

## Household Analysis Review Group: 2006-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

1.1 GROS is planning to publish the 2006-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.

**1.2 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

2.1 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 2006-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 the 2006 CE proportions to each year's population projections. This has been described in paper HARG 2008(3).

#### 3.2 Projection period

For the current set of projections, a change that we are proposing is to extend the projections period from 20 years to 25 years. This will tie in with the period covered by

the population projections, and is a more useful period for the purpose of compiling development plans. The further into the future the projections cover, the less accurate they are likely to be, and this will be emphasised in the publication. **HARG members are asked whether they are happy with the proposal to produce projections covering a 25-year period.**

### **3.3 Projections for different geographic areas.**

For this set of projections we have produced household projections for Scotland and each council area. Due to changes in the planning system, we are no longer required to produce household projections for Structure Plan Areas. It will be necessary to produce projections for different geographical areas in the future (National Parks and “City Regions”). The boundaries of the “City Regions” have not been defined yet, so these areas will be produced in the future.

### **3.4 Variant projections**

A sub-national high migration variant population projection was published by GROS for the first time this year. As a result it is possible for high migration variant household projections to be included in the 2006-based household projections publication. Analysis of the variant projections is provided in paper HARG 2008(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 2031, and Chart 1 presents this information graphically. There is an average projected increase of around 17,400 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 10,300 and 22,700 a year since 1997, with an average increase of 17,000 households per year. This is greater than the 2004-based projections, which projected an average increase of 15,000 households per year.

### **4.2 Comparison between current and previous household projections:**

Chart 2 provides a comparison between the 2004-based household projections, and previous household projections. They show the total number of households projected each year, for Scotland as a whole. The 2006-based projections are higher than the 2004-based projections with much of the increase caused by the higher population projections. Chart 3 illustrates this further – the 2006-based population and household projections were both higher than the 2004-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 2006 and 2031. 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, with more people living alone and in smaller households.

Chart 5 shows the percentage change in households over a 20 year period for 2004-based and 2006-based projections. For some councils such as Orkney,

Clackmannanshire, Aberdeen City and Perth and Kinross 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 2006-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 2006-based household projections. Depending on the outcomes of this meeting, the communal establishment figures could change, or 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 comment, before the final publication is produced.

**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.**

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March 2006

**Annex: Brief description of the household projections methodology****Calculate private household population**

- Take 2006-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 2006 to 2031.

**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 2006 and 2007 household estimates for each council area
- 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
16-24	1 adult: male
25-29	1 adult: female
30-34	2 adults
35-44	1 adult + 1 child
45-54	3+ adults
55-59	1 adult, 2+ children
60-64	2+ adults, 1+ children
65-74	
75-84	
85+	

