

# OXFORD ECONOMICS

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## **Uprating Frozen-Rate Pensions** **The Expected Costs and Benefits for HM Treasury**

**A report for Champollion**



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## Executive summary

Retired people receiving state pensions in the UK and in several other countries including the U.S. and the EU benefit from annual increases in pension payments to account for cost of living changes. Historically, this has been based on a range of inflation measures, including CPI and RPI. In future, the indexing is to be based on the higher of CPI growth, earnings growth, or 2.5%.

The indexation of pension payments, termed “uprating” in the jargon of pensions policy, does not occur for UK nationals receiving UK pensions in all countries. 169 countries, including Australia, Canada, South Africa, and New Zealand are, according to current pensions policy, frozen-rate countries where pension payments do not benefit from any annual uprating.

This report outlines the methodology and results of an analysis to determine the costs and benefits to HM Treasury that would result from two changes to this policy:

- The first involves eliminating the policy-induced gap that has grown up between pension payments received in frozen-rate and non-frozen-rate countries
- The second change requires that, going forward, all pensions paid to UK nationals living abroad would be uprated each year at the same rate as they are in the UK

These changes are expected to incur costs to HM Treasury in the form of higher pension payments and lost tax revenues. They will also deliver benefits through foregone health care and social benefits due to an increase in the number of pensioners moving abroad. Because the share of health care costs and social benefits going to those aged 65 and older is considerable, the benefits to HM Treasury from the policy change are expected to eventually outweigh the costs. In fact, if the horizon for the analysis is extended to 2024, the policy change becomes cost neutral.

## Key Findings

- It is estimated that between 19,000 and 43,000 pensioners will be induced by the policy change to move each year, with fewer moving in early years and a greater number moving in later years as the population of pensioners grows
- The net benefit to HM Treasury per pensioner moving abroad in 2011 is £2,500
- The budgetary impact is expected to be negative for each year between 2011 and 2017, and positive for every following year
- As the number of pensioners induced to move abroad increases, the net present value (NPV) of benefits to HM Treasury eventually becomes positive. The NPV in the first, 15<sup>th</sup>, and 20<sup>th</sup> years of the policy change is estimated to be -£630 million, £1.1 billion, and £7.2 billion, respectively.

## 1 Methodology

This section describes the methodology used to calculate the costs and benefits to HM Treasury from a policy to uprate frozen-rate pensions in 169 countries, including Australia, Canada, South Africa, and New Zealand<sup>1</sup>.

### 1.1 Costs per pensioner induced to move abroad

HM Treasury will need to absorb two costs as a result of a change in pension policy that uprates frozen-rate pensions.

The first is the yearly cost of paying higher pensions to individuals currently receiving less than their counterparts in countries with non-frozen-rate pensions. The cost of uprating frozen-rate pensions is calculated as the difference between typical pension amounts received in the UK and typical pension amounts received in frozen-rate countries. In order to calculate this difference as accurately as possible, considerations are made for the different pension amounts typically received by men and women<sup>2</sup>, the age of pensioners currently living abroad and the amount of time their pensions have been frozen to date<sup>3</sup>, as well as the expected growth in numbers of each gender over time<sup>4</sup>.

The second cost to HM Treasury is a result of foregone tax revenues. The typical pensioner abroad will not pay UK income taxes, contribute indirect taxes, nor pay Council Tax<sup>5</sup>. Foregone tax revenues in this section are assumed to be equivalent to Barnard (2010)<sup>6</sup> figures for taxes paid by the median income retired household. This assumption will result in an overestimate of the costs to HM Treasury to the extent that taxes paid by median income individual pensioners will be lower than for households.

The costs calculated in this section are converted to costs per pensioner induced to move abroad and used as inputs in later calculations.

*65's and over account for 37% of all UK health care spend, and this figure is expected to rise to 49% by 2030 as a result of demographic shift.*

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<sup>1</sup> DWP data (from the DWP Resource Centre Tabulation Tool) indicates that these four countries comprise over 90% of the total number of UK pensioners living in frozen-rate countries.

