Government Actuary's Department

Civil Servants and Others Pension Scheme (Northern Ireland)

Effective Pension Age (EPA) option for alpha members

Contribution rates, 'headroom' calculation factors and guidance

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Contents

1 Introduction

1.1 This report is addressed to the Department of Finance and Personnel (DFP) as Scheme Manager of the Principal Civil Service Pension Scheme (Northern Ireland) (PCSPS (NI)). The **alpha** pension scheme established by The Public Service (Civil Servants and Others) Pensions Regulations (Northern Ireland) 2014 ("the Regulations") and will come into force on 1 April 2015.

1.2 Schedule 1, Part 3 of the alpha regulations govern effective pension age whereby a member may opt to make periodical payments for an effective pension age of any period up to 3 years below the member's normal pension age if that would achieve an effective pension age of 65 years.

1.3 The purpose of the report is to provide DFP with specific factors, and accompanying guidance to demonstrate how EPA (effective pension age) costs are calculated within the alpha pension scheme. This report also provides factors and guidance for assessing the value of the EPA options against the overall limit of extra pension (the 'headroom test').

1.4 The factors contained in this note, are taken from the report "Civil Servants and Others Pension Scheme Enhanced Effective Pension Age (EEPA) and Effective Pension Age (EPA) options for alpha members Contribution rates, 'headroom' calculation factors and guidance issued in draft on 21 November 2014 by Sandra Bell and Joanne Meusz to Cabinet Office in respect of the GB Alpha scheme.

1.5 The factors provided in this note have been prepared in light of our advice to DFP dated 3 October 2014 and subsequent correspondence following that advice.

1.6 EPA factors are the responsibility of DFP under Schedule 1, Part 3 of the alpha Rules.

1.7 This report is applicable to benefits accruing in the alpha pension scheme only and provides advice on:

- EPA option cost factors – for eligible members opting to retire 1, 2 or 3 years prior to their normal pension age (NPA); and
- 'Headroom' calculation factors – for determining the value of an EPA or EEPA option against the overall limit of extra pension.

1.8 We have not considered the implications of purchasing EPA options in the context of members' annual allowances.

1.9 We understand that this paper will be shared with the scheme administrator and the accompanying guidance and examples are intended to demonstrate how these factors are to be applied to determine the EPA costs payable if the options are selected. It also demonstrates how to determine the value of an EPA option against the headroom limit.

1.10 Please contact John Bayliss (020 7211 3454) for further information on this draft note.

2 EPA Contribution rates

2.1 Members can purchase a reduction in pension age of up to three years. This is limited by a requirement that that the reduced pension age is at least 65 years (and so non-integer year reductions are possible). For example, where a member has a NPA of 66 years and 6 months they will be able to buy a reduction of 1 year or 1 year and 6 months.

2.2 The 2015 Scheme Regulations provide for a pension to be payable without reduction for early payment from the higher of age 65 and the member's State Pension Age.

DFP has confirmed that State Pension Age for the purpose of calculating EPA factors should be as set out in DFP Directions made in exercise of the powers conferred on them by sections 11(2) and 12(3) of the Public Service Pensions Act (Northern Ireland) 2014[1], and not legislation in force at the guarantee date. Factors are provided to accommodate the range of pension ages members will have in relation to service on and after 1 April 2015 in accordance with the DFP Directions.

2.3 The tables in Appendix C set out the following factors:

- P2EPA1 - Contribution rate in respect of the 1 year early EPA option, payable in addition to standard member and employer contribution rates.
- P2EPA2 - Contribution rate in respect of the 2 year early EPA option, payable in addition to standard member and employer contribution rates.
- P2EPA3 - Contribution rate in respect of the 3 year early EPA option, payable in addition to standard member and employer contribution rates.

2.4 The EPA option contribution rates in the factor tables are expressed as a percentage of the member's pensionable earnings.

2.5 EPA contributions are payable by members only, in addition to their standard member contributions. Their employer's contribution rate is unaffected by the EPA option. This report sets out how this additional contribution rate is determined from the tables set out in Appendix C. The contribution rate should be applied to the member's pensionable earnings over the scheme year. Therefore any pensionable pay fluctuations will impact on the amount of the contributions paid for the EPA option.

2.6 At the start of each scheme year in which the EPA option is in force (or operation), the member's age (complete years, ignoring part years) is determined and the contribution rate(s) corresponding to their NPA (in complete years and complete months, ignoring part months) is taken from the relevant EPA option table(s) (1 year, 2 years or 3 years earlier).

[1] The DFP Directions, is found in the following link; SPA assumptions are set out at direction 18
http://www.dfpni.gov.uk/psp-valuations-employer-cost-cap-2014.pdf

2.7 Where the minimum age of 65 years applies the reduction being purchased will not be an integer year reduction and it is necessary to interpolate between the rates from two EPA option tables to derive the correct contribution rate.

2.8 Contribution rates will increase annually with age, all else equal.

2.9 This means EPA option contribution rates are effectively determined at each 1st April, but are applied to pensionable earnings over the scheme year, in the same manner as standard member and employer contributions.

EPA for an integer number of years early

2.10 The additional member contribution in respect of the EPA option is determined as follows:

Additional member contribution in respect of the EPA option =

Pensionable earnings x P2EPAn contribution rate (age at 1st April)

Where:

Pensionable earnings are as defined in the Regulations.

Age at 1st April is the member's age in the complete years (ignoring part years) on 1st April.

P2EPAn contribution rate is taken from table P2EPAn appropriate for the member's age and NPA (in years and complete months, ignoring part months) and the number of years (n) earlier that the member wishes to retire before NPA.

EPA for a non-integer number of years early (minimum age of 65 years applies)

2.11 In order to derive the appropriate contribution rate where a non-integer year reduction is being purchased, it is necessary to interpolate between two contribution rates taken from separate P2EPAn tables.

2.12 The EPA contribution rate is derived as:

Non-integer reduction EPA contribution rate (P2EPAd) =

***[Reduction (rounded up) – Reduction (exact)] x* P2EPAn (Rounded down) contribution rate**

+

***[Reduction (exact) – Reduction (rounded down)] x* P2EPAn (Rounded up) contribution rate**

Where:

Reduction (Exact) is the number of years and months (ignoring part months) reduction to pension age that is being purchased.

Reduction (Rounded up) is the **Reduction (Exact)** rounded up to the nearest number of complete years.

Reduction (Rounded down) is the **Reduction (Exact)** rounded down to the nearest number of complete years.

P2EPAn (Rounded up) contribution rate is taken from table P2EPAn appropriate for the member's age and NPA (in years and complete months, ignoring part months) and number of years **Reduction (Rounded up).**

P2EPAn (Rounded down) contribution rate is taken from table P2EPAn appropriate for the member's age and NPA (in years and complete months, ignoring part months) and number of years **Reduction (Rounded down).**

2.13 Where an EPA reduction of between 0 and 1 years is being purchased, it will be necessary to interpolate between the P2EPA1 (contribution rates for a 1 year reduction) table and a notional P2EPA0 (contribution rates for no reduction) table where all entries are set to zero.

2.14 The additional member contribution in respect of the EPA option are determined as follows:

Additional member contribution in respect of the EPA option =

Pensionable earnings x P2EPAd contribution rate (age at 1st April)

Where:

Pensionable earnings are as defined in the Regulations.

Age at 1st April is the member's age in the complete years (ignoring part years) on 1st April.

P2EPAd contribution rate is derived as set out in 2.11 above.

2.15 Example calculations are shown in Appendix D.

3 'Headroom' Calculations

3.1 The value of any EPA option is to be taken into account when assessing whether a member can purchase (additional) added pension under the alpha scheme.

3.2 A member is only able to purchase (additional) added pension if there is available 'headroom'. This is assessed by comparing the value of any 'extra pension' (EPA options plus any accrued added pension) against the 'overall limit of extra pension' ('headroom limit') as set out in Schedule 1 Part 1 of the Regulations.

3.3 A member is only allowed to purchase an EPA option if, at the commencement of the contract (ie, when the initial application for an EPA is submitted), the existing total extra pension is less than the overall limit on extra pension (ie, there is headroom available). In other words, a member can purchase an EPA option if prior to purchase there is headroom, even if the purchase of the option would mean that they subsequently exceed the limit on extra pension.

3.4 A member is only allowed to purchase (additional) added pension if the total extra pension (including the added pension the member intends to purchase) is less than the limit on extra pension at the commencement of the contract (ie, there is headroom available to cover the expected additional added pension).

3.5 A 'prospective' EPA option will be valued (by converting it into an equivalent added pension) at the start of the contract. When valuing the option it is assumed that the member continues to contribute to this option until their respective earlier pension age is reached (the purchase of the EPA option is automatically renewed at the start of each scheme year). The value of the option will not be recalculated for: any change to a member's actual NPA through new legislation; in response to future changes in headroom methodology or early retirement factors; or for the actual salary growth experienced by a member.

3.6 Should a member cease contributing to the option before their earlier pension age is reached then the value of that option is no longer the prospective value determined at the start of the contract. The 'accrued' value of this EPA option should be based on the period during which EPA contributions were actually paid in respect of the option and not the full period to earlier pension age assumed when determining the prospective value of the option.

3.7 Calculations are required for:

(i) determining the value of an EPA option at the outset of the contract, and

(ii) determining the value of an accrued EPA option.

3.8 The headroom calculations effectively assume that part-time members will continue to work the same proportion of full-time hours for the remainder of their careers (full-time equivalent pensionable earnings are not used in the calculation).

3.9 Schedule 1 Regulation 28 (4) sets out that where a member ceases to be in pensionable service under the Scheme and then re-enters after a gap in pension service of less than 5 years the EPA contributions can resume (subject to certain restrictions) without re-assessing their value against the headroom limit.

3.10 The tables in Appendix E set out the following factors:

- P2HR1 – prospective accrual accumulation factor
- P2HRrev1 – revaluation factors

Determining the value of an EPA option at outset of the contract

3.11 The main data required is:

(i) Option commencement date (ie, the date the initial application for an EPA is effective from)

(ii) Member's NPA (normal pension age) in years and complete months

(iii) Member's EPA in years and complete months (ie, relating to option being purchased)

(iv) Member's pensionable earnings at option commencement date

3.12 The prospective value assessed assumes that the member continues to contribute to the EPA option until the respective earlier pension age is reached. The calculation to determine the value of the prospective EPA option is set out in a three stage process:

Stage 1: Estimate the prospective pension arising from future accrual at EPA

Prospective pension = Pensionable Earnings × P2HR1 factor

Where:

Pensionable Earnings is as defined in the Regulations.

P2HR1 factor is taken from table P2HR1 (in Appendix E) appropriate for the period (in years and complete months, ignoring part months) between option commencement date and EPA.

Stage 2: Converting the prospective pension into equivalent added pension at EPA

Equivalent added pension at EPA =

Prospective pension × [(1 / *P2ER factor*$_{NPA}$) – 1)]

Where:

P2ER factor$_{NPA}$ is the early payment reduction factor from our note '*Early Payment Reduction (normal health) and Age Addition Factors: Factors and guidance for the alpha section*' (the 'ER note') dated 21 October 2014. It is the factor at the member's age at EPA (in years and complete months) taken from the P2ERXX table (Appendix A of ER note) relevant to the member's NPA. If a member has a non-integer NPA then more than one factor is required and these factors are interpolated to obtain the actual factor to use.

Stage 3: Expressing the equivalent added pension at EPA as an equivalent added pension at option commencement date (ie the value of EPA option at outset)

Value of EPA option at outset =

Equivalent added pension at EPA / *P2HRRev1 factor*

Where:

3.13 ***P2HRRev1 factor*** is the factor appropriate for the number of years (ignoring part years) between the option commencement date and EPA, from Appendix E. As outlined in paragraph 4.12 it is assumed that a member will continue to contribute to the EPA option until the respective earlier pension age is reached. The prospective value of an EPA can be expressed as a percentage of the headroom limit in place at the outset of the contract. The formula is set out below:

Value of EPA option at outset as % of headroom limit at outset

= Value of EPA option at outset / headroom limit at outset

Where:

Value of EPA option at outset is calculated from the three stage process in paragraph 3.12

Headroom limit at outset is the overall limit of extra pension at EPA at option commencement date. Please see paragraph 3.2 for more information.

Determining the value of an accrued EPA option

3.14 When an EPA option lapses (ie, contributions stop before selected EPA), then the prospective value of the EPA option should no longer be used. Any subsequent test against the headroom limit should use the accrued value of the EPA option. The accrued value is determined as a simple pro-rata calculation of the original prospective value of the EPA option based on the number of monthly EPA contributions that had been paid divided by the number of monthly contributions that would have been paid between the EPA commencement date and date of original EPA.

3.15 This calculation is applied to the percentage of headroom limit that was determined for the original prospective EPA option.

The formula is set out below:

Value of accrued EPA option (as a % of headroom limit) =

Value of EPA option at outset as % of headroom limit at outset
× [M / N]

Where:

Value of EPA option at outset as % of headroom limit at outset as calculated in paragraph 4.13

M is the number of monthly EPA contributions paid

N is the number of monthly contributions that would have been paid between the EPA commencement date and member's original EPA.

3.16 Should the value of accrued EPA options be required at a later date then the proportion of the headroom limit calculated in paragraph 3.15 can simply be applied to the level of headroom limit in force at the later date.

