

Jersey population projections 2013 release

States of Jersey Statistics Unit *September 2013*

Residential status definitions (Control of Housing and Work, Jersey, 2012):

Residential status	Definition	Housing	Work
Entitled	Someone who has lived in Jersey for 10 years	Can buy, sell or lease any property	Can work anywhere and doesn't need a licence to be employed
Licensed	Someone who is an 'essential employee'	Can buy, sell or lease any property in their own name if they keep their 'licensed' status	Employer needs a licence to employ a 'licensed' person
Entitled to work	Someone who has lived in Jersey for five consecutive years immediately before the date the card is issued, or is married to someone who is 'entitled', 'licensed', or 'entitled to work'	Can buy property jointly with an 'entitled' spouse / civil partner. Can lease 'registered' (previously 'unqualified') property as a main place of residence.	Can work anywhere and doesn't need a licence to be employed
Registered	Someone who does not qualify under the other categories	Can lease 'registered' property as a main place of residence	Employer needs a licence to employ a 'registered' person

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Section 1 - Overview

This report contains a series of projections to assist government, businesses and the public in understanding potential changes in size and structure which would arise under particular scenarios of births, deaths and migration patterns.

The 2013 projections include known levels of births and migration for 2011 and 2012, as well as incorporating revised mortality rates. See Appendix I for further details.

Methodology

The 2011 Census provided a baseline of the number of known residents in Jersey at March 2011 by age and gender. The population model uses this baseline population, rolled backwards to year-end 2010, and projects the population forwards, year by year, by adding births, subtracting deaths, and adjusting for inward and outward migration.

Whilst actual numbers of births and migration levels have been incorporated for 2011 and 2012, in 2013 and subsequent years each component in the projections – births, deaths, inward and outward migration – is **an estimate** based on recent trends.

As such there will always be uncertainty in population projections, with the uncertainty increasing in longer-term projections. Nevertheless this exercise has value in exploring what *would* happen to Jersey's population size and structure under particular conditions – some of which (specifically migration) could potentially be influenced by policy and practice. The projections also allow inspection of the impact of *natural* population change – births and deaths – on the size and structure of the population going forwards.

For more detail on fertility, mortality and migration assumptions used, and the sensitivity of the results to these assumptions see Appendix II.

Key characteristics to consider

- <u>Dependency ratio</u>: an indicator of the ratio of non-working age to working age persons in the population¹. The dependency ratio in Jersey was 46% at year-end 2010. As a population 'ages' that is as the (greater) middle-aged generations move into older age the dependency ratio will increase.
 - A high dependency ratio represents a high number of non-workers requiring to be supported by a relatively small number of working-age residents. **Maintaining a dependency ratio at a reasonably low level may be considered desirable**^{2,3}.
- Working age population size: whilst also dependent on their economic activity rates, the absolute number of people of working age provides a measure of potential workforce size. Maintaining and potentially growing the size of Jersey's workforce (in absolute numbers) may be considered desirable for businesses and Jersey's economy.
- The <u>overall size</u> of Jersey's population has implications for the Island's resources and can have positive and negative consequences on people's quality of life. Population size will be affected by births and deaths ('natural growth') as well as migration.

Additional issues

It should be noted that the projections are for Jersey's resident population and do not include all potential scenarios; for example:

- short-term working visitors would add persons to the workforce and thereby maintain or increase the workforce size as well as improve the dependency ratio, without affecting resident population size;
- the effective dependency ratio can be reduced through increasing pensionable age, thus increasing the size of the workforce relative to pensioners, again without impacting on overall population size 1,3.

Throughout this report, all numbers have been independently rounded to the nearest 100.

¹ Throughout this report, the dependency ratio is calculated as the number of children aged under 16, plus the number of persons aged 65 years or over (i.e. 'dependent persons'), divided by the number of people aged 16 to 64 inclusive.

over (i.e. 'dependent persons'), divided by the number of people aged 16 to 64 inclusive.

² It should be noted that this measure does not take into account the impact of increasing the pension age, increasing the age at which children remain in full time education, or the level of economic activity of those of 'working age', all of which would modify the 'effective' dependency ratio.

³ To assist in interpretation of the trends resulting from the migration scenarios, the increase in pensionable age to 67 by 2031 has not been taken account of in these projections. This change in pensionable age would reduce the effective dependency ratio seen from 2031 onwards by approximately 6 percentage points.

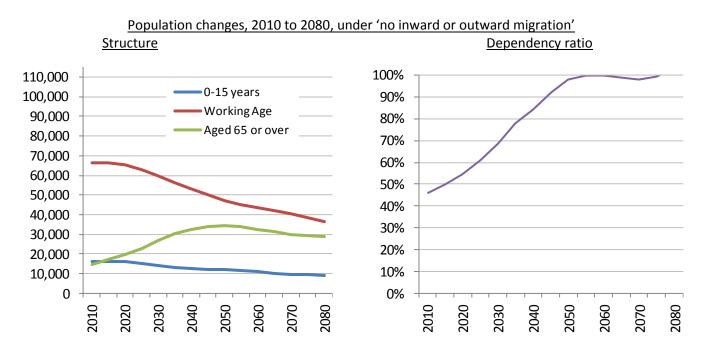
Section 2 – Scenario detail No inward or outward migration

In this scenario, levels of both inward and outward migration are set to zero. The only changes in the population size and structure will be through ageing, births and deaths. Although highly artificial, this scenario provides information on the intrinsic changes in Jersey's population size and structure which arise from our current resident population, excluding any influence of migration patterns. Principal fertility and mortality assumptions are used.

<u>Results</u>

In the short to medium term, the population would remain relatively stable, peaking at approximately 100,900 in 2025 before beginning to decline, due to the fertility rates being below 'replacement level' (that is, the number of children being born is insufficient to replace the generation bearing them, so that each generation is successively smaller than the previous one). The rate of decline would begin slowly before becoming more rapid, with the population size falling to 87,100 by 2060.

In terms of the structure of the population, the dependency ratio would increase steadily from 46% in 2010 to 100% by 2055. The main drivers are the rapid decline in the working age population combined with an increase in the older age groups, a result of the large proportion of middle age persons in 2010 moving into older age.



Population projections: no inward or outward migration

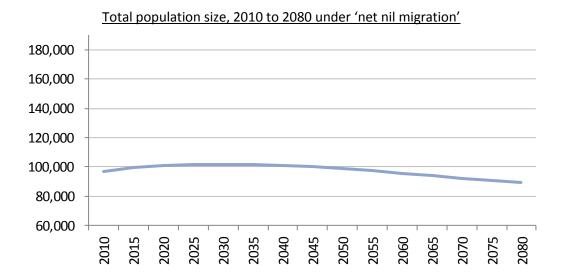
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,200	4,700	4,300	4,000	3,900	3,800	3,800	3,600	3,400	3,200	3,000	2,900
5-9	4,900	5,100	5,200	4,700	4,300	4,000	3,900	3,800	3,800	3,600	3,400	3,200	3,000
10-14	5,300	5,000	5,100	5,200	4,700	4,300	4,000	3,900	3,800	3,800	3,600	3,400	3,200
15-19	5,500	5,300	5,000	5,100	5,200	4,700	4,300	4,000	3,900	3,800	3,800	3,600	3,400
20-24	5,800	5,500	5,300	5,000	5,100	5,200	4,700	4,300	4,000	3,900	3,800	3,800	3,600
25-29	6,600	5,900	5,500	5,300	4,900	5,100	5,200	4,700	4,300	4,000	3,900	3,800	3,800
30-34	7,100	6,800	5,800	5,500	5,300	4,900	5,100	5,200	4,700	4,300	4,000	3,900	3,800
35-39	7,200	7,200	6,800	5,800	5,500	5,300	4,900	5,100	5,200	4,700	4,300	4,000	3,800
40-44	8,400	7,300	7,200	6,700	5,800	5,500	5,300	4,900	5,000	5,200	4,700	4,200	4,000
45-49	8,300	8,400	7,200	7,100	6,700	5,800	5,400	5,200	4,900	5,000	5,200	4,600	4,200
50-54	7,100	8,200	8,300	7,100	7,100	6,600	5,700	5,400	5,200	4,800	5,000	5,100	4,600
55-59	6,000	7,100	8,100	8,200	7,000	7,000	6,500	5,600	5,300	5,100	4,800	4,900	5,100
60-64	5,600	5,900	6,900	7,900	8,000	6,900	6,800	6,400	5,500	5,200	5,100	4,700	4,900
65-69	4,000	5,400	5,600	6,600	7,600	7,700	6,700	6,600	6,200	5,400	5,100	4,900	4,600
70-74	3,600	3,700	5,000	5,300	6,300	7,200	7,400	6,400	6,400	6,000	5,200	4,900	4,800
75-79	2,900	3,200	3,400	4,600	4,800	5,800	6,700	6,800	5,900	6,000	5,600	4,900	4,600
80-84	2,000	2,300	2,700	2,900	3,900	4,200	5,000	5,900	6,100	5,300	5,400	5,100	4,500
85+	1,900	2,200	2,800	3,600	4,200	5,500	6,600	8,000	9,700	11,000	11,300	11,500	11,500
All ages	97,100	99,800	100,700	100,900	100,500	99,500	98,000	96,000	93,500	90,500	87,100	83,600	80,300
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	16,300	16,000	15,300	14,000	13,100	12,500	12,300	12,000	11,600	10,900	10,300	9,700
16-64	66,500	66,600	65,100	62,700	59,600	56,000	53,100	50,000	47,200	45,300	43,600	42,000	40,500
65+	14,400	16,900	19,600	22,900	26,900	30,400	32,300	33,700	34,300	33,600	32,600	31,400	30,000
0-15	17%	16%	16%	15%	14%	13%	13%	13%	13%	13%	13%	12%	12%
16-64	69%	67%	65%	62%	59%	56%	54%	52%	51%	50%	50%	50%	50%
65+	15%	17%	19%	23%	27%	31%	33%	35%	37%	37%	37%	37%	37%
Dependency ratio	46%	50%	55%	61%	69%	78%	84%	92%	98%	100%	100%	99%	98%

Net nil migration

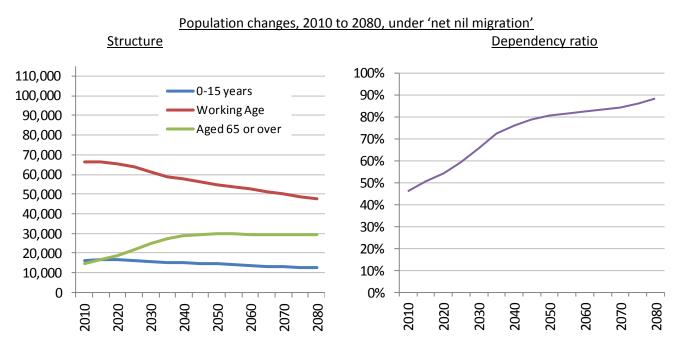
This scenario includes both inward and outward migration, but assumes that the two flows into and out of the resident population are equal from 2013 onwards. Each person resident in Jersey has a probability of leaving during each year, based on their age, residential status and the number of years they have been resident. Using these probabilities the projected number of leavers in each year is calculated; the level of inward migration is then set to equal the number of leavers in the same year to achieve 'net nil' migration. Inward migrants are distributed across age, gender and residential qualification groups according to that seen in recent arrivals in the 2011 census data. Inward migration has historically been concentrated in the working age population, whilst outward migration is spread more evenly across age groups. The likelihood of people leaving, and the likely characteristics of arrivals, is assumed in the model to remain constant through time.

Results

Despite overall net nil migration, the inward and outward flows provide a mild 'boost' to the numbers of those of working age with a consequent slight increase in the number of children being born. The population increases slightly to a maximum of 101,800 around 2030 before beginning to decline slowly, falling back to 94,000 by 2065.



The moderating effect of a degree of inward and outward migration on the population *structure* can be seen below. Whilst the dependency ratio increases due to the ageing population, the rate of increase is slowed down (relative to 'no inward or outward migration') by the ebb and flow of people slowing the reduction in the working age population. The dependency ratio reaches 72% in 2035, increasing further to 83% by 2065.



Population projections: Net nil migration

Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,300	4,900	4,700	4,600	4,500	4,500	4,400	4,300	4,100	4,000	3,900	3,800
5-9	4,900	5,300	5,300	5,000	4,800	4,700	4,600	4,600	4,500	4,400	4,200	4,100	4,000
10-14	5,300	5,200	5,400	5,400	5,100	4,900	4,800	4,800	4,700	4,600	4,500	4,400	4,200
15-19	5,500	5,600	5,400	5,600	5,600	5,200	5,100	5,000	4,900	4,800	4,800	4,600	4,500
20-24	5,800	5,600	5,600	5,400	5,500	5,500	5,200	5,000	4,900	4,800	4,800	4,700	4,600
25-29	6,600	6,100	6,000	5,900	5,700	5,800	5,700	5,400	5,200	5,100	5,000	4,900	4,800
30-34	7,100	6,800	6,300	6,200	6,100	5,900	5,900	5,900	5,500	5,300	5,200	5,100	5,000
35-39	7,200	7,100	6,700	6,300	6,300	6,100	5,900	5,900	5,900	5,500	5,300	5,200	5,100
40-44	8,400	7,200	7,000	6,700	6,300	6,300	6,100	5,900	5,900	5,900	5,500	5,400	5,200
45-49	8,300	8,200	7,000	6,800	6,500	6,200	6,200	6,100	5,800	5,900	5,800	5,500	5,300
50-54	7,100	8,100	8,000	6,800	6,600	6,400	6,100	6,100	6,000	5,700	5,800	5,700	5,400
55-59	6,000	6,900	7,800	7,600	6,500	6,400	6,200	5,900	5,900	5,800	5,600	5,700	5,600
60-64	5,600	5,700	6,600	7,400	7,300	6,300	6,100	5,900	5,700	5,700	5,600	5,400	5,500
65-69	4,000	5,300	5,400	6,200	7,000	6,900	5,900	5,800	5,700	5,500	5,500	5,400	5,200
70-74	3,600	3,700	4,900	5,000	5,700	6,500	6,500	5,600	5,500	5,300	5,200	5,200	5,200
75-79	2,900	3,200	3,300	4,300	4,500	5,200	5,900	5,900	5,100	5,100	4,900	4,800	4,900
80-84	2,000	2,300	2,600	2,700	3,700	3,800	4,500	5,200	5,200	4,500	4,500	4,400	4,300
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,000	7,100	8,400	9,300	9,400	9,500	9,600
All ages	97,100	99,800	100,900	101,500	101,800	101,700	101,200	100,300	99,100	97,500	95,700	94,000	92,300
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	16,800	16,600	16,200	15,500	15,200	14,900	14,700	14,400	14,100	13,700	13,300	13,000
16-64	66,500	66,300	65,300	63,700	61,400	59,000	57,500	56,100	54,800	53,700	52,500	51,300	50,100
65+	14,400	16,700	18,900	21,700	24,900	27,600	28,800	29,500	29,800	29,700	29,600	29,400	29,200
0-15	17%	17%	16%	16%	15%	15%	15%	15%	15%	14%	14%	14%	14%
16-64	69%	66%	65%	63%	60%	58%	57%	56%	55%	55%	55%	55%	54%
65+	15%	17%	19%	21%	24%	27%	28%	29%	30%	30%	31%	31%	32%
Dependency ratio	46%	51%	54%	59%	66%	72%	76%	79%	81%	82%	82%	83%	84%

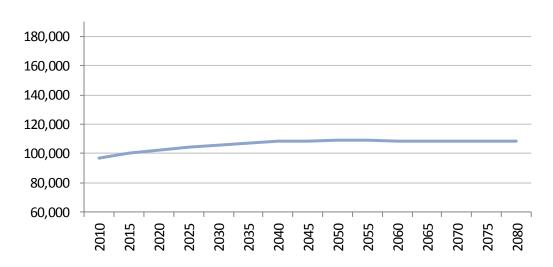
NET Inward migration of 200 people per year

In this scenario, an absolute number of 200 <u>people</u> are assumed to arrive each year over and above the number of persons that leave from 2013 onwards. Inward migrants are assumed to be distributed across the age, gender and residential qualification categories according to the distribution seen in recent arrivals in the census data. Principal fertility and mortality assumptions are used.

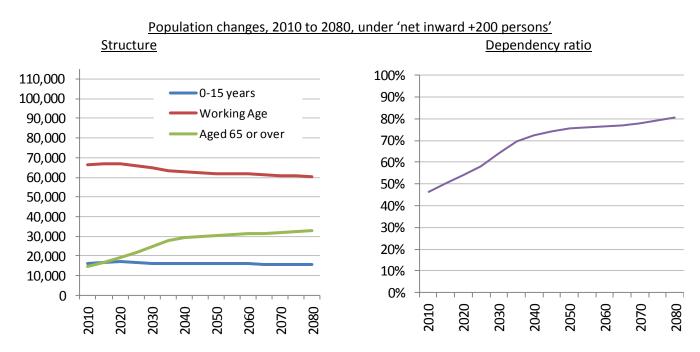
Results

Relative to the net nil migration scenario, a net inward migration of 200 people per year from 2013 onwards produces an increase in the overall population size, projected to reach 107,200 by 2035 and 108,500 by 2065.

Total population size, 2010 to 2080 under 'net inward +200 persons'



Net inward migration particularly supports the size of the working age population, serving to limit to some degree the increase in the dependency ratio such that it reaches 70% in 2035 and 77% in 2065.



Population projections: Net migration +200 people per year

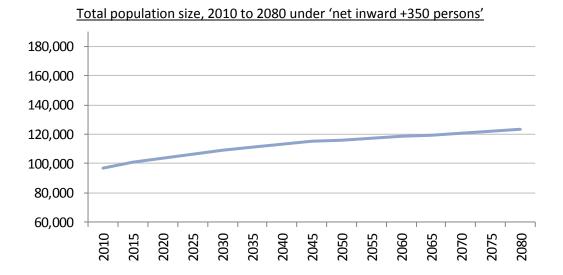
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,300	5,000	4,900	4,900	4,900	4,900	4,900	4,900	4,800	4,700	4,700	4,700
5-9	4,900	5,300	5,400	5,100	5,100	5,000	5,100	5,100	5,100	5,000	5,000	4,900	4,900
10-14	5,300	5,200	5,500	5,600	5,300	5,300	5,200	5,200	5,300	5,300	5,200	5,200	5,100
15-19	5,500	5,600	5,500	5,700	5,800	5,500	5,500	5,500	5,500	5,500	5,500	5,400	5,400
20-24	5,800	5,700	5,800	5,600	5,800	5,900	5,600	5,600	5,500	5,500	5,600	5,600	5,500
25-29	6,600	6,200	6,300	6,300	6,100	6,300	6,300	6,100	6,000	6,000	6,000	6,000	6,000
30-34	7,100	6,900	6,600	6,700	6,600	6,500	6,600	6,700	6,400	6,400	6,300	6,300	6,300
35-39	7,200	7,200	6,900	6,700	6,800	6,700	6,600	6,700	6,800	6,500	6,500	6,400	6,400
40-44	8,400	7,300	7,100	6,900	6,800	6,800	6,800	6,700	6,800	6,800	6,600	6,500	6,500
45-49	8,300	8,300	7,100	7,000	6,900	6,700	6,800	6,800	6,600	6,800	6,800	6,600	6,500
50-54	7,100	8,100	8,000	7,000	6,900	6,700	6,600	6,700	6,700	6,500	6,700	6,700	6,500
55-59	6,000	6,900	7,800	7,700	6,700	6,600	6,500	6,400	6,500	6,500	6,400	6,500	6,600
60-64	5,600	5,800	6,600	7,500	7,400	6,400	6,400	6,300	6,200	6,300	6,300	6,200	6,300
65-69	4,000	5,300	5,400	6,200	7,100	7,000	6,100	6,100	6,000	5,900	6,100	6,100	6,000
70-74	3,600	3,700	4,900	5,000	5,800	6,600	6,500	5,700	5,700	5,600	5,600	5,700	5,800
75-79	2,900	3,200	3,300	4,400	4,500	5,200	6,000	6,000	5,200	5,200	5,200	5,200	5,300
80-84	2,000	2,300	2,600	2,800	3,700	3,900	4,500	5,200	5,200	4,600	4,700	4,600	4,700
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,000	7,100	8,400	9,400	9,600	9,700	9,900
All ages	97,100	100,400	102,600	104,400	106,000	107,200	108,100	108,700	108,900	108,900	108,700	108,500	108,500
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	16,900	16,900	16,700	16,400	16,300	16,300	16,300	16,300	16,200	16,000	15,900	15,800
16-64	66,500	66,800	66,700	65,900	64,600	63,200	62,700	62,300	62,000	61,800	61,500	61,200	61,000
65+	14,400	16,700	19,000	21,800	25,000	27,800	29,100	30,100	30,600	30,800	31,100	31,400	31,700
0-15	17%	17%	17%	16%	15%	15%	15%	15%	15%	15%	15%	15%	15%
16-64	69%	67%	65%	63%	61%	59%	58%	57%	57%	57%	57%	56%	56%
65+	15%	17%	18%	21%	24%	26%	27%	28%	28%	28%	29%	29%	29%
Dependency ratio	46%	50%	54%	58%	64%	70%	72%	74%	76%	76%	77%	77%	78%

NET Inward migration of 350 people per year

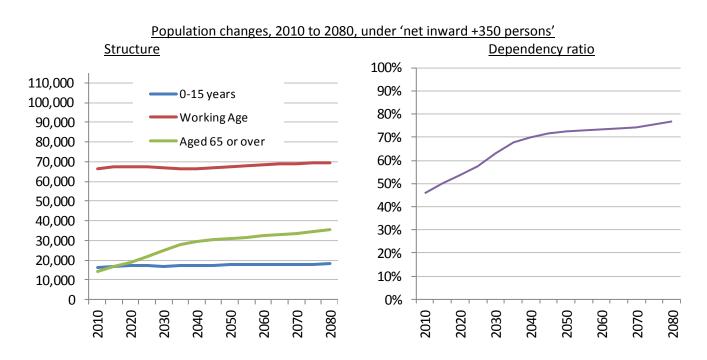
In this scenario, an absolute number of 350 <u>people</u> are assumed to arrive each year over and above the number of persons that leave from 2013 onwards. The inward migrants are distributed amongst age, gender and residential qualification groups according to the patterns for recent inward migrants seen in the 2011 census data.

Results

A positive net inward migration, in addition to the increase in the population resulting from natural change (births minus deaths) causes a steady rise in the total population size, to 111,300 in 2035 and 119,400 in 2065.



The size of the working age population remains fairly stable, serving to maintain a relatively low dependency ratio, following its initial increase due to the rising numbers of those aged 65 and over, such that it increases from 46% in 2010 to 68% by 2035, but to 74% by 2065.



