

## Introduction

This Briefing Note aims to examine the extent of the effect of increased minimum automatic enrolment (AE) pension contributions on take-home pay and total remuneration, and how changes to income tax and National Insurance (NI) thresholds might reduce the impact of the contribution increases on salary.

Automatic enrolment into pension schemes was introduced in 2012. Employers are required to automatically enrol employees who meet certain eligibility requirements into an appropriate pension scheme with a minimum acceptable level of pension contributions.

The idea of automatic enrolment is to use inertia to encourage pension savings. If an employee wishes to not be a member of a pension scheme they have to actively opt out. However, if the cost were to substantially increase, there are fears that the inertia factor could be overcome, leading to a higher rate of opting out and cessation of pension saving.

## Key points

- Increasing contributions under a band earnings system proportionally affects higher earners the most.
- Tax and NI threshold changes can reduce the impact of higher employee contributions. For example, a £25,000 earner's take-home pay falls by £5.81 a week through increased contributions, but tax and NI changes reduce that effect by £1.95 to a reduction in take-home pay of £3.86 a week.
- Pay increases could also offset impact on take-home pay. For example a pay increase of 1.2% would enable the £25,000 earner to maintain take-home pay.
- For people earning at the National Living Wage, the increase in the level of the National Living Wage may be enough to overcome the increase in employee contributions.
- Employer contributions are also increasing, leading to higher overall remuneration. For example, the £25,000 earner's remuneration increases by around £7 a week, even without an increase in gross pay.
- As a result of automatic enrolment changes, the growth in both remuneration and employer costs are greater than headline pay increases.
- Many members of pension schemes are already contributing at a rate above the minimum level so may not face an increase in their contributions.

## Automatic enrolment contributions are changing

The minimum level of contributions is increasing in a phased manner from a combined 2% of band earnings in 2012, up to 8% of band earnings by 2019. The first increase in contributions will take place in April 2018, increasing minimum total contributions

from 2% to 5% of band earnings, by increasing minimum employer contributions from 1% to 2% of band earnings and potential employee contributions from 1% to 3% of band earnings (including tax relief) (Table 1).

Although the same minimum contribution percentage of band

earnings (between £6,032 and £46,350 in 2018/19) is applicable to everyone, this doesn't translate into a constant proportion of gross salary. For example, under a combined employer and employee contribution of 5% of band earnings, an employee earning £15,000 would have total contributions of £8.62 a week, equivalent to

## Table 1: Changes to contributions and thresholds from April 2018

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Rates in 2017/18 and 2018/19 for the items considered in this Briefing Note

	2017/18	2018/19
Minimum total AE contribution (% of band earnings)	2%	5%
Minimum AE employer contribution (% of band earnings)	1%	2%
Employee contribution (% of band earnings)	1%	3%
Salary bands (lower/upper)	£5,876/£45,000	£6,032/£46,350
Income tax personal allowance	£11,500	£11,850
Higher rate tax earning threshold	£45,000	£46,350
NI primary and secondary thresholds	£8,164	£8,424
NI upper earnings limit	£45,000	£46,350
National Living Wage for people aged 25+ over (hourly rate)	£7.50	£7.83

The effect of contribution changes on take-home pay is similarly related to salary level (Table 2). The effect of contribution changes is smaller for lower paid employees than those earning at the top of the salary band. For example, the effect of the automatic enrolment changes on weekly take-home pay is a reduction of £2.74 a week for a person earning £15,000, whereas it is -£11.97 a week for a person earning £45,000.

This is because a smaller proportion of a lower-paid employee's earnings is included in the band earnings so a lower proportion of their salary is affected by the increase in pension contributions.

People earning at the upper band level are more affected, because a higher proportion of their salary is included in band earnings.

Total remuneration includes the value of the pension contributions. So, while their take-home pay may be reduced, the increase in employer contributions increases the value of the remuneration package. The extent of the increase is, again, dependent on salary level.

### Changes to Tax and National Insurance (NI) thresholds affect take-home pay

Changes to personal allowance and tax/NI thresholds announced in the Autumn

3% of gross salary, whereas an employee earning £45,000 would have total contributions of £37.47 a week, equivalent to 4.3% of gross salary.

Changing contributions has an effect on take-home pay, raising concerns that people may overcome the inertia principle and choose to cease pension saving.

