

Financial implications of the National Employment Savings Trust¹

by Justin van de Ven² and Anitha George³

Abstract The National Employment Savings Trust (NEST) is a new pension scheme that will be introduced for employees on modest incomes in the UK from 2012. The success or failure of the scheme is likely to have a profound bearing upon the future of the UK pensions system, with important implications for the broad group of OECD countries that must contend with the challenges of population aging. This paper draws out the implications of the NEST for employers and their employees, focussing on the distributional implications for pension participation, labour costs, and the wage bargain. We find that the NEST will increase labour costs by between 0.6 and 0.8 percent on average, and have a disproportionate effect on low pay industries and private sector firms employing fewer than 25 employees. Our analysis highlights the potential role of the minimum wage to shield low pay workers from paying a share of the subsidies that the NEST will afford to its members.

Key words: Pension saving, low pay, employer pension

JEL classification: D31, H22

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Executive Summary

1. This report describes projected effects of the National Employment Savings Trust (NEST), based upon survey data regarding existing pension provisions in the UK.

2. Existing private pension arrangements in the UK

2. Existing employer sponsored pensions are less prevalent among employees on low pay, in low pay industries, in small firms, and in the private sector.
3. Employer sponsored pensions are less common in low pay industries after controlling for employee earnings.
 - Among employees in the lowest (highest) earnings quintile, 21 (49)% have an employer sponsored pension in low-pay industries, relative to 43 (70)% in non-low pay industries
4. Most employers who currently contribute to employee pension schemes, contribute significantly more than the minimum thresholds imposed by the NEST
 - Among employees currently in receipt of an employer pension contribution, only 6% receive a contribution worth less than 3% of earnings.

3. Financial implications of the NEST

5. Our analysis indicates that between 8 and 11 million employees will participate in the NEST following its introduction, making annual contributions of between £10 and £13 billion (2009 prices)
 - These projections are broadly consistent with official estimates that between 5 and 11 million employees will make annual contributions worth £9 billion (2009 prices) to the NEST
6. We find that wages would need to fall by between 0.6% and 0.8% on average to off-set additional employer contributions to the NEST
 - This range is centred over the official estimate that the NEST will increase labour costs by 0.7%
7. Low pay industries and small private sector firms are likely to be most affected by the NEST
 - For 9 of 13 low pay industries and private sector firms with fewer than 25 employees, in excess of 60% of employees will be eligible for higher employer pension contributions under the NEST.
 - To off-set employer contributions required under the NEST, wages would need to fall by between 0.8% and 1.1% among low pay industries on average, and by 1.2% and 1.6% among private sector firms employing fewer than 25 employees.
8. Our analysis suggests three important conclusions concerning implications of the NEST for the minimum wage:
 - The minimum wage will shield the lowest paid workers from bearing the compensating wage adjustments required to off-set increased employer pension contributions under the NEST.
 - To the extent that the minimum wage limits compensating wage adjustments to the NEST, it may lead to a reduction in labour hours or employee head-count.

- These considerations are particularly relevant in 7 of 13 low pay industries that account for approximately 30% of all employees, where the wage adjustments required to off-set increases in employer pension contributions under the NEST are identified as resulting in a substantial increase in the proportion of minimum wage workers.

1. Introduction

The National Employment Savings Trust – NEST – is a new Defined Contribution (DC) pension scheme that will be introduced for employees with modest earnings in the United Kingdom from 2012.⁴ The objective of the scheme is to increase private savings, and its success or failure is likely to have a profound bearing upon the way in which the UK pensions system evolves, with important implications for the wider group of countries that face similar pension challenges to those of the UK. This paper focuses upon the financial implications of the NEST for employers and their employees, which are likely to be important in determining how favourably the scheme is received. Furthermore, we consider the impact that the NEST's introduction will have on the prevailing regulatory environment over the short to medium term.

The introduction of the NEST reflects a contemporary trend toward greater reliance on DC pension provision in the (third tier) private sector in the UK, and a similar trend among OECD countries more generally.⁵ It is being introduced following recommendations made by the Pensions Commission (2005), which found that administration costs made it unprofitable for existing private sector pension providers to serve employees on modest incomes. The NEST is consequently designed to improve savings incentives by reducing management charges, and by requiring all employers to offer a 3 percent matching pension contribution on banded earnings to eligible employees. It has been forecast that the scheme will serve between 5 and 11 million people, equal to between one fifth and 44 percent of the employee population, and will receive annual contributions worth £9 billion annually (2009 prices), 50 to 70 percent of which is projected to be new saving.⁶

All employees with total annual earnings (including wages, overtime, bonuses and commission) in excess of £5720 and between 16 and 74 years of age will have the right to participate in the scheme. An employee who participates in the NEST will be required to pay an annual contribution into the scheme worth at least 5 percent of their gross earnings between £5720 and £33540⁷, and their employers will be required to pay a matching contribution worth at least 3 percent of banded gross earnings. All pension contributions are exempt from income tax, so that an employee who pays tax at the marginal rate of 20 percent (the basic rate) will effectively pay a contribution out of post-tax income that is worth 4 percent of gross earnings, and will receive tax relief worth a further 1 percent. Contributions to personal pensions in the UK are currently accessible from age 55, at which time up to 25 percent of the accrued fund can be taken as a tax free lump sum, with the remainder used to purchase a life

⁴ Previously known as Personal Accounts (DWP, 2006a), and before that the National Pension Savings Scheme (Pensions Commission, 2005).

⁵ Switzerland stands out from most other OECD countries (with the possible exception of the Netherlands) in having a long established funded DC pension scheme. Australia, New Zealand, Sweden, Denmark, Hungary, Norway, Poland, Italy, and the Slovak Republic, now also include some form of publicly sponsored DC pension scheme. See OECD (2009) for further details regarding the contemporary pension arrangements in OECD countries.

⁶ DWP (2010), paragraphs 1.35, 2.3 and 2.4. Assumes 24.9 million employees, equal to the estimated employed population in the UK in 2009 (Office for National Statistics code MGRN). These figures update previous DWP (2006), p. 43, estimates that the NEST would serve between 6 and 10 million people, and would receive annual contributions worth £8 billion (2006 prices).

⁷ In 2010 terms. These figures will be updated for 2012. This basic structure is in common with most existing (DC) occupational pensions.

annuity. The income stream that is generated by pension annuities is subject to income tax.

The NEST is designed to economise on management charges and minimise employee decision costs. The former of these objectives is to be met by shifting the focus of competition among private sector providers from individual pension members to pools of managed funds. It is hoped that this centralisation will reduce the effective annual management charges applied to pension saving for the target population, from a capital charge in excess of 1 percent to the 0.3 percent charge that is currently levied by large occupational pension schemes. To meet the second objective, the scheme has been explicitly designed to minimise the perceived welfare costs experienced by an employee who chooses not to make an active decision. Employers will consequently be required to auto-enrol into the NEST (or other qualifying pension) any employee who is aged between 22 years and state pension age, and whose annual earnings exceed £7475 (in 2011/12). All employees will retain the right to opt-out of the NEST, so that the long-term viability of the scheme will depend upon rates of voluntary participation. Similarly, contributions to the NEST will be allocated to a default investment fund, unless the member chooses to make an active investment decision.

Our analysis focuses upon the implications for the existing wage bargain of the minimum employer pension contributions that will be required under the NEST. This issue is likely to be an important factor in determining whether employees and employers engage positively with the scheme, and is central in determining how other aspects of the regulatory environment should respond to the scheme. The analysis is structured around three key margins; the scale and scope of employee participation in the NEST, the relation between employer pension contributions to the scheme and the existing wage bill, and the associated bearing that the increased labour costs could have on the wages earned by employees.

Section 2 describes the existing state of employer sponsored pension provisions in the UK, which forms the policy background to the introduction of the NEST. The effects of the NEST on employees and their employers are explored in Section 3, and Section 4 concludes.

2. Existing Private Pension Arrangements in the UK

The NEST will augment the existing system of retirement provisions in the UK, which are organised within three tiers. The first tier is comprised of means-tested benefits that provide a welfare safety-net to insure against pensioner poverty. The second tier covers a number of state administered pensions. And the third tier is represented by personal pensions administered through the private sector. As the first two tiers administered by the public sector are tangential to the focus of the analysis, they are not discussed further here; the interested reader is referred to Levell *et al.* (2009) for details regarding these.⁸ This section focuses upon employer participation in personal pensions that forms the policy back-drop to the NEST, with particular attention paid to low paid employees for whom the scheme is designed, and their respective employers.⁹

A regression analysis of existing pension provisions is reported in Appendix B. Here we provide a qualitative discussion that assumes no prior knowledge of econometric techniques. We begin by considering the incidence of employer sponsored pension arrangements in the UK, before moving on to discuss the scale of employer pension contributions.

2.1. Incidence of employer sponsored pension arrangements

Any individual under age 75 and normally resident in the UK has a statutory right to decide over whether or not to contribute to a private pension administered outside the public sector. Contributions to a private pension cannot be drawn on until age 55¹⁰, and can be offered on either a defined benefit (final salary), or a defined contribution (money purchase) basis. Although most employers have a legal obligation to offer their employees access to some form of private pension¹¹, they currently have no obligation to make matching pension contributions – this will change with the introduction of the NEST. Contributions to private pensions by both employees and employers are, nevertheless, currently encouraged through a system of publicly funded tax incentives. These incentives have seen private pensions play a central role in the system of retirement provisions in the UK.

Statistics that describe the incidence of private pension arrangements with some employer involvement are reported in Figure 2.1. This figure reflects two well recognised trends: a prolonged fall in the proportion of employees participating in pensions with some employer involvement, and a migration away from pension schemes that have typically afforded high rates of employer matching contributions. The top panel of the figure indicates that the incidence among employees of a pension arrangement with their employer fell from 65 percent in 1995 to just over 50 percent in 2009. At the same time, the share of Defined Benefit occupational pensions – widely recognised as a gold-standard among employer sponsored schemes – fell from in excess of 80 percent to just over 60 percent.

⁸ See Brewer (2007) for an impact analysis of how the broader system of pension reforms will affect pensioner incomes, and DWP (2009) for associated incentive effects. The Government confirmed its commitment to the introduction of the NEST from 2012 in the 2010 Comprehensive Spending Review, HM Treasury (2010); see the IFS review (<http://www.ifs.org.uk/projects/346>) for associated analysis.

⁹ For a detailed analysis of private pension arrangements in the UK, which extends beyond employer pension involvement in particular, see Emmerson and Wakefield (2009).

¹⁰ The minimum age of pension dispersals increased from age 50 to age 55 from April 2010.

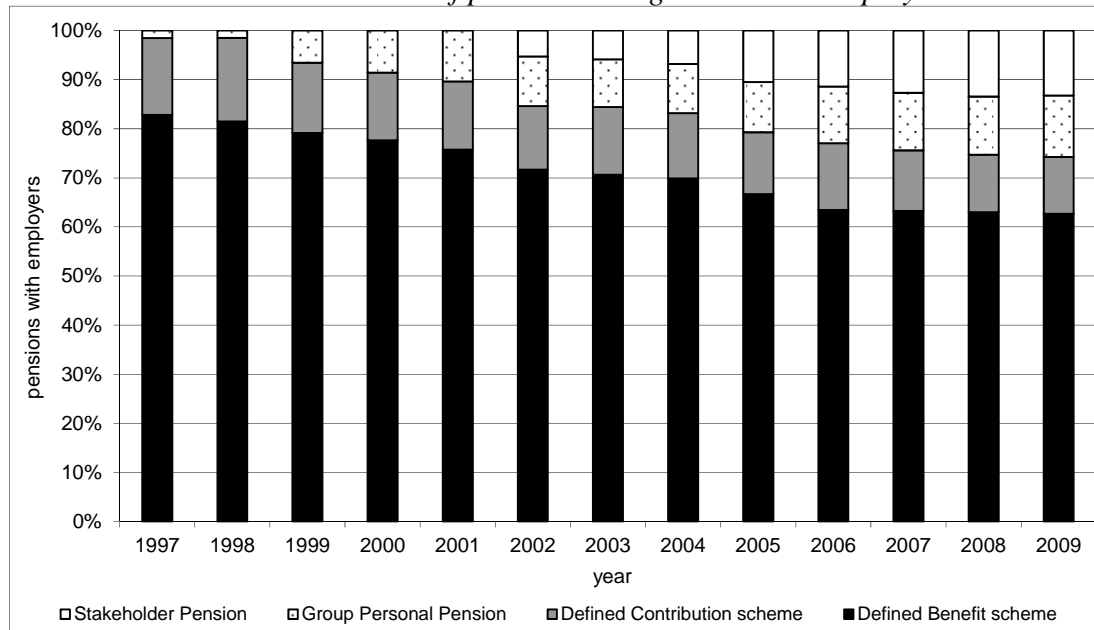
¹¹ firms with fewer than five (eligible) employees are exempt.

Figure 2.1: Pension arrangements with some employer involvement, 1995 to 2009

Panel A: participation rates in employer sponsored pensions



Panel B: break-down of pension arrangements with employers



Source: authors' calculations using data from the ASHE and FRS, see Appendix A for details
 Panel A calculated on data as indicated
 Panel B calculated on ASHE data

Table 2.1 disaggregates the contemporary labour market into sub-categories that have an important influence on the incidence of employer pension contributions. One of the most striking disparities revealed in the table is that women tend to be concentrated in the lowest earnings quintiles, and in low pay industries, relative to men. 46 percent of all female employees work in low pay industries, compared with 28 percent of male employees, and while the proportion of male employees in the top earnings quintile is just over twice that of women, the proportion of male employees in the bottom earnings quintile is less than a third that of women.

The top half of the table reveals that, among low pay industries, hospitality, retail, and social care are the largest by number of employees. Table 2.1 also indicates that the number of employees in the private sector is almost three times the number in the public sector, and that the earnings distribution is similar across the two sectors. The vast majority of employees are employed in medium to large firms, with only 13 percent working in firms with fewer than 25 employees.

Table 2.2 reports the incidence of employees that receive an employer pension contribution, disaggregated in a similar fashion to the labour market data reported in Table 2.1. This table reveals that the incidence among employees of pensions that receive an employer contribution rises with wages, with the possible exception of the public sector where employer pension contributions are particularly common. Consistent with this observation, employees in low pay industries are, on average, half as likely to have a pension that receives a contribution from their employer as those in non-low pay industries. What is interesting, however, is that controlling for employee earnings meets only a fraction of the gap in the incidence of employer sponsored pension schemes between low pay and non-low pay industries: only half of those in the highest earnings quintile receive an employer pension contribution within low pay industries, relative to 70 percent in non-low pay industries.

The top half of Table 2.2 indicates that employer pension contributions are practically non-existent in the low pay industry of hairdressing, and most prevalent in social care. Hospitality lies at the lower end of this scale, whereas retail – the largest low pay industry by head-count – lies in the middle of the list.

Table 2.2 also indicates that the proportion of employees who receive an employer pension contribution tends to rise with firm size both on average, and throughout the earnings distribution. Furthermore, approximately half of all employees are reported as receiving an employer pension contribution, both in aggregate and after distinguishing by employee sex. These aggregate statistics by sex are, however, somewhat misleading, as women are disproportionately employed in low pay industries and in low paying positions relative to men (discussed above), which tend to be associated with lower rates of employer pension participation on average. The apparent contradiction arises because women tend to be more likely than men to receive an employer pension contribution after wages and industry are controlled for.

These observations suggest that the introduction of the NEST will disproportionately affect employees on low earnings, working for small employers, in low pay industries of the private sector, and their employers. All else being equal, male employees are also likely to be disproportionately affected by the NEST.

Table 2.1: The distribution of employees in the UK labour market 2005-2009 (%)

sex	employment characteristics	earnings quintile					total
		lowest	2	3	4	highest	
men	low pay	3.0	4.0	3.2	2.3	1.9	14.4
	hairdressing	0.0	0.0	0.0	0.0	0.0	0.0
	employment agencies	0.2	0.1	0.1	0.1	0.1	0.6
	hospitality	0.7	0.6	0.5	0.3	0.2	2.2
	agriculture	0.1	0.2	0.1	0.1	0.0	0.4
	cleaning	0.3	0.4	0.2	0.1	0.0	1.0
	textiles and clothing	0.0	0.1	0.1	0.0	0.0	0.2
	retail	1.3	1.7	1.4	1.0	0.8	6.2
	leisure / travel / sport	0.2	0.2	0.2	0.1	0.1	0.9
	childcare	0.0	0.0	0.0	0.0	0.0	0.1
	office work	0.0	0.0	0.0	0.0	0.0	0.1
	food processing	0.2	0.4	0.3	0.2	0.2	1.3
	security	0.1	0.2	0.2	0.1	0.0	0.7
	social care	0.2	0.4	0.3	0.3	0.4	1.6
women	low pay	10.5	5.5	3.1	2.1	1.2	22.4
	hairdressing	0.1	0.1	0.1	0.0	0.0	0.3
	employment agencies	0.2	0.1	0.1	0.1	0.1	0.5
	hospitality	1.8	0.7	0.4	0.2	0.1	3.2
	agriculture	0.1	0.0	0.0	0.0	0.0	0.1
	cleaning	1.4	0.3	0.1	0.0	0.0	1.9
	textiles and clothing	0.1	0.1	0.0	0.0	0.0	0.2
	retail	4.1	1.9	1.0	0.6	0.4	8.0
	leisure / travel / sport	0.4	0.2	0.1	0.1	0.0	0.9
	childcare	0.8	0.3	0.2	0.1	0.0	1.3
	office work	0.5	0.3	0.1	0.1	0.0	1.0
	food processing	0.2	0.2	0.1	0.1	0.0	0.6
	security	0.0	0.0	0.0	0.0	0.0	0.2
	social care	2.1	1.6	1.1	0.9	0.5	6.2
	low pay	13.5	9.5	6.3	4.4	3.1	36.8
men	non-low pay	1.7	5.3	8.4	10.0	12.0	37.4
women	non-low pay	4.9	5.2	5.2	5.6	4.8	25.8
	non-low pay	6.5	10.5	13.6	15.6	16.8	63.2
men		4.7	9.4	11.6	12.3	13.9	51.8
women		15.4	10.7	8.4	7.7	6.0	48.2
	public sector	5.3	4.8	5.0	6.0	5.3	26.4
	private sector	14.8	15.2	15.0	14.0	14.7	73.6
	1-9 employees	2.0	1.5	1.3	1.0	0.8	6.6
	10-24 employees	1.3	1.5	1.4	1.3	1.0	6.5
	25-249 employees	2.7	3.8	3.7	3.6	3.6	17.4
	250-499 employees	0.7	1.1	1.1	1.1	1.2	5.3
	500+ employees	13.3	12.2	12.3	13.0	13.2	64.0
		20.1	20.0	20.0	20.0	19.9	100.0

Source: authors' calculations on data from ASHE, 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments
low pay industries as defined by the Low Pay Commission (2010), Appendix 4

Table 2.2: The incidence of pensions attracting an employer contribution, by employee subgroup (%)

sex	employment characteristics	earnings quintile					average
		lowest	2	3	4	highest	
men	low pay	9	21	28	36	48	26
	hairdressing	0	3	0	5	0	1
	employment agencies	1	3	4	7	20	6
	hospitality	2	5	8	13	26	8
	agriculture	8	15	25	26	35	19
	cleaning	11	29	31	27	32	23
	textiles and clothing	14	38	38	40	51	37
	retail	11	18	25	31	39	23
	leisure / travel / sport	6	20	24	31	34	21
	childcare	18	34	48	41	76	34
	office work	13	23	30	31	21	23
	food processing	14	28	43	51	60	38
	security	16	28	34	26	30	28
	social care	22	44	56	71	85	58
women	low pay	24	33	39	45	50	32
	hairdressing	3	4	4	3	1	3
	employment agencies	3	4	7	15	15	7
	hospitality	15	15	11	13	20	14
	agriculture	6	16	22	28	27	14
	cleaning	20	26	23	22	25	22
	textiles and clothing	16	27	36	24	21	24
	retail	20	24	27	27	30	23
	leisure / travel / sport	12	18	21	29	33	18
	childcare	32	41	46	31	24	35
	office work	39	43	41	23	14	39
	food processing	22	33	41	43	61	34
	security	25	44	53	43	57	42
	social care	34	52	62	71	77	53
	low pay	21	28	33	40	49	29
men	non-low pay	22	38	52	61	69	56
women	non-low pay	51	60	66	73	75	65
	non-low pay	43	49	58	65	70	60
men		14	31	46	56	66	48
women		32	46	56	65	70	49
	public sector	65	81	86	87	87	81
	private sector	15	25	38	48	60	37
	1-9 employees	4	7	10	13	20	9
	10-24 employees	12	17	20	25	34	21
	25-249 employees	13	25	34	41	53	34
	250-499 employees	20	35	48	56	66	47
	500+ employees	37	50	63	72	76	60
		28	39	50	60	67	49

Source: authors' calculations on data from ASHE, 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments
low pay industries as defined by the Low Pay Commission (2010), Appendix 4

2.2. Scale of employer pension contributions

Statistics regarding the distribution of employer pension contributions are reported in Figure 2.2. This figure indicates that, for employees who receive an employer pension contribution, there is surprisingly little disparity between the distributions of contribution rates in low pay industries and the wider labour market. The distributions for employer pension contribution rates in both low pay industries and the wider labour market are dominated by a single mode between 12.5 and 15 percent of employee wages. The principal disparity between the respective distributions is that the incidence of employer contributions in excess of this mode is slightly lower among employees in low pay industries than the wider labour market, with the difference contributing to a higher peak at the mode for low paid workers and spilling over into the 10 to 12.5 percent band for employer contribution rates.

6 percent of all employees in receipt of an employer pension contribution receive contributions worth less than 3 percent of earnings, rising to 7 percent of employees in low pay industries. This is important because it reveals that the additional financial burden consequent on the introduction of the NEST will predominantly operate through the extension of employee eligibility to *any* employer pension contribution; the NEST is unlikely to significantly increase labour costs for employers that currently provide pension contributions to their employees. The statistics reported in Figure 2.2 also underscore the risks posed by the potential for a general ‘levelling down’ of existing employer pension contributions to the minimum rate required under the NEST.

Table 2.3 disaggregates the statistics reported in Figure 2.2 by population subgroup, focussing here upon subgroup averages. The statistics reported in Table 2.3 reinforce the impression that the scale of employer pension contributions – specified as a percentage of employee wages – is broadly insensitive to employee wage rates. A number of employer characteristics, however, do appear to be important determinants of pension contribution rates. Employer pension contributions are particularly low in the low pay industries of hairdressing, employment agencies, and textiles, relative to the wider labour market. Retail – the largest employer among low pay industries – is also toward the lower end of the employer pension contribution scale. Nevertheless, even among these industries, the average rate of employer pension contribution, where such a contribution is made, is more than twice the rate that will be required under the NEST. Otherwise, the table also indicates that employees in the public sector, and those with large employers, tend to enjoy the highest rates of employer pension contributions.

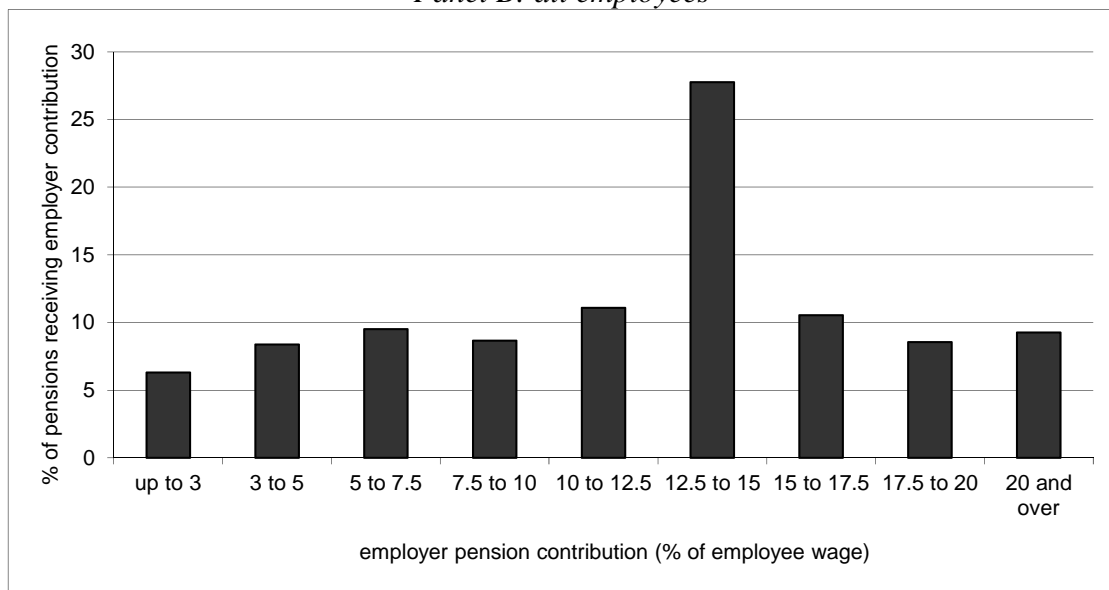
Table 2.4 adds further detail by describing the average pension cost per employee of alternative labour market subgroups. This table indicates that, on average, employer pension contributions per employee added £35.56 per week (2009 prices) to the wage bill. The highest pension costs were incurred in the public sector (£63 per week), and among the largest employers (£46 per week). Within low pay industries, social care stands out as providing relatively generous pension benefits, which exceed the population average. In contrast, retail and hospitality provide relatively meagre employer sponsored pension benefits.

Figure 2.2: Distribution of employer pension contributions where a contribution is made (% of employee wages)

Panel A: employees in low pay industries



Panel B: all employees



Source: authors' calculations using data from waves 2005 to 2009 of the ASHE – see Appendix A for details

**Table 2.3: Average employer pension contribution where a contribution is made
(% of employee wage)**

sex	employment characteristics	earnings quintile					average
		lowest	2	3	4	highest	
men	low pay	11	10	10	11	11	10
	hairdressing	.	7	.	2	.	5
	employment agencies	12	7	4	6	7	7
	hospitality	12	11	9	10	12	11
	agriculture	11	8	9	10	11	9
	cleaning	13	13	12	11	11	12
	textiles and clothing	7	6	6	9	11	8
	retail	10	8	8	9	10	9
	leisure / travel / sport	11	11	10	9	10	10
	childcare	16	12	13	13	13	13
	office work	13	11	11	9	14	11
	food processing	9	9	10	12	11	10
	security	11	13	12	14	13	13
	social care	13	12	12	13	12	12
women	low pay	13	12	12	12	12	12
	hairdressing	7	9	3	5	1	7
	employment agencies	12	8	8	6	6	7
	hospitality	14	12	11	11	11	13
	agriculture	12	9	9	11	10	10
	cleaning	14	13	13	11	10	14
	textiles and clothing	8	8	6	6	6	7
	retail	10	9	10	10	10	10
	leisure / travel / sport	13	12	11	12	11	12
	childcare	15	14	14	13	12	15
	office work	13	12	11	11	10	12
	food processing	9	10	10	10	11	10
	security	13	12	14	12	14	13
	social care	14	13	13	13	12	13
	low pay	12	11	11	12	11	12
men	non-low pay	13	11	11	12	12	12
women	non-low pay	14	13	14	14	13	13
	non-low pay	14	12	12	13	12	13
men		12	11	11	12	12	12
women		13	13	13	13	13	13
	public sector	15	15	15	15	15	15
	private sector	10	9	10	11	11	10
	1-9 employees	12	9	8	8	9	9
	10-24 employees	11	8	6	7	8	8
	25-249 employees	10	7	7	8	9	8
	250-499 employees	11	9	10	10	11	10
	500+ employees	14	13	13	14	13	13
		13	12	12	13	12	12

Source: authors' calculations on data from ASHE, 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments
low pay industries as defined by the Low Pay Commission (2010), Appendix 4

Table 2.4: Average employer pension cost per employee (£ per week, 2009 prices)

sex	employment characteristics	earnings quintile					average
		lowest	2	3	4	highest	
men	low pay	2.14	7.21	12.76	22.88	63.96	17.36
	hairdressing	0.00	0.39	0.00	0.77	0.00	0.17
	employment agencies	0.22	0.76	0.80	2.68	17.89	3.71
	hospitality	0.47	1.79	3.09	8.04	38.18	5.56
	agriculture	1.68	3.94	9.66	15.09	40.21	9.40
	cleaning	2.61	12.37	15.39	15.29	37.87	11.10
	textiles and clothing	2.37	8.68	10.83	20.06	63.91	18.75
	retail	2.25	4.83	8.94	17.16	45.18	12.30
	leisure / travel / sport	1.26	7.23	10.21	16.57	42.70	13.41
	childcare	2.24	12.99	25.75	28.42	64.29	16.57
	office work	3.34	7.77	14.79	14.73	19.88	10.08
	food processing	3.99	9.41	22.37	37.17	75.13	25.31
	security	4.69	13.56	20.53	20.40	32.54	16.96
	social care	5.56	17.96	31.63	54.21	133.44	54.37
women	low pay	4.76	12.42	20.38	31.93	52.86	13.89
	hairdressing	0.33	1.10	0.41	0.84	0.08	0.60
	employment agencies	0.58	1.01	2.45	4.49	12.86	3.02
	hospitality	3.00	5.54	5.04	8.77	19.89	4.63
	agriculture	1.05	4.40	8.28	16.32	25.25	4.93
	cleaning	4.01	9.25	10.84	12.56	16.27	5.49
	textiles and clothing	2.42	6.33	8.77	8.59	10.65	5.61
	retail	3.27	6.86	11.11	14.23	26.15	7.00
	leisure / travel / sport	2.58	6.56	9.51	17.52	30.84	7.52
	childcare	4.34	18.69	24.59	19.88	15.31	10.75
	office work	8.89	15.06	17.49	11.42	5.30	11.96
	food processing	4.85	10.69	19.40	25.93	65.44	16.36
	security	6.55	18.42	34.66	28.33	47.55	23.20
	social care	8.91	22.37	36.35	54.36	88.19	30.47
	low pay	4.18	10.20	16.53	27.21	59.71	15.25
men	non-low pay	5.63	13.99	27.74	46.56	90.57	49.99
women	non-low pay	12.71	24.67	38.19	57.41	85.04	43.58
	non-low pay	10.92	19.26	31.76	50.46	88.98	47.38
men		3.38	11.07	23.61	42.18	86.92	40.91
women		7.28	18.40	31.52	50.52	78.69	29.79
	public sector	16.32	38.15	56.04	79.35	121.11	63.11
	private sector	2.82	7.60	17.22	30.74	71.28	25.67
	1-9 employees	0.74	1.82	3.38	5.84	22.06	4.87
	10-24 employees	2.22	4.19	5.31	9.69	28.55	8.97
	25-249 employees	2.27	5.60	10.35	19.90	52.24	18.70
	250-499 employees	4.11	10.64	20.91	34.92	75.72	31.69
	500+ employees	8.61	21.20	37.46	59.88	102.17	46.32
		6.38	14.97	26.92	45.39	84.44	35.56

Source: authors' calculations on data from ASHE, 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments

low pay industries as defined by the Low Pay Commission

data for 2005 to 2008 adjusted to 2009 prices by the National Accounts consumer price deflator (YBGA)

2.3. Summary

Existing employer pension arrangements suggest that the NEST may have two important and very different effects on the UK labour market. On the one hand, the NEST is likely to widen the proportion of employees that receive an employer pension contribution. This is particularly true for employees on low to modest wages, in low pay industries of the private sector, for whom the NEST is explicitly designed. In addition, however, Section 2.2 reveals that there is very significant scope for ‘levelling down’ of employer pension contributions, where these are currently made. The aggregate impact of the NEST on private sector savings and labour costs will depend upon the balance between these two effects.

3. Financial Implications of the NEST

Our analysis focuses upon the financial impact that the NEST is likely to have on employers, and how this might affect the wages of employees. We take as our starting point the distributional arrangements – regarding wages, employment, and pension contributions – that are described by data from waves 2005 to 2009 of the ASHE. We use these data to project the financial effects of the NEST, assuming that contributions into the scheme are set to the lower bounds required for participation. We consider two alternative assumptions regarding rates of participation in the NEST, which are designed to identify a plausible range for the scheme’s bearing upon the labour costs faced by employers. In Section 3.1, we assume that every employee who is eligible to an increased employer pension contribution under the NEST will choose to participate in the scheme, and in Section 3.2 we consider a credible lower bound for participation.

Our analysis focuses upon contributions that are set to the lower bounds imposed by the NEST, recognising that any additional pension contributions provided by employers (and employees) will be voluntary. The analysis consequently focuses upon the case in which employers choose to minimise labour costs, given their employees’ decisions to participate in the NEST (known as a minimax strategy for employers). We view this as a sensible starting point when considering the impact that the NEST is likely to have on the existing wage bargain, and upon the associated regulatory setting (including specification of the minimum wage). Similarly, we do not consider the potential for levelling down of existing employer pension contributions – identified in Section 2.2 – as the introduction of the NEST will not impose a (binding) constraint on this aspect of the wage bargain. Put another way, there is no clear distinction to us between non-mandatory employer pension contributions prior to the NEST, and those following the scheme’s introduction. Hence, for example, introduction of the NEST should have no bearing upon the extent to which non mandatory employer pension contributions affect recommendations regarding the minimum wage.

An important caveat attached to the projections that we report below is that they do not take into account the impact of labour market turn-over. Our analysis is consequently likely to over-state eligibility to payments under the NEST for employees who experience frequent labour market transitions and their respective employers.

3.1. Eligibility and an upper bound to the effects on employer pension contributions required under the NEST

The analysis that is reported here bears out the suppositions made in Section 2.1: the NEST is likely to disproportionately affect male employees in low pay industries, employed in small private sector firms. The principal statistics supporting these four conclusions are reported graphically in Figure 3.1.

Panel A of Figure 3.1 indicates that the NEST will offer higher employer pension contributions than currently received by employees throughout the wage distribution, with men benefitting disproportionately relative to women. In contrast to the observation that more women than men currently benefit from employer pension contributions – reported in Section 2.1 – 98 percent of all male employees relative to 91 percent of female employees will be eligible to some employer pension contribution following introduction of the NEST. The disparity between the sexes will be highest – after controlling for income – among employees in the second wage quintile, who currently have relatively weak employer pension provisions and earn a sufficient wage to make them eligible to participate in the NEST.

Panel B of Figure 3.1 reveals the impact that industry of employment has on eligibility to higher employer pension contributions under the NEST. This panel indicates that the incidence of eligibility to higher employer pension contributions will be higher for employees in low pay industries than non-low pay industries throughout the wage distribution, but particularly so for those on high wages. This is due to the relatively thin employer pension provisions that are currently made in low pay industries throughout the wage distribution and the minimum wage threshold that is required to receive an employer pension contribution under the NEST.

Panel C of Figure 3.1 indicates that the NEST has significant potential for closing the wide differences that current exist between the incidence of employer sponsored pensions in the private relative to the public sector, and in small firms relative to large firms. Indeed, the figure taken as a whole highlights the scale to which the NEST will widen access to pension schemes that attract an employer pension contribution, with the NEST extending eligibility to more than 90 percent of employees in all of the population subgroups considered in the figure with the exception of the lowest population quintile, or in low pay industries in aggregate.

Table 3.1 provides the fine detail that underlies Figure 3.1. This table reveals that 46 percent of all employees, equal to 11 million people will be eligible to higher employer pension contributions under the NEST. This is consistent with DWP (2010, para 1.35) estimates that 10 to 11 million people will be eligible for automatic enrolment in a workplace pension following the scheme's introduction.

Adding the totals reported in the bottom row of Table 3.1 to the respective totals reported in Table 2.2 reveals that only 5 percent of employees, most of whom are concentrated in the bottom wage quintile, will not be eligible to an employer pension contribution following the introduction of the NEST, down from half of the employed population who currently do not receive an employer pension contribution. Indeed, most of the statistics that are reported for the top four wage quintiles in Table 3.1 can be retrieved, to a reasonable approximation, by subtracting the respective statistic reported in Table 2.2 from 100 percent. This observation is a consequence of the high rates at which existing employer pension contributions are paid, relative to the 3 percent minimum required under the NEST (as reported in Section 2.2), which results

in very few employees identified as both currently in receipt of an employer pension contribution, and eligible to increased employer pension contributions under the NEST.

Within low pay industries, Table 3.1 suggests that the NEST is likely to have a very pronounced effect on hairdressing and employment agencies. The impact on the low pay hospitality industry is mitigated by the predominance of employees on very low wages. The largest low pay employer – retail – remains in the middle of the list, while the impact on social care of the NEST is mitigated by the prevalence of existing employer sponsored pension arrangements. The break-down for the incidence of eligibility to the NEST, specified by low pay industry subgroups is reported graphically in Figure 3.2.

We now discuss measures of the cash value of eligible pension contributions to the NEST. Table 3.2 reports the financial value of eligible employer contributions under the NEST where these exceed pension provisions reported in existing survey data. Our analysis here focuses primarily upon costs measured per eligible employee, as these are likely to be most relevant for affected employers. The statistics reported in Table 3.2 provide a direct reflection of the relative wages of NEST participants in the respective population subgroups. Furthermore, the implications for gross wages after the deduction of pension contributions¹² and aggregate (employee and employer) pension contributions can be calculated from the statistics reported in Table 3.2, given the fixed ratio of (minimum) employee to employer contributions to the NEST. Rescaling by the factor 5/3 gives the required private contributions per participating employee, and rescaling by 8/3 gives the aggregate contribution to the NEST.

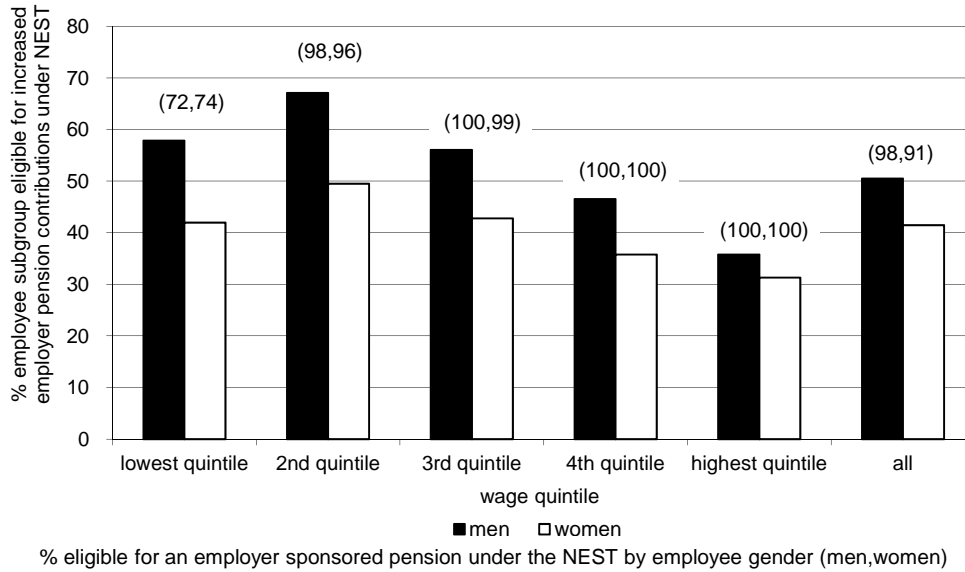
Table 3.2 indicates that employer contributions to the NEST per participating employee tend to be higher for men, in non-low pay industries, and in public sector firms. On average, participants in the NEST are projected to receive an employer contribution worth £8.21 per week, or £427 per year. To receive this, they will be required to privately contribute £711 per year, giving an average aggregate annual contribution of £1,138 per eligible employee. This is consistent with an aggregate contribution to the NEST scheme worth £13 billion annually, which exceeds the official projection cited in the introduction by one half after adjusting for inflation.¹³

¹² Emmerson and Wakefield (2009), Table 4.1, provide the effective marginal tax rates that are necessary to convert changes in wages gross of taxes, to changes in wages net of taxes. Their analysis suggests an average effective marginal tax rate of 28%.

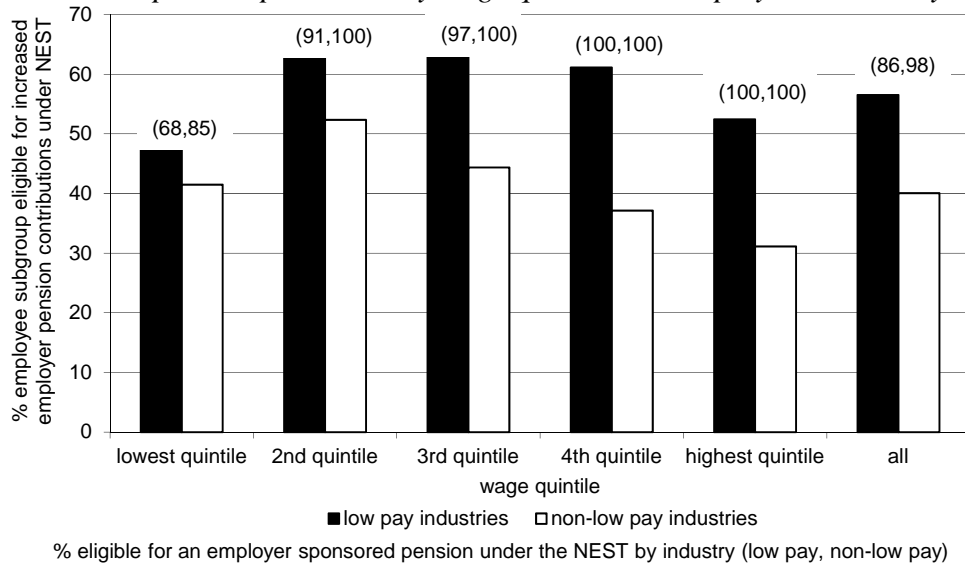
¹³ Assumes 24.9 million employees, equal to the estimated employed population in the UK in 2009 (Office for National Statistics code MGRN).

Figure 3.1: Breakdown of pension eligibility following introduction of the NEST

Panel A: pension provisions by wage quintile and sex



Panel B: pension provisions by wage quintile and employment industry



Panel C: pension provisions by employment sector and firm size

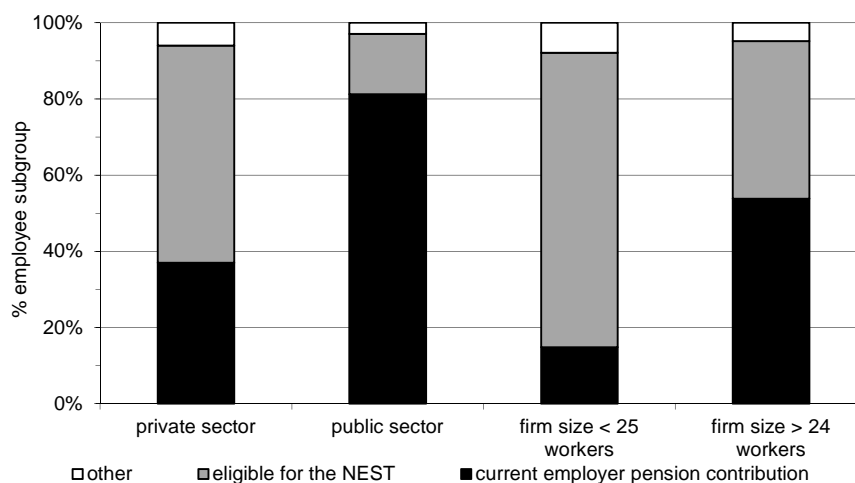


Table 3.1: Percentage of employed population eligible for a net increase in employer pension contributions under the NEST

sex	employment characteristics	earnings quintile					average
		lowest	2	3	4	highest	
men	low pay	57	71	70	66	53	65
	hairdressing	81	81	90	100	100	87
	employment agencies	78	95	94	94	81	88
	hospitality	52	77	82	87	75	72
	agriculture	70	87	75	77	65	79
	cleaning	56	66	66	75	68	63
	textiles and clothing	82	66	69	65	50	66
	retail	55	71	74	72	63	68
	leisure / travel / sport	45	68	71	71	67	63
	childcare	31	51	45	59	27	41
	office work	57	73	69	70	79	68
	food processing	80	73	59	50	41	62
	security	60	72	67	75	71	69
	social care	59	56	44	30	15	39
women	low pay	45	58	57	55	51	51
	hairdressing	62	77	78	98	100	76
	employment agencies	70	94	92	87	86	83
	hospitality	44	64	74	87	81	56
	agriculture	59	82	77	73	73	70
	cleaning	39	61	67	78	75	45
	textiles and clothing	70	75	74	78	81	74
	retail	47	62	68	74	71	57
	leisure / travel / sport	45	69	72	72	68	58
	childcare	26	55	51	69	76	38
	office work	45	55	57	78	86	53
	food processing	66	66	61	59	40	63
	security	47	56	48	57	44	51
	social care	51	47	37	30	23	42
	low pay	48	64	64	61	52	57
men	non-low pay	59	64	51	42	33	45
women	non-low pay	35	41	34	28	26	33
	non-low pay	41	52	44	37	31	40
men		58	67	56	47	36	50
women		42	49	43	36	31	41
	public sector	20	18	14	13	13	16
	private sector	55	70	63	55	42	57
	1-9 employees	62	91	89	89	81	80
	10-24 employees	59	81	81	79	69	74
	25-249 employees	61	75	70	62	49	64
	250-499 employees	55	64	53	46	36	50
	500+ employees	38	45	37	29	25	35
		46	58	50	42	34	46

Source: authors' calculations on data from ASHE, 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments
low pay industries as defined by the Low Pay Commission (2010), Appendix 4

Table 3.2: Average eligible employer contributions to the NEST per eligible employee (£ per week in 2009 prices)

		earnings quintile					
sex	employment characteristics	lowest	2	3	4	highest	average
men	low pay	2.90	5.86	7.87	10.26	13.87	7.38
	hairdressing	2.64	4.86	7.57	6.05	13.69	5.95
	employment agencies	3.11	5.67	8.25	11.50	14.84	7.86
	hospitality	2.47	5.07	6.61	8.17	11.42	5.91
	agriculture	3.75	7.25	8.67	10.70	11.14	7.88
	cleaning	2.82	6.07	8.15	10.14	12.00	6.14
	textiles and clothing	3.81	6.36	8.76	10.87	15.42	8.35
	retail	2.71	5.50	7.56	9.95	13.94	7.30
	leisure / travel / sport	2.84	5.47	6.98	9.34	14.34	7.49
	childcare	2.44	5.50	6.62	10.03	12.05	5.89
	office work	2.88	5.25	6.39	6.75	6.78	5.35
	food processing	4.61	6.94	8.93	11.76	13.87	8.29
	security	2.94	6.47	9.40	11.71	12.70	8.26
	social care	2.94	6.31	9.01	12.94	16.93	8.14
women	low pay	2.09	5.11	6.70	8.78	11.58	4.82
	hairdressing	1.90	4.48	4.75	5.56	8.51	4.19
	employment agencies	2.42	5.13	7.81	10.61	13.89	6.74
	hospitality	1.97	4.66	5.29	6.64	9.33	3.95
	agriculture	2.35	5.29	7.71	9.57	10.56	5.05
	cleaning	1.83	5.05	6.15	7.51	10.28	3.18
	textiles and clothing	2.59	5.22	7.49	11.11	14.46	5.51
	retail	1.93	4.82	5.98	8.09	11.64	4.47
	leisure / travel / sport	2.33	5.16	6.16	8.46	10.88	5.09
	childcare	1.95	4.68	5.81	5.79	5.66	3.88
	office work	2.05	5.10	6.25	5.43	6.44	4.12
	food processing	3.12	5.91	7.08	9.37	12.63	5.86
	security	2.19	6.13	8.43	10.92	9.43	6.73
	social care	2.41	5.68	8.69	11.49	12.85	5.76
	low pay	2.31	5.47	7.35	9.62	13.02	5.98
men	non-low pay	3.26	6.82	9.71	12.64	16.20	11.01
women	non-low pay	2.29	5.67	8.51	11.82	15.18	8.16
	non-low pay	2.64	6.38	9.36	12.41	15.95	10.05
men		3.03	6.38	9.08	12.01	15.72	9.71
women		2.14	5.33	7.61	10.55	14.02	6.25
	public sector	2.20	5.83	9.10	13.31	16.18	8.61
	private sector	2.43	5.91	8.51	11.35	15.15	8.17
	1-9 employees	2.12	5.73	8.46	11.31	15.50	7.64
	10-24 employees	2.36	6.01	8.93	11.70	15.36	8.68
	25-249 employees	2.64	6.20	8.95	11.68	15.34	8.87
	250-499 employees	2.74	6.25	8.94	11.85	15.57	8.90
	500+ employees	2.38	5.73	8.20	11.42	15.10	7.83
		2.41	5.91	8.55	11.53	15.26	8.21

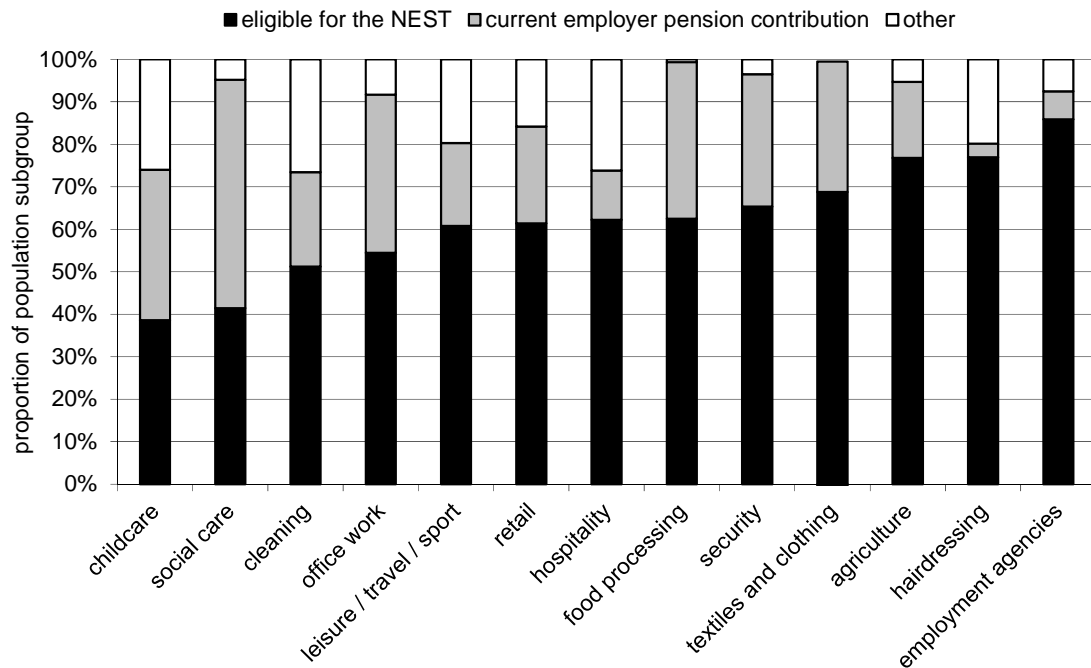
Source: authors' calculations on data from ASHE, 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments

low pay industries as defined by the Low Pay Commission (2010), Appendix 4

data for 2005 to 2008 adjusted to 2009 prices by the National Accounts consumer price deflator (YBGA)

Figure 3.2: Breakdown of pension eligibility following introduction of the NEST in low pay industries



Source: authors' calculations using data from waves 2005 to 2009 of the ASHE - see Appendix A for details

Wage responses to the NEST

Here we consider, within mutually exclusive labour market subgroups, the proportional wage reductions that are required to off-set the increase in labour costs due to eligible employer pension contributions under the NEST, subject to the lower bounds defined by the statutory minimum wage. Given the focus of the NEST on employees with modest incomes, we divide the labour market into the low pay industries that are considered in the preceding sections of this report. For non-low pay industries, we distinguish between employees in the public and private sectors, and also disaggregate private sector employees by firm size. Firm size is not taken into account for public sector workers due to their high degree of concentration in very large firms.¹⁴ The results of this analysis are reported graphically in Figure 3.3, and with slightly more detail in Table 3.3.

Panel A of Figure 3.3 indicates that wages would have to fall by approximately 0.8 percent on average in order to off-set the additional employer pension contributions that employees will be eligible for under the NEST. The variation of the off-set by labour market subgroup reflects the general observations reported in preceding sections of this report. The highest wage off-set is in the low pay industry of hairdressing, where wages would have to fall by 1.7 percent to meet the cost of eligible employer contributions to the NEST. This is consistent with the relatively high proportion of employees in the hairdressing industry who will be eligible to additional employer pension contributions under the NEST. Indeed, all of the low pay industries apart from childcare and social care require a downward wage adjustment that exceeds the population average to off-set eligible employer contributions to the

¹⁴ 96 percent of non-low pay public sector employees were identified as working for firms with 500 or more employees by ASHE data for 2005/06 to 2009/10.

NEST, with only social care showing a substantial difference. In contrast, the wage adjustment for hospitality, at 1.4 percent, is at the higher end of the scale, while retail, at 1.2 percent, is slightly lower.

At the other extreme, a negligible adjustment would be required over all (non-low pay) public sector workers, due to the prevalence and generosity of existing employer pension contributions in that labour market subgroup. Interestingly, some of the highest wage adjustments estimated for the entire labour market are among firms with fewer than 25 employees and out-side of the low pay industries. This is due to the sparse pension provisions that these firms currently provide.

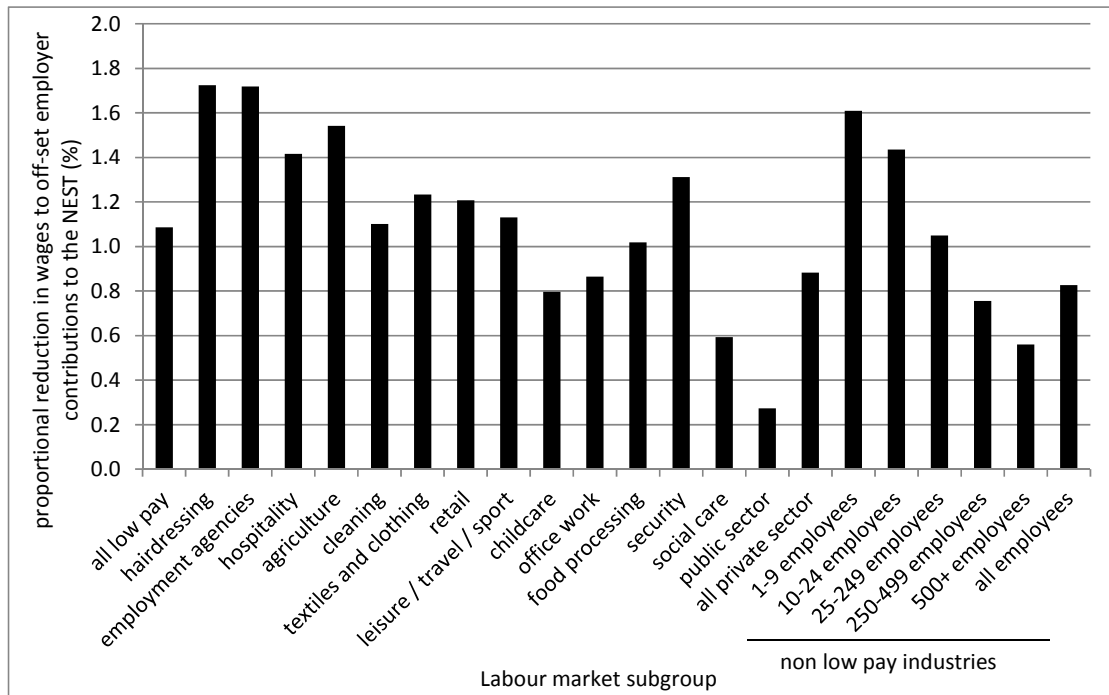
The wage off-sets that are reported here have interest beyond simply revealing the wage pressure that the NEST can be expected to exert following its introduction. Like most pension schemes, the NEST will be a vehicle that subsidises saving, with the subsidies to participants paid for by non-participants. The distributional effects of the scheme will consequently depend crucially upon how the subsidies to participants are paid for, and the analysis that is reported here reveals the implications of one plausible alternative. In this context, the minimum wage plays a crucial distributional role by shielding the lowest paid workers – many of whom will not be eligible for the NEST – from having to contribute toward the costs of employer contributions to the scheme.

An indication of the scale and scope of the potential role of the minimum wage to shield low paid workers from subsidising employer pension contributions consequent on the NEST is reported in Panel B of Figure 3.3. This figure reveals that the minimum wage may have a very important bearing upon off-setting wage adjustments to the NEST in the low pay industries generally, and hairdressing, hospitality, cleaning and employment agencies in particular. The largest jump in the share of employees earning the minimum wage due to the wage off-set to the NEST is reported for hospitality, followed very closely by hairdressing. In both of these low pay industries, existing employer pension provisions are relatively scarce and a large share of employees earn very low wage rates. In these cases, the minimum wage may play an important role in shielding low wage earners from suffering as a result of the introduction of the NEST. Similar statistics are reported in Table 3.3 for the share of employees with wages less than 10 percent above the statutory minimum wage.

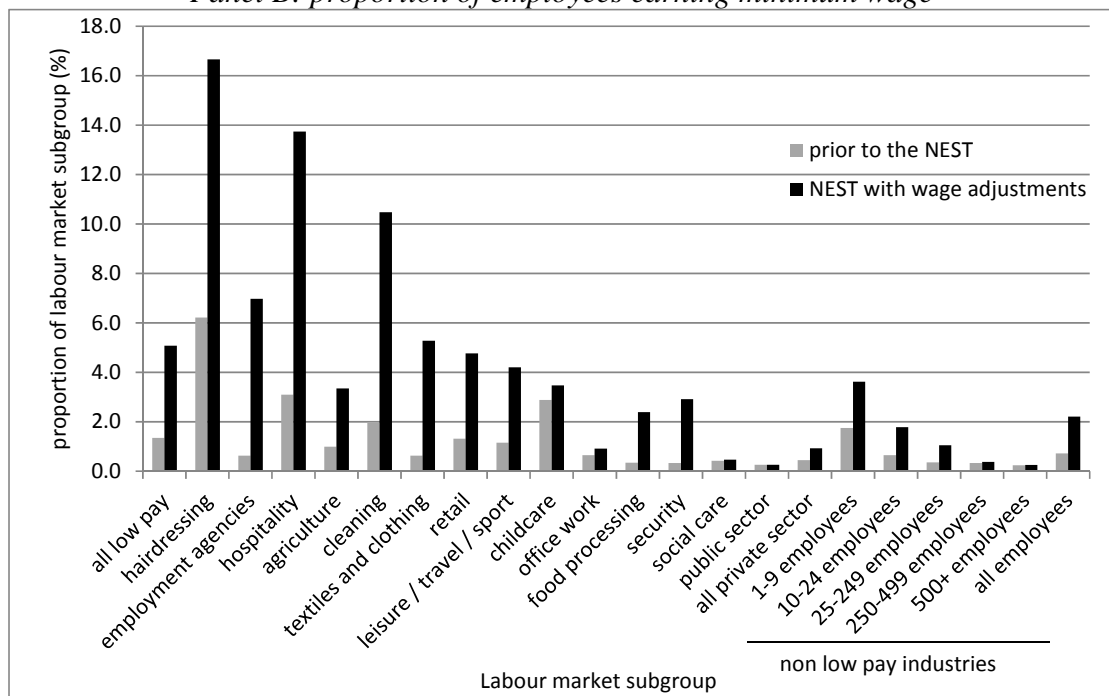
This highlights the countervailing considerations that introduction of the NEST is likely to have on setting of the minimum wage, and alternative aspects of the regulatory environment more generally. On the one hand, it is important not to lose sight of the fact that the NEST will imply higher labour costs, particularly for small private sector firms in low pay industries. For many of these firms, the minimum wage is likely to limit downward wage flexibility. But on the other hand, the minimum wage may play an important role in shielding the lowest paid workers from suffering as a result of the impact that the NEST has on the wage bargain. The current analysis highlights the potential importance of the minimum wage in balancing the needs of employers following introduction of the NEST against those of low paid employees.

Figure 3.3: Wage adjustments required to off-set eligible employer contributions to the NEST, and impact on the share of the labour force with low wages (%)

Panel A: proportional wage adjustments required to off-set cost of eligible employer contributions to the NEST



Panel B: proportion of employees earning minimum wage



Source: authors' calculations using data from waves 2005 to 2009 of the ASHE – see Appendix A for details

Table 3.3: Wage adjustments required to off-set eligible employer contributions to the NEST, and impact on the share of the labour force with low wages (%)

	wage adj.*	share of employee population by labour market subgroup					
		prior to the NEST		NEST with wage adj		effect of NEST	
		min wage	low pay	min wage	low pay	min wage	low pay
low pay	1.1	1.4	17.1	5.1	18.6	3.7	1.5
hairdressing	1.7	6.2	31.2	16.7	33.2	10.4	2.0
employment agencies	1.7	0.6	13.8	7.0	14.8	6.3	0.9
hospitality	1.4	3.1	30.7	13.7	33.0	10.6	2.2
agriculture	1.5	1.0	10.9	3.4	13.2	2.4	2.3
cleaning	1.1	2.0	29.9	10.5	31.8	8.5	1.9
textiles and clothing	1.2	0.6	13.8	5.3	14.8	4.7	1.1
retail	1.2	1.3	19.1	4.8	21.0	3.4	1.9
leisure / travel / sport	1.1	1.2	11.5	4.2	12.5	3.0	1.0
childcare	0.8	2.9	25.6	3.5	28.0	0.6	2.4
office work	0.9	0.7	7.6	0.9	8.1	0.3	0.5
food processing	1.0	0.3	10.8	2.4	11.7	2.0	1.0
security	1.3	0.3	9.0	2.9	10.1	2.6	1.2
social care	0.6	0.4	5.9	0.5	6.2	0.0	0.3
non low pay, public sector	0.3	0.3	1.2	0.3	1.2	0.0	0.0
non low pay, private sector	0.9	0.5	3.0	0.9	3.1	0.5	0.2
1-9 employees	1.6	1.8	8.1	3.6	8.7	1.9	0.6
10-24 employees	1.4	0.7	4.6	1.8	5.0	1.1	0.4
25-249 employees	1.0	0.4	3.4	1.1	3.7	0.7	0.2
250-499 employees	0.8	0.3	2.3	0.4	2.5	0.1	0.1
500+ employees	0.6	0.2	1.5	0.3	1.5	0.0	0.1
all employees	0.8	0.7	7.4	2.2	8.0	1.5	0.6

Source: authors' calculations on data from ASHE data from 2005/06 to 2009/10 - see Appendix A for details

Notes: excludes employees under age 18, or identified in multiple low pay industries

low pay industries as defined by the Low Pay Commission

* downward wage adjustment factor required to exactly off-set employer contributions to the NEST

wage adjustments subject to lower bound defined by the minimum wage

min wage = proportion of employees with wage rate < minimum wage + 0.05

low pay = proportion of employees with wage rate < 1.1 x minimum wage

3.2. Imperfect take-up of the NEST and a credible lower bound to the effects on employer pension contributions

Imperfect take-up of the NEST

An important feature of the NEST is that it will require employers to auto-enrol any eligible employee into a qualifying pension scheme. An employee will be defined as eligible if they are between age 22 and state pension age, and earn an annual wage (inclusive of bonuses and overtime payments) in excess of £7475 (in 2010). Auto enrolment is being adopted under the NEST in response to growing empirical evidence that this joining mechanism results in higher rates of pension scheme participation (see, for example, Madrian and Shae, 2001, and Choi *et al.*, 2002, on US data, and McKay, 2006, for the UK).

McKay (2006) reports that 16 percent of employees in 2005 were employed in firms that auto-enrolled employees into their principal work-based pension. If auto enrolment does result in higher rates of pension scheme participation, then the rates of participation in contemporary employer sponsored pensions are, on average, likely to understate the rates of participation that will be observed in the NEST, all else remaining constant.¹⁵ Of course, the requirement to auto enrol employees will not be the only difference between the NEST and contemporary employer sponsored pensions schemes as the analysis that we report in Section 2 makes clear. Nevertheless, in the absence of further analysis regarding the impact that other differences between the respective pension schemes have on incentives to participate, the current discussion is based on the assumption that the rates of participation in contemporary employer sponsored pensions represent a credible lower bound to expect for the NEST.

Although the ASHE does not provide any information about the pension eligibility of employees who do not participate in a company administered scheme, from 2006/07 the FRS has asked survey respondents whether they were eligible to an employer sponsored pension. These data reveal that 61 percent of all employees believed that they were eligible to belong to a pension scheme run by their employer in 2006/07 and 2007/08. The same data, however, indicate that only 46 percent of employees chose to participate in their employer's sponsored pension, with the vast majority of the remainder choosing not to contribute to a private pension at all (2.6 percent of employees substituted a privately arranged personal pension for their employer sponsored scheme). Hence, just under one in every four employees who believed that they were eligible to participate in their employer's sponsored pension chose not to take up their option. Similarly, although any individual under age 75 and normally resident in the UK can choose to contribute to a private pension, the FRS data indicate that 45 percent of all employees between ages 16 and state pension age chose not to participate in any form of private pension in 2006/07 and 2007/08.

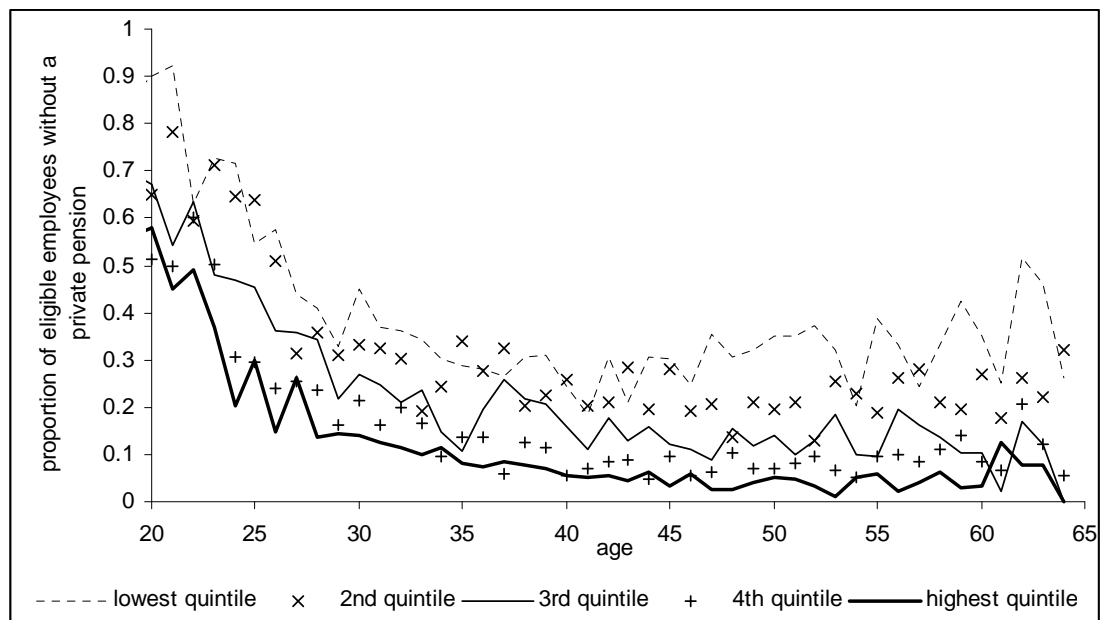
Figure 3.4 reports the proportion of employees who were eligible to an employer sponsored pension, but were not participating in any type of private pension, by age and earnings quintile. This figure reveals a pattern of pension scheme participation that is consistent with the implications of basic economic theory, which suggests that

¹⁵ The conclusion that auto enrolment is likely to see the NEST benefit from higher rates of take-up than existing employer sponsored pensions will be eroded by the three month waiting period that will be permitted before an eligible employee must be auto-enrolled into a qualifying pension scheme.

savings motives are weakest at younger ages and among individuals with the lowest earnings. From quite high rates of non-participation among young employees, Figure 3.4 indicates that private pension participation climbs with employee age for all earnings quintiles to age 40. Thereafter, there is some evidence of falling pension participation among individuals in the lowest earnings quintile, which is not evident among higher earning employee subgroups. By age 45, very few employees in the top earnings quintile who were eligible to an employer sponsored pension did not contribute to some form of private pension, in contrast to the bottom earnings quintile for which just over 30 percent chose not to contribute.

The analysis that we report in this section assumes that rates of participation in the NEST vary by age and earnings quintile as reported in Figure 3.4.

Figure 3.4: Proportion of employees eligible to an employer sponsored pension, but not contributing to a private pension scheme, by age and earnings quintile



Source: authors' calculations using data from the FRS, waves 2005/06 and 2007/08 earnings quintiles based on weekly wages excluding overtime, shift and premium payments

Projected effects of the NEST

Participation in the NEST and employer contributions to the scheme that were projected on the assumption of the same rates of participation as observed for employer sponsored pensions in contemporary survey data are reported in Figure 3.5, and in Tables 3.4 and 3.5. We focus our discussion on the figure, noting that the tables provide additional underlying detail.

Panel A of Figure 3.5 indicates that adjusting for imperfect take-up has a more pronounced impact on participation rates among employees in the low pay industries, relative to the wider labour market. This is particularly the case in the low pay industries of hairdressing and employment agencies, where wages tend to be disproportionately low and there is a relatively high prevalence of younger workers. In the case of hairdressing, for example, participation in the NEST falls by 35 percentage points to 42 percent, so that the proportion projected to participate in the scheme is almost halved as a result of the adjustment for imperfect take-up. Approximately two thirds of employees who are eligible for increased employer pension contributions under the NEST in the retail industry, the largest low pay industry by employee headcount, are projected to participate in the scheme. This is representative of the projected impact of employee take-up of the NEST in the low pay industries more generally.

Furthermore, even at the population aggregate level, imperfect take-up has an important bearing upon participation in the NEST; whereas the analysis indicates that 46 percent of all employees are eligible for increased employer pension contributions under the NEST, only 33 percent are projected here to participate in the scheme. This estimate suggests that 8.25 million individuals will participate in the NEST, which is toward the higher end of current DWP (2010, para. 1.35) projections, which suggest that between 5 and 9 million people will participate in the scheme.¹⁶

Panel B of Figure 3.5 reveals the extent to which adjusting for imperfect take-up of the NEST reduces the value of employer contributions (per eligible employee) to the scheme. Comparing Panels A and B of the figure indicates that adjusting for imperfect take-up reduces the incidence of participation in the NEST by a larger fraction than it does associated employer contributions, which is a logical implication of the higher rates of non-participation that are assumed among low paid workers (as reported in Figure 3.4). On average, imperfect take-up is projected to reduce employer pension contributions to the NEST by just over one fifth, from an average of £8.21 per week per eligible employee to £6.46 per week per eligible employee. This last statistic implies that annual contributions to the NEST will be worth approximately £10 billion (in 2009 prices), which exceeds the (inflation adjusted) official estimate of £9 billion (in 2009 prices) reported in the introduction.¹⁷

Beyond the population aggregates that are reported above, Panel B of Figure 3.5 indicates two distinct differences between the employer contributions projected for low pay industries, relative to the wider labour market. First, the costs to employers of mandatory contributions to the NEST per eligible employee are qualitatively lower

¹⁶ PPI (2007) also suggest that between 4 and 9 million new people will save in a work-based pension scheme when the reforms are introduced in 2012, contributing around £10 billion annually to the scheme.

¹⁷ Official estimate of £8 billion in 2006 prices adjusted to 2009 prices by the National Accounts consumer price deflator (YBGA).

in low pay industries than the wider labour market. And second, the differences between the mandatory employer contributions to the NEST in low pay and non-low pay industries are likely to widen in response to imperfect take-up of the scheme by eligible employees. Although the reduction in employer contributions among non-low pay industries varies within a fairly tight band about 20 percent, among low pay industries it shows a relatively high degree of heterogeneity, varying between 20 and 40 percent. This observation – and the coincident observation in relation to rates of participation – underscores the uncertainty that is associated with the financial impact that the NEST will have within its target population.

As in Section 3.1, wage adjustments that off-set the additional employer contributions identified under the NEST (hereafter referred to as the wage adjustments) were calculated, and associated statistics are reported in Figure 3.6 and Table 3.6. Starting with Panel A of Figure 3.6, the wage adjustments averaged over all employees are reported to fall from 0.8 to 0.6 percent after adjusting for imperfect participation in the NEST. This range of wage adjustments is precisely centred over the increase in employer labour costs of 0.7 percent that was projected by the DWP (2006) for the NEST.¹⁸

The wage adjustment for all low pay sectors falls from 1.1 percent reported in Section 3.1 to 0.8 percent when imperfect take-up of the NEST is taken into account. A smaller decline is observed for the wage adjustment over all non-low pay private sector firms, so that little difference is observed between non-low pay and low pay sectors after adjusting for imperfect take-up of the NEST. Although more employees are eligible for the NEST in the low pay sector, employer contributions per employee also tend to be lower, as are rates of projected participation in the scheme among eligible employees (as discussed above). The impact of this last consideration is highlighted by the wage adjustments reported for the low pay hairdressing industry, which fall precipitously after allowing for imperfect take-up of the NEST. In contrast, allowing for imperfect take-up of the NEST has a relatively muted impact on the wage adjustments reported for non-low pay private sector firms, regardless of firm size, so that – following the adjustment for take-up – some of the largest wage adjustments are reported for non-low pay private sector firms with fewer than 25 employees.

Among low pay industries, the highest wage adjustment after allowing for imperfect take-up of the NEST is projected for employment agencies (1.3 percent), followed by agriculture (1.2 percent), and then hairdressing (1.1 percent). As in preceding sections of this report, the wage adjustments projected for retail are broadly consistent with low pay industries in general, falling from 1.2 percent to 0.9 percent after allowing for imperfect take-up of the NEST.

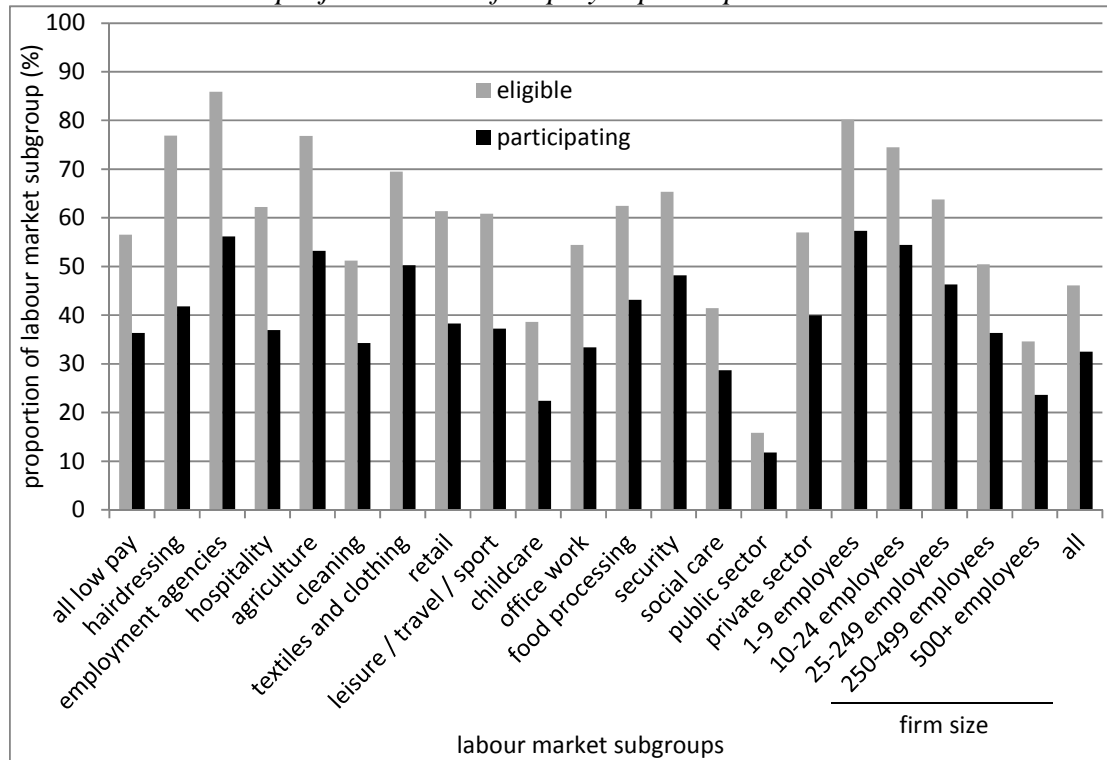
Panel B of Figure 3.6 indicates that, for most of the labour market subgroups identified in the analysis, the allowance for imperfect take-up has little impact on the proportions of employees who would be driven down to the minimum wage if wages were adjusted to offset mandatory employer contributions to the NEST. In the case of the low pay industries of cleaning, retail, leisure, and food processing, however, allowing for imperfect take-up of the NEST has a very pronounced impact on the proportion of employees who would earn the minimum wage if wages adjusted to

¹⁸ There is the separate question of why the statistics for the impact of the NEST on the labour costs faced by employers reported here should be consistent with those of official estimates, whereas the estimates for aggregate annual contributions to the scheme differ.

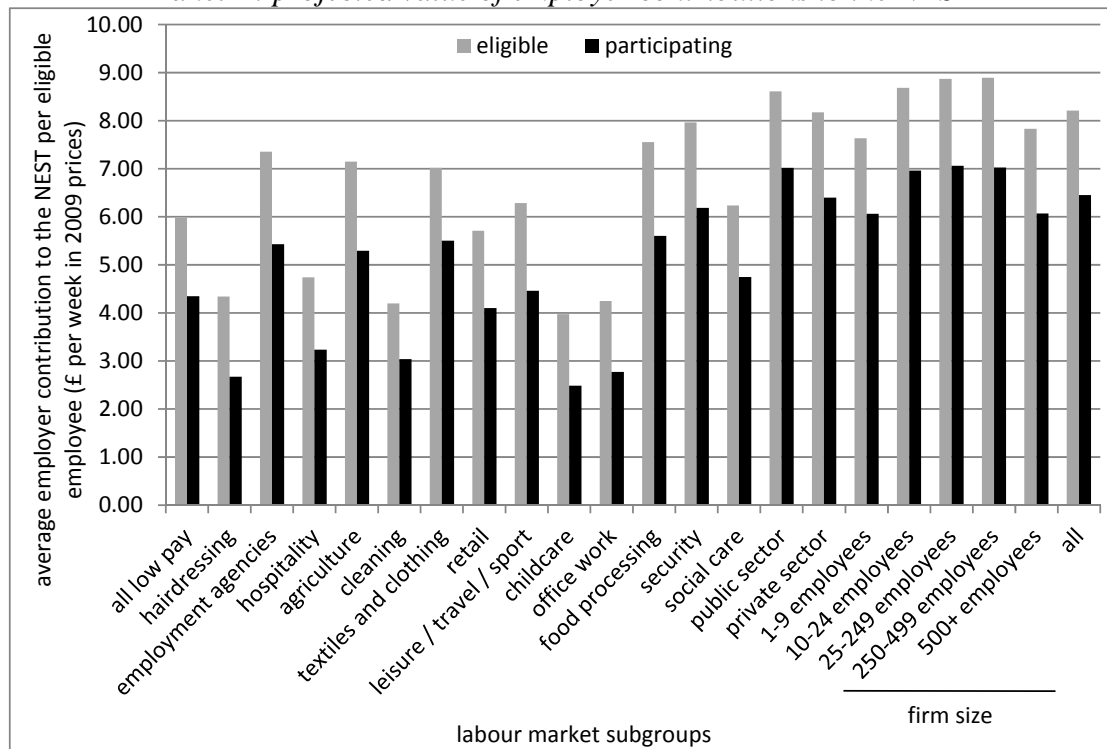
offset employer contributions to the scheme. This variation is clearly a consequence of the existing wage distribution, and how densely packed this is about the statutory minimum. Although there is some scope for downward adjustment of wages in most of the industry subgroups identified here, there is a small subset of low pay industries that are closely bound by the statutory minimum wage. In firms that are constrained by the minimum wage, the only way to off-set the additional costs associated with the NEST is by reducing labour demand, implying a reduction of working hours per employee and ultimately of employee head-count.

Figure 3.5: Projected rates of employee participation in and associated employer contributions to the NEST

Panel A: projected rates of employee participation in the NEST



Panel B: projected value of employer contributions to the NEST



Source: authors' calculations using data from waves 2005 to 2009 of the ASHE – see Appendix A for details

Notes: eligible employees defined as any employee who is eligible to an increased employer pension contribution under the NEST

Table 3.4: Projected rates of employee participation in the NEST

sex	employment characteristics	earnings quintile					average
		lowest	2	3	4	highest	
men	low pay	33	46	48	46	39	43
	hairdressing employment	51	49	62	53	73	56
	agencies	47	59	64	68	60	58
	hospitality	30	45	50	51	49	43
	agriculture	45	62	54	55	41	55
	cleaning	36	46	47	52	45	43
	textiles and clothing	53	46	52	50	40	48
	retail	30	43	49	49	46	43
	leisure / travel / sport	25	41	43	45	49	39
	childcare	17	30	26	39	18	24
	office work	32	43	39	35	38	38
	food processing	49	51	43	38	30	44
	security	37	52	54	60	47	51
	social care	38	39	33	24	13	28
women	low pay	28	37	35	34	33	32
	hairdressing employment	38	41	38	46	53	41
	agencies	42	56	61	62	61	54
	hospitality	28	39	39	44	46	33
	agriculture	38	55	55	50	46	47
	cleaning	26	42	42	44	46	30
	textiles and clothing	47	55	56	59	63	53
	retail	29	38	39	43	46	34
	leisure / travel / sport	27	42	42	42	42	35
	childcare	17	31	28	32	36	22
	office work	29	37	34	35	41	33
	food processing	43	46	40	39	27	42
	security	30	39	36	41	24	35
	social care	33	32	27	22	16	29
	low pay	30	41	42	40	37	36
men	non-low pay	37	45	39	34	27	35
women	non-low pay	23	28	25	22	21	24
	non-low pay	27	37	34	30	25	30
men		35	45	42	36	29	37
women		27	33	29	25	23	28
	public sector	14	13	11	11	11	12
	private sector	34	47	45	41	33	40
	1-9 employees	40	62	66	67	65	57
	10-24 employees	38	56	61	61	55	54
	25-249 employees	39	51	52	48	39	46
	250-499 employees	35	44	39	36	28	36
	500+ employees	23	29	25	22	19	24
		29	38	36	32	27	33

Source: authors' calculations on data from ASHE data from 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments
low pay industries as defined by the Low Pay Commission

Table 3.5: Projected average employer contributions to the NEST per eligible employee (£ per week in 2009 prices)

sex	employment characteristics	earnings quintile					average
		lowest	2	3	4	highest	
men	low pay	1.75	4.00	5.95	8.20	11.30	5.52
	hairdressing	1.67	3.12	5.76	4.44	11.19	4.35
	employment agencies	1.87	3.73	6.14	9.33	12.07	5.89
	hospitality	1.46	3.29	4.73	6.03	8.84	4.15
	agriculture	2.39	5.23	6.66	8.62	8.22	5.87
	cleaning	1.80	4.39	6.36	8.17	9.29	4.56
	textiles and clothing	2.45	4.61	7.03	9.12	13.56	6.66
	retail	1.57	3.64	5.65	7.88	11.39	5.43
	leisure / travel / sport	1.63	3.52	4.98	7.18	11.42	5.46
	childcare	1.47	3.46	4.58	7.63	9.49	4.10
	office work	1.71	3.30	4.29	4.29	3.50	3.35
	food processing	2.86	4.88	6.82	9.73	11.34	6.23
	security	1.83	4.73	7.68	9.87	9.38	6.48
	social care	1.89	4.50	7.05	11.01	15.14	6.45
women	low pay	1.34	3.47	4.82	6.61	8.67	3.39
	hairdressing	1.15	2.61	2.84	3.43	5.18	2.52
	employment agencies	1.47	3.28	5.66	8.34	10.77	4.87
	hospitality	1.25	3.09	3.59	4.51	6.29	2.62
	agriculture	1.50	3.64	5.90	7.68	7.95	3.63
	cleaning	1.21	3.63	4.61	5.68	7.73	2.25
	textiles and clothing	1.73	3.85	5.93	9.17	12.28	4.21
	retail	1.21	3.19	4.12	5.78	8.72	3.05
	leisure / travel / sport	1.44	3.41	4.24	6.14	7.90	3.47
	childcare	1.23	2.85	3.73	3.67	2.89	2.41
	office work	1.33	3.53	4.24	3.19	3.36	2.70
	food processing	2.01	4.17	5.04	6.90	9.72	4.15
	security	1.43	4.39	6.55	8.61	5.30	4.96
	social care	1.58	4.05	6.74	9.51	10.09	4.32
	low pay	1.45	3.72	5.45	7.51	10.32	4.35
men	non-low pay	2.07	4.89	7.78	10.75	14.10	9.09
women	non-low pay	1.51	4.01	6.51	9.76	12.72	6.41
	non-low pay	1.71	4.55	7.40	10.48	13.76	8.19
men		1.86	4.48	7.15	10.08	13.52	7.81
women		1.38	3.69	5.66	8.44	11.42	4.68
	public sector	1.46	4.19	7.16	11.34	14.15	7.02
	private sector	1.53	4.11	6.58	9.36	12.81	6.40
	1-9 employees	1.38	4.07	6.65	9.44	13.38	6.06
	10-24 employees	1.52	4.27	7.07	9.83	13.17	6.97
	25-249 employees	1.70	4.39	7.01	9.75	13.06	7.06
	250-499 employees	1.73	4.39	6.95	9.83	13.23	7.03
	500+ employees	1.48	3.92	6.23	9.34	12.72	6.07
		1.52	4.12	6.62	9.55	12.95	6.46

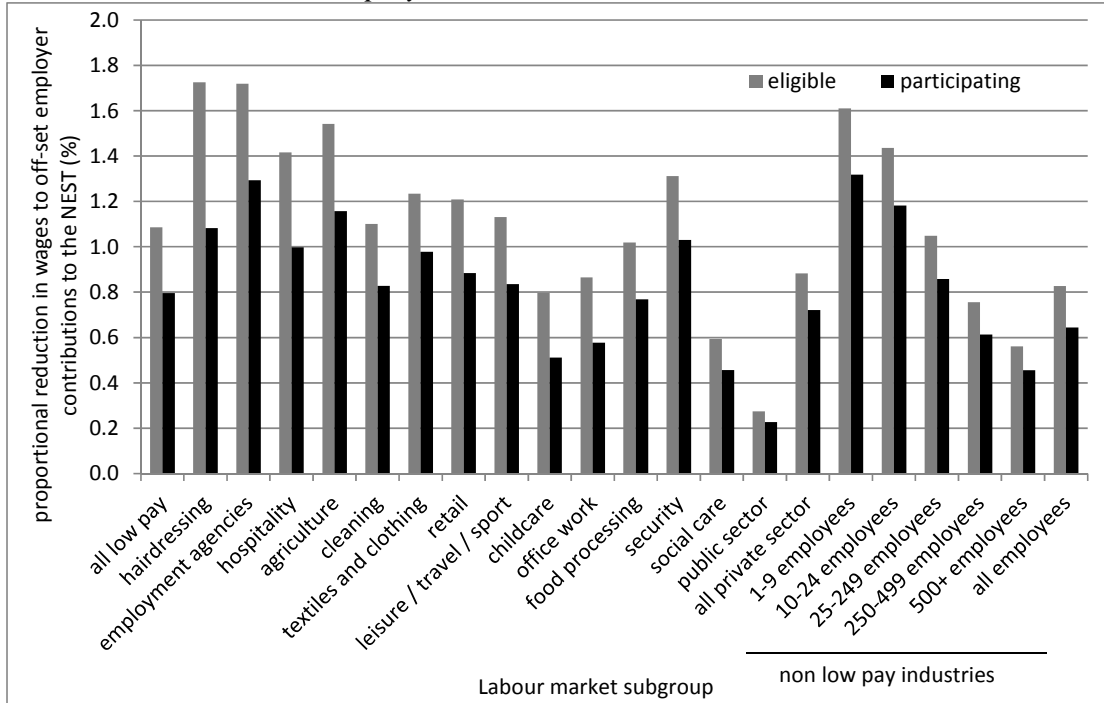
Source: authors' calculations on data from ASHE data from 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments

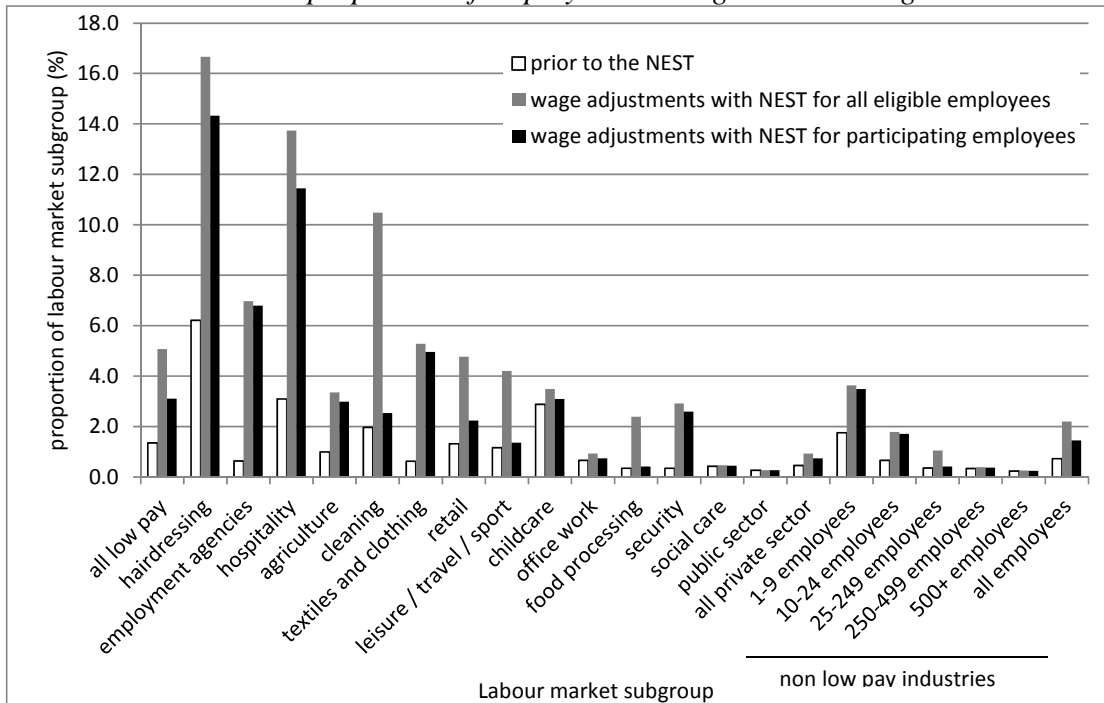
low pