Pensions Policy Institute

# Additional case studies for Scottish Widows

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A PPI Technical Paper

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# Introduction

The Government published proposals for reform of the state pension system in May 2006[1].

Scottish Widows has commissioned the Pensions Policy Institute (PPI) to produce a series of case studies illustrating the potential outcomes of the reforms on different illustrative individuals.

A previous set of PPI case studies for Scottish Widows has illustrated the potential outcomes for people with median earnings and relatively full contribution histories[2]. This second set of case studies concentrates on two groups identified by the recent Scottish Widows Pensions Report as having low pension provision: women and the self-employed, and particularly low-earning individuals in these groups[3].

For each case study, the amount of income from state pensions[4], Personal Accounts and Pension Credit is calculated assuming that the proposals outlined in the White Paper are introduced in full[5]. Calculations are made at state pension age, and also ten years after state pension age to illustrate how the amount of income received varies through retirement.

It is important to appreciate that outcomes are not certain and depend on a number of assumptions, such as real earnings growth, and charges and investment returns from Personal Accounts. For consistency, the same assumptions are made as for the first set of case studies, which are outlined in the Appendix.

For each case study, a number of specific assumptions are also made, for example whether they work and their age-specific earnings. These are outlined in the case studies themselves.

Of course, no series of case studies can be fully representative of the population as a whole. The case studies in this report are all single individuals rather than couples. Couples could be affected by the White Paper reforms in different ways.

[1] DWP (2006 WP)
[2] PPI ***Case studies for Scottish Widows*** forthcoming
[3] Scottish Widows (2006) page 6
[4] Basic State Pension, State Earnings Related Pension (SERPS) and State Second Pension
[5] This does not include the possible further simplication of State Second Pension discussed in the Government's end of October 2006 response to the White Paper consultation, DWP (2006 WPCR) page 71

# Summary of conclusions

Scottish Widows has commissioned the Pensions Policy Institute (PPI) to produce a series of case studies illustrating the potential outcomes of the state pension reforms in the May 2006 White Paper ***Security in retirement: towards a new pension system*** on different illustrative individuals.

A previous set of PPI case studies for Scottish Widows has illustrated the potential outcomes for people with median earnings and relatively full contribution histories. This set concentrates on two groups identified by the recent Scottish Widows Pensions Report as having low pension provision: women and the self-employed, and particularly low earners.

For all of the individuals, income would decrease in retirement, relative to average earnings. This is because, although Basic State Pension would be indexed to average earnings, income from State Second Pension would increase with prices in retirement. Further, a level annuity is assumed to be chosen for Personal Accounts so that payments are fixed in cash terms during retirement.

A low-earning, single woman aged 45 in 2006 who takes time out of work to care for her child and elderly relatives:

- Could receive £102 from state pensions at state pension age, consisting of the full Basic State Pension of £76 and £26 in a combination of SERPS and State Second Pension.
- Her Personal Accounts saving is likely to be below the trivial commutation limit. This means that she could choose to take her saving as a one-off lump sum, equal to around £6,300 at state pension age. Currently the first £6,000 of capital does not affect Pension Credit entitlement, so this option could maximise her total income.
- If she instead chose to buy an annuity with her Personal Accounts saving, then her annuity could be £7 a week at state pension age. This would take her total weekly income up to £125, including £16 from Pension Credit.
- If she did buy an annuity, then part of her annuity is likely to replace Pension Credit rather than increase her total income in retirement. At state pension age, around 40% of her income from Personal Accounts is likely to replace Pension Credit rather than increase her total income. By age 86, her income would be too low for Savings Credit, meaning no overall gain from Personal Accounts relative to what she would have if she did not save.

A low-earning, single woman aged 16 in 2006 who is self-employed for her entire working life and voluntarily opts-in to Personal Accounts:

- Could receive a total of £114 a week at state pension age. This consists of the full Basic State Pension of £76, £23 from Personal Accounts, and £15 in Guarantee Credit. She would not receive State Second Pension because she is self-employed for her entire working life. Her Personal Accounts saving is likely to be above the trivial commutation limit.
- The value of her business could have a significant impact on her total income in retirement and on her potential eligibility to Pension Credit.
- If she had no income from her business in retirement, then her total income would be too low for Savings Credit. Her saving would not increase her total income at all. She would have received the same £114 a week through Guarantee Credit if she had not saved.