Table 1: Provisional 2006-based household projections for Scotland, 2006-2031

Local Authority	2006	2011	2016	2021	2026	2031	Change		Average annual change
							2006 - 2031	% Change	
Aberdeen City	100,750	105,500	107,110	107,260	106,880	105,770	5,010	5	201
Aberdeenshire	98,770	105,590	112,700	119,700	126,170	131,590	32,820	33	1,313
Angus	49,080	51,090	52,930	54,600	56,040	57,130	8,060	16	322
Argyll & Bute	41,090	41,720	42,700	43,680	44,420	44,580	3,490	8	139
Clackmannanshire	21,930	23,290	24,590	25,830	26,960	27,890	5,960	27	238
Dumfries & Galloway	66,780	68,590	70,430	71,880	72,960	73,440	6,650	10	266
Dundee City	67,740	69,200	69,640	69,500	69,230	68,870	1,130	2	45
East Ayrshire	51,900	53,190	54,350	55,200	55,670	55,680	3,780	7	151
East Dunbartonshire	42,810	42,830	43,080	43,040	42,710	41,890	-930	-2	-37
East Lothian	40,420	42,880	45,280	47,950	50,580	52,910	12,490	31	500
East Renfrewshire	35,530	35,910	36,620	37,280	37,840	38,180	2,640	7	106
Edinburgh, City of	214,270	230,100	245,540	259,670	273,970	287,890	73,620	34	2,945
Eilean Siar	11,680	11,940	12,340	12,680	12,970	13,150	1,470	13	59
Falkirk	66,620	70,010	73,690	77,080	80,230	82,840	16,220	24	649
Fife	156,910	165,190	174,570	183,430	191,590	198,860	41,950	27	1,678
Glasgow City	278,900	288,400	299,900	308,740	315,500	320,750	41,850	15	1,674
Highland	96,270	102,590	108,050	113,010	117,350	120,890	24,620	26	985
Inverclyde	36,690	36,690	36,890	36,820	36,410	35,620	-1,070	-3	-43
Midlothian	33,700	34,360	34,980	35,510	35,900	35,810	2,110	6	85
Moray	37,990	39,440	40,580	41,380	41,850	41,710	3,720	10	149
North Ayrshire	60,850	62,320	64,260	65,840	66,910	67,460	6,610	11	264
North Lanarkshire	140,970	147,480	153,950	159,630	164,590	168,740	27,770	20	1,111
Orkney Islands	8,870	9,540	10,270	10,910	11,490	12,000	3,140	35	125
Perth & Kinross	62,630	66,780	71,350	75,750	79,940	83,950	21,330	34	853
Renfrewshire	77,550	78,970	79,920	80,390	80,380	79,770	2,220	3	89
Scottish Borders	50,040	52,600	55,480	58,310	60,950	63,220	13,190	26	527
Shetland Islands	9,560	9,670	10,010	10,260	10,440	10,490	920	10	37
South Ayrshire	50,510	51,780	53,130	54,260	55,060	55,460	4,940	10	198
South Lanarkshire	132,960	140,180	147,400	154,170	160,220	165,440	32,480	24	1,299
Stirling	37,210	38,930	41,040	42,900	44,590	46,080	8,870	24	355
West Dunbartonshire	41,120	42,030	42,890	43,520	43,730	43,430	2,310	6	92
West Lothian	70,240	75,210	80,430	85,560	90,470	94,950	24,720	35	989
<b>Scotland</b>	<b>2,292,340</b>	<b>2,394,010</b>	<b>2,496,100</b>	<b>2,585,700</b>	<b>2,664,020</b>	<b>2,726,420</b>	<b>434,080</b>	<b>19</b>	<b>17,363</b>

