	1%	23
East Lothian	41,935	45,160	48,579	52,112	55,525	58,962	17,027	41%	681
East Renfrewshire	35,636	36,144	36,682	37,106	37,369	37,616	1,980	6%	79
Edinburgh, City of	217,654	234,701	250,736	265,578	280,909	295,894	78,240	36%	3,130
Eilean Siar	11,816	12,148	12,562	12,907	13,193	13,373	1,557	13%	62
Falkirk	67,808	71,589	75,687	79,564	83,142	86,698	18,890	28%	756
Fife	159,475	168,486	177,181	184,905	192,025	198,762	39,287	25%	1,571
Glasgow City	281,187	297,912	310,956	320,825	329,221	337,383	56,196	20%	2,248
Highland	99,721	106,372	112,931	118,978	124,495	129,858	30,137	30%	1,205
Inverclyde	36,562	36,865	36,876	36,461	35,664	34,645	-1,917	-5%	-77
Midlothian	34,211	35,624	36,777	37,791	38,565	39,215	5,004	15%	200
Moray	38,815	40,358	41,744	42,670	43,288	43,675	4,860	13%	194
North Ayrshire	61,504	63,402	64,960	66,049	66,657	66,856	5,352	9%	214
North Lanarkshire	143,439	149,609	155,575	160,630	164,887	169,049	25,610	18%	1,024
Orkney Islands	9,073	9,712	10,364	10,936	11,485	11,959	2,886	32%	115
Perth & Kinross	64,354	69,686	74,869	79,880	84,872	89,938	25,584	40%	1,023
Renfrewshire	78,753	80,582	81,848	82,576	82,791	82,897	4,144	5%	166
Scottish Borders	51,270	54,285	57,290	60,089	62,665	65,066	13,796	27%	552
Shetland Islands	9,586	10,102	10,558	10,902	11,084	11,142	1,556	16%	62
South Ayrshire	51,133	52,243	53,428	54,275	54,923	55,445	4,312	8%	172
South Lanarkshire	135,547	141,797	148,648	154,829	160,680	166,221	30,674	23%	1,227
Stirling	37,555	39,209	40,981	42,562	43,920	45,116	7,561	20%	302
West Dunbartonshire	41,449	42,215	42,838	43,186	43,315	43,187	1,738	4%	70
West Lothian	72,248	77,381	82,765	87,991	92,932	97,889	25,641	35%	1,026