Population projections: Net migration +350 people per year

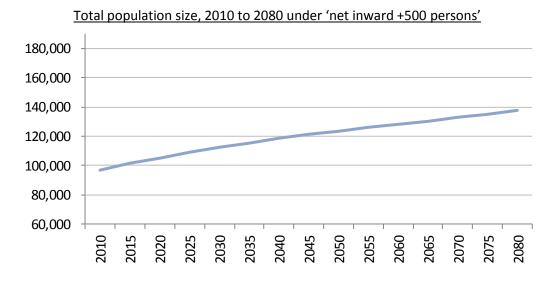
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,300	5,100	5,100	5,100	5,200	5,200	5,300	5,300	5,300	5,300	5,400	5,400
5-9	4,900	5,300	5,500	5,300	5,300	5,300	5,400	5,400	5,500	5,500	5,500	5,500	5,600
10-14	5,300	5,300	5,500	5,700	5,500	5,500	5,500	5,600	5,700	5,700	5,800	5,700	5,800
15-19	5,500	5,600	5,500	5,800	5,900	5,800	5,800	5,800	5,900	6,000	6,000	6,000	6,000
20-24	5,800	5,700	5,900	5,800	6,000	6,100	6,000	6,000	6,000	6,100	6,100	6,200	6,200
25-29	6,600	6,300	6,500	6,500	6,400	6,700	6,800	6,600	6,600	6,700	6,700	6,800	6,900
30-34	7,100	7,000	6,800	7,000	7,000	6,900	7,200	7,300	7,100	7,100	7,200	7,200	7,300
35-39	7,200	7,200	7,100	7,000	7,100	7,200	7,100	7,300	7,400	7,300	7,300	7,300	7,400
40-44	8,400	7,300	7,300	7,200	7,100	7,300	7,300	7,200	7,500	7,600	7,400	7,400	7,500
45-49	8,300	8,300	7,200	7,200	7,100	7,100	7,300	7,300	7,200	7,500	7,600	7,400	7,400
50-54	7,100	8,100	8,100	7,100	7,100	7,000	7,000	7,200	7,200	7,200	7,400	7,500	7,400
55-59	6,000	6,900	7,800	7,800	6,800	6,800	6,800	6,800	7,000	7,100	7,000	7,200	7,300
60-64	5,600	5,800	6,600	7,500	7,500	6,600	6,600	6,500	6,600	6,800	6,800	6,800	7,000
65-69	4,000	5,300	5,400	6,200	7,100	7,100	6,200	6,200	6,200	6,300	6,500	6,500	6,500
70-74	3,600	3,700	4,900	5,000	5,800	6,600	6,600	5,800	5,900	5,900	5,900	6,100	6,200
75-79	2,900	3,200	3,300	4,400	4,500	5,200	6,000	6,000	5,300	5,400	5,400	5,500	5,700
80-84	2,000	2,300	2,600	2,800	3,700	3,900	4,500	5,200	5,300	4,700	4,800	4,800	4,900
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,000	7,100	8,500	9,500	9,700	9,900	10,200
All ages	97,100	100,900	103,900	106,600	109,100	111,300	113,300	114,900	116,200	117,400	118,400	119,400	120,600
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	16,900	17,200	17,200	17,000	17,100	17,300	17,500	17,700	17,800	17,800	17,800	17,900
16-64	66,500	67,200	67,700	67,600	67,000	66,300	66,600	66,900	67,400	67,900	68,300	68,700	69,200
65+	14,400	16,700	19,000	21,800	25,100	27,900	29,400	30,500	31,200	31,700	32,300	32,900	33,500
0-15	17%	17%	17%	16%	16%	15%	15%	15%	15%	15%	15%	15%	15%
16-64	69%	67%	65%	63%	61%	60%	59%	58%	58%	58%	58%	58%	57%
65+	15%	17%	18%	20%	23%	25%	26%	27%	27%	27%	27%	28%	28%
Dependency ratio	46%	50%	53%	58%	63%	68%	70%	72%	72%	73%	73%	74%	74%

NET Inward migration of 500 people per year

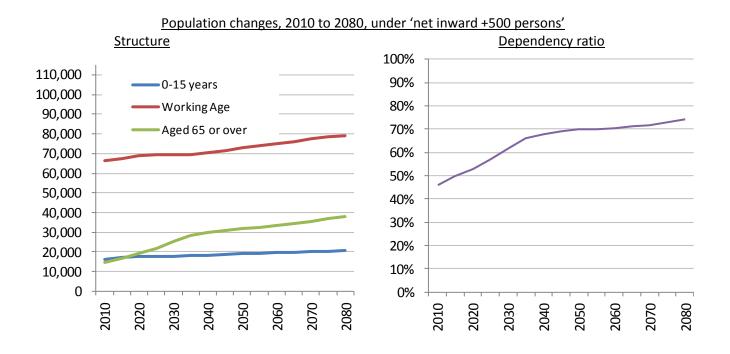
In this scenario, an absolute number of 500 <u>people</u> are assumed to arrive each year, over and above the number of persons that leave from 2013 onwards. These are distributed amongst age, gender and residential qualification groups according to the patterns in recent inward migration seen in the 2011 census data.

Results

The higher positive net inward migration than the previous two scenarios described causes a greater rise in the total population size, to 115,500 in 2035 and 130,400 in 2065. The size of the working age population increases by 2,900 by 2035, and 9,700 by 2065.



Net inward migration of +500 persons per year has a more limiting effect on the increasing dependency ratio than the previous scenarios described in this report (a consequence of the ageing population being offset by higher inward migration of younger working age persons). The ratio increases to 66% in 2035, after which its rate of increase flattens out, such that it reaches 71% in 2065.



Population projections: Net migration +500 people per year

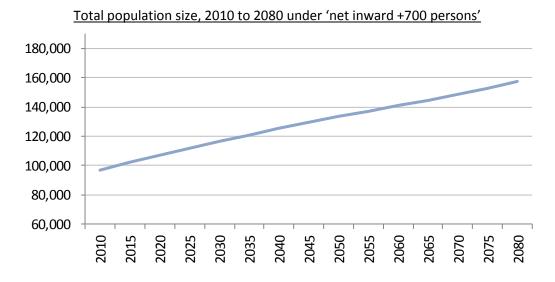
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,400	5,200	5,200	5,300	5,500	5,600	5,700	5,800	5,800	5,900	6,000	6,100
5-9	4,900	5,300	5,500	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,100	6,200
10-14	5,300	5,300	5,600	5,800	5,700	5,700	5,800	6,000	6,100	6,200	6,300	6,300	6,400
15-19	5,500	5,600	5,600	5,900	6,100	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700
20-24	5,800	5,800	6,000	5,900	6,200	6,400	6,300	6,400	6,500	6,600	6,700	6,800	6,900
25-29	6,600	6,400	6,700	6,800	6,800	7,100	7,200	7,200	7,200	7,400	7,500	7,600	7,700
30-34	7,100	7,000	7,000	7,300	7,400	7,400	7,700	7,900	7,800	7,900	8,000	8,100	8,300
35-39	7,200	7,300	7,200	7,200	7,500	7,700	7,600	7,900	8,100	8,100	8,100	8,300	8,400
40-44	8,400	7,300	7,400	7,400	7,400	7,700	7,800	7,800	8,100	8,300	8,300	8,300	8,500
45-49	8,300	8,300	7,300	7,300	7,400	7,400	7,700	7,800	7,800	8,100	8,300	8,300	8,300
50-54	7,100	8,200	8,200	7,200	7,200	7,300	7,300	7,600	7,800	7,800	8,000	8,200	8,200
55-59	6,000	6,900	7,900	7,900	7,000	7,000	7,100	7,200	7,500	7,600	7,600	7,900	8,100
60-64	5,600	5,800	6,600	7,500	7,600	6,700	6,700	6,800	6,900	7,200	7,300	7,300	7,600
65-69	4,000	5,300	5,400	6,300	7,100	7,200	6,300	6,400	6,500	6,600	6,900	7,000	7,000
70-74	3,600	3,700	4,900	5,000	5,800	6,700	6,700	5,900	6,000	6,100	6,200	6,500	6,700
75-79	2,900	3,200	3,300	4,400	4,500	5,200	6,000	6,100	5,400	5,500	5,600	5,800	6,100
80-84	2,000	2,300	2,700	2,800	3,700	3,900	4,500	5,300	5,300	4,800	4,900	5,000	5,200
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,000	7,200	8,500	9,600	9,800	10,100	10,500
All ages	97,100	101,300	105,100	108,800	112,200	115,500	118,400	121,100	123,600	125,900	128,100	130,400	132,700
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	17,000	17,400	17,600	17,700	18,000	18,300	18,700	19,100	19,300	19,500	19,700	20,000
16-64	66,500	67,600	68,700	69,300	69,400	69,400	70,500	71,600	72,800	74,000	75,100	76,200	77,300
65+	14,400	16,700	19,000	21,800	25,200	28,100	29,600	30,800	31,800	32,500	33,400	34,400	35,400
0-15	17%	17%	17%	16%	16%	16%	15%	15%	15%	15%	15%	15%	15%
16-64	69%	67%	65%	64%	62%	60%	60%	59%	59%	59%	59%	58%	58%
65+	15%	17%	18%	20%	22%	24%	25%	25%	26%	26%	26%	26%	27%
33.	13/0	1//0	10/0	20/0	22/0	27/0	23/0	23/0	20/0	20/0	20/0	20/0	27/0
Dependency ratio	46%	50%	53%	57%	62%	66%	68%	69%	70%	70%	71%	71%	72%

NET Inward migration of 700 people per year

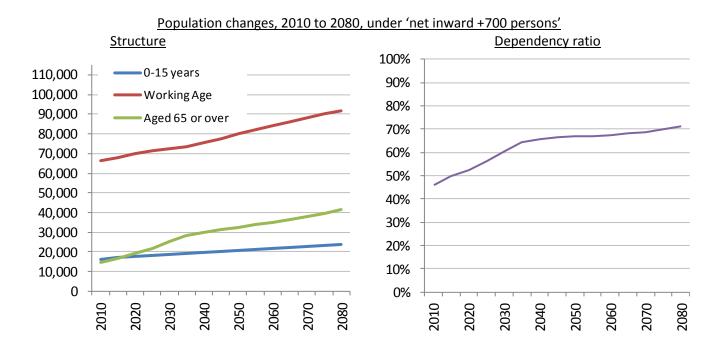
In this scenario, an absolute number of 700 <u>people</u> are assumed to arrive each year, over and above the number of persons that leave from 2013 onwards. These are distributed amongst age, gender and residential qualification groups according to the patterns in recent inward migration seen in the 2011 census data.

Results

The higher positive net inward migration than the previous three scenarios described causes a greater rise in the total population size, to 121,000 in 2035 and 144,900 in 2065. The size of the working age population increases by 7,100 by 2035, and 19,600 by 2065.



Out of the four net migration scenarios considered in this report, net inward migration of +700 persons per year has the most limiting effect on the increasing dependency ratio (a consequence of the ageing population being offset by higher inward migration of younger working age persons). The ratio increases to 64% in 2035, after which its rate of increase flattens out, such that it reaches 68% in 2065.