<sup>2</sup> *Pension Trends*. 2009. Office for National Statistics.

<sup>3</sup> Pensioners living abroad are assumed to have the same age characteristics as pensioners living in the UK. They are also assumed to have moved upon achievement of pensionable age, which maximizes the costs of uprating the associated pensions. Actual costs to HM Treasury will be lower to the extent that those who have moved abroad did so some years after reaching pensionable age. Data is based on *United Kingdom Population Pyramid*. 2008. Office for National Statistics.

<sup>4</sup> *United Kingdom Population Pyramid*. 2008. Office for National Statistics.

<sup>5</sup> While council taxes are not paid directly to HM Treasury, it is assumed that any shortfall in local tax revenues is ultimately replaced by HM Treasury.

<sup>6</sup> Barnard, Andrew (2010). *The Effects of Taxes and Benefits on Household Income, 2008/2009*. Office for National Statistics.

## 1.2 Benefits per pensioner induced to move abroad

PESA (2010)<sup>7</sup> indicates that UK health care expenditures totalled £122 billion in 2010, and this analysis assumes, using Seshamani (2002)<sup>8</sup>, that 37% of that amount is attributable to UK residents aged 65<sup>9</sup> and over. In addition, about £38 billion in pension-related and age-related benefits<sup>10</sup> accrued to UK residents aged 65 and over in 2010.

When a UK national no longer meets residency requirements in the UK, he or she is no longer eligible to receive health care services nor certain pension and age-related benefits. Thus, based on expected growth rates<sup>11</sup> in these spend categories and projected growth in the population aged 65 and over, this report calculates a figure representing the reduced budgetary obligations of HM Treasury for each pensioner induced to move abroad.

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<sup>7</sup> *Public Expenditure Statistical Analyses*. 2010

<sup>8</sup> Seshamani, Meena (2002). *The impact of ageing on expenditures in the National Health Service*. Health Economics Research Centre, University of Oxford.

<sup>9</sup> Additional health care spending is attributable to women who attain pensionable age prior to age 65. Some of that amount could be included as benefits accruing to HM Treasury when female pensioners move abroad, although this study did not do so. To that extent, this report underestimates the benefits per pensioner induced to move abroad.

<sup>10</sup> Examples include Pension Credit, Housing and Council Tax Benefit, Cold Weather Payments, and Social Care benefits. Data from *Pension Trends*. 2009. Office for National Statistics; *Parliamentary Briefing*.

<sup>11</sup> Health care spend has grown by an average of 8% per year in nominal terms over the previous 17 years, according to data from PESA 1999-2000, PESA 2004, and PESA 2010. This report assumes that future growth will be constrained by budgetary pressures and will be 2% lower than the historical average. Pension-related benefits are assumed to grow by the amount they would have grown historically if the present rules requiring growth equivalent to the larger of earnings growth, CPI growth, or 2.5% had been applied. Data used in this process are from Oxford Economics Global Economic Databank. Other age related benefits are assumed to grow by Oxford Economics' UK macroeconomic models forecasts of CPI.

### 1.3 Number of pensioners induced to move abroad

A survey of over 1,000 soon to be retired individuals in the UK, aged between 45 and 64, was conducted<sup>12</sup> to determine how many current and future pensioners would be dissuaded from moving abroad if it meant that their pension payments would be frozen as a result. Among other questions, survey respondents were asked:

- "Would you consider moving abroad when you retire?"
- "What country would you be most likely consider moving to?"
- "How likely is it that you would change your mind about retiring abroad if you knew that your pension would be frozen?"<sup>13</sup>

Of all survey respondents, a subset indicated a willingness to move abroad (56% for soon-to-be retired individuals, 30% for already retired individuals). Of that number, another subset indicated a desire to move to frozen-rate countries specifically (30% for soon-to-be retired individuals, 19% for already retired individuals). Of that number, some indicated an extreme likelihood of changing their mind about moving if it would result in receiving a frozen-rate pension (27% for soon-to-be retired individuals, 39% for already retired individuals), while others indicated a lower likelihood of changing their mind.