Chart 1: Projected percentage change in households by council area, 2006-2031

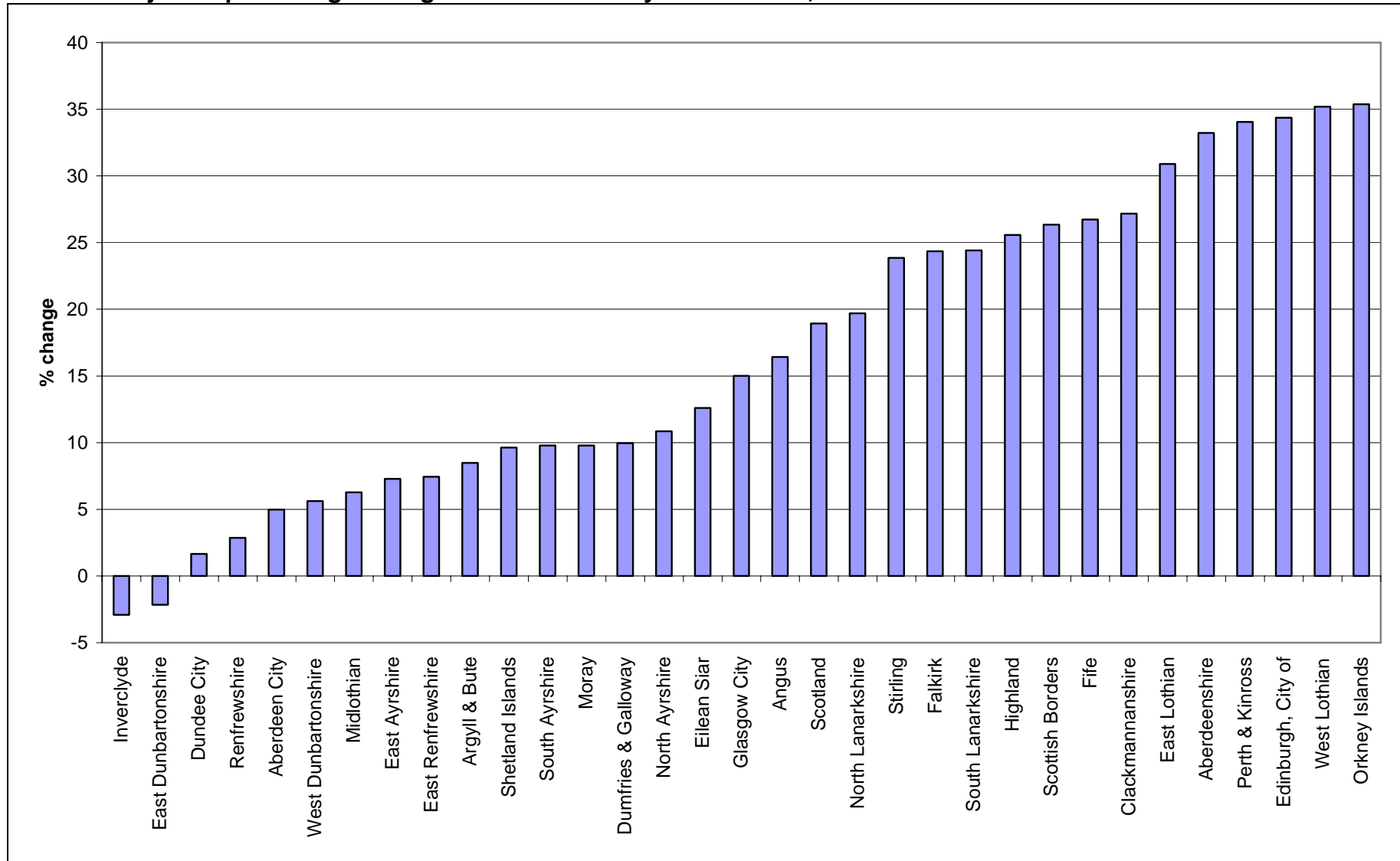


Chart 2: Household projections for Scotland (1996, 1998, 2000, 2002, 2004 and 2006-based)