Population projections: Net migration +700 people per year

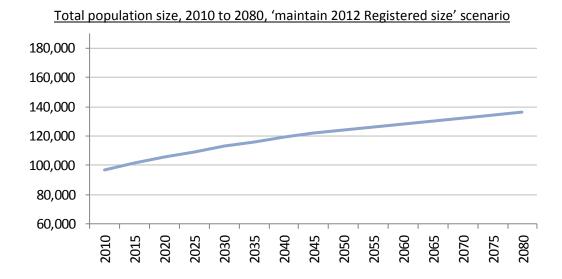
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,400	5,300	5,500	5,600	5,800	6,000	6,200	6,400	6,500	6,600	6,800	7,000
5-9	4,900	5,400	5,600	5,600	5,700	5,900	6,100	6,300	6,500	6,600	6,800	6,900	7,100
10-14	5,300	5,300	5,700	5,900	5,900	6,100	6,300	6,400	6,600	6,800	7,000	7,100	7,300
15-19	5,500	5,700	5,700	6,100	6,300	6,300	6,500	6,700	6,900	7,100	7,300	7,400	7,500
20-24	5,800	5,900	6,100	6,100	6,500	6,700	6,800	6,900	7,100	7,300	7,500	7,700	7,900
25-29	6,600	6,500	6,900	7,100	7,200	7,600	7,900	7,900	8,100	8,300	8,500	8,700	8,900
30-34	7,100	7,100	7,300	7,700	8,000	8,000	8,400	8,700	8,800	8,900	9,100	9,400	9,600
35-39	7,200	7,300	7,400	7,600	8,000	8,300	8,300	8,700	9,000	9,100	9,300	9,500	9,700
40-44	8,400	7,400	7,500	7,700	7,900	8,300	8,500	8,600	9,000	9,300	9,300	9,500	9,700
45-49	8,300	8,400	7,400	7,600	7,700	7,900	8,300	8,600	8,600	9,000	9,300	9,400	9,600
50-54	7,100	8,200	8,200	7,300	7,500	7,600	7,800	8,300	8,500	8,600	8,900	9,200	9,300
55-59	6,000	7,000	7,900	8,000	7,100	7,300	7,400	7,700	8,100	8,300	8,400	8,800	9,000
60-64	5,600	5,800	6,700	7,600	7,700	6,800	7,000	7,100	7,400	7,800	8,000	8,100	8,500
65-69	4,000	5,300	5,500	6,300	7,200	7,300	6,500	6,600	6,800	7,000	7,400	7,700	7,800
70-74	3,600	3,700	4,900	5,000	5,800	6,700	6,800	6,100	6,200	6,400	6,600	7,000	7,300
75-79	2,900	3,200	3,300	4,400	4,500	5,300	6,100	6,200	5,600	5,700	5,900	6,100	6,500
80-84	2,000	2,300	2,700	2,800	3,700	3,900	4,600	5,300	5,400	4,900	5,100	5,200	5,500
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,100	7,200	8,600	9,700	10,000	10,300	10,800
All ages	97,100	102,000	106,800	111,700	116,400	121,000	125,300	129,500	133,400	137,300	141,000	144,900	148,900
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	17,100	17,700	18,200	18,500	19,100	19,700	20,300	20,900	21,400	21,900	22,300	22,800
16-64	66,500	68,100	70,100	71,600	72,600	73,600	75,700	77,800	80,000	82,200	84,200	86,200	88,200
65+	14,400	16,700	19,000	21,900	25,300	28,300	30,000	31,400	32,500	33,700	35,000	36,400	37,900
0-15	17%	17%	17%	16%	16%	16%	16%	16%	16%	16%	15%	15%	15%
16-64	69%	67%	66%	64%	62%	61%	60%	60%	60%	60%	60%	59%	59%
65+	15%	16%	18%	20%	22%	23%	24%	24%	24%	25%	25%	25%	25%
Dependency ratio	46%	50%	53%	56%	60%	64%	66%	66%	67%	67%	68%	68%	69%

Maintain 2012 size of 'Registered' population

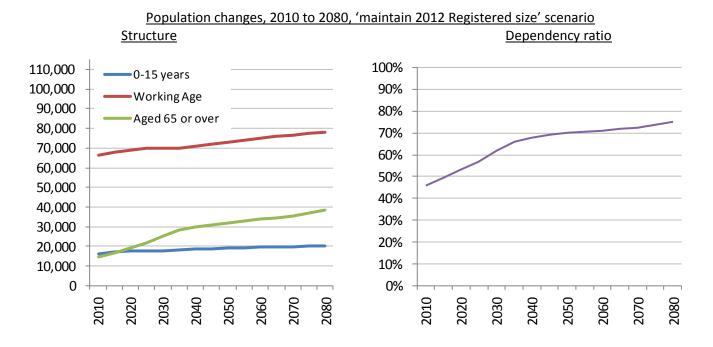
In this scenario, from 2013 onwards, the number of persons 'Registered' persons is kept constant at the year-end 2012 level. In this projection those 'Registered' persons who gain 'Entitled to work' status at 5 years residency as well as any who leave during the first five years of residency are replaced by new inward 'Registered' migrants. The number of 'Licensed' persons living in Jersey for less than 10 years is also maintained through a similar mechanism. The inward migration of 'Entitled' persons is kept at a constant 300 persons per year⁴.

Results

Under the above assumptions there will be net inward migration as 'Registered' inward migrants gain 'Entitled to work' status at 5 years residency, and 'Licensed' persons gain 'Entitled' status at 10 years residency, both groups being replaced by new inward migrants. The model shows that on average, this scenario equates to net inward migration of approximately 600 persons a year for the first decade, and 470 persons per year thereafter.



The relatively high net inward migration increases the working age population, such that although the dependency ratio increases initially due to the rise in the older age group, to 66% in 2035, the subsequent increase is less steep, reaching 72% in 2065.



⁴ Based on analysis of migration patterns of these persons through census data.

Population projections: Maintain 2012 size of 'Registered' population

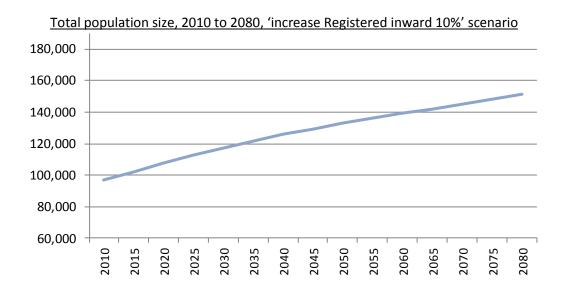
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,400	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,800	5,900	5,900	6,000
5-9	4,900	5,300	5,600	5,500	5,500	5,600	5,700	5,900	6,000	6,000	6,100	6,100	6,200
10-14	5,300	5,300	5,700	5,900	5,800	5,800	5,900	6,000	6,200	6,300	6,300	6,400	6,400
15-19	5,500	5,700	5,600	6,000	6,200	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,700
20-24	5,800	5,800	6,000	5,900	6,300	6,500	6,400	6,400	6,500	6,600	6,700	6,800	6,900
25-29	6,600	6,500	6,700	6,800	6,800	7,100	7,300	7,200	7,200	7,300	7,400	7,500	7,600
30-34	7,100	7,100	7,100	7,300	7,400	7,400	7,700	7,900	7,800	7,900	7,900	8,000	8,100
35-39	7,200	7,300	7,300	7,300	7,600	7,700	7,600	7,900	8,100	8,000	8,100	8,200	8,300
40-44	8,400	7,400	7,500	7,500	7,500	7,800	7,900	7,800	8,100	8,300	8,200	8,300	8,300
45-49	8,300	8,300	7,300	7,400	7,400	7,500	7,800	7,900	7,800	8,100	8,300	8,200	8,300
50-54	7,100	8,200	8,200	7,200	7,300	7,300	7,400	7,700	7,800	7,800	8,000	8,200	8,200
55-59	6,000	6,900	7,900	7,900	7,000	7,100	7,100	7,200	7,500	7,600	7,600	7,900	8,000
60-64	5,600	5,800	6,600	7,600	7,600	6,700	6,800	6,900	7,000	7,200	7,300	7,300	7,600
65-69	4,000	5,300	5,400	6,300	7,200	7,200	6,400	6,500	6,500	6,700	6,900	7,000	7,000
70-74	3,600	3,700	4,900	5,000	5,800	6,700	6,700	6,000	6,100	6,100	6,300	6,500	6,700
75-79	2,900	3,200	3,300	4,400	4,500	5,300	6,100	6,100	5,500	5,600	5,700	5,800	6,100
80-84	2,000	2,300	2,700	2,800	3,700	3,900	4,500	5,300	5,300	4,800	4,900	5,100	5,200
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,000	7,200	8,500	9,600	9,900	10,200	10,500
All ages	97,100	101,700	105,700	109,400	113,000	116,100	119,100	121,700	124,100	126,200	128,200	130,100	132,100
Ago	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
Age 0-15													
16-64	16,200	17,000	17,600	17,800	17,900	18,100	18,500	18,800	19,200	19,400	19,600	19,700	19,900
65+	66,500	67,900	69,100	69,700	69,900	69,900	70,900	71,900	73,000	74,000	74,900	75,800	76,700
03+	14,400	16,700	19,000	21,900	25,200	28,100	29,700	31,000	31,900	32,800	33,700	34,600	35,500
0-15	17%	17%	17%	16%	16%	16%	16%	15%	15%	15%	15%	15%	15%
16-64	69%	67%	65%	64%	62%	60%	60%	59%	59%	59%	58%	58%	58%
65+	15%	16%	18%	20%	22%	24%	25%	25%	26%	26%	26%	27%	27%
Dependency ratio	46%	50%	53%	57%	62%	66%	68%	69%	70%	70%	71%	72%	72%

Increase inward migration of 'Registered' by 10% per annum for a decade

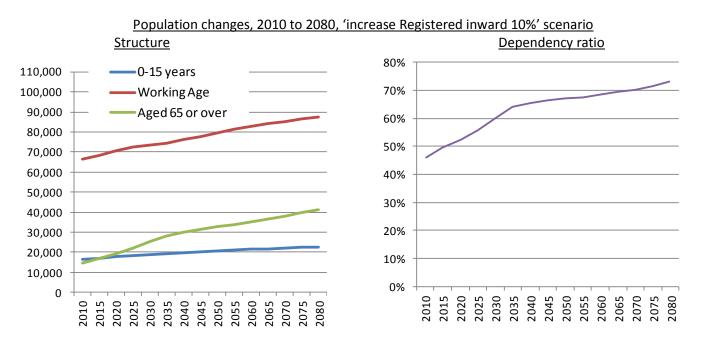
In this scenario, the number of 'Registered' persons is increased on an annual basis for a decade and then held constant. In this projection those 'Registered' persons who gain 'Entitled to Work' status at 5 years residency as well as any who leave during the first five years of residency are replaced by new inward 'Registered' migrants, plus an additional 10%. The number of 'Licensed' category persons living in Jersey for less than 10 years is held constant. Inward migration of 'Entitled' persons is kept at a constant 300 persons per year, as seen in the 2011 census data.

Results

Under the above assumptions there will be net inward migration as 'Registered' inward migrants gain employment qualifications at 5 years residency, and 'Licensed' persons gain residential qualifications at 10 years residency. The model shows that on average this scenario equates to net inward migration of approximately 800 persons a year for the first decade, and 600 persons per year thereafter. The population rises steeply and continuously, reaching 121,700 in 2035 and 142,200 in 2065. Over the initial 10 years, the size of the 'Registered' overall increases by approximately 30% (around 3% per year on average); it is then kept stable in this scenario.



The inward migration supports and increases the size of the working age population, improving the dependency ratio trend seen in previous scenarios, such that it reaches 64% in 2035 and 69% in 2065.