Chart 1: Projected percentage change in households by council area, 2008-2033

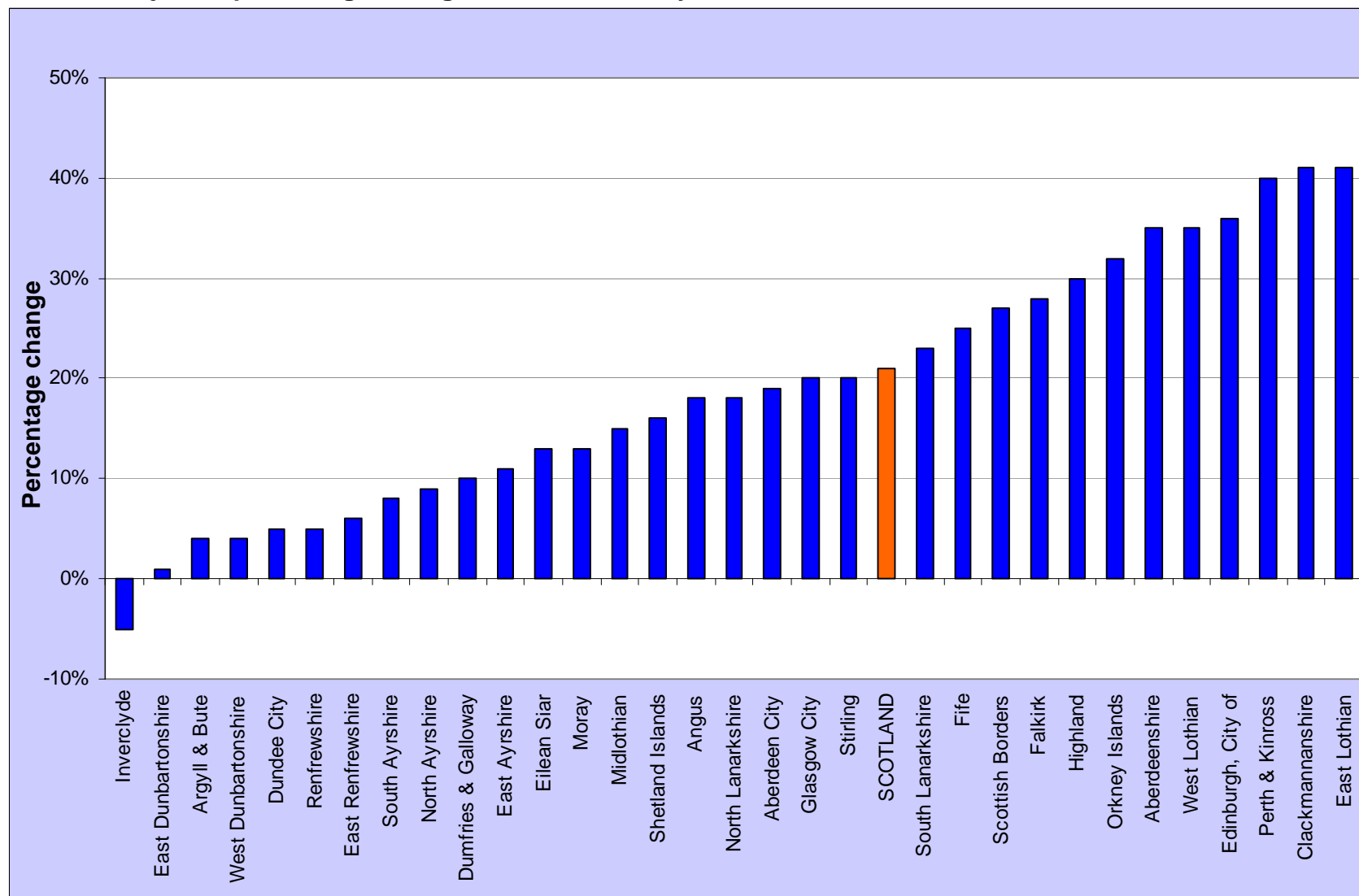


Chart 2: Household projections for Scotland (1998, 2000, 2002, 2004, 2006 and 2008-based)