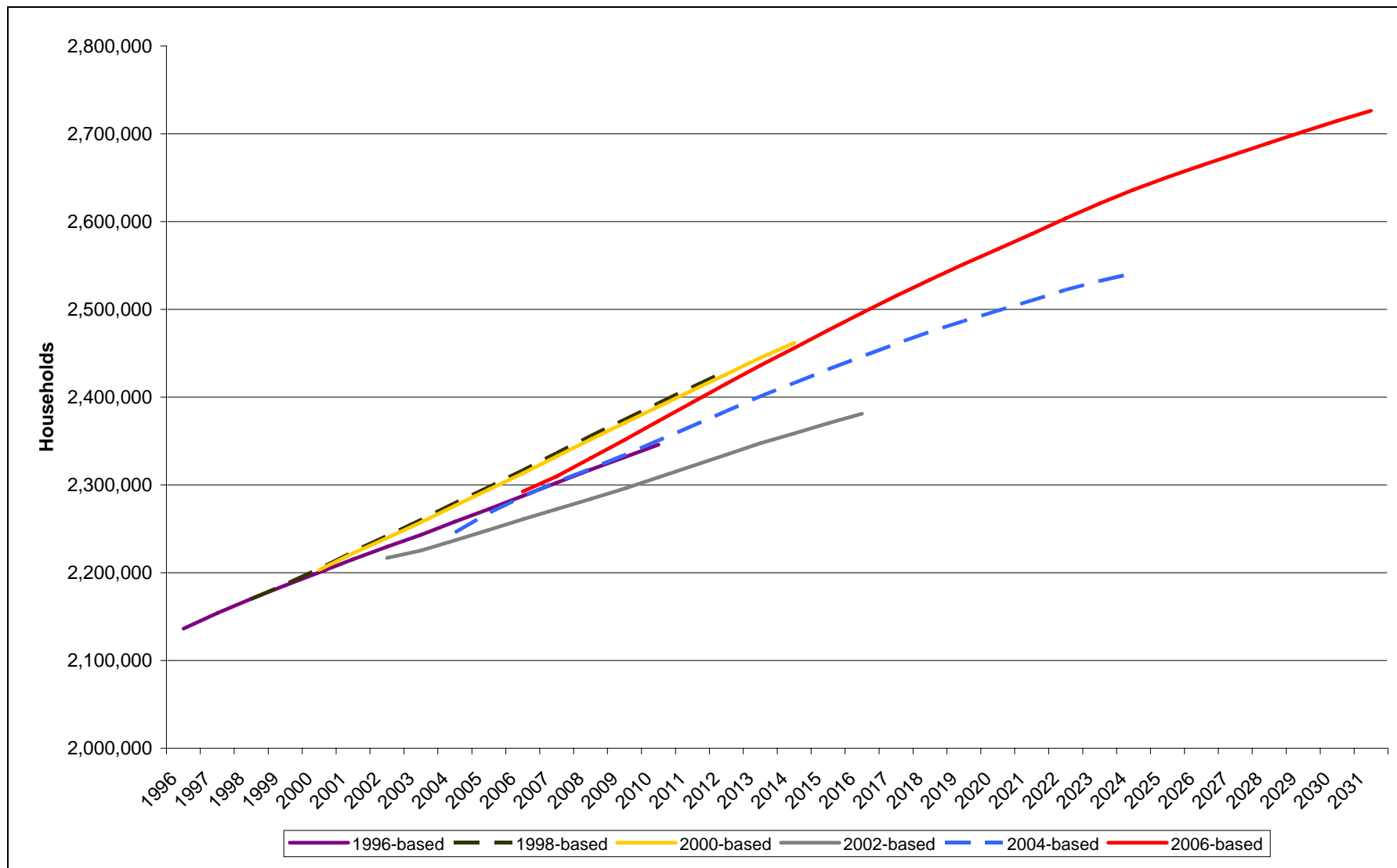


Chart 3: 2004 and 2006-based population and household projections for Scotland

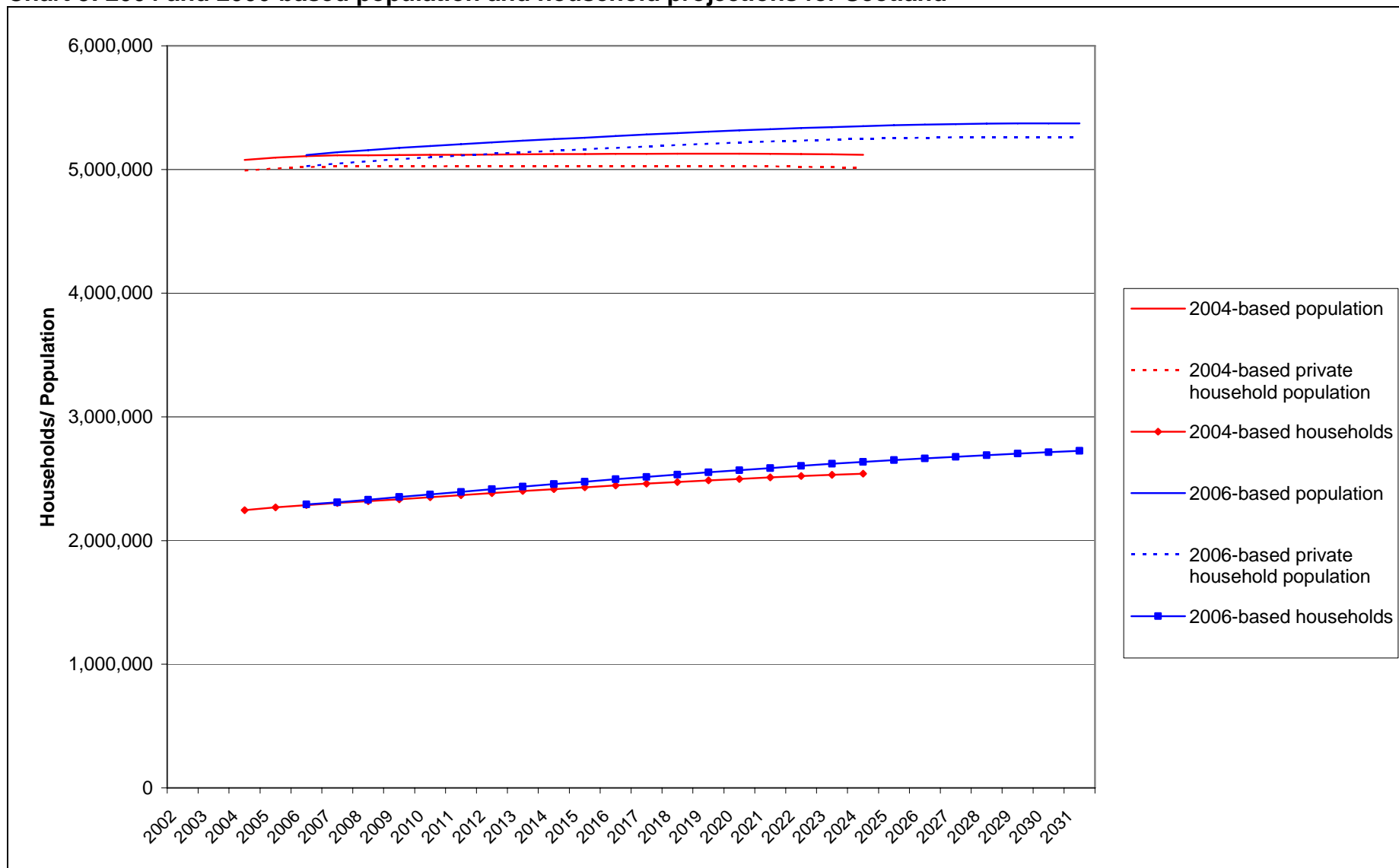




Chart 4: Projected percentage change in households and population by council area, 2006-2031

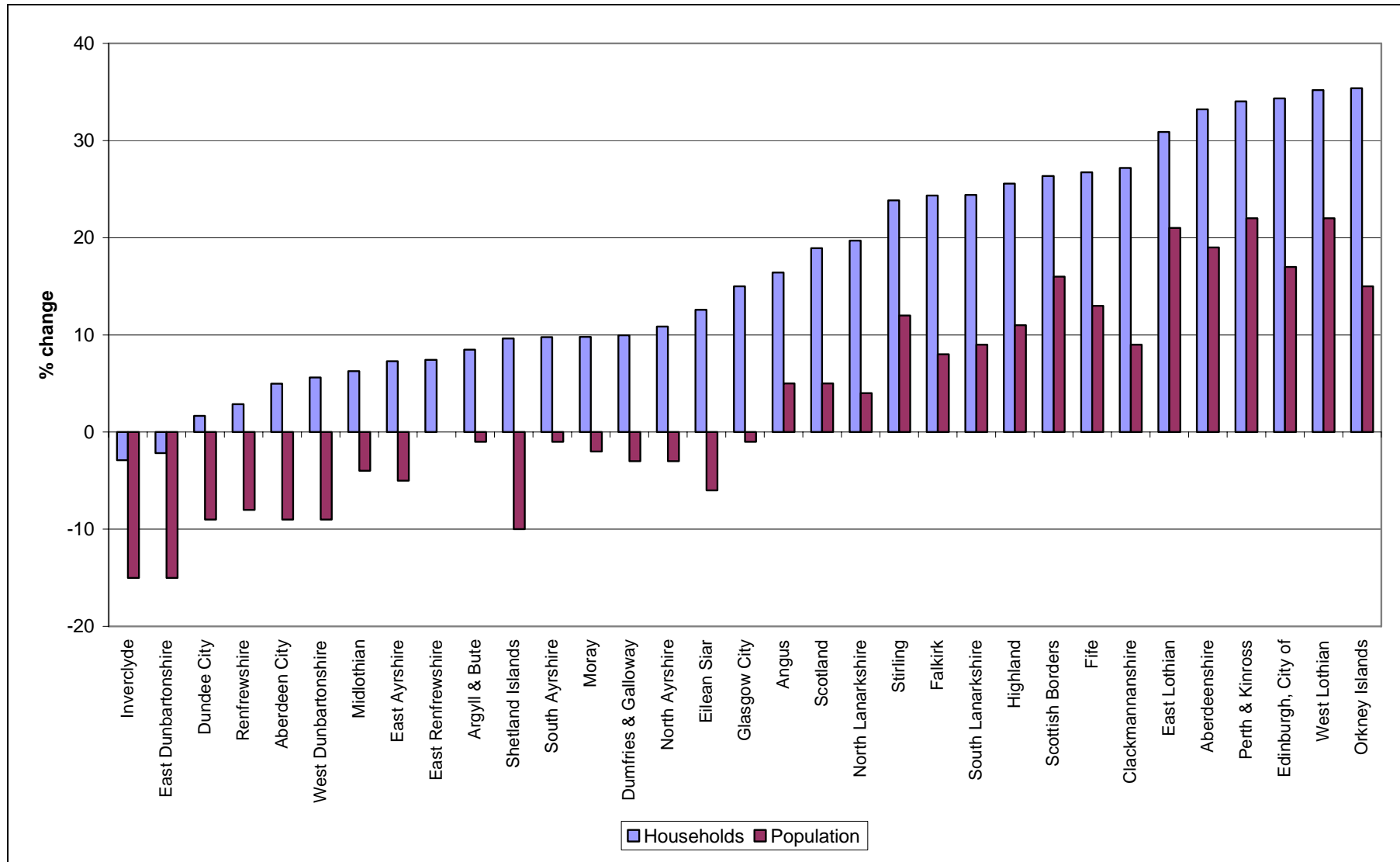


Chart 5: Comparison of the 2004-based and 2006-based percentage change in projected households over a 20 year period

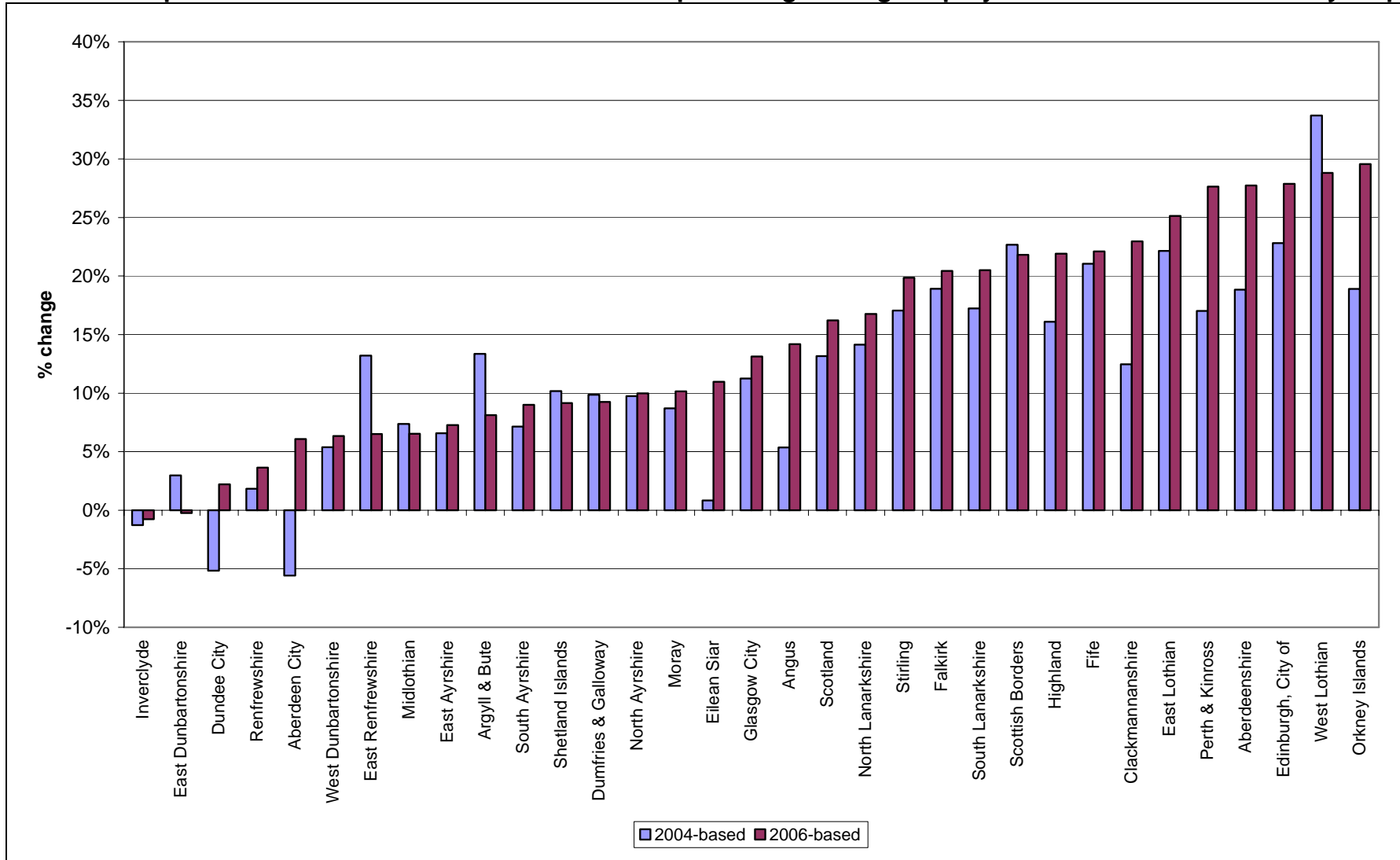


Chart 6: Comparison of the 2004-based and 2006-based percentage change in projected population over a 20 year period