Population projections: <u>In</u>crease inward migration of 'Registered' by 10% per annum for a decade

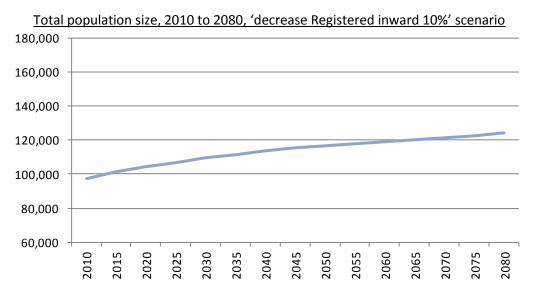
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,400	5,300	5,500	5,700	5,900	6,100	6,200	6,300	6,400	6,500	6,600	6,700
5-9	4,900	5,400	5,700	5,600	5,800	6,000	6,100	6,300	6,400	6,500	6,600	6,700	6,800
10-14	5,300	5,300	5,700	6,000	5,900	6,100	6,300	6,400	6,600	6,700	6,800	6,900	7,000
15-19	5,500	5,700	5,700	6,100	6,400	6,300	6,500	6,600	6,800	7,000	7,100	7,200	7,300
20-24	5,800	5,900	6,100	6,200	6,500	6,800	6,800	6,900	7,100	7,200	7,400	7,500	7,600
25-29	6,600	6,600	7,100	7,300	7,300	7,600	7,900	7,900	8,000	8,100	8,300	8,400	8,600
30-34	7,100	7,200	7,400	7,900	8,100	8,100	8,400	8,700	8,600	8,800	8,900	9,000	9,200
35-39	7,200	7,400	7,500	7,700	8,200	8,400	8,400	8,700	8,900	8,900	9,000	9,200	9,300
40-44	8,400	7,400	7,600	7,700	8,000	8,400	8,600	8,600	8,900	9,100	9,100	9,200	9,400
45-49	8,300	8,400	7,400	7,600	7,800	8,000	8,400	8,600	8,600	8,900	9,100	9,100	9,200
50-54	7,100	8,200	8,300	7,400	7,500	7,700	7,900	8,300	8,500	8,500	8,800	9,000	9,000
55-59	6,000	7,000	8,000	8,000	7,200	7,300	7,500	7,700	8,100	8,300	8,300	8,600	8,800
60-64	5,600	5,800	6,700	7,600	7,700	6,900	7,000	7,200	7,400	7,800	8,000	8,000	8,300
65-69	4,000	5,300	5,500	6,300	7,200	7,300	6,500	6,700	6,800	7,100	7,500	7,700	7,700
70-74	3,600	3,700	4,900	5,000	5,800	6,700	6,800	6,100	6,200	6,400	6,700	7,100	7,300
75-79	2,900	3,200	3,300	4,400	4,500	5,300	6,100	6,200	5,600	5,700	5,900	6,200	6,600
80-84	2,000	2,300	2,700	2,800	3,700	3,900	4,600	5,300	5,400	4,900	5,100	5,300	5,600
85+	1,900	2,200	2,800	3,500	4,000	5,100	6,100	7,200	8,600	9,700	10,000	10,400	10,900
All ages	97,100	102,300	107,500	112,500	117,400	121,700	125,800	129,500	133,000	136,200	139,200	142,200	145,200
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	17,100	17,800	18,300	18,700	19,200	19,800	20,300	20,700	21,100	21,400	21,700	22,000
16-64	66,500	68,400	70,600	72,300	73,300	74,200	76,000	77,800	79,600	81,300	82,700	83,900	85,300
65+	14,400	16,800	19,100	21,900	25,300	28,300	30,000	31,400	32,600	33,800	35,100	36,500	37,900
	,	•	,	,	,	,	,	,	,	,	,	,	,
0-15	17%	17%	17%	16%	16%	16%	16%	16%	16%	15%	15%	15%	15%
16-64	69%	67%	66%	64%	62%	61%	60%	60%	60%	60%	59%	59%	59%
65+	15%	16%	18%	19%	22%	23%	24%	24%	25%	25%	25%	26%	26%
Dependency ratio	46%	49%	52%	56%	60%	64%	65%	66%	67%	68%	68%	69%	70%

Decrease inward migration of 'Registered' by 10% per annum for a decade

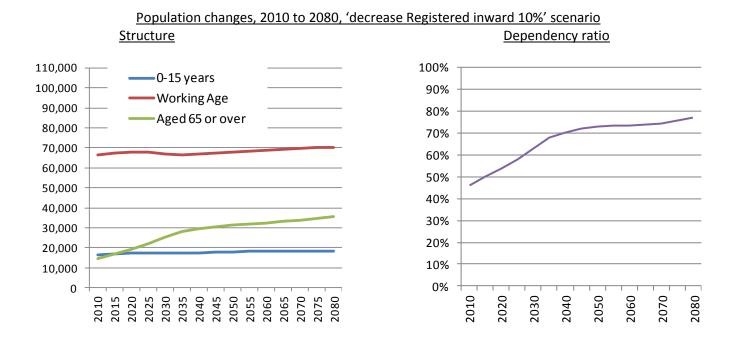
In this scenario, the number of 'Registered' is decreased on an annual basis for a decade and then held constant. In this projection 90% of 'Registered' persons who gain 'Entitled to work' status at 5 years residency as well as any who leave during the first five years of residency are replaced by new inward 'Registered' migrants. The number of 'Licensed' category persons living in Jersey for less than 10 years is held constant as in the replacement scenario. Inward migration of 'Entitled' persons is kept at a constant 300 persons per year, as seen in the 2011 census data.

Results

Limiting the inward migration of 'Registered' persons will serve to decrease overall inward migration compared to the 'maintain NQ size' scenario. At the level of reduction modelled in this scenario, the results show on average <u>net inward</u> migration of approximately 370 persons per year. The population size reaches 111,600 in 2035 and subsequently continues to increase slowly to 120,300 in 2065. Over the initial 10 years, the size of the 'Registered' population overall reduces by approximately 30% (around 3% per year on average); it is then kept stable in this scenario.



The working age population decreases slowly until around 2035 after which it gradually increases. At the same time, the older population increases, particularly in the first 25 years, resulting in an increase in the dependency ratio to 68% by 2035. Subsequently the increase in the dependency ratio stabilises such that it reaches 74% in 2065.



Population projections: <u>De</u>crease inward migration of 'Registered' by 10% per annum for a decade

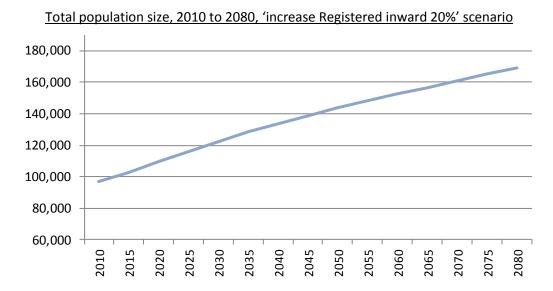
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,400	5,100	5,000	5,100	5,100	5,200	5,300	5,300	5,300	5,300	5,400	5,400
5-9	4,900	5,300	5,600	5,300	5,300	5,300	5,400	5,500	5,600	5,600	5,600	5,600	5,600
10-14	5,300	5,300	5,600	5,800	5,600	5,600	5,600	5,700	5,800	5,900	5,900	5,900	5,900
15-19	5,500	5,600	5,600	5,900	6,100	5,900	5,900	5,900	6,000	6,100	6,200	6,200	6,200
20-24	5,800	5,800	5,800	5,700	6,000	6,200	6,000	6,000	6,100	6,100	6,200	6,300	6,300
25-29	6,600	6,400	6,400	6,400	6,300	6,600	6,800	6,600	6,600	6,600	6,700	6,800	6,800
30-34	7,100	7,000	6,800	6,900	6,900	6,800	7,100	7,300	7,100	7,100	7,100	7,200	7,300
35-39	7,200	7,200	7,100	7,000	7,100	7,100	7,000	7,300	7,500	7,300	7,300	7,300	7,400
40-44	8,400	7,300	7,300	7,200	7,100	7,200	7,300	7,200	7,500	7,600	7,500	7,500	7,500
45-49	8,300	8,300	7,300	7,300	7,200	7,100	7,300	7,300	7,200	7,500	7,700	7,500	7,500
50-54	7,100	8,100	8,100	7,100	7,100	7,100	7,000	7,200	7,200	7,200	7,400	7,600	7,500
55-59	6,000	6,900	7,900	7,800	6,900	6,900	6,900	6,900	7,000	7,000	7,000	7,300	7,400
60-64	5,600	5,800	6,600	7,500	7,500	6,600	6,600	6,600	6,600	6,800	6,800	6,800	7,000
65-69	4,000	5,300	5,400	6,200	7,100	7,100	6,300	6,300	6,300	6,300	6,500	6,500	6,500
70-74	3,600	3,700	4,900	5,000	5,800	6,600	6,600	5,900	5,900	5,900	6,000	6,100	6,200
75-79	2,900	3,200	3,300	4,400	4,500	5,200	6,000	6,100	5,400	5,400	5,500	5,500	5,700
80-84	2,000	2,300	2,600	2,800	3,700	3,900	4,500	5,200	5,300	4,700	4,800	4,900	5,000
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,000	7,100	8,500	9,500	9,700	10,000	10,300
All ages	97,100	101,200	104,200	106,700	109,400	111,600	113,700	115,400	116,900	118,100	119,200	120,300	121,500
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	17,000	17,400	17,400	17,200	17,200	17,400	17,700	17,900	18,000	18,100	18,100	18,200
16-64	66,500	67,500	67,800	67,600	67,100	66,400	66,800	67,100	67,600	68,200	68,700	69,200	69,700
65+	14,400	16,700	19,000	21,800	25,100	27,900	29,400	30,600	31,300	31,900	32,400	33,000	33,600
0-15	17%	17%	17%	16%	16%	15%	15%	15%	15%	15%	15%	15%	15%
16-64	69%	67%	65%	63%	61%	60%	59%	58%	58%	58%	58%	58%	57%
65+	15%	17%	18%	20%	23%	25%	26%	26%	27%	27%	27%	27%	28%
Dependency ratio	46%	50%	54%	58%	63%	68%	70%	72%	73%	73%	74%	74%	74%

Increase inward migration of 'Registered' by 20% per annum for a decade

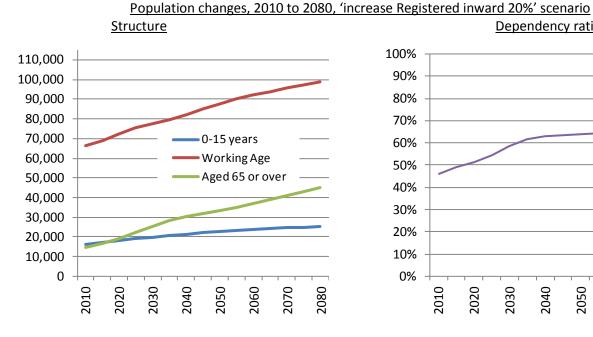
In this scenario, the number of 'Registered' persons is increased on an annual basis for a decade and then held constant. In this projection those 'Registered' persons who gain 'Entitled to work' status at 5 years residency as well as any who leave during the first five years of residency are replaced by new inward 'Registered' migrants, plus an additional 20%. The number of 'Licensed' persons living in Jersey for less than 10 years is held constant. The inward migration of 'Entitled' persons is kept at a constant 300 persons per year, the level seen in the 2011 census data.

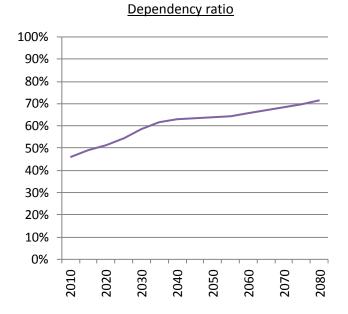
Results

Under the above assumptions there will be net inward migration as 'Registered' inward migrants gain 'Entitled to work' status at 5 years residency, and 'Licensed' persons gain 'Entitled' status at 10 years residency. The results of the model show that on average, this scenario equates to net inward migration of approximately 1,100 persons a year for the first decade, and 800 persons per year thereafter. The population rises steeply and continuously, reaching 128,400 in 2035 and 156,800 in 2065. Over the initial 10 years, the size of the 'Registered' population overall increases by 70% (around 6% a year on average); it is then kept stable in this scenario.



The inward migration supports and increases the size of the working age population, improving the dependency ratio trend seen in previous scenarios, such that it reaches 62% in 2035 and 67% in 2065.