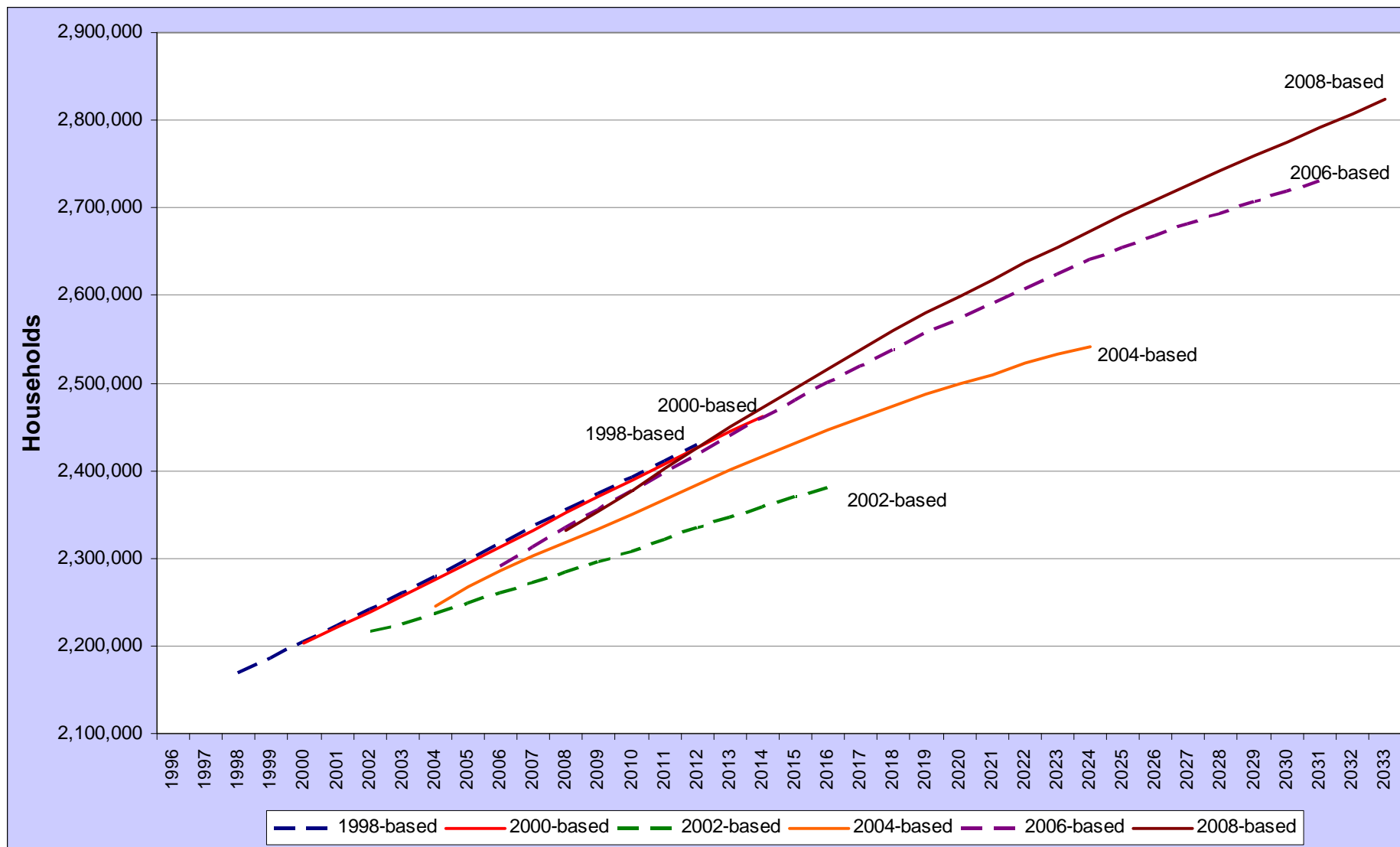


Chart 3: 2006 and 2008-based population and household projections for Scotland