4 Limitations of this guidance

4.1 This note is intended for the use of DFP and the scheme administrators for the purposes of demonstrating the application of the factors covered by this guidance only. The information and advice in this note should not be relied upon, or assumed to be appropriate, for any other purpose or by any other person. GAD does not accept any liability to third parties, whether or not GAD has agreed to the disclosure of its advice to the third party.

4.2 The factors contained in this note are subject to regular review. Administrators need to ensure that they are using the latest factors, as relevant, when processing cases.

4.3 Advice provided by GAD must be taken in context and is intended to be read and used as a whole, not in parts. GAD does not accept responsibility for advice that is altered or used selectively. Clarification should be sought if there is any doubt about the intention or scope of advice provided by GAD.

4.4 This note only covers the actuarial principles around the factors covered in this note. Administrators should satisfy themselves that any added pension complies with all legislative requirements including, but not limited to, tax and contracting-out requirements. Any legal advice in this area should be sought from an appropriately qualified person or source. In no circumstances should this guidance take precedence over the scheme rules. If users of this guidance believe it to contain any inconsistencies with the scheme rules, they should bring this to the attention of DFP and GAD.

Appendix A: Contribution rates for EPA options

Table A1: P2EPA1 - retire 1 year early from NPA

Age (complete years, ignoring part years)	P2EPA1											
	Normal Pension Age (years and complete months, ignoring part months)											
	Years	65										
	Months	1	2	3	4	5	6	7	8	9	10	11
20		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
21		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
22		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
23		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
24		0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
25		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
26		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
27		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
28		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
29		0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
30		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
31		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
32		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
33		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
34		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%
35		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
36		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
37		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
38		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%
39		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
40		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
41		1.1%	1.1%	1.1%	1.1%	1.1%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
42		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
43		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
44		1.2%	1.2%	1.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
45		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
46		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
47		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.2%	1.2%	1.2%	1.2%	1.2%
48		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
49		1.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
50		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.3%
51		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
52		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%
53		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
54		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.5%	1.5%
55		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
56		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%
57		1.8%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
58		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
59		1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%	1.8%
60		2.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
61		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
62		2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.0%	2.0%
63		2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%
64		2.3%	2.3%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
65												
66												

Table A1: P2EPA1 – retire 1 year early from NPA (continued)

Age (complete years, ignoring part years)	P2EPA1												
	Normal Pension Age (years and complete months, ignoring part months)												
	Years	66											
	Months	0	1	2	3	4	5	6	7	8	9	10	11
20		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%
21		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
22		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
23		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
24		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
25		0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
26		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.6%	0.6%
27		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
28		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
29		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
30		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
31		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%
32		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
33		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
34		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
35		0.9%	0.9%	0.9%	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
36		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
37		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
38		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
39		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.9%
40		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
41		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
42		1.1%	1.1%	1.1%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
43		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
44		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
45		1.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
46		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.1%
47		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
48		1.3%	1.3%	1.3%	1.3%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
49		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
50		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
51		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.3%	1.3%	1.3%
52		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
53		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
54		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
55		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
56		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
57		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%
58		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
59		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.7%	1.7%
60		1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
61		2.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
62		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
63		2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.0%	2.0%	2.0%
64		2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%
65			2.3%	2.3%	2.3%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
66													

Table A1: P2EPA1 – retire 1 year early from NPA (continued)

Age (complete years, ignoring part years)	P2EPA1													
	Normal Pension Age (years and complete months, ignoring part months)													
	Years	67												68
	Months	0	1	2	3	4	5	6	7	8	9	10	11	0
20		0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
21		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
22		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
23		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
24		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
25		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
26		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
27		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
28		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
29		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
30		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
31		0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
32		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
33		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
34		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
35		0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
36		0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
37		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.8%	0.8%
38		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
39		0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
40		1.0%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
41		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%
42		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
43		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
44		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.0%	1.0%	1.0%	1.0%	1.0%
45		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
46		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
47		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%
48		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
49		1.3%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
50		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.2%	1.2%	1.2%
51		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
52		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
53		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
54		1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
55		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
56		1.6%	1.6%	1.6%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
57		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
58		1.7%	1.7%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
59		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
60		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.7%	1.7%	1.7%	1.7%	1.7%
61		1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
62		1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
63		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.9%	1.9%	1.9%
64		2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.0%	2.0%	2.0%	2.0%	2.0%
65		2.2%	2.2%	2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
66			2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%