A low-earning, single woman aged 16 in 2006 who has a combination of employment, seven years of self-employment, and some unemployment:

- Could receive a total of £156 a week at state pension age. This consists of the full Basic State Pension of £76, £49 in State Second Pension and £31 from Personal Accounts. Her Personal Accounts saving is likely to be above the trivial commutation limit.
- This would be sufficient to take her above Pension Credit, both at state pension age and at age 78. She would lose some Savings Credit as a result of her Personal Accounts saving, equal to around 10% of her income from Personal Accounts at state pension age, increasing to around 25% by age 78.
- A woman with the same work and savings patterns, but who has median earnings rather than low earnings, would have a higher income in retirement. She could receive a total of £169 a week at state pension age. This consists of the full Basic State Pension of £76, £50 in State Second Pension and £43 from Personal Accounts. She would lose some Savings Credit as a result of her Personal Accounts saving, equal to around 5% of her Personal Accounts saving at state pension age, increasing to around 20% by age 78.

# Background on Pension Credit

This introductory section gives some background to Pension Credit because it could affect some of the case studies shown in this report.

Pension Credit consists of two elements, Guarantee Credit and Savings Credit. When Pension Credit was first announced, the Government's aim in introducing Guarantee Credit was stated as ensuring that the poorest people over age 60 have a minimum level of income, while the aim in introducing Savings Credit was stated as rewarding saving[6].

Both Guarantee Credit and Savings Credit are means-tested benefits, so amounts depend on how much income people have. They are awarded on a household basis, so for couples living together the appropriate income to consider is the combination of the two partners' incomes.

The calculation of both Guarantee Credit and Savings Credit eligibility is based on combined state and private income. Some types of capital can also count as 'notional income' in the calculation. So whether the households are eligible can depend on how much they save for retirement and work past state pension age.

The calculation of Guarantee Credit and Savings Credit is complicated. Broadly[7]:

- If the households in the case studies have an income of less than the Guarantee Credit level, they would be eligible to have their income topped up to that level.
- For every £1 of income between the lower threshold for Savings Credit and the Guarantee Credit level, households are eligible for 60p of Savings Credit. Savings Credit is slowly withdrawn for those with incomes between the Guarantee Credit level and the upper threshold for Savings Credit, at the rate of 40p for each additional £1 of income, so that Savings Credit is not received by households with income higher than the upper threshold for Savings Credit.

The thresholds for single pensioners are shown in Table 1 below for the years in which the case studies in this report reach State Pension Age (SPA) and also ten years after SPA.

[6] DSS (2000). Full references are given in a separate section at the end of this report.
[7] For more information, see DWP (2005)

Table 1[8]: Projected Pension Credit thresholds for single pensioners under the White Paper proposals, in £ per week, 2006/7 earnings terms

| | Example 1: 45 in 2006 | | Examples 2 and 3: 16 in 2006 | |
|---|---|---|---|---|
| | At SPA (age 66 in 2027) | At age 76 (in 2037) | At SPA (age 68 in 2058) | At age 78 (in 2068) |
| Guarantee Credit level | £114 | £114 | £114 | £114 |
| Lower threshold for Savings Credit | £90 | £94 | £101 | £103 |
| Upper threshold for Savings Credit | £151 | £144 | £134 | £130 |

What combination of Guarantee Credit and Savings Credit a household is eligible for has implications for the marginal withdrawal rate that they face on additional saving:

- If households are eligible for Guarantee Credit but not Savings Credit (for example, if their income is below the lower threshold for Savings Credit), then they face a marginal withdrawal rate of 100% on additional saving. £1 of additional saving will mean £1 less of Guarantee Credit, so no overall gain.
- If households are eligible for Savings Credit, whether or not they are eligible for Guarantee Credit (for example, if their income is between the lower and upper thresholds for Savings Credit), then they face a withdrawal rate of 40% on additional saving.