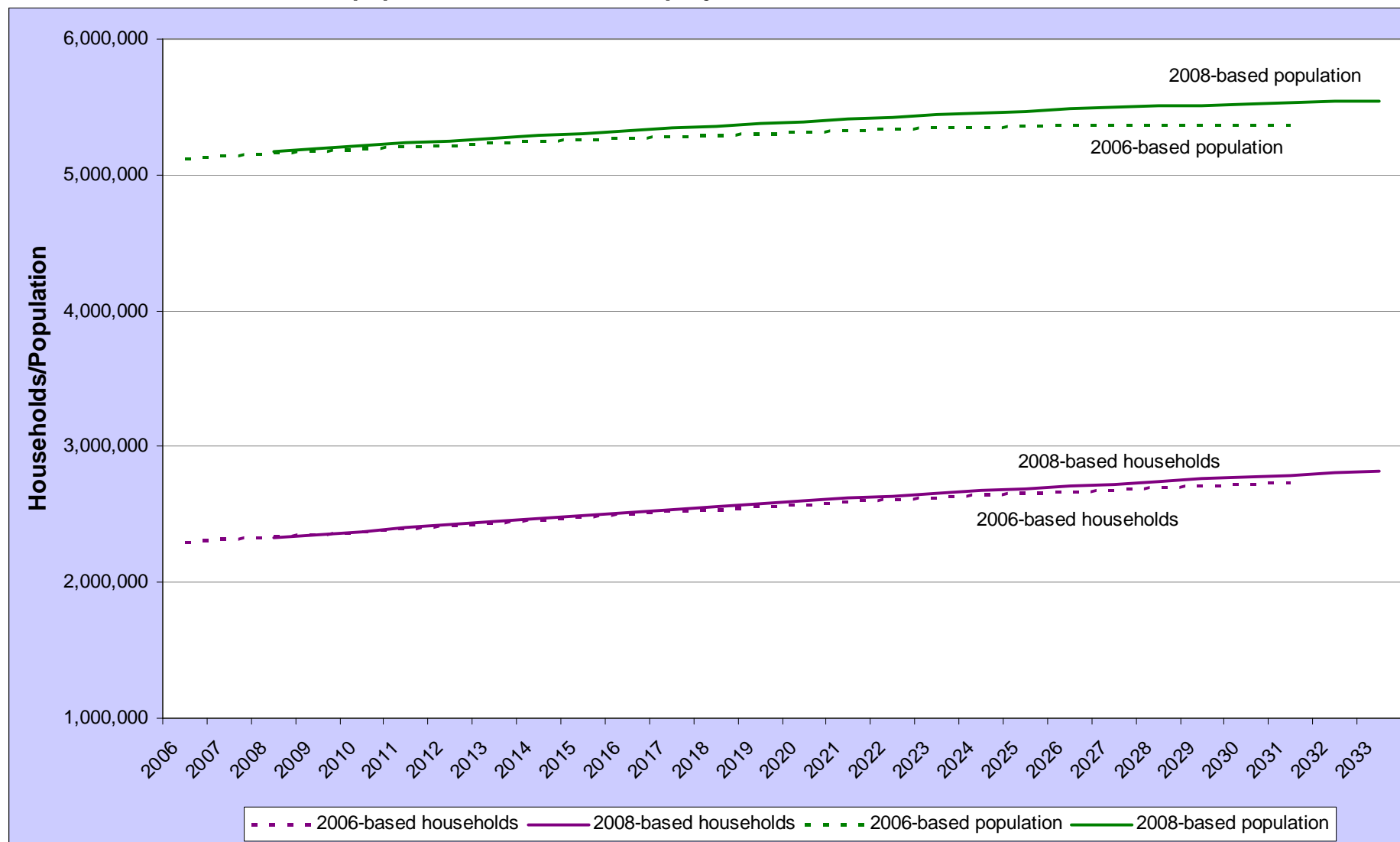


Chart 4: Projected percentage change in households and population by council area, 2008-2033

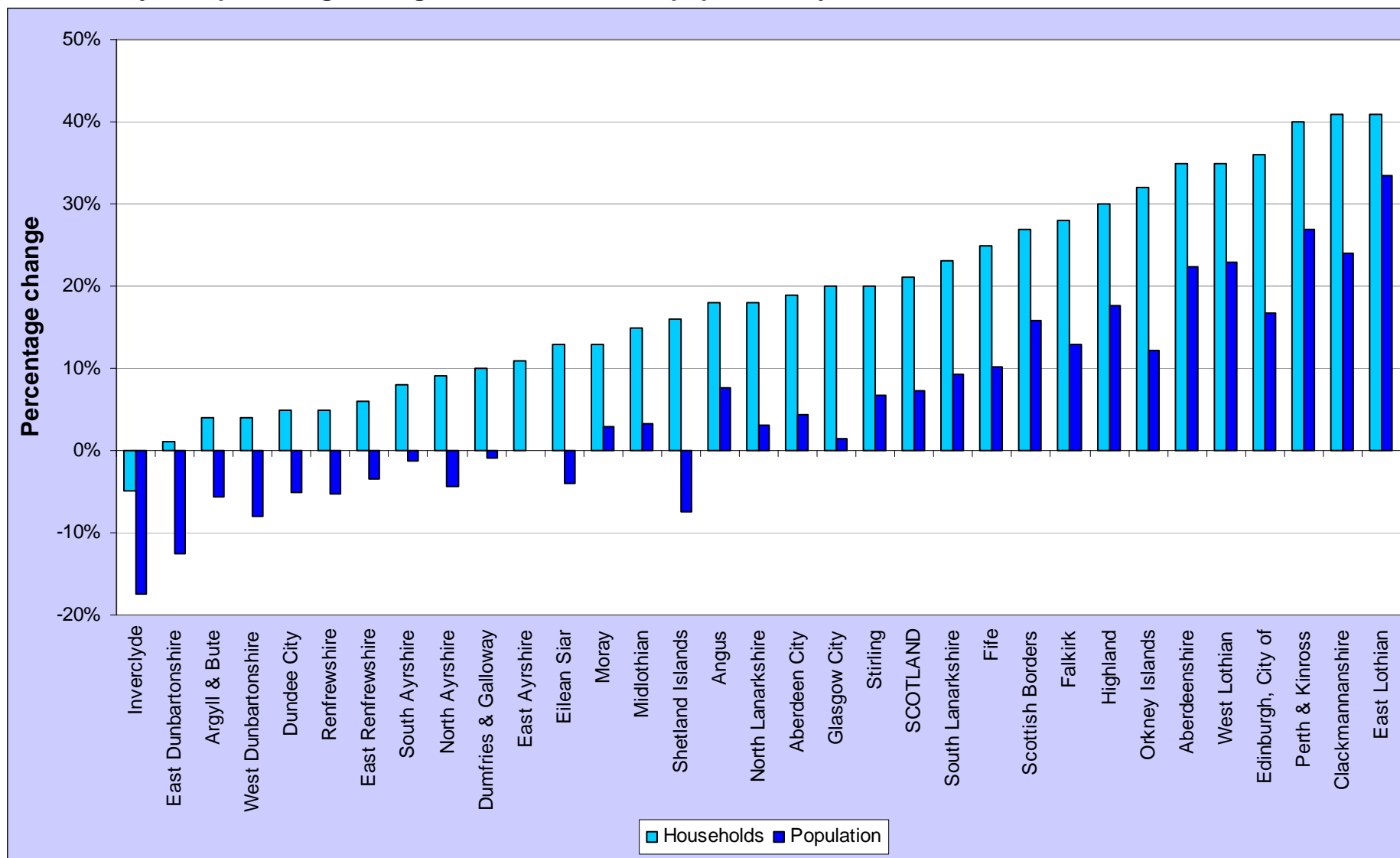


Chart 5: Comparison of the 2006-based and 2008-based percentage change in projected households over a 25 year period

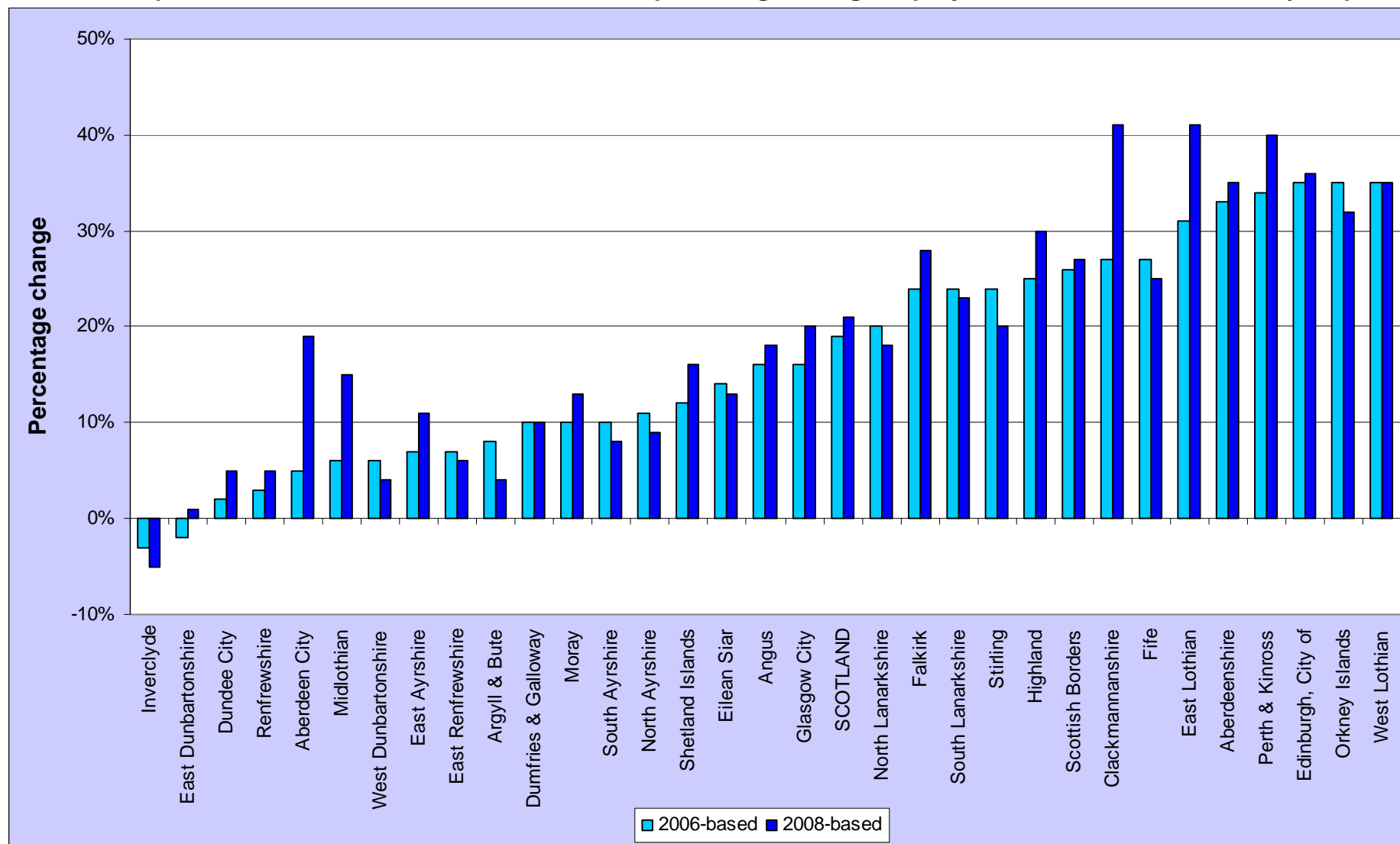


Chart 6: Comparison of the 2006-based and 2008-based percentage change in projected population over a 20 year period