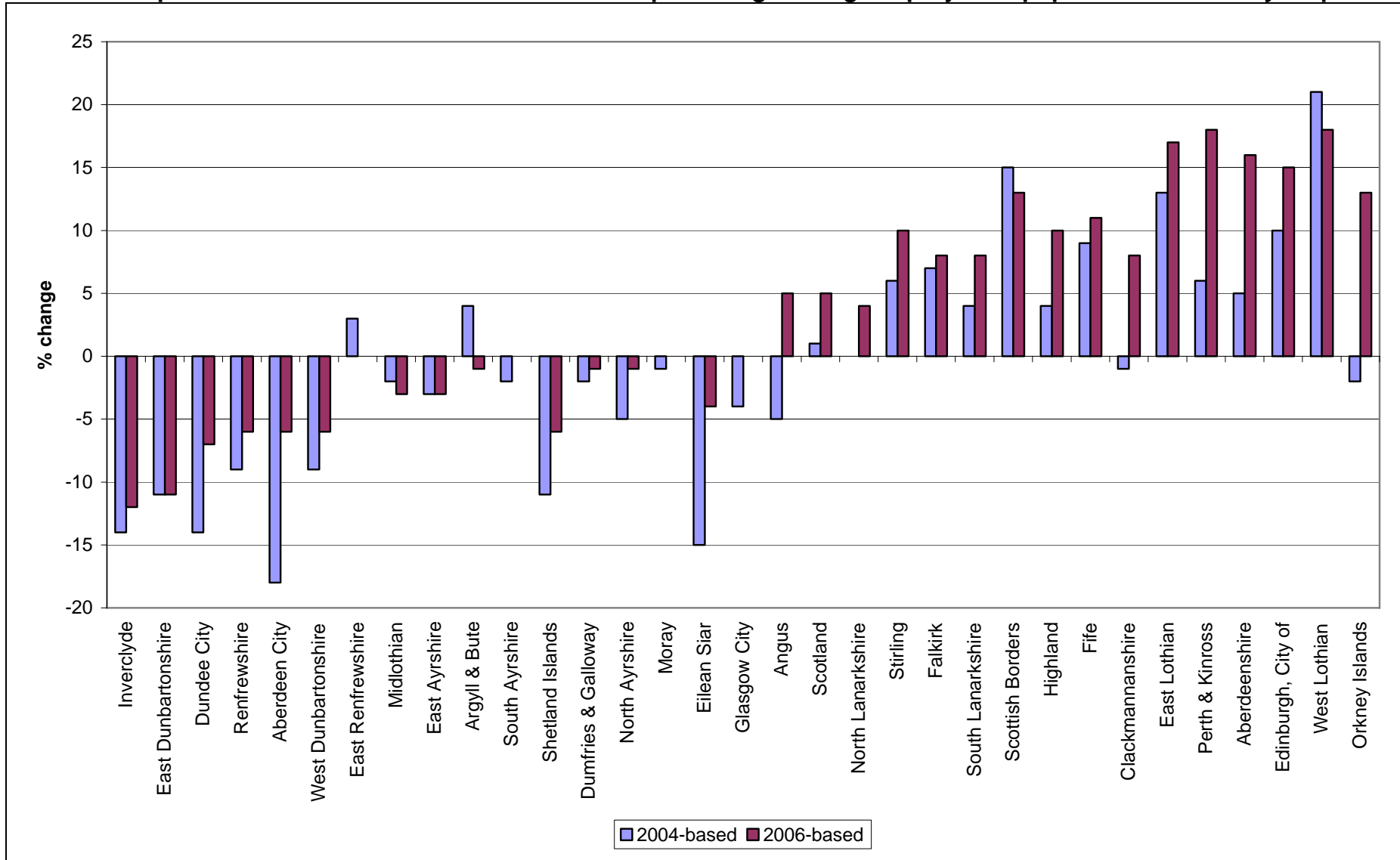


Chart 7: Projected changes in each household type, 2006-2031

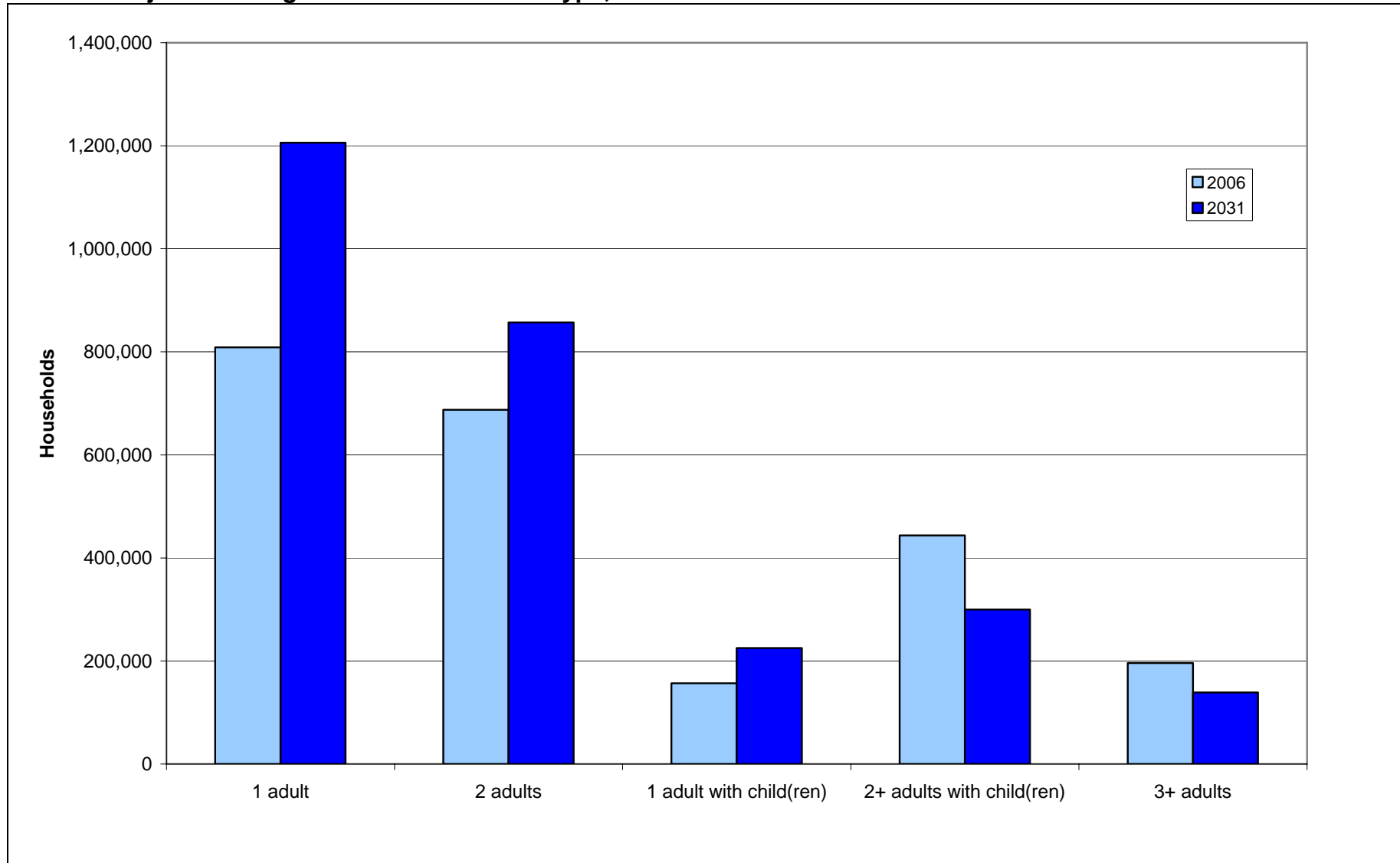


Chart 8: Projected change in households by age of head of household, 2006-2031