Pension Credit is a benefit that has to be claimed. Not everybody claims the benefit to which they are eligible[9]:

- Around three-quarters of households who are eligible for the Guarantee Credit element (whether or not they are also eligible for the Savings Credit element) take up their benefit.
- Take-up is lower for households who are only eligible for the Savings Credit element. Less than one-half of such households take up their benefit.

This imperfect take-up means that some households do not have income as high as the Guarantee Credit level.

[8] PPI analysis, assuming 2.0% real earnings growth consistent with all analysis in this report
[9] Midpoints of ranges of take-up estimates by caseload in DWP (2006 TU)

# Case studies

Example 1: A 45 year-old woman

This case study is a single woman, aged 45 in 2006, who has taken time out of work to care for her child and for elderly relatives. She:

- Had her only child at age 21 and stayed at home caring until her child was aged 18.
- She then works full-time for 20 years, until age 58. She earns at the 3rd decile of earnings for women of her age[10].
- She cares for her mother and aunt from age 59 until state pension age, for 15 hours a week each, and also works part-time earning below the Lower Earnings Limit. She receives no state pension credits during this time.

She and her employer contribute the minimum amount to a Personal Account[11] from 2012, while she is working (i.e. for 8 years, from age 51 to age 58). Her average contribution during this period is £14 a week (in 2006/7 earnings terms), which is made up of £7 in individual contributions, £5 from her employer and £2 a week through tax relief. She takes her Personal Account at state pension age, at age 66 in 2027.

Outcomes under the White Paper proposals

She could receive a total of £102 a week at state pension age in state pensions, in 2006/7 earnings terms (Table 2). This consists of the full Basic State Pension (BSP) of £76 and £26 in a combination of SERPS and State Second Pension (S2P).

Her Personal Accounts saving is likely to be below the trivial commutation limit. This means that she could choose to take her saving as a one-off lump sum, of around £6,300 at state pension age. Currently the first £6,000 of capital does not affect Pension Credit entitlement, so this option could maximise her total income.

If she instead chose to buy an annuity with her Personal Accounts saving, then her annuity could be £7 a week at state pension age. This would take her total income up to £125 a week, including £16 in Pension Credit. In this situation, the combination of a low state pension and small amounts of income from Personal Accounts means that she is likely to face high withdrawal rates on her Personal Accounts saving from Pension Credit.

[10] Decile points divide the earnings distribution into ten groups each of which contain the same number of workers. So, for example, 30% of females earn below the 3rd decile of the female earnings distribution. The 3rd decile of the female earnings distribution is around £14,000 at age 25, increasing to around £16,000 by age 40 and declining to around £14,500 by age 50, in 2006/7 earnings terms.

[11] A total of 8% of gross salary between the Primary Threshold and the Upper Earnings Limit for Personal Accounts contributions, including the tax relief component. See the appendix for further details.

***Incomes from state pensions and Personal Accounts***

This woman would receive credits or pay contributions for a sufficient number of years to receive the full BSP of £76 a week:

- She would have received Home Responsibilities Protection (HRP) for 15 of the years that she spent at home caring for her child[12]. This 15 years of HRP would be turned into positive credits under the White Paper proposals.
- She would also qualify for BSP during each of the 20 years spent in work.
- This means that she would have a total of 35 years of credits and qualifying years, which is more than the 30 required for a full BSP.

She would also receive some SERPS/ S2P, worth around £26 a week at state pension age:

- She would not have received any credits for the years that she spent at home caring for her child because this was before the introduction of S2P in 2002. SERPS, in place before 2002, did not include carers' credits.
- She would also not receive credits for the years that she spent caring for her mother and an aunt. Under the White Paper proposals, she would need to spend 20 hours caring for a single person to receive credits, but she spends 15 hours.
- She would build-up ('accrue') rights for SERPS/S2P during her period of work, worth £26 a week at state pension age.

Her income from Personal Accounts could be around £7 at state pension age. This is a relatively small amount[13], reflecting:

- She spends a relatively small part of her working life contributing. She contributes for 8 years, from the introduction of Personal Accounts in 2012 up to the start of her caring at age 59.
- She has low earnings and so her contributions are small.
- Her contributions are made in her fifties so there is less time for interest to accumulate than if they were made earlier in her life.