## Table 2: Changes to contributions have a higher impact higher earners

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Cumulative effect on take-home pay of changes to automatic enrolment contributions and earnings bands

Gross salary	Take-home pay in 2017	Take-home pay with 2018 AE contributions	Take-home pay with 2018 AE contributions and bands	Difference arising from both AE changes, £s a week
£10,000	£9,738	£9,656	£9,661	-£1.50 (-0.80%)
£15,000	£13,407	£13,261	£13,264	-£2.74 (-1.06%)
£25,000	£20,127	£19,821	£19,824	-£5.81 (-1.50%)
£35,000	£26,847	£26,381	£26,384	-£8.89 (-1.72%)
£45,000	£33,567	£32,941	£32,944	-£11.97 (-1.85%)
£50,000	£36,545	£36,075	£36,054	-£9.44 (-1.34%)

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2017 Budget for the tax year 2018/19 also affect take-home pay.

Income tax on salary reduces take-home pay, but not all salary is subject to tax. Earnings below the personal allowance are not taxable. Increasing the personal allowance reduces the taxable income and therefore can increase take-home pay. The personal allowance is due to increase from £11,500 to £11,850 from April 2018. This means that £350 of income will no longer be taxed, leading to a £70 reduction in the tax paid at the basic rate level.

Pension contributions are not subject to tax. Increasing pension contributions reduces taxable income. The higher pension contribution resulting from the increase in automatic enrolment contributions also slightly reduces the tax liability.

Employee National Insurance contributions (NICs) are also paid on salary above a threshold, the Primary Threshold, £8,424 in 2018/19. Similarly to the effect of income tax allowances, increasing the Primary Threshold reduces the level of NICs payable, which could also offset some of the effect of increasing the automatic enrolment minimum contributions.

Unlike tax, National Insurance is payable on pension contributions, so the increase in pension contribu-

tions doesn't itself reduce the income subject to NICs.

### Tax and NI could be mitigating factors on pension contribution increases

The increase in the tax and NI thresholds reduces the tax and NI liabilities, given the same starting salary.

As a result of the widening of the basic rate tax band, the reduction in tax is larger for higher rate taxpayers than for basic rate taxpayers. The expanded basic rate tax band increases the amount of taxable salary that is subject to the basic rate as opposed to the higher rate of income tax. This means that higher rate taxpayers, for the same gross salary, have a reduced tax liability arising from both the increase in the personal allowance and the increase in the size

of the basic rate band.

The NI contribution rate reduces for earnings over the Upper Earnings Limit (UEL). This is essentially the opposite of the situation with income tax. All else being equal, increasing the UEL increases the NI paid by high earners for a given salary level.

The proportional impact of tax and NI threshold increases is most positive for people earning at the tax personal allowance level (Table 3). The proportional impact reduces for basic rate taxpayers with greater levels of salary approaching the higher rate tax threshold.

For a low earner, the combined effect of tax and NI thresholds, and automatic enrolment salary band could increase take-home

## Table 3: Tax and NI threshold changes can to some extent mitigate the effect of contribution increases

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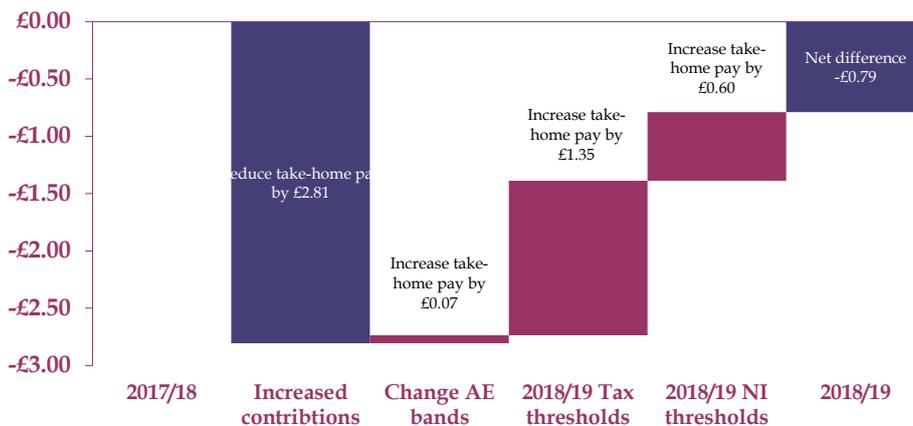
### Cumulative effect on take-home pay of changes to tax and National Insurance thresholds

Gross salary	Take-home pay with 2018 AE contributions and bands	Take-home pay with 2018 tax thresholds	Take-home pay with 2018 tax and NI thresholds	Difference arising from tax and NI thresholds, £s a week
£10,000	£9,661	£9,661	£9,692	£0.60 (0.32%)
£15,000	£13,264	£13,334	£13,366	£1.95 (0.76%)
£25,000	£19,824	£19,894	£19,926	£1.95 (0.51%)
£35,000	£26,384	£26,454	£26,486	£1.95 (0.38%)
£45,000	£32,944	£33,014	£33,046	£1.95 (0.31%)
£50,000	£36,054	£36,394	£36,290	£4.54 (0.66%)

## Chart 1: Tax thresholds are the largest mitigating factor on take-home pay for a low earner

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Cumulative effect of each change between 2017/18 and 2018/19 to the weekly take-home pay of an employee earning £15,000 a year



pay by £2.02 a week, mitigating the effect of the contribution increase on take-home pay, taking the reduction from £2.81 a week to £0.79 a week (Chart 1).

### Balancing contribution change and tax system

The net effect of changes in tax and NI allowances and thresholds is to mitigate the increase in employee contributions some-

what. The extent of the mitigation depends on the level of salary.

The increases in both tax and National Insurance thresholds do not fully mitigate the increase in contributions rates. To achieve the same take-home pay in 2018 as in 2017 would require a pay increase (Table 4).

People expect to get pay rises. Tax and NI thresholds increase in part because of pay growth. A fixed level of income does not enable the individual to maintain their standard of living if prices of goods are increasing.

In order to maintain purchasing power of take-home pay of individuals from 2017 to 2018, the take-home pay must increase in line with price inflation. The Office for Budget Responsibility (OBR) projection of price inflation from 2017 to 2018 is 2.2%.<sup>1</sup> In order to maintain the real term value of take-home pay, salary would need to increase by more than 2.2%.

## Table 4: To maintain take-home pay in real terms could require a pay rise of over 3%

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Required pay increases to maintain take-home pay from 2017 in 2018, in nominal and real terms

Gross salary	Take-home pay with 2017	Take-home pay in 2018	Difference (£s a week)	Pay increase required to maintain take-home pay in cash terms	Pay increase required to maintain take-home pay in real terms (CPI)
£10,000	£9,738	£9,692	-£0.90	0.5%	3.1%
£15,000	£13,407	£13,366	-£0.79	0.4%	3.4%
£25,000	£20,127	£19,926	-£3.87	1.2%	3.9%
£35,000	£26,847	£26,486	-£6.94	1.6%	4.1%
£45,000	£33,567	£33,046	-£10.02	1.8%	4.1%
£50,000	£36,545	£36,290	-£4.90	0.9%	3.7%

This is based on England, Wales and Northern Ireland income tax rates and thresholds as the system in Scotland is slightly different.

### Changes to the Scottish tax system

In the 2017/18 tax year Scotland has a higher rate tax threshold which is lower than in the rest of the UK. In De-

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cember 2017, the Scottish Government set out further changes to the Scottish income tax system. The changes consist of splitting the basic rate band into three and increasing the higher and additional rates:

- a Scottish starter rate of tax at 19%,
- a Scottish basic rate of 20%,
- a Scottish intermediate rate of 21%,
- a Scottish higher rate of 41%, and
- a Scottish additional rate of 46%.

In 2018/19, Scotland again has a higher rate tax threshold which is lower than in the rest of the UK.

Employees in Scotland who are marginal taxpayers at the Scottish starter rate have a reduced tax rate which would further mitigate the contribution increases. Scottish intermediate and higher rate taxpayers have an increased tax rate which reduces the effect of mitigation on the contribution increases from tax threshold changes.

### Earners on the National Living Wage may receive real increase in take-home pay

The National Living Wage for 25 year olds and over increased from £7.50 an hour in 2017/18 to £7.83 an hour in 2018/19, an increase of 4.4%. In order to qualify for automatic enrolment, the employee has to earn £10,000 a year. For an employee earning the National Living Wage, that

equates to 26 hours of work a week or more in 2017/18, or 25 hours a week in 2018/19.

For a full-time employee on 37 hours at National Living Wage, their gross income is £14,430 in 2017/18 and £15,065 in 2018/19. The changes to automatic enrolment minimum contributions and salary bands reduces their take-home pay by £2.56 a week. The changes in income tax and NI thresholds increase their take-home pay by around £1.95 a week. However, the increase in the National Living Wage increases their take-home pay by around £8 a week leading to a net increase in their weekly take-home pay of £7.40 a week (Table 5). That is an increase in take-home pay of 3%.

### Increased employer pension contributions can increase total remuneration

Take-home pay is a very useful measure which reflects what the individual experiences happening to their income and their ability to maintain purchasing power. However, money saved in a pension is not simply lost money, pension savings is still a valuable part of the individual's earnings. Considering total net remuneration as take-home pay plus the employer and employee pension contributions gives a perspective on the effect of automatic enrolment pension contribution increases on the value of work.

While take-home pay falls, with the increase in automatic enrolment minimum contributions, total remuneration may

**Table 5: Full-time worker on National Living Wage doesn't see a reduction in take-home pay**

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Impact of AE, tax and NI changes on take-home pay of a full-time worker earning the National Living Wage (Table shows annual take-home pay)

	Take-home pay before	Take-home pay after	Difference (£s a week)
April 2018 Contribution increase	£13,024	£12,887	−£2.63 (−1.1%)
AE bands uprating	£12,887	£12,891	£0.07 (0.0%)
Income tax thresholds uprating	£12,891	£12,961	£1.35 (0.5%)
NI thresholds uprating	£12,961	£12,992	£0.60 (0.2%)
Increase in National Living Wage	£12,992	£13,408	£8.01 (3.2%)
<b>Total</b>	<b>£13,024</b>	<b>£13,408</b>	<b>£7.40 (3.0%)</b>

not (Table 6). Without an increase in gross salary, the total net remuneration is higher in 2018/19 than in 2017/18 as a result of the increase in employer pension contributions. For example, the total net remuneration of a person earning £25,000 increases from £20,509 in 2017 to £20,874 in 2018, equivalent to an increase of £7.02 a week, without a pay rise. If gross salary were to be increased at 2.7%, in line with OBR assumptions,<sup>2</sup> then the increase is even greater.

Employer contributions are also increasing, meaning that the overall remuneration is higher following the contribution increases but is spread differently between take-home pay and pension. If an employee were to stop saving, they would lose the employee contribution part of their remuneration. Increases in pay and employment costs, are therefore, higher than headline pay increases.

For example, a 30 year old median earner would, as a result of the contributions increases, have an additional combined employer and employee contribution of £560 in to their pension, which with investment return could be worth around £940 at their State Pension age (in 2018 earnings terms).

### Increasing cost of employment could put pressure on pay increases

An employer is interested in recruiting and retaining a workforce

## Table 6: Total remuneration increases as a result of additional pension contributions

Total net remuneration in 2017 and 2018. Take-home pay, plus pension contributions from employee and employer

Gross salary	Net Remuneration incl pension contributions 2017	Net Remuneration incl pension contributions 2018	Difference (£s a week, no pay increase)	Difference (£s a week, 2.7% pay increase)
£10,000	£9,821	£9,890	£1.33 (0.7%)	£6.01 (3.2%)
£15,000	£13,589	£13,814	£4.32 (1.7%)	£9.82 (3.8%)
£25,000	£20,509	£20,874	£7.02 (1.8%)	£16.18 (4.1%)
£35,000	£27,429	£27,934	£9.71 (1.8%)	£22.54 (4.3%)
£45,000	£34,349	£34,994	£12.40 (1.9%)	£28.90 (4.4%)
£50,000	£37,327	£38,306	£18.82 (2.6%)	£33.88 (4.7%)

in a cost effective manner. It is possible to model the effect of automatic enrolment contribution increases from the point of view of the employer by defining each employee's cost of employment as the salary paid plus employer National Insurance contributions and employer pension contributions.

Without a pay increase, the cost of employment increases as the pension contributions are increased, but may also be reduced as a result of an increase in the National Insurance threshold.

Without giving a pay increase, the increase in the employer contributions increases the cost of employment for hiring an employee at £25,000 gross salary from £27,515 in 2017 to

£27,667 in 2018, which is an increase of 0.6% (Table 7).

The OBR suggests that average earnings growth may be lower than previously assumed. This arises through employers trying to pass on the cost of increases in automatic enrolment minimum contributions to employees through lower pay increases. Restricting pay increases could lead to employees take-home pay reducing.

### Will pension contribution increases overcome inertia?

Automatic enrolment derives much of its power from the inertia of enrolled employees. There are fears that the increases to pension contributions may shock employees into overcoming the inertia and taking action to remove themselves from their automatically enrolled pension scheme.