To produce a figure representing the propensity of pensioners to move abroad depending on pension uprating policy, the percentage related to the first subset is multiplied by the percentage relating the second subset. The resulting percentage is then multiplied by a weighted average of percentages that corresponded to respondents' stated likelihood of changing their mind if moving would result in receiving frozen-rate pensions<sup>14</sup>. The net result is a probability representing pensioners' propensity to move abroad depending on pension uprating policy. This procedure was conducted twice – once for currently retired individuals and once for soon-to-be retired individuals – providing propensities to move of 7.6% for soon-to-be retired individuals and 3.4% for already retired individuals.

Using the calculated propensities to move, it is then possible to estimate the number of additional pensioners who could be induced to move abroad each year if all individuals receiving UK pensions, including those who have moved abroad, begin to have their pension payments uprated at the same level each year. This involves multiplying the propensity for soon-to-be pensioners by the

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<sup>12</sup> Online poll conducted by Opinium Research, February 2011.

<sup>13</sup> Available answers were on a sliding scale from 1 to 5, where 1 represented "extremely likely" and 5 represented "extremely unlikely".

<sup>14</sup> The process of assigning probabilities to a sliding scale of responses starting at "extremely likely" and going to "extremely unlikely" is necessarily arbitrary. This report assumes that a response of 1 ("extremely likely") corresponds to a probability of 90%, 2 corresponds to 70%, 3 corresponds to 50%, 4 corresponds to 30%, and 5 corresponds to 20%.

number of people forecasted to retired each year, while the propensity for current pensioners is multiplied by the number of pensioners currently in the UK. The latter figure is the number of pensioners currently residing in the UK who are likely to be induced to move abroad, and this figure is spread evenly over the 20 years of analysis.

#### 1.4 Net impact on HM Treasury

Costs and benefits per pensioner induced to move abroad are combined with the expected number of pensioners who will move abroad if frozen-rate pensions are discontinued to arrive at a net budgetary impact on HM Treasury each year. This figure is reported in nominal terms, meaning that it includes forecasted inflation. The impact for each year is then discounted to present value terms by dividing each figure by the sum of 3.5% plus forecasted CPI growth, the former rate being a composite of social time preferences and real, per capita GDP growth rates<sup>15</sup>. The average discount rate used across all years included in the analysis is 5.6%. By taking into account future economic growth, inflation, and social time preferences, values to be spent or received in the future are converted to values as if that money were being spent today.

Finally, Net Present Values (NPVs) are calculated by summing the present values over several time periods of interest. It is thereby possible to discern the total (rather than year to year) impact on HM Treasury of the policy change as if all of the costs or benefits were experienced today.

This report includes estimates for the NPV of the policy change in the first year of implementation, in the 15<sup>th</sup> year of implementation, and the 20<sup>th</sup> year of implementation. It also indicates the year the policy ceases to have a negative effect on HM Treasury's annual budget and the expected date of cost-neutrality.

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<sup>15</sup> HM Treasury (2003). The Green Book: Appraisal and Evaluation in Central Government.

## 2 Results

This section describes the results of the analysis, including estimates of the costs and benefits to HM Treasury per pensioner induced to move abroad, the number of pensioners who will likely be induced to move abroad, and, finally, the Net Present Value (NPV) to HM Treasury evaluated at three different time horizons if the policy is implemented.

*HM Treasury will save £2,500 for every pensioner induced to move abroad in 2011.*

### 2.5 Costs per pensioner induced to move abroad

In the first year of implementation, the cost to HM Treasury of immediately uprating frozen-rate pensions for all pensioners currently living in frozen-rate countries will be approximately £1,300 per pensioner. In addition, for every pensioner who is induced to move abroad by a change in pension policy, HM Treasury will forego £3,900 per pensioner as a result of lost income tax, indirect taxes, and Council Tax.

### 2.6 Benefits per pensioner induced to move abroad

Every pensioner who moves abroad saves HM Treasury an estimated £7,700 in health care spending and pension-related and age-related benefits. The net benefit, after subtracting the costs absorbed by HM Treasury, is £2,500 per pensioner who moves abroad in 2011.

### 2.7 Number of pensioners induced to move abroad

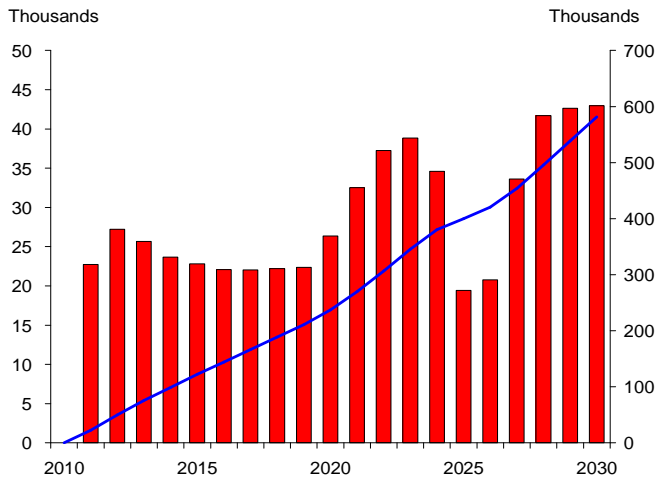
It is estimated that a policy change will induce between 19,000 and 43,000 pensioners to move each year, with fewer moving in early years and a greater number moving in later years as the population of pensioners grows (See Chart 2.1). Note that the decline shown in Chart 2.1 between 2012 and 2019 is due to a rise in pensionable age for women that is already underway<sup>16</sup>, while the abrupt dip in 2025 and 2026 is due to the rise in pensionable age for both genders which is scheduled to occur between 2024 and 2026<sup>17</sup>.

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<sup>16</sup> Pensions Act 1995 specifies that pensionable age for women will rise from 60 to 65 between 2010 and 2020.

<sup>17</sup> Pensions Act 2007 specifies that pensionable age for men and women will rise from 65 to 66 between 2024 and 2026.

**Chart 2.1: New and current pensioners induced to move by change in pensions uprating policy (left scale, red); cumulative movers (right scale, blue)**



Source : Oxford Economics

## 2.8 Net present value of benefits to HM Treasury

Implementation of a policy to uprate frozen-rate pensions to the levels of non-frozen-rate pensions would incur immediate costs to HM Treasury as well as long-term gains as reduced health care and pensioner benefit obligations begin to outpace the costs. The gains increase over time as the cumulative number of pensioners induced to move abroad by the policy change increases.

The NPV of benefits to HM Treasury during the first year of implementation of a policy to uprate frozen-rate pensions, if implemented in 2011, is -£630 million. In the 15<sup>th</sup> and 20<sup>th</sup> years, the NPV is estimated to be £1.1 billion and £7.2 billion, respectively.

## 2.9 Year policy ceases to have a negative effect on government finances

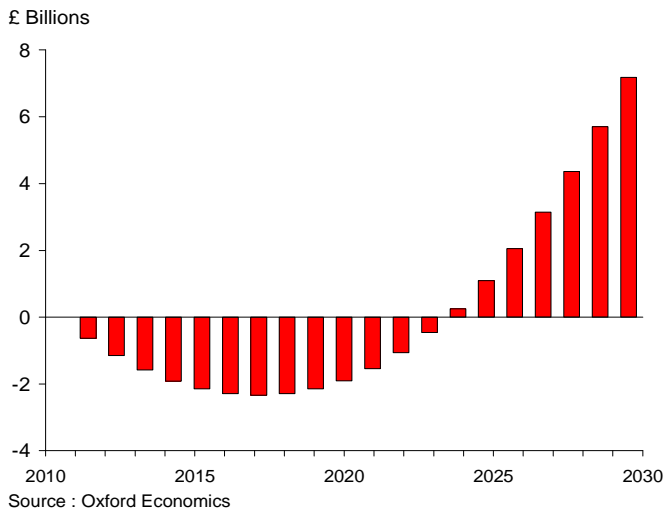
From implementation until 2017, the impact on the government's finances each year as a result of the policy change will be negative. In these years, the cumulative number of additional pensioners induced to move abroad is still too low to provide to HM Treasury benefits that completely offset the required increase in pension payments. This result is reversed in 2018, and the annual impact is positive in every year after that.



## 2.10 Year policy change achieves cost-neutrality in NPV terms

The expected NPV of the policy change is negative over the early years of implementation, but it is estimated to turn positive in 2024. Thus, if benefits are counted for at least 14 years, the policy change should be considered cost-neutral. Chart 2.2 shows the net present value to HM Treasury of a policy to uprate frozen-rate pensions depending on the length of time costs and benefits are counted.

**Chart 2.2: Net present value to HM Treasury due to change in pensions uprating policy evaluated between 2011 and 2030**



## 2.11 Sensitivity analysis

The results in this report are sensitive to a number of key assumptions, particularly those for growth in health care costs, growth in the proportion of health care costs attributable to those aged 65 and over, and the number of pensioners who are assumed to move abroad. Changes to each of these assumptions and the impact it would have on the headline results are presented in Table 2.1 below. The magnitude of these hypothetical alterations is arbitrary, but the exercise provides perspective on the sensitivity of the model to the key assumptions.

Table 2.1: Sensitivity to changes in three key assumptions

|   | NPV Year 1<br>(£ billion) | NPV Year 15<br>(£ billion) | NPV Year 20<br>(£ billion) |
|---|---------------------------|----------------------------|----------------------------|
| Estimated Model   | - 0.6                     | 1.1                        | 7.2                        |
| Growth in health care costs 3% real instead of 4% real              | - 0.6                     | - 0.3                      | 3.8                        |
| Estimated propensity to move 20% lower than estimated               | - 0.6                     | - 1.3                      | 2.9                        |
| Growth in proportion spending on elderly 0.2% higher than estimated | - 0.6                     | 1.6                        | 8.4                        |

### 3 Conclusion

This report outlines the costs and benefits to HM Treasury of a policy to uprate all frozen-rate pensions to non-frozen rate levels. The results are driven by higher initial costs to HM Treasury of increasing pension payments to approximately 550,000 pensioners currently living in frozen-rate countries, as well as a gradual reduction in HM Treasury obligations as a result of pensioners being induced to move abroad. These reductions are considerable, as spending on health care and pension-related and age-related benefits that are only available to UK residents is quite large.

The analysis in this report finds that the policy would initially have higher costs than benefits, but that by 2018 the annual impact on HM Treasury would be positive. In net present value terms, the policy should be considered cost neutral if all costs and benefits are assessed from the present until 2024.

#### Key Findings

- It is estimated that between 19,000 and 43,000 pensioners will be induced by the policy change to move each year, with fewer moving in early years and a greater number moving in later years as the population of pensioners grows
- The net benefit to HM Treasury per pensioner moving abroad in 2011 is £2,500
- The budgetary impact is expected to be negative for each year between 2011 and 2017, and positive for every following year
- As the number of pensioners induced to move abroad increases, the net present value (NPV) of benefits to HM Treasury eventually becomes positive. The NPV in the first, 15<sup>th</sup>, and 20<sup>th</sup> years of the policy change is estimated to be -£630 million, £1.1 billion, and £7.2 billion, respectively.

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