This Personal Accounts saving is likely to be below the trivial commutation limit. She could therefore choose to take her saving as a one-off lump sum rather than as an annuity. On the assumptions made, the lump sum could be around £6,300, in 2006/7 earnings terms.

Under current rules, the first £6,000 of a single person's capital has no effect on their entitlement to Pension Credit[14]. It may be advisable for her to choose to take her Personal Accounts saving as a lump sum, to maximise her entitlement to Pension Credit.

[12] Assuming that the birth of her child did not coincide with the start of the tax year, so that she receives HRP for only 15 of the first 16 years of her child's life

[13] For example, compared to the second and third case studies in this report

[14] However, note that this amount has not been uprated since Pension Credit was first introduced in 2003 and so could continue to fall relative to average earnings by the time she reaches state pension age in 2027

***Interaction with Pension Credit***

If she chose to buy an annuity with her Personal Accounts saving, then Pension Credit would affect the value of her saving, relative to what she would have received if she had not made saving.

The combination of £109 a week from BSP, SERPS/S2P and Personal Accounts would not be enough to take her completely above Pension Credit at state pension age. She could be eligible for £16 in Pension Credit, consisting of £5 in Guarantee Credit and £11 in Savings Credit.

If she had chosen to opt-out of Personal Accounts altogether, then she would have been eligible for more Pension Credit, of around £19 a week at state pension age. This means that the £7 a week she receives from Personal Accounts reduces her Pension Credit entitlement by £3 a week (from £19 to £16). The overall impact of her Personal Accounts saving is therefore to increase her total income by only £4 a week. This corresponds to an 'average withdrawal rate'[15] of 40%[16].

Her total income would fall during her retirement, relative to average earnings. This is because, although the value of BSP would be maintained relative to average earnings:

- Income from SERPS/S2P would only increase with prices during retirement; and
- A level annuity is assumed to be chosen for Personal Accounts, so payments are fixed in cash terms; and
- Savings Credit becomes less generous over time under the White Paper proposals, relative to average earnings.

For example, her total income, including Pension Credit, would reduce from £125 to £119 by the time she is age 76.

By age 86, her total income including Personal Accounts would be too low to qualify for the Savings Credit element of Pension Credit. This means that her saving in Personal Accounts would not increase her total income at all from that point onwards because it would result in a like-for-like reduction in her Guarantee Credit[17]. The life expectancy of a woman reaching state pension age in 2027 is around 89[18], so she is likely to see her Personal Account income have no impact on her total income at some point in retirement. This may mean that it is advisable for her to trivially commute her Personal Accounts saving.

[15] The average withdrawal rate is an estimate of the reduction in Pension Credit that results from saving, as a proportion of that saving

[16] Using the unrounded figures

[17] Assuming that she claims her Guarantee Credit

[18] Cohort life expectancy in GAD (2005)

Table 2[19]: Projected income from state pensions, Personal Accounts and Pension Credit for Example 1, in £ per week, 2006/7 earnings terms

| | If saves as described and does not choose to trivially commute her Personal Accounts saving as a lump sum | If does not save in Personal Accounts |
|---|---|---|
| At SPA (age 66) | | |
| BSP | £76 | £76 |
| SERPS / S2P | £26 | £26 |
| Personal Accounts | £7 | - |
| Pension Credit | £16 | £19 |
| Total | £125 | £121 |
| 10 years after SPA (age 76) | | |
| BSP | £76 | £76 |
| SERPS / S2P | £21 | £21 |
| Personal Accounts | £5 | - |
| Pension Credit | £17 | £19 |
| Total | £119 | £116 |

[19] PPI analysis using the Individual Model

Example 2: A lifetime self-employed woman
This case study is a single woman who is self-employed for her entire working life, from age 18 until retiring at age 65. She is aged 16 today, so she retires in 2055. She earns at the 3rd decile of earnings for women of her age[20].

Although the self-employed would not be auto-enrolled into Personal Accounts, she voluntarily opts-in from their introduction in 2012. She contributes for a total of 43 years, from opting-in at age 22 in 2012 until retiring at age 65 in 2055. During this period, she contributes the equivalent of the minimum contribution for employees (5% of band earnings, including the tax relief that she would receive). She would not receive an employer contribution because she is self-employed. Her average contribution is £9 a week (in 2006/7 earnings terms), which is made up of £7 in individual contributions and £2 a week through tax relief.