Table A2: P2EPA2 – retire 2 years early from NPA

Age (complete years, ignoring part years)	P2EPA2												
	Normal Pension Age (years and complete months, ignoring part months)												
	Years	66											
	Months	0	1	2	3	4	5	6	7	8	9	10	11
20		1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
21		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.1%	1.1%
22		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
23		1.3%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
24		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.2%	1.2%
25		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
26		1.4%	1.4%	1.4%	1.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
27		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
28		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
29		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%
30		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
31		1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
32		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
33		1.7%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
34		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
35		1.8%	1.8%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
36		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.7%
37		1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
38		1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
39		2.0%	2.0%	2.0%	2.0%	2.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
40		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
41		2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.0%	2.0%	2.0%	2.0%	2.0%
42		2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
43		2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%
44		2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
45		2.4%	2.4%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
46		2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.3%
47		2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.4%	2.4%	2.4%	2.4%	2.4%
48		2.6%	2.6%	2.6%	2.6%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
49		2.7%	2.7%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
50		2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.6%
51		2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.7%	2.7%	2.7%
52		2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.8%	2.8%	2.8%	2.8%
53		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	2.9%	2.9%	2.9%	2.9%	2.9%
54		3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%
55		3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.1%	3.1%	3.1%	3.1%	3.1%
56		3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.2%	3.2%	3.2%	3.2%
57		3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.3%	3.3%	3.3%
58		3.6%	3.6%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.4%	3.4%
59		3.7%	3.7%	3.7%	3.7%	3.7%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
60		3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.7%	3.7%	3.7%	3.7%
61		4.0%	4.0%	4.0%	4.0%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.8%
62		4.2%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%
63		4.3%	4.3%	4.3%	4.3%	4.3%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
64		4.5%	4.5%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.3%	4.3%	4.3%
65													

Table A2: P2EPA2 – retire 2 years early from NPA (continued)

Age (complete years, ignoring part years)	P2EPA2													
	Normal Pension Age (years and complete months, ignoring part months)													
	Years	67												68
	Months	0	1	2	3	4	5	6	7	8	9	10	11	0
20		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
21		1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
22		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
23		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
24		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
25		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
26		1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
27		1.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
28		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.3%	1.3%	1.3%	1.3%
29		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
30		1.5%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
31		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
32		1.6%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
33		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.5%
34		1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
35		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%
36		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
37		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.7%	1.7%	1.7%	1.7%	1.7%
38		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
39		1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%
40		2.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
41		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.9%	1.9%	1.9%
42		2.1%	2.1%	2.1%	2.1%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
43		2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
44		2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
45		2.3%	2.3%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
46		2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.2%
47		2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.3%	2.3%	2.3%	2.3%	2.3%
48		2.5%	2.5%	2.5%	2.5%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
49		2.6%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
50		2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.5%	2.5%	2.5%
51		2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.6%	2.6%	2.6%	2.6%	2.6%
52		2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
53		2.9%	2.9%	2.9%	2.9%	2.9%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
54		3.0%	3.0%	3.0%	3.0%	3.0%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%
55		3.1%	3.1%	3.1%	3.1%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
56		3.2%	3.2%	3.2%	3.2%	3.2%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%
57		3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
58		3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
59		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.4%	3.4%	3.4%	3.4%	3.4%
60		3.7%	3.7%	3.7%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.5%	3.5%
61		3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
62		4.0%	4.0%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.8%	3.8%	3.8%	3.8%
63		4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
64		4.3%	4.3%	4.3%	4.3%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.1%	4.1%
65			4.5%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.3%	4.3%	4.3%	4.3%