Population projections: <u>In</u>crease inward migration of 'Registered' by 20% per annum for a decade

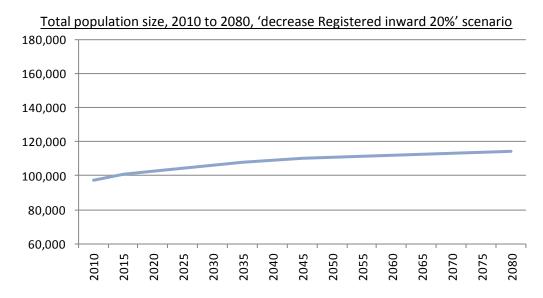
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,400	5,500	5,900	6,200	6,400	6,600	6,800	7,000	7,100	7,300	7,400	7,600
5-9	4,900	5,400	5,700	5,800	6,100	6,400	6,600	6,800	7,000	7,200	7,300	7,500	7,600
10-14	5,300	5,300	5,800	6,100	6,100	6,400	6,700	6,900	7,100	7,300	7,500	7,600	7,700
15-19	5,500	5,700	5,800	6,200	6,500	6,600	6,900	7,100	7,400	7,600	7,800	7,900	8,000
20-24	5,800	6,000	6,400	6,400	6,900	7,200	7,200	7,500	7,700	8,000	8,100	8,300	8,500
25-29	6,600	6,700	7,500	7,900	7,900	8,300	8,600	8,700	8,900	9,100	9,400	9,500	9,700
30-34	7,100	7,300	7,800	8,500	8,900	8,900	9,300	9,600	9,600	9,900	10,100	10,300	10,500
35-39	7,200	7,400	7,800	8,200	8,900	9,200	9,300	9,700	9,900	10,000	10,200	10,400	10,600
40-44	8,400	7,500	7,800	8,100	8,500	9,200	9,500	9,500	9,900	10,100	10,200	10,400	10,600
45-49	8,300	8,400	7,600	7,800	8,100	8,600	9,200	9,500	9,500	9,900	10,100	10,200	10,400
50-54	7,100	8,200	8,300	7,500	7,800	8,000	8,500	9,100	9,400	9,400	9,800	10,000	10,100
55-59	6,000	7,000	8,000	8,100	7,300	7,600	7,800	8,300	8,900	9,100	9,200	9,500	9,800
60-64	5,600	5,800	6,700	7,700	7,800	7,000	7,300	7,500	8,000	8,500	8,800	8,900	9,200
65-69	4,000	5,300	5,500	6,300	7,300	7,400	6,700	6,900	7,200	7,600	8,100	8,400	8,500
70-74	3,600	3,700	4,900	5,100	5,900	6,800	6,900	6,200	6,500	6,700	7,100	7,700	8,000
75-79	2,900	3,200	3,300	4,400	4,600	5,300	6,200	6,300	5,700	5,900	6,200	6,600	7,100
80-84	2,000	2,300	2,700	2,800	3,700	3,900	4,600	5,400	5,500	5,000	5,300	5,500	5,900
85+	1,900	2,200	2,800	3,500	4,000	5,200	6,100	7,200	8,700	9,800	10,200	10,600	11,300
All ages	97,100	102,800	109,600	116,200	122,600	128,400	133,900	139,000	143,800	148,200	152,600	156,800	161,000
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	17,100	18,100	18,900	19,700	20,500	21,300	22,000	22,600	23,100	23,600	24,100	24,500
16-64	66,500	68,900	72,400	75,300	77,400	79,300	82,200	85,000	87,700	90,100	92,100	93,900	95,700
65+	14,400	16,800	19,100	22,000	25,500	28,500	30,400	32,000	33,500	35,000	36,900	38,900	40,800
	14,400	10,000	13,100	22,000	23,300	20,300	30,400	32,000	33,300	33,000	30,300	30,300	40,000
0-15	17%	17%	17%	16%	16%	16%	16%	16%	16%	16%	15%	15%	15%
16-64	69%	67%	66%	65%	63%	62%	61%	61%	61%	61%	60%	60%	59%
65+	15%	16%	17%	19%	21%	22%	23%	23%	23%	24%	24%	25%	25%
Dependency ratio	46%	49%	51%	54%	58%	62%	63%	64%	64%	65%	66%	67%	68%

Decrease inward migration of 'Registered' by 20% per annum for a decade

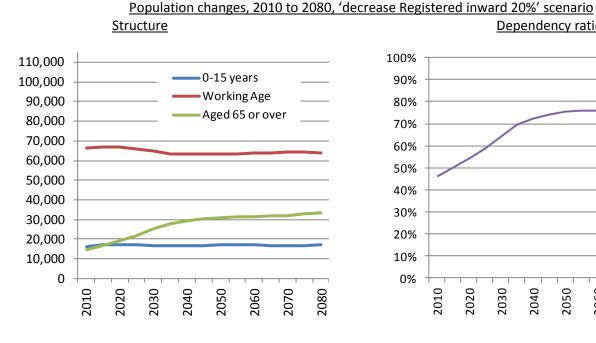
In this scenario, the number of 'Registered' persons is decreased on an annual basis for a decade and then held constant. In this projection 80% of those 'Registered' persons who gain 'Entitled to work' status at 5 years residency as well as any who leave during the first five years of residency are replaced by new inward 'Registered' migrants. The number of 'Licensed' persons living in Jersey for less than 10 years is held constant as in the replacement scenario. The inward migration of 'Entitled' persons is kept at a constant 300 persons per year.

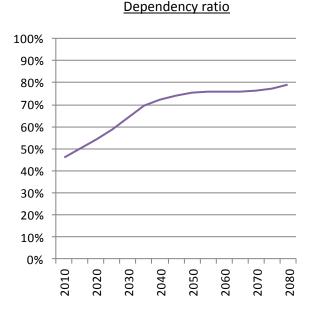
Results

Reducing the level of inward migration of 'Registered' persons will serve to decrease overall inward migration – the degree of reduction being related to the level of reduction of inward migration. The implications of this scenario equate to on average net inward migration of approximately 200 persons per year for the first decade, and on average net inward migration of 290 persons per year thereafter. The population size reaches 107,900 in 2035 and subsequently continues to increase slowly to 112,400 in 2065. Over the initial 10 years, the size of the non-qualified population overall decreases by approximately 50% (6% a year on average); it is then kept stable.



The inward migration supports and increases the size of the working age population; the dependency ratio reaches 70% in 2035 and 76% in 2065.





Population projections: <u>De</u>crease inward migration of 'Registered' by 20% per annum for a decade

Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-4	5,000	5,300	5,000	4,800	4,800	4,800	4,900	5,000	5,000	4,900	4,900	4,900	4,900
5-9	4,900	5,300	5,500	5,200	5,100	5,100	5,100	5,200	5,300	5,300	5,200	5,200	5,200
10-14	5,300	5,300	5,600	5,700	5,500	5,400	5,400	5,400	5,500	5,600	5,600	5,500	5,500
15-19	5,500	5,600	5,500	5,800	6,000	5,800	5,700	5,700	5,700	5,800	5,800	5,800	5,800
20-24	5,800	5,700	5,700	5,600	5,800	6,000	5,800	5,700	5,700	5,700	5,800	5,800	5,800
25-29	6,600	6,200	6,100	6,100	6,000	6,200	6,400	6,200	6,100	6,100	6,100	6,200	6,200
30-34	7,100	6,900	6,600	6,500	6,500	6,400	6,600	6,800	6,600	6,500	6,500	6,500	6,600
35-39	7,200	7,200	7,000	6,700	6,700	6,600	6,600	6,800	7,000	6,800	6,700	6,700	6,700
40-44	8,400	7,300	7,200	7,000	6,800	6,800	6,800	6,700	7,000	7,100	6,900	6,900	6,900
45-49	8,300	8,300	7,200	7,100	7,000	6,800	6,800	6,800	6,700	7,000	7,100	7,000	6,900
50-54	7,100	8,100	8,100	7,000	7,000	6,800	6,700	6,800	6,800	6,700	6,900	7,100	6,900
55-59	6,000	6,900	7,800	7,800	6,800	6,800	6,600	6,500	6,600	6,600	6,500	6,800	6,900
60-64	5,600	5,800	6,600	7,500	7,400	6,500	6,500	6,400	6,300	6,400	6,400	6,300	6,600
65-69	4,000	5,300	5,400	6,200	7,100	7,000	6,200	6,200	6,100	6,000	6,100	6,100	6,100
70-74	3,600	3,700	4,900	5,000	5,800	6,600	6,600	5,800	5,800	5,700	5,700	5,800	5,800
75-79	2,900	3,200	3,300	4,400	4,500	5,200	6,000	6,000	5,300	5,300	5,300	5,300	5,400
80-84	2,000	2,300	2,600	2,700	3,700	3,900	4,500	5,200	5,200	4,600	4,700	4,700	4,700
85+	1,900	2,200	2,800	3,400	4,000	5,100	6,000	7,100	8,500	9,400	9,600	9,800	10,000
All ages	97,100	100,700	102,800	104,500	106,400	107,900	109,200	110,200	111,000	111,600	112,000	112,400	113,000
Age	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
0-15	16,200	16,900	17,200	17,000	16,600	16,500	16,600	16,800	16,900	16,900	16,900	16,800	16,800
16-64	66,500	67,000	66,700	65,800	64,800	63,600	63,400	63,200	63,300	63,400	63,700	63,900	64,100
65+	14,400	16,700	19,000	21,700	25,000	27,800	29,200	30,200	30,900	31,200	31,400	31,700	32,000
0-15	17%	17%	17%	16%	16%	15%	15%	15%	15%	15%	15%	15%	15%
16-64	69%	67%	65%	63%	61%	59%	58%	57%	57%	57%	57%	57%	57%
65+	15%	17%	18%	21%	24%	26%	27%	27%	28%	28%	28%	28%	28%
Dependency ratio	46%	50%	54%	59%	64%	70%	72%	74%	75%	76%	76%	76%	76%

Section 3 - Summary of results: Short term 2020

• Every projection begins with the baseline population at year-end 2010, to which births, deaths and known levels migration for 2011 and 2012 are incorporated for all scenarios. Migration scenarios begin from year end 2012.

	Dependency ratio	Working age population	Total population size
Year-end 2010 population characteristics	46%	66,500	97,100
Year-end 2012 population characteristics	48%	66,700	99,000

• The table below outlines the projected change over the first decade under each scenario:

Population characteristics year-end 2020 under scenario:	Dependency ratio	Change in working age population compared to 2010	Total population size in 2020	Change in total population size, relative to 2010 (%)
No inward or outward migration	55%	▼ 1,400	100,700	+4
Net nil migration	54%	▼ 1,300	100,900	+4
Net migration + 200 people annually	54%	▲100	102,600	+6
Net migration +350 people annually	53%	▲ 1,100	103,900	+7
Net migration +500 people annually	53%	▲2,100	105,100	+8
Net migration +700 people annually	53%	▲3,500	106,800	+10
Maintain 2012 Registered size	53%	▲2,600	105,700	+9
Increase Registered inward 10% per year for a decade	52%	▲ 4,100	107,500	+11
Decrease Registered inward 10% per year for a decade	54%	▲ 1,300	104,200	+7
Increase Registered inward 20% per year for a decade	51%	▲ 5,800	109,600	+13
Decrease Registered inward 20% per year for a decade	54%	▲ 100	102,800	+6

Summary of results continued: Medium term (2035)

Population characteristics year- end 2035 under scenario	Dependency ratio	Change in working age population compared to 2010	Total population size in 2035	Change in total population size, relative to 2010 (%)	Commentary
No inward or outward migration	78%	▼10,500	99,500	+2	If closed to both outward and inward migration, population size will remain fairly constant in the short term, but the working age population will reduce and the dependency ratio increase substantially
Net nil migration	72%	▼7,500	101,700	+5	The ebb and flow of migrants improves the dependency ratio over zero migration, with a slight increase in total population; the working age population size will reduce
Net migration + 200 people annually	70%	▼3,400	107,200	+10	Net inward migration serves to limit the reduction in the size of the working age population, and likewise the dependency ratio, compared to net nil migration. Total population size increases compared to net nil migration
Net migration +350 people annually	68%	▼200	111,300	+15	Stronger inward migration holds the dependency ratio lower compared to the +200 migration scenario, and maintains the size of the working age population at a similar level to 2010; total population size increases
Net migration +500 people annually	66%	▲2,900	115,500	+19	Higher net inward migration holds the dependency ratio lower, and increases the working age population size; total population size increases considerably
Net migration +700 people annually	64%	▲ 7,100	121,000	+25	Higher net inward migration holds the dependency ratio lower, and increases the working age population size; total population size increases considerably
Maintain 2012 Registered size	66%	▲3,400	116,100	+20	Working age population size increases, limiting the increase in the dependency ratio; total population size increases. Annual net inward migration is approximately 600 persons per year for the first decade
Increase Registered inward 10% per year for a decade	64%	▲ 7,600	121,700	+25	Increases the size of the working age population size, limiting the increase in the dependency ratio; considerably higher population growth. Annual net inward migration is around 800 persons per year for the first decade
Decrease Registered inward 10% per year for a decade	68%	▼ 100	111,600	+15	Less of an increase in total population size, when compared to the 'Maintain 2010 NQ size'; working age population size is fairly stable. Annual net inward migration is around 370 persons per year for the first decade
Increase Registered inward 20% per year for a decade	62%	▲ 12,800	128,400	+32	Considerably increases the working age population size, maintaining a low dependency ratio; particularly high population growth results. Annual net inward migration is around 1,100 persons a year for the first decade
Decrease Registered inward 20% per year for a decade	70%	▼3,000	107,900	+11	Net inward migration is around 200 persons per year, resulting in slightly higher total population size than net nil migration, but a less dramatic reduction in the size of the workforce