**Table 7: Cost of employment increases more for higher earners**

Difference in cost of employment in 2017 and 2018 assuming pay increase of 2.7%

Gross salary in 2017	Cost of employment 2017	Cost of employment 2018 (no pay increase)	Annual difference (no pay increase)	Annual difference (2.7% pay increase)
£10,000	£10,295	£10,297	£2 (0.0%)	£315 (3.1%)
£15,000	£16,035	£16,087	£52 (0.3%)	£521 (3.3%)
£25,000	£27,515	£27,667	£152 (0.6%)	£934 (3.4%)
£35,000	£38,995	£39,247	£252 (0.6%)	£1,347 (3.5%)
£45,000	£50,475	£50,827	£352 (0.7%)	£1,759 (3.5%)
£50,000	£56,165	£56,544	£379 (0.7%)	£1,916 (3.4%)

tions, opt out of automatic increases, or opt out of the pension scheme altogether.

Analysis of employees reactions to contribution increases in the USA suggests that employee participation rates remains relatively unchanged following increases. Of those people participating, around 92% of members are contributing at, or above, the increased default contribution rates.<sup>6</sup>

#### Not everyone is affected

Many employees and employers are already contributing at higher levels than the automatic enrolment minimum levels. In 2016, 54% of eligible employees and 64% of employers were contributing at 2% of band earnings or greater. For these employees and employers, the April 2018 increase in automatic enrolment minimum contributions may result in no change to pension contributions.<sup>7</sup>

Employees who are already contributing more than the minimum tend to be higher earners and to work for larger companies. The distribution of employees contributing more than the automatic enrolment minimum has not changed substantially since before automatic enrolment was introduced. This may be because their employers were already offering pension schemes before automatic enrolment, at which time schemes were routinely contributing at

Opt out rates experienced so far have been lower than was expected at the outset of automatic enrolment. The rate of opt out has been stable at around 9%, with smallest employers reporting slightly higher opt out rates.

Opting out only refers to people choosing to leave their automatic enrolment scheme within 6 weeks of being enrolled. Stopping contributing after that period is called cessation. Cessation rates within the first year are higher than opt out rates, for example 23% cessation for large employers and 14% for medium sized employers. However, two thirds of cessation is due to moving jobs rather than a desire to leave the pension scheme<sup>3</sup> so individuals who cease saving may start contributing to a pension with their new employer.

Aviva commissioned a survey of employees and businesses to investigate intentions in response to the increase in contributions.<sup>4</sup> The employees surveyed showed only a small proportion (4%) of employees intend to leave their scheme, 50% said they would remain in the scheme, while 12% said they would consider leaving the scheme. However, around a third said they didn't know what they would do.

#### Experience in the USA

In the USA, automatic enrolment is not a requirement, however some employers automatically enrol their employees into pension schemes. Two thirds of such schemes have default automatic increases in the employee contribution rate each year<sup>5</sup>, however these may be declined by members who wish to lower their contribu-

higher than automatic enrolment minimum levels.

### Conclusions

Automatic enrolment has been successful in using inertia to increase participation in pension saving. However the contribution rates were initially set at a low level, with increases timetabled for April 2018 and April 2019. The contributions are based on band earnings, which leads to higher earners being affected more than lower earners.

Increasing contributions results in a reduction in take-home pay, which might be mitigated in part by the increases in income tax thresholds and National Insurance thresholds. Pay increases can also offset the reduction in take-home pay arising from the contribution rate increases.

Employees on the National Living Wage will receive an hourly pay increase of 4.4% which would be enough to offset the contribution increase if the employee maintains the same number of working hours.

Employer contributions are also increasing, meaning that overall remuneration is higher following the contribution increases,

but is spread differently between take-home pay and pension. If an employee were to stop saving, they would lose the employee contribution part of their remuneration. Increases in pay and employment costs, are therefore, higher than headline pay increases.

Evidence suggests that inertia is very powerful. In schemes overseas where contributions increase over time, cessations remain low.

Not everyone is affected by the change. DWP figures suggest that over half of employees are already contributing above the minimum level.

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1. OBR (2018) *Economic and Fiscal Outlook March 2018*
  2. OBR (2018) *Economic and Fiscal Outlook March 2018*
  3. DWP (2017) *Automatic Enrolment Review 2017: Maintaining the Momentum*
  4. Aviva (2017) *Working Lives Report*
  5. Vanguard (2017) *How America Saves 2017*
  6. Vanguard (2018) *Automatic enrolment: The power of the default*
  7. DWP (2017) *Automatic Enrolment Review 2017: Analytical Report*

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