She takes her Personal Account when she retires at age 65 in 2055. This is three years before her state pension age of 68.

Outcomes under the White Paper proposals
She could receive a total income of £114 a week at state pension age (Table 3). This consists of the full Basic State Pension of £76, £23 from Personal Accounts, and £15 in the Guarantee Credit component of Pension Credit. She would not receive State Second Pension because she is self-employed for her entire working life.

Her Personal Accounts saving is likely to be above the trivial commutation limit, so she would not have the option of taking her entire Personal Accounts saving as a lump sum.

The value of her business could have a significant impact on her total income in retirement and on her potential eligibility to Pension Credit.

If she has no income from her business in retirement, then her Personal Accounts saving may not increase her total income at all, even early in retirement. At state pension age, she could receive £114 a week if she saves in Personal Accounts – the same amount that she would have received if she had not saved and claimed Guarantee Credit.

[20] Decile points divide the earnings distribution into ten groups each of which contain the same number of workers. So, for example, 30% of females earn below the 3rd decile of the female earnings distribution. The 3rd decile of the female earnings distribution is around £14,000 at age 25, increasing to around £16,000 by age 40 and declining to around £14,500 by age 50, in 2006/7 earnings terms.

If she had some income from her business in retirement, then her Personal Accounts saving could have a positive impact on her total income. She is still likely to be eligible for some Pension Credit, however:

- To be completely above Pension Credit at age 78, her business would need to be worth more than £50,000 when she retires at age 65 (in 2006/7 earnings terms, assuming that she sells her business and buys a single-life, level annuity).
- In a recent survey by the Association of British Insurers, only 6% of self-employed people though it was realistic that the sale of their business could fund their retirement[21].

This case study is self-employed for her entire working life. This may be a pessimistic scenario in terms of retirement income. The next case study has a combination of self-employment, full-time and part-time employment and some unemployment.

Table 3[22]: Projected income from state pensions, Personal Accounts and Pension Credit for Example 2, in £ per week, 2006/7 earnings terms

| | If saves as described and has no income from her business in retirement | If does not save in Personal Accounts |
|---|---|---|
| At SPA (age 68) | | |
| BSP | £76 | £76 |
| SERPS/S2P | - | - |
| Personal Accounts | £23 | - |
| Pension Credit | £15 | £38 |
| Total | £114 | £114 |
| 10 years after SPA (age 78) | | |
| BSP | £76 | £76 |
| SERPS/S2P | - | - |
| Personal Accounts | £15 | - |
| Pension Credit | £23 | £38 |
| Total | £114 | £114 |

[21] ABI (2006) page 5
[22] PPI analysis using the Individual Model

Example 3: A woman with periods of non-standard employment
This case study is a single woman who has a combination of employment, self-employment and unemployment. She is:

- Employed from age 21.
- Self-employed for 7 years, from age 40 to age 46[23].
- Employed from age 47 to age 55.
- In receipt of Incapacity Benefit from age 56 to age 60.
- She returns to part-time work from age 61 to retiring at state pension age (68).

She is aged 16 today, so she reaches age 68 in 2058. When in work, she earns at the 3rd decile of earnings for women of her age[24].

She and her employer contribute the minimum amount to a Personal Account[25] from 2012, while she is employed and working full-time. The self-employed would not be auto-enrolled into Personal Accounts and she does not voluntarily opt-in when she is self-employed. She does not contribute when she is receiving Incapacity Benefit.

She therefore contributes for a total of 27 years, from age 22 (when Personal Accounts are introduced in 2012) to age 39, and then for a second period from age 47 to age 55. Her average contribution during these periods is £16 a week (in 2006/7 earnings terms), which is made up of £8 in individual contributions, £6 from her employer and £2 a week through tax relief. She takes her Personal Account at state pension age, at age 68 in 2058.

A variation of this case study, which assumes that the woman has the same work and savings patterns but has median earnings[26] rather than low earnings, has also been analysed and is set out in the last section of this case study.

[23] In comparison, a study in 2000 found that on average a spell of self-employment lasts almost 8 years, Knight and McKay (2000)
[24] Decile points divide the earnings distribution into ten groups each of which contain the same number of workers. So, for example, 30% of females earn below the 3rd decile of the female earnings distribution. The 3rd decile of the female earnings distribution is around £14,000 at age 25, increasing to around £16,000 by age 40 and declining to around £14,500 by age 50, in 2006/7 earnings terms. When she works part-time, she is assumed to earn 40% of this amount. Note that she earns above the Primary Threshold for Personal Accounts contributions in every year in which she is employed or self-employed.
[25] A total of 8% of gross salary between the Primary Threshold and the Upper Earnings Limit for Personal Accounts contributions, including the tax relief component. See the appendix for further details.
[26] Median female earnings are around £17,000 at age 25, increasing to around £20,000 by age 40 and declining to around £18,000 by age 50, in 2006/7 earnings terms. When she works part-time, she is assumed to earn of this amount.

Outcomes under the White Paper proposals

Assuming that she earns at the 3rd decile of earnings for women of her age, she could receive a total of £156 a week at state pension age (Table 4). This consists of the full Basic State Pension (BSP) of £76, £49 in State Second Pension (S2P) and £31 from Personal Accounts.

This would be sufficient to take her above Pension Credit, both at state pension age and at age 78. She would lose small amounts of Savings Credit as a result of her saving, so could have an average withdrawal rate of 10% to 25%.

***Incomes from state pensions and Personal Accounts***

She would qualify for the full BSP. Her earnings are consistently above the Lower Earnings Limit when she is in work and both her self-employment and Incapacity Benefit count towards her Basic State Pension.

She would not qualify for S2P when she is self-employed and for the first year of her time on Incapacity Benefit (because Statutory Sick Pay and the short-term rate of Incapacity Benefit would not qualify for S2P credits[27]). However, she would still qualify for S2P for most of her working life, and would receive around £49 a week in S2P at state pension age.

She also has a relatively full contribution history for Personal Accounts. She contributes for a total of 27 years, giving her an income of £31 a week from Personal Accounts at state pension age.

Her Personal Accounts saving is likely to be above the trivial commutation limit, so she would not have the option of taking her entire Personal Accounts saving as a lump sum.

She is assumed not to have any income from her business in retirement.

***Interaction with Pension Credit***

The combination of state and Personal Account income is high enough to take her above Pension Credit at state pension age.

Her total income would fall during retirement relative to average earnings because, although the BSP would be indexed to average earnings, income from S2P would only increase with prices in retirement and a level annuity is assumed to be chosen for Personal Accounts. Despite this fall, her income from state pensions and Personal Accounts would still be above the upper threshold for eligibility for Pension Credit at age 78.

[27] House of Lords ***Hansard*** 19 June 2006 Column WA63

If she had not saved in a Personal Account, then she could be eligible for a small amount of Savings Credit, of around £3 a week at state pension age, increasing to £5 a week by age 78. Saving in a Personal Account could mean that she loses this amount. On the assumptions made, her weekly income from her Personal Account would be around £31 at state pension age and £20 at age 78, so this corresponds to average withdrawal rates of between 10% and 25%[28].

Table 4[29]: Projected income from state pensions, Personal Accounts and Pension Credit for Example 3, assuming she earns at the 3rd decile of earnings for women of her age, in £ per week, 2006/7 earnings terms

| | If saves as described | If does not save in Personal Accounts |
|---|---|---|
| At SPA (age 68) | | |
| BSP | £76 | £76 |
| SERPS/S2P | £49 | £49 |
| Personal Accounts | £31 | - |
| Pension Credit | - | £3 |
| Total | £156 | £128 |
| 10 years after SPA (age 78) | | |
| BSP | £76 | £76 |
| SERPS/S2P | £40 | £40 |
| Personal Accounts | £20 | - |
| Pension Credit | - | £5 |
| Total | £136 | £121 |

Outcomes for a median earner

This section considers a woman with the same work and earnings patterns as Example 3 above but who has median earnings rather than low earnings. She would have a higher income from Personal Accounts and a slightly higher state pension income than the woman with low earnings (Table 5):