Table A3: P2EPA3 – retire 3 years early from NPA

Age (complete years, ignoring part years)	P2EPA3													
	Normal Pension Age (years and complete months, ignoring part months)													
	Years	67												68
	Months	0	1	2	3	4	5	6	7	8	9	10	11	0
20		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%
21		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
22		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.7%	1.7%	1.7%	1.7%
23		1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
24		1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%
25		2.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
26		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.9%	1.9%	1.9%
27		2.1%	2.1%	2.1%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
28		2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.0%
29		2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
30		2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
31		2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.2%	2.2%	2.2%	2.2%
32		2.4%	2.4%	2.4%	2.4%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
33		2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
34		2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.4%	2.4%	2.4%	2.4%
35		2.6%	2.6%	2.6%	2.6%	2.6%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
36		2.7%	2.7%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
37		2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.6%	2.6%
38		2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.7%	2.7%	2.7%	2.7%
39		2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
40		3.0%	3.0%	3.0%	3.0%	3.0%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%
41		3.1%	3.1%	3.1%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
42		3.2%	3.2%	3.2%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%
43		3.3%	3.3%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.1%
44		3.4%	3.4%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.2%	3.2%
45		3.5%	3.5%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.3%	3.3%
46		3.6%	3.6%	3.6%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.4%	3.4%
47		3.7%	3.7%	3.7%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.5%	3.5%
48		3.8%	3.8%	3.8%	3.8%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
49		3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%
50		4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%
51		4.2%	4.2%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%
52		4.3%	4.3%	4.3%	4.3%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.1%	4.1%
53		4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%
54		4.6%	4.6%	4.6%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.4%	4.4%	4.4%	4.4%
55		4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%
56		4.9%	4.9%	4.9%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.7%	4.7%	4.7%
57		5.1%	5.1%	5.0%	5.0%	5.0%	5.0%	5.0%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%
58		5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.1%	5.1%	5.1%	5.1%	5.1%	5.0%	5.0%
59		5.4%	5.4%	5.4%	5.4%	5.4%	5.3%	5.3%	5.3%	5.3%	5.3%	5.2%	5.2%	5.2%
60		5.6%	5.6%	5.6%	5.6%	5.6%	5.5%	5.5%	5.5%	5.5%	5.5%	5.4%	5.4%	5.4%
61		5.9%	5.8%	5.8%	5.8%	5.8%	5.8%	5.7%	5.7%	5.7%	5.7%	5.7%	5.6%	5.6%
62		6.1%	6.1%	6.1%	6.0%	6.0%	6.0%	6.0%	5.9%	5.9%	5.9%	5.9%	5.9%	5.8%
63		6.3%	6.3%	6.3%	6.3%	6.2%	6.2%	6.2%	6.2%	6.2%	6.1%	6.1%	6.1%	6.1%
64		6.6%	6.6%	6.5%	6.5%	6.5%	6.5%	6.4%	6.4%	6.4%	6.4%	6.4%	6.3%	6.3%

Appendix B: Worked examples (EPA)

Example B1

B.1 Consider a member with details as follows:

Date of birth: 15/10/1960 (aged 54 years and 5 months on 01/04/2015);
NPA: 66 years and 7 months.
Pensionable earnings at 01/04/2015: £20,000 per annum (equivalent to £1,667 per month)

B.2 Should the member wish to purchase an EPA option to retire 1 year early on 01/04/2015, the contribution rates to be used are those in respect of the member's age at that date in complete years (54 years).

EPA option

B.3 P2EPA1 contribution rate for a 54 year old with NPA 66 years and 7 months is 1.5%.

B.4 The additional member contribution in respect of the EPA option are determined as follows:

Additional member contribution in respect of the EPA option =

£1,667 x 1.5% = £25.01 per month

Example B2

B.5 The member is unable to purchase an EPA option to retire 2 years early because they are limited by a requirement that the reduced effective pension age is at least 65 years. This member is able to buy a reduction of 1 year (as above) or 1 year and 7 months.

B.6 Should the member wish to purchase an EPA option to retire 1 year and 7 months early on 01/04/2015, the appropriate EPA contribution rate is derived by interpolating between the EPA retiring 1 year early contribution rate (P2EPA1) and the EPA retiring 2 years early contribution rate (P2EPA2). These contribution rates are appropriate to the member's age (54 years) and NPA (66 years and 7 months).

B.7 P2EPA1 contribution rate for a 54 year old with NPA 66 years and 7 months is 1.5%. The P2EPA2 contribution rate for a 54 year old with NPA 66 years and 7 months is 3.0%.

B.8 The EPA contribution rate is derived as:

Non-integer reduction EPA (P2EPAd) contribution rate =

[2 – $1\frac{7}{12}$] x 1.5% + [$1\frac{7}{12}$ - 1] x 3.0% = 2.375%

B.9 The additional member contribution in respect of the EPA option are determined as follows:

Additional member contribution in respect of the EPA option =

£1,667 x 2.375% = £39.59 per month

B.10 The applicable contribution rates should be re-assessed each 1st April.

Appendix C: 'Headroom' factors

Table C1: P2HR1 - Prospective accrual accumulation factor

Period between Option commencement date and EPA (or EEPA) (in years and months, ignoring part months)												
	Months											
Years	0	1	2	3	4	5	6	7	8	9	10	11
0	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
1	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05
2	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
3	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10
4	0.10	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13
5	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.17
6	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.20	0.20
7	0.20	0.21	0.21	0.21	0.22	0.22	0.22	0.22	0.23	0.23	0.23	0.24
8	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.27	0.27	0.27	0.28
9	0.28	0.28	0.29	0.29	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.32
10	0.32	0.32	0.33	0.33	0.34	0.34	0.34	0.35	0.35	0.35	0.36	0.36
11	0.36	0.37	0.37	0.38	0.38	0.38	0.39	0.39	0.40	0.40	0.40	0.41
12	0.41	0.42	0.42	0.42	0.43	0.43	0.44	0.44	0.44	0.45	0.45	0.46
13	0.46	0.47	0.47	0.47	0.48	0.48	0.49	0.49	0.50	0.50	0.51	0.51
14	0.51	0.52	0.52	0.53	0.53	0.54	0.54	0.55	0.55	0.56	0.56	0.57
15	0.57	0.57	0.58	0.58	0.59	0.59	0.60	0.60	0.61	0.61	0.62	0.62
16	0.63	0.63	0.64	0.64	0.65	0.65	0.66	0.67	0.67	0.68	0.68	0.69
17	0.69	0.70	0.70	0.71	0.71	0.72	0.72	0.73	0.74	0.74	0.75	0.75
18	0.76	0.76	0.77	0.77	0.78	0.79	0.79	0.80	0.80	0.81	0.82	0.82
19	0.83	0.83	0.84	0.85	0.85	0.86	0.86	0.87	0.88	0.88	0.89	0.90
20	0.90	0.91	0.91	0.92	0.93	0.93	0.94	0.95	0.95	0.96	0.97	0.97
21	0.98	0.99	0.99	1.00	1.01	1.01	1.02	1.03	1.03	1.04	1.05	1.06
22	1.06	1.07	1.08	1.08	1.09	1.10	1.11	1.11	1.12	1.13	1.13	1.14
23	1.15	1.16	1.16	1.17	1.18	1.19	1.20	1.20	1.21	1.22	1.23	1.23
24	1.24	1.25	1.26	1.27	1.27	1.28	1.29	1.30	1.31	1.31	1.32	1.33
25	1.34	1.35	1.36	1.36	1.37	1.38	1.39	1.40	1.41	1.42	1.42	1.43
26	1.44	1.45	1.46	1.47	1.48	1.49	1.49	1.50	1.51	1.52	1.53	1.54
27	1.55	1.56	1.57	1.58	1.59	1.60	1.61	1.62	1.62	1.63	1.64	1.65
28	1.66	1.67	1.68	1.69	1.70	1.71	1.72	1.73	1.74	1.75	1.76	1.77
29	1.78	1.79	1.80	1.82	1.83	1.84	1.85	1.86	1.87	1.88	1.89	1.90
30	1.91	1.92	1.93	1.94	1.95	1.97	1.98	1.99	2.00	2.01	2.02	2.03
31	2.04	2.06	2.07	2.08	2.09	2.10	2.11	2.13	2.14	2.15	2.16	2.17
32	2.18	2.20	2.21	2.22	2.23	2.25	2.26	2.27	2.28	2.30	2.31	2.32
33	2.33	2.35	2.36	2.37	2.39	2.40	2.41	2.42	2.44	2.45	2.46	2.48
34	2.49	2.50	2.52	2.53	2.54	2.56	2.57	2.59	2.60	2.61	2.63	2.64
35	2.65	2.67	2.68	2.70	2.71	2.73	2.74	2.76	2.77	2.78	2.80	2.81
36	2.83	2.84	2.86	2.87	2.89	2.90	2.92	2.93	2.95	2.97	2.98	3.00
37	3.01	3.03	3.04	3.06	3.08	3.09	3.11	3.12	3.14	3.16	3.17	3.19
38	3.20	3.22	3.24	3.25	3.27	3.29	3.30	3.32	3.34	3.36	3.37	3.39
39	3.41	3.42	3.44	3.46	3.48	3.49	3.51	3.53	3.55	3.57	3.58	3.60
40	3.62	3.64	3.66	3.68	3.69	3.71	3.73	3.75	3.77	3.79	3.81	3.82
41	3.84	3.86	3.88	3.90	3.92	3.94	3.96	3.98	4.00	4.02	4.04	4.06
42	4.08	4.10	4.12	4.14	4.16	4.18	4.20	4.22	4.25	4.27	4.29	4.31
43	4.33	4.35	4.37	4.39	4.42	4.44	4.46	4.48	4.50	4.52	4.55	4.57
44	4.59	4.61	4.64	4.66	4.68	4.70	4.73	4.75	4.77	4.80	4.82	4.84
45	4.86	4.89	4.91	4.94	4.96	4.98	5.01	5.03	5.06	5.08	5.10	5.13
46	5.15	5.18	5.20	5.23	5.25	5.28	5.30	5.33	5.36	5.38	5.41	5.43
47	5.46	5.48	5.51	5.54	5.56	5.59	5.62	5.64	5.67	5.70	5.72	5.75
48	5.78	5.80	5.83	5.86	5.89	5.92	5.94	5.97	6.00	6.03	6.06	6.08
49	6.11	6.14	6.17	6.20	6.23	6.26	6.29	6.32	6.35	6.38	6.41	6.44
50	6.46	6.50	6.53	6.56	6.59	6.62	6.65	6.68	6.71	6.74	6.77	6.80

Table C2: P2HRRev1 – Revaluation factor

Number of years (ignoring part years) between Option commencement date and EPA (or EEPA)	Factor
0	1.00
1	1.02
2	1.04
3	1.06
4	1.08
5	1.10
6	1.13
7	1.15
8	1.17
9	1.20
10	1.22
11	1.24
12	1.27
13	1.29
14	1.32
15	1.35
16	1.37
17	1.40
18	1.43
19	1.46
20	1.49
21	1.52
22	1.55
23	1.58
24	1.61
25	1.64
26	1.67
27	1.71
28	1.74
29	1.78
30	1.81
31	1.85
32	1.88
33	1.92
34	1.96
35	2.00
36	2.04
37	2.08
38	2.12
39	2.16
40	2.21
41	2.25
42	2.30
43	2.34
44	2.39
45	2.44
46	2.49
47	2.54
48	2.59
49	2.64
50	2.69

Appendix D: Worked examples ('Headroom' Calculations)

The examples are illustrative only.

Example D1 – headroom limit used for EPA option

D.1 Consider a member with details as follows (i.e. Example B1):

EPA commencement date: 01/04/2015
EPA: 65 years
Date of birth: 15/10/1960
Monthly EPA payments between EPA commencement date and EPA: 127
NPA: 66 years and 7 months
Period between EEPA commencement date and EEPA: 5 years and 6 months
Pensionable earnings at 01/04/2015: £20,000 per annum (equivalent to £1,667 per month)
Current headroom limit is £6,500 a year

D.2 **Stage 1: estimate the prospective pension arising from future accrual at EPA (or at EPA)**

D.3 Prospective pension = Pensionable Earnings × P2HR1 factor

= £20,000 **×** 0.15 = £3,000 a year

P2HR1 factor based on period between EPA option commencement date and EPA – ie, 5 years and 6 months (ignoring part months).

D.4 **Stage 2: Converting the prospective pension into equivalent added pension at EPA**

D.5 Equivalent added pension at EPA =

$$\text{Prospective pension} \times [\ (1 / \textit{P2ER factor}_{NPA}\ ) - 1)]$$

= £3,000 **×** [(1 / 0.7041) -1] = £1,260.76 a year [2]

P2ER factor$_{NPA}$ is 0.7041 based on early retirement age of EPA 65 years and NPA of 66 years 7 months (interpolated).

[2] The member is retiring 6 years and 7 months early. The factor is derived by interpolating between the factor for age 59 years 5 months from table P2ER66 (ie 0.707 for NPA 66) and the factor for age 60 years and 5 months from table P2ER67 (ie 0.702 for NPA 67) (see early payment reduction and age addition factors and guidance for the alpha section). The NPA is 66 years 7 months so using the weights 5/12 and 7/12 respectively, the factor is [(5/12) x 0.707] + [(7/12) x 0.702] = 0.7041.

Stage 3: Expressing the equivalent added pension at EPA (or at EEPA) as an equivalent added pension as at commencement date - ie, the value of EPA (or EEPA) option at outset

D.6 Value of EPA option at outset =

Equivalent added pension at EPA / *P2HRRev1 factor*

= £1,260.76 / 1.10 = £1,146 (rounded to nearest £)

P2HRRev1 factor based on period between EPA Option commencement date and EPA – ie, 5 years (ignoring part years).

D.7 **Express value of EPA option at outset as % of headroom limit at outset**

= Value of EPA option at outset / headroom limit at outset

= £1,146 / £6,500 = 18% (nearest %)

Example D2 – lapsed EPA option

D.8 Consider a member as in Example F1 who lapsed their EPA contract after making 26 monthly EPA payments. Current headroom limit (in 2017/18) is £6,800 a year.

D.9 At outset the value of the EPA option was 18% of the headroom limit (from before). Once the EPA contract has lapsed, then the value of EPA option is reassessed as: 18% × 26 / 67 = 7% (nearest %). That is, the EPA option has used up 7% of the headroom limit.