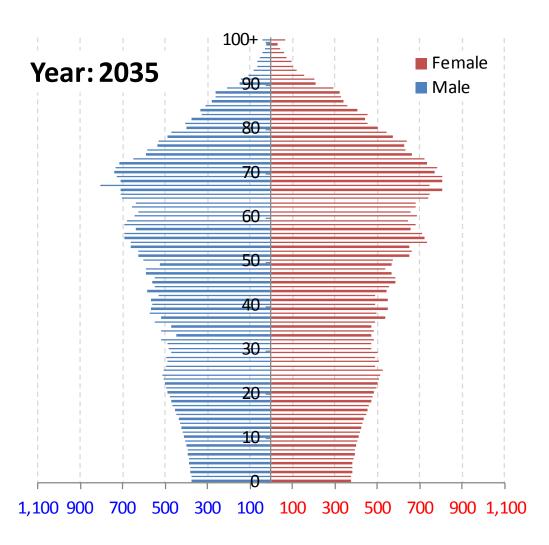
Summary of results continued: Long term (2065)

		Change in working age population		
Population characteristics year-end 2065 under scenario	Dependency ratio	compared to 2010	Total population size in 2065	Change in total population size, relative to 2010 (%)
No inward or outward migration	99%	▼ 24,500	83,600	-14
Net nil migration	83%	▼15,300	94,000	-3
Net migration + 200 <u>people</u> annually	77%	▼5,300	108,500	+12
Net migration +350 people annually	74%	▲2,200	119,400	+23
Net migration +500 people annually	71%	▲ 9,700	130,400	+34
Net migration +700 people annually	68%	▲ 19,600	144,900	+49
Maintain 2012 Registered size	72%	▲ 9,200	130,100	+34
Increase Registered inward 10% per year for a decade	69%	▲ 17,400	142,200	+46
Decrease Registered inward 10% per year for a decade	74%	▲2,600	120,300	+24
Increase Registered inward 20% per year for a decade	67%	▲ 27,300	156,800	+61
Decrease Registered inward 20% per year for a decade	76%	▼ 2,700	112,400	+16

Section 4 - Population pyramids

Notes on interpreting population pyramids

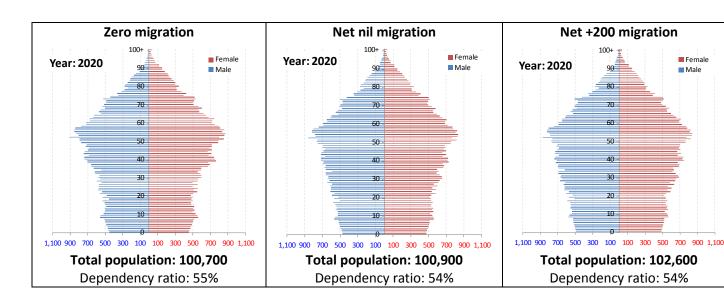
- The vertical axis represents the age of residents in years: from 0 to 100+ years
- Horizontally, the length of the blue bars to the left represent the number of males in each year of age; the red bars to the right represent the number of females in each year of age. For example the diagram below shows just under 400 females aged 0 in 2035.
- Population pyramids provide a visual image of the **structure** of the population in a particular year, for example it is easy to identify whether there is a larger number of people at older age groups than the younger age groups (as is the case in this example).
- The overall **size** of the population is shown by the overall size of the shape which is coloured in, both blue and red. A larger population will have a larger overall shape.
- Comparing population pyramids in a single year under different scenarios shows how the structure and size of the population is affected by the scenario.
- Pyramids representing one specific scenario can be compared through time to show how the size and structure of the population changes.

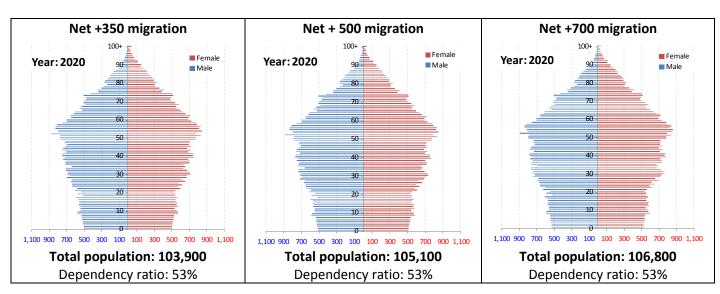


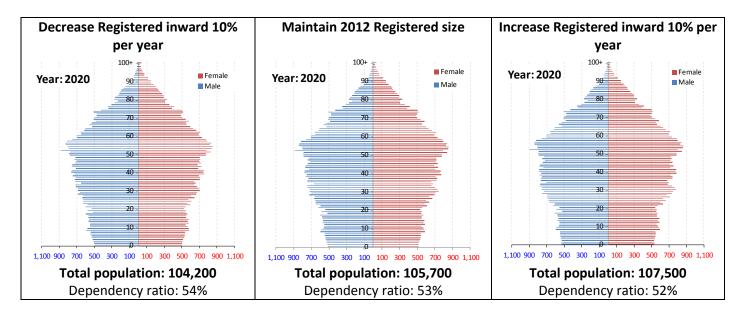
Population pyramids continued

(for notes on interpretation see appendix)

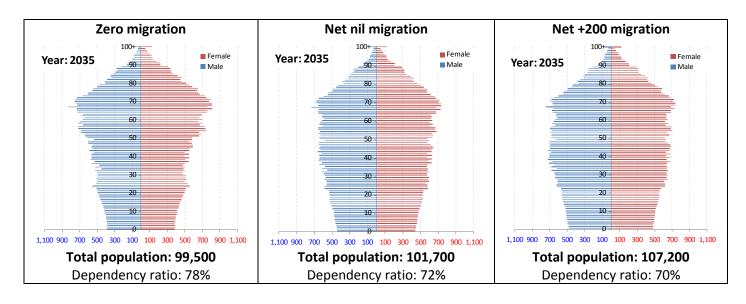
Year: 2020

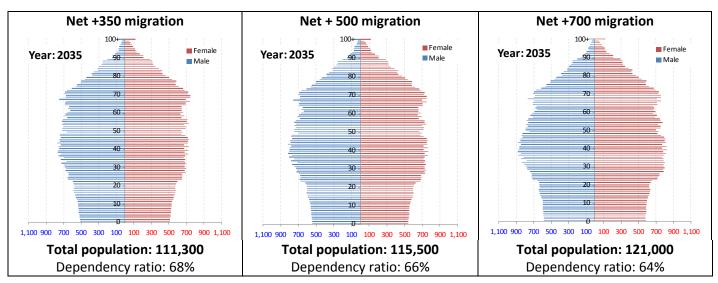


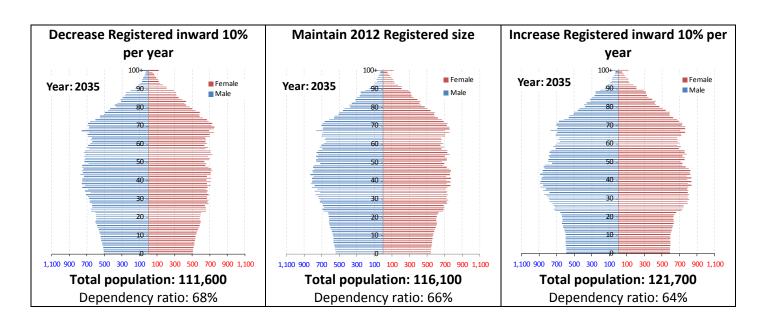




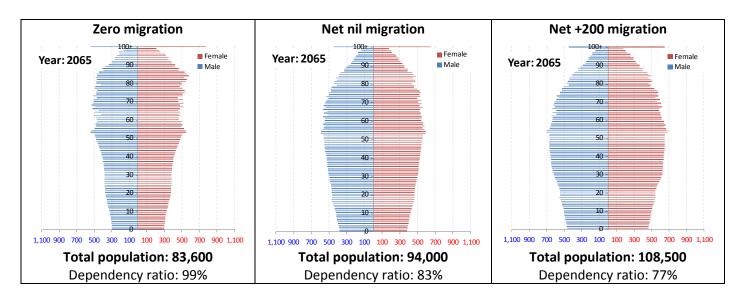
Population pyramids continued Year: 2035

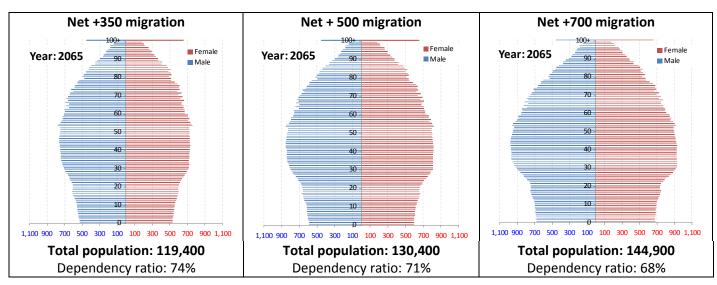


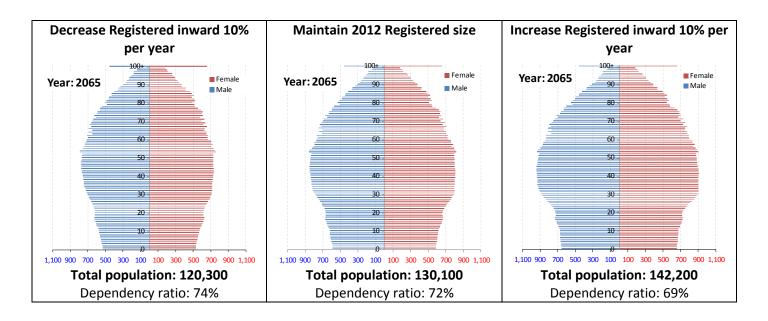




Population pyramids continued Year: 2065







Appendix I - 2013 release updates

Updates in 2013 projections

- Listed below are the updates to the population projection methodology in this 2013 release.
- Whereas previously the projection methodology began at year end 2010, the 2013 projections can be considered to begin from the actual size and structure of the population as at year end 2012.

Mortality rates:

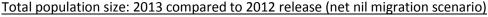
- Jersey adjustment factor for males aged 15 59 years changed from 1.1 (in 2012 release) to 1.0 following analysis of Jersey actual deaths against expected deaths from England mortality rates
- Application of full detail by single year of age and single year of projection of England mortality rates from the UK Office of National Statistics (the 2012 projections included some aggregated figures for some projected years for which ONS projected mortality rates were not publicly available)
- A small correction to how the ONS published mortality rates were used (effectively adjusting the rates for each age group by 6 months) has been incorporated in this 2013 release. The effect of this correction equates to approximately 1% increase in the population levels and a 1 percentage point increase in the dependency ratios by 2035 (net nil migration scenario).