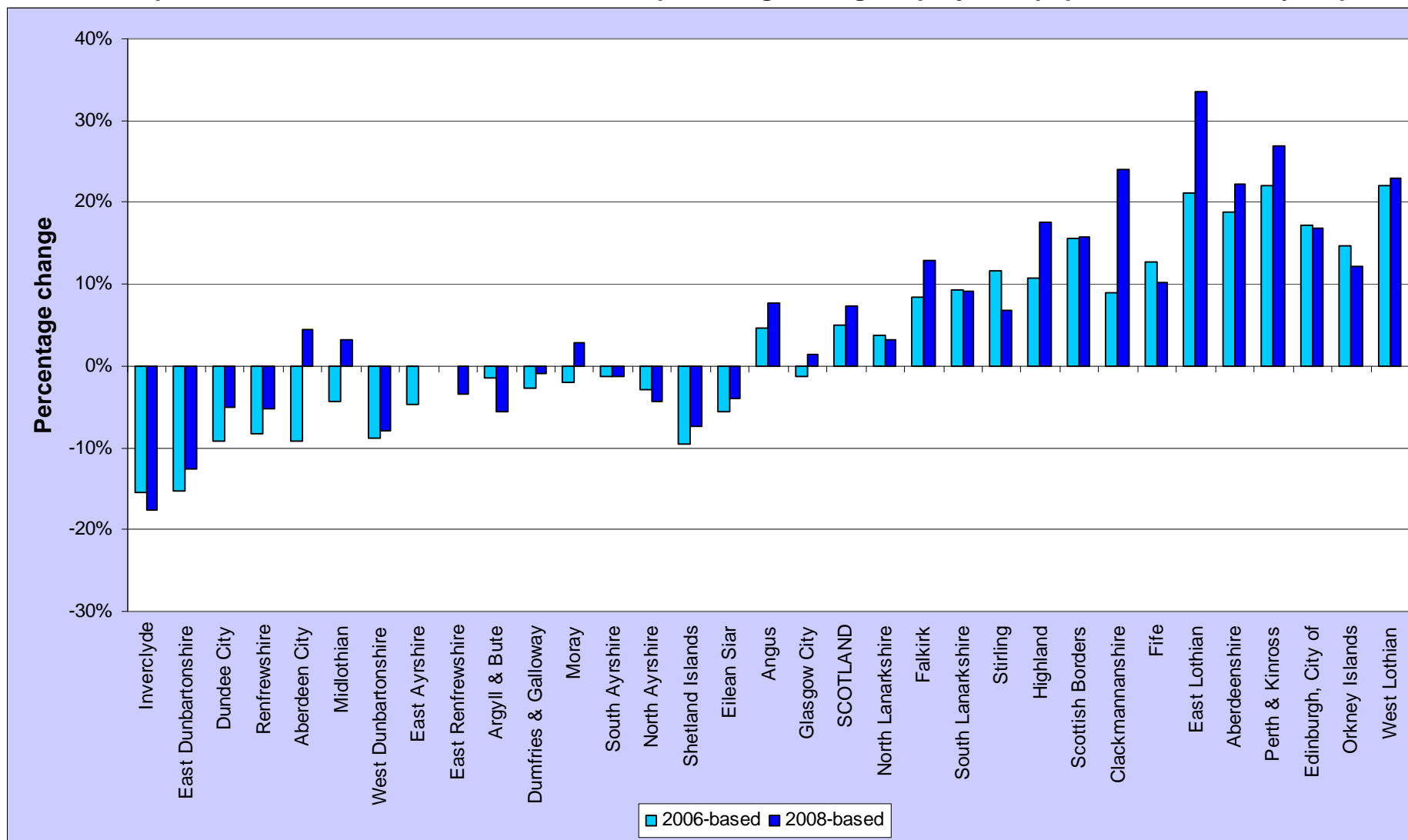


Chart 7: Projected changes in each household type, 2008-2033

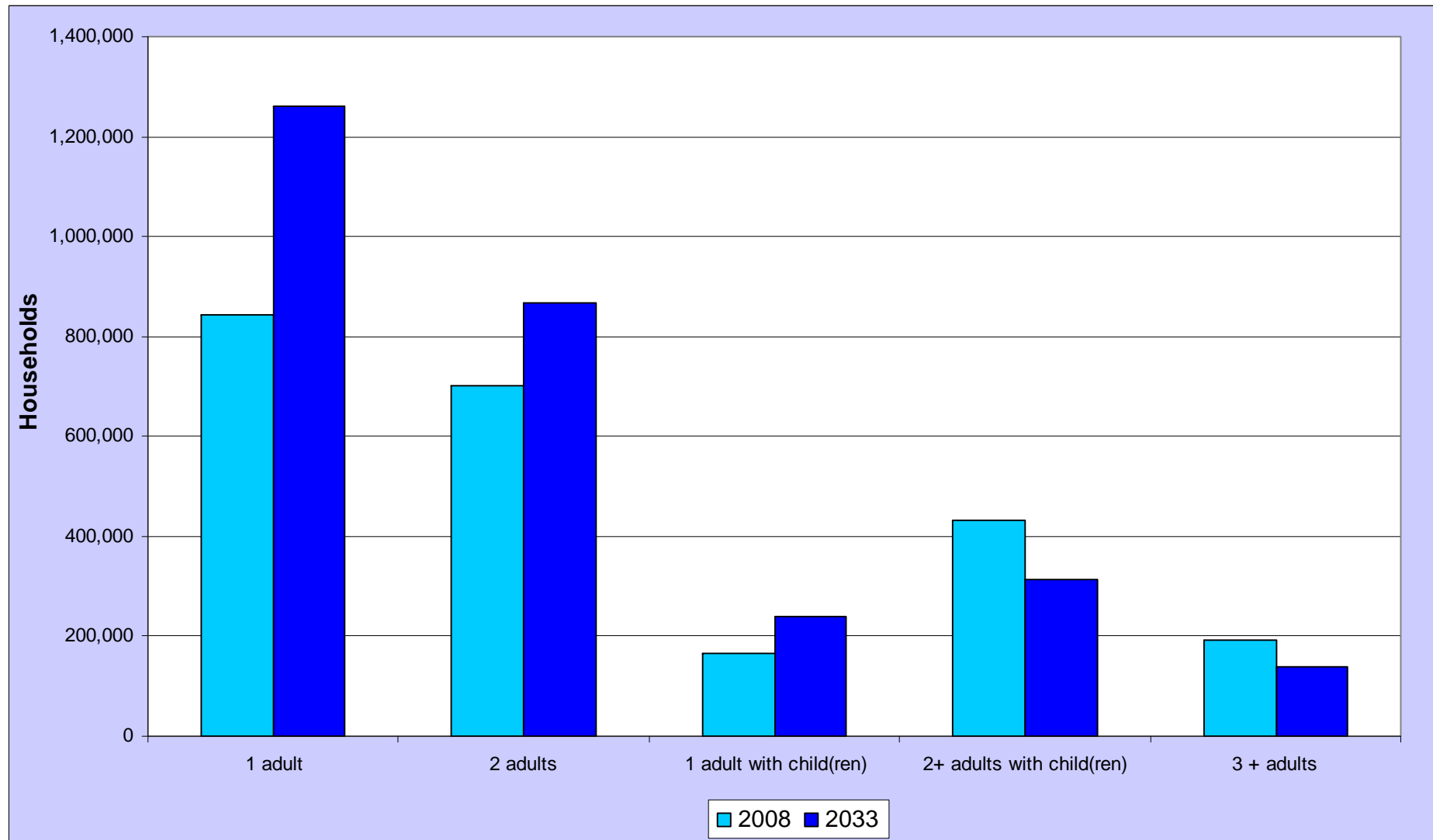


Chart 8: Projected change in households by age of head of household, 2008-2033