- Her income from Personal Accounts could be £43 a week at state pension age, in comparison to £31 a week for woman with low earnings. This is a result of her higher earnings and therefore higher minimum contributions to Personal Accounts. She contributes for the same number of years as the woman with low earnings (27 years) but her average contribution is higher, at £22 a week (in 2006/7 earnings terms). This is made up of £11 in individual contributions, £8 from her employer and £3 a week through tax relief.
- She would still receive the full £76 a week from BSP but her income from S2P would be higher by around £1 a week. This is a result of the earnings-related component of S2P, which would exist for the build-up (‘accrual’) of rights before S2P becomes flat-rate around 2030.

[28] Calculated as 3/31 and 5/20, respectively at state pension age and at age 78. The average withdrawal rate is an estimate of the reduction in Pension Credit that results from saving, as a proportion of that saving. For this case study, average withdrawal rates would increase during retirement as a result of declining amounts of income from Personal Accounts, relative to Savings Credit.

[29] PPI analysis using the Individual Model

This woman would have a lower withdrawal rate from Personal Accounts than the woman with low earnings, of around 5% to 20% rather than 10% to 25%:

- If she had not saved in Personal Accounts, she could have been entitled to a smaller amount of Pension Credit, of around £3 a week at state pension age.
- On the assumptions used in this report, she would receive around £43 a week from Personal Accounts at state pension age. She would lose the £3 a week in Pension Credit.
- Her £43 of income from Personal Accounts therefore increases her total saving by £40 (£43 less the £3 lost in Pension Credit). This corresponds to an average withdrawal rate of around 5%[30].
- If she had not saved, her Pension Credit entitlement would have increased with age. By age 78, she could have been entitled to £5 a week in Pension Credit. In contrast, her income from Personal Accounts would decline relative to average earnings in retirement, as a result of the level annuity bought. She would receive around £27 a week at age 78. Her average withdrawal rate would therefore increase during her retirement, to around 20% at age 78[31].

Table 5[32]: Projected income from state pensions, Personal Accounts and Pension Credit for a median-earning woman with the same work and savings patterns as Example 3, in £ per week, 2006/7 earnings terms

| | If saves as described | If does not save in Personal Accounts |
|---|---|---|
| At SPA (age 68) | | |
| BSP | £76 | £76 |
| SERPS / S2P | £50 | £50 |
| Personal Accounts | £43 | - |
| Pension Credit | - | £3 |
| Total | £169 | £129 |
| 10 years after SPA (age 78) | | |
| BSP | £76 | £76 |
| SERPS / S2P | £41 | £41 |
| Personal Accounts | £27 | - |
| Pension Credit | - | £5 |
| Total | £144 | £122 |

30 Calculated as 3 / 43 and rounded to the nearest 5%. The average withdrawal rate is an estimate of the reduction in Pension Credit that results from saving, as a proportion of that saving.
31 Calculated as 5 / 27 and rounded to the nearest 5%
32 PPI analysis using the Individual Model

# Appendix

This Appendix gives more information on the common assumptions used in this report together with some sensitivity analysis.

Pension reforms modelled

The proposals in the White Paper are assumed to be introduced in full:

- Uprating the Basic State Pension (BSP) with average earnings. This change is assumed to be implemented in 2012.
- Accelerating the transition of State Second Pension (S2P) into a flat-rate rather than an earnings-related pension. S2P would be completely flat-rate for entitlements built-up ('accrued') from around 2030 onwards.
- Making technical changes to the crediting system for both BSP and S2P and reducing the number of qualifying years needed for a full BSP to 30.
- Making Savings Credit less generous.
- Gradually increasing state pension age to 68 by 2046.
- Introducing a new pensions savings vehicle, Personal Accounts. All employees aged 22 or over and earning more than the Primary Threshold (£5,035 a year in 2006/7) would be auto-enrolled into Personal Accounts, with the right to opt out.

The minimum contributions for Personal Accounts would be expressed as a percentage of 'band' earnings between the Primary Threshold and the Upper Earnings Limit (£5,035 and £33,540 a year in 2006/7). These are assumed to increase in line with average earnings in future. The employee would contribute a minimum 4% of band earnings, the employer would contribute 3% and tax relief would operate as currently.

The existing link between the Lower Earnings Limit (LEL) and the level of the Basic State Pension is assumed to be retained, so that the LEL increases in line with average earnings from 2012. If instead the LEL continued to be increased with prices, then incomes from State Second Pension could be higher.

In its end of October 2006 response to the White Paper consultation, the Government said that it is ***exploring whether it would be possible to replace the accruals-based flat-rate element of State Second Pension with a flat rate and fixed amount immediately at the same time as we link the basic State Pension to rises in average earnings***[33]. This possible further reform has not been taken included in the reforms modelled in this report. If this idea is taken forward, then it could affect outcomes for the individuals analysed. However, the extra reform is unlikely to have a large impact, depending on exactly how it is introduced.

[33] DWP (2006 WPCR) page 71

Other assumptions used

Price inflation is assumed to be 2.5% each year and average earnings are assumed to grow by 2.0% each year in excess of prices.

Annual pre-retirement investment returns in Personal Accounts are assumed to be 3% in excess of prices, corresponding to a mixed equity / bond fund. Results are sensitive to this assumption. For example, the woman illustrated as Example 3 who earns at the 3rd decile of earnings for women of her age (Table 6):

- Could receive £31 a week from her Personal Account at state pension age (68) if investment returns were 3% in excess of prices.
- If investment returns were higher, at 4% in excess of prices, then she could receive £42 from her Personal Account at state pension age.
- If investment returns were lower, at 2% in excess of prices (corresponding to earnings growth), then she could receive £23 from her Personal Account at state pension age.

Table 6[34]: Projected income from Personal Accounts for the woman in Example 3 who earns at the 3rd decile of earnings for women of her age, for different assumptions on pre-retirement investment returns, in £ per week, 2006/7 earnings terms

| | At age 68 | At age 78 |
|---|---|---|
| Central assumption: 3% in excess of prices | £31 | £20 |
| 4% in excess of prices | £42 | £27 |
| 2% in excess of prices | £23 | £15 |

Annual management charges in Personal Accounts are assumed throughout the case studies to be 0.3% of assets under management. All other things being equal, higher charges could lead to lower incomes from Personal Accounts than shown[35].

All of the individuals modelled are assumed to use their Personal Account fund to buy a single-life, level annuity fixed in cash terms at retirement (unless they trivially commute their Personal Accounts saving). This means that their income from Personal Accounts would decline quickly during their retirement, especially when considered relative to average earnings.

For simplicity, they are assumed not to take the tax-free lump sum option.

34 PPI analysis using the Individual Model

35 See PPI Briefing Note 33 for a discussion of the impact of Personal Account charges

Assumptions are made regarding future annuity rates. The assumptions used are:

- Mortality follows the PMA92/PFA92 mortality tables, adjusted for future mortality improvements using the "medium cohort" projection in CMIB (2002).
- Post-retirement investment returns are 1% in excess of prices.
- Calculated mortality rates are multiplied by a factor of 1.04 to allow for expense charges.

These assumptions are broadly similar to those required for the calculation of annuity rates for the purpose of Statutory Money Purchase Illustrations (SMPIs)[36]. As noted above, a level annuity is assumed to be bought for the purpose of the case studies rather than an RPI annuity as required for SMPIs.

As an illustration, on the assumptions used in the case studies, the rate for a single-life, level annuity is 6.5% for men at age 65 in 2006. Equivalent available market rates are currently between 6.3% and 7.4%[37].

[36] Actuarial Profession (2006) TM1 Version 1.2, coming into effect 1 November 2006. Note that TM1 requires annuities to be calculated using a market interest rate. This varies over time, and would be 1.2% real for illustrations dated between 6 April 2005 and 5 April 2006, and 0.8% real for illustrations dated between 6 April 2006 and 5 April 2007. The case studies use an assumption of 1.0% real.

[37] For a non-smoker with a pension fund of £75,000. Annuity rate information is taken from the FSA's Comparative Tables (www.fsa.gov.uk/tables) as at 17 October 2006, for rates with unrestricted availability. © The Financial Services Authority.

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The PPI takes responsibility for remaining errors.
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