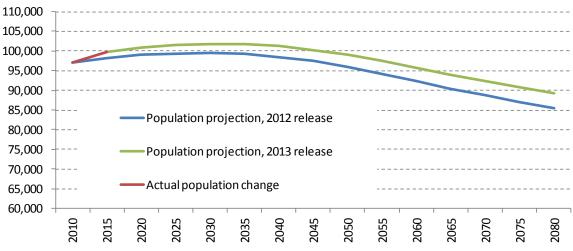
Migration:

 Known levels of migration for 2011 (600 persons) and 2012 (500 persons) have been included in the projections, distributed within relevant residential qualification category by age and gender according to recent trends seen in the Census 2011.

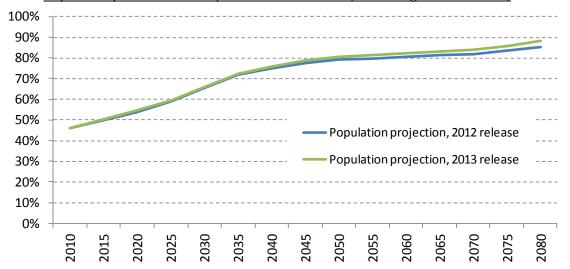
Births

Known numbers of births for 2011 and 2012 have been included





Dependency ratio: 2013 compared to 2012 release (net nil migration scenario)



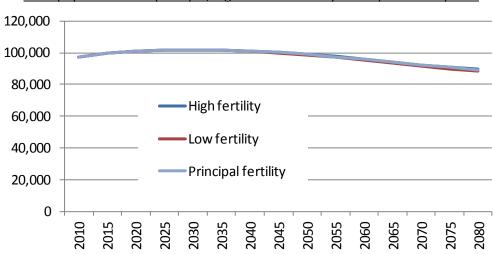
Appendix II - Sensitivity analyses Fertility assumptions

Using the net nil migration assumptions, a sensitivity analysis was carried out to explore the impact of various fertility assumptions on the results of the projections.

The principal projection is for Jersey's fertility rates to increase slightly from a total fertility rate⁵ of 1.51 in 2010 to 1.57 in 2016, and continue at this level into the future. Jersey's fertility rate has remained fairly constant at around 1.5 over the past 40 years. The high variant projection is for Jersey's fertility rates to converge with those projected to occur in England by 2035 (which are higher than those found in Jersey, currently and historically), to a TFR of 1.85 in 2035 and continue with these (higher) rates through to 2080. The low variant projection is for Jersey's fertility rates to converge to a TFR of 1.39 in 2035 and continue with these (lower) rates through to 2080. The net nil migration scenario projections were carried out under each of these three different fertility assumptions, and the results compared.

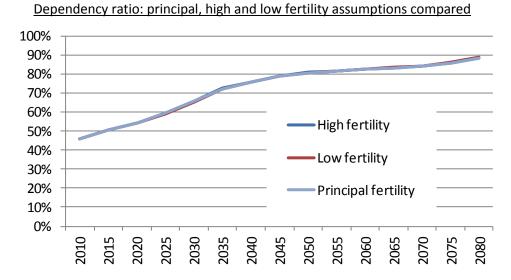
Results

The results show limited impact of changing the fertility assumptions within the projections on future population size. By 2035, the difference in population size between the higher and lower fertility scenarios is 300 persons (0.3%), and 700 (0.8%) persons in 2065.



Total population size: principal, high and low fertility assumptions compared

Similarly the projections show limited sensitivity of the dependency ratio to the particular fertility assumption assumed, with only small differences (less than a percentage point) in the dependency ratios across the three scenarios.



⁵ Total Fertility Rate is the sum of the age-specific fertility rates for women aged 15 – 49 years old in a given year.

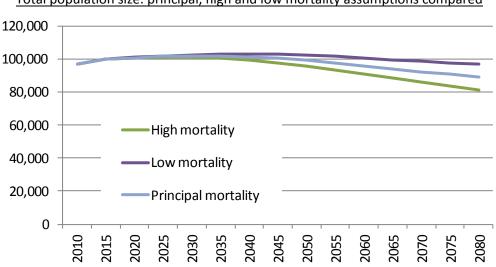
Mortality assumptions

Using the net nil migration assumptions, a sensitivity analysis was carried out to explore the impact of various mortality assumptions on the results of the projections.

The Office for National Statistics (ONS) in the UK carry out detailed analysis on trends in mortality for different age groups, and include expert judgement on how those trends will continue into the future. These detailed UK projected mortality rates, with high and low variants to indicate the range of uncertainty, have been adjusted slightly for use in Jersey to account for the slight differences in mortality patterns seen between the jurisdictions.

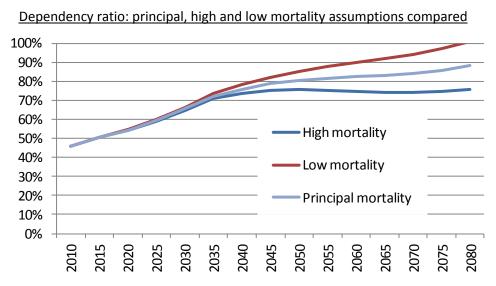
Results

The results show that the projections are more sensitive to the underlying mortality assumptions than to the underlying fertility assumptions. The difference is limited in the short to medium-term (up to 2035), with higher mortality rates leading to 1,100 people less than the principal projected rates, and lower mortality rates leading to 1,100 more persons. By 2065 there is more divergence, with the lower mortality assumptions leading to 5,700 more people than in the principal forecast, and the higher leading to 5,800 fewer people.



Total population size: principal, high and low mortality assumptions compared

Although the population is known to be 'ageing', with the current 'bulge' in working age persons moving into pensionable age, higher mortality rates than expected will reduce this effect; conversely if mortality improves more than predicted (the 'low mortality' variant), then the ageing of the population will be more pronounced. In 2035, the difference in the higher mortality variant is approximately a 1 percentage point reduction in the dependency ratio, and in the lower variant a 1pp increase. In 2065 this diverges, such that in the higher mortality variant the dependency ratio is 9pp lower than in the principal projection whilst the lower mortality variant's dependency ratio is 9pp higher.



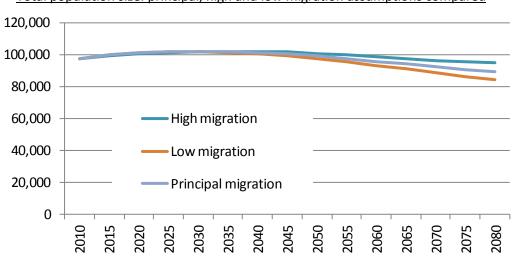
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Outward migration assumptions

Projecting migration patterns are a particularly challenging aspect of producing population projections due to the unpredictable nature of the range, level and timing of potential influencing factors. In order to explore the sensitivity of the assumptions to the particular migration patterns assumed, each probability of outward migration was adjusted upwards by 25% for the high variant and downwards by 25% for the low variant. Of course in reality, sub-groups of the population will respond differently to influencing factors, however this provides an indication of the sensitivity of the results of the projections to the outward migration probabilities. Although the scenarios are still 'net nil migration', changing the probabilities of outward migration has an effect on population size and dependency ratio, because migration flows tend to increase the numbers of working age (and of child-bearing age), relative to older (non child-bearing) ages. In reality, migration sensitivity will also interact with the particular migration scenario being modelled.

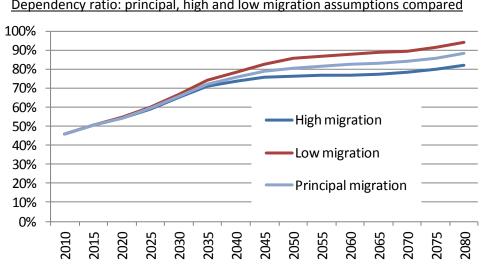
Results

As the results of this analysis show, changes of 25% in the probability of outward migration have an impact on the projected population size and dependency ratio. The impact is limited in the short-term, with 400 fewer people being projected to be resident by 2035 if migration patterns were to follow the reduced migration pattern ('low variant migration'), and 300 more in the high migration pattern scenario. There is divergence following this however, with the high and low migration scenarios resulting in +3,500 and -3,100 persons compared to the principal projection over the 55 years to 2065.



Total population size: principal, high and low migration assumptions compared

Similar results are seen in the dependency ratio, with a spread of approximately +/- 1.5pp around the principal projection in 2035, but increasing to a spread of approximately +/-6pp at 2065.



Dependency ratio: principal, high and low migration assumptions compared

Appendix III - Methodology notes

Births

- The likely numbers of births in each year are estimated by applying age-specific fertility rates to women aged between 15 and 49 years old.
- Age specific fertility rates were calculated using numbers of births by age of mother in Jersey over recent years, and give the number of children that a woman in Jersey of each age is likely to have each year.
- Age specific fertility rates change over time due to several trends such as overall family size, and timing of births. For example a recent trend seen in the UK has been for women to delay having their first child until later in life.
- Projecting the age specific fertility rates that will be relevant to each of the next 80 years is therefore difficult
 and involves making assumptions about the most likely scenario ('principal projection fertility rates'), projected
 rates that are considered low, and rates that are thought to be high ('low' and 'high' variants), so that the
 impact of different assumptions of fertility trends on the overall population can be seen.
- The principal, low and high variants are developed by looking at past Jersey trends, as well as information from ONS on past and projected movements in England trends.
- The principal projection is for Jersey's fertility rates to remain fairly constant, as has been seen over the last 40 years.
- The high variant projection is for Jersey's fertility rates to converge with those projected to occur in England by 2035 (which are higher than those found in Jersey, currently and historically) and to continue with these (higher) rates through to 2080.
- The low variant projection is for Jersey's fertility rates to reduce (by a similar amount as they increase in the high variant) by 2035 and continue with these lower rates through to 2080.
- The fertility of inward migrants is assumed to take on the characteristics of current Jersey population fertility.

<u>Deaths</u>

- A person in each age group and gender has a particular probability of dying within each year. This is their agespecific mortality rate. The rate is typically low for children and young adults, and increases towards older age.
- Age specific mortality rates have been improving with improvements in caring for ill or injured people over the last decades.
- ONS produces projected age-specific mortality rates based on past trends in improvements and expert opinion on their continuation.
- Due to small counts in Jersey, and the overall similarity of death rates to England rates, the ONS projected mortality rates (principal, high and low variants) for England are used for the Jersey population projections, multiplied by a small factor adjustment to account for local differences.
- Mortality adjustment factors for Jersey:

Males 0 – 59 years	1.00	
Males 60+ years	0.95	
Females 0 – 15 years	1.00	
Females 16 – 74 years	0.90	
Females 75+ years	0.95	

Migration

- Migration patterns depend on a number of factors, both Jersey-specific and wider, which can be difficult to predict in terms of their timing and impact.
- Recent patterns in outward migration can be modelled by analyzing the census 2011 data by age, length of residence, type of residential qualifications and employment status.
- From this analysis, a probability of leaving Jersey (outwardly migrating) was identified for type of residential qualification ('a to h or k', 'j' or non-qualified under previous legislation on residential status, which map to the groups 'Entitled', 'Licensed' and 'Registered' under the Control of Housing and Work (Jersey) 2012 law) and length of residency, and separately for children aged 16 years or under.
- Recent trends in outward migration are assumed to continue forwards into the future at a constant level.
- Inward migration is set at particular levels to produce different net migration scenarios.
- Inward migrants are distributed by age and gender according to the distribution seen in recent arrivals in census 2011 data.
- The distribution of inward migrants by residential qualification is adjusted according to each scenario.
- To model sensitivity to the assumptions in migration probabilities, low and high variants were produced by adjusting the outward migration probabilities upwards and downwards by 25% respectively. For example if a person of a particular residential qualification and length of time in Jersey had a probability of leaving of 0.4% in the principal projection, the high migration variant projection set this probability to 1.25 * 0.4 = 0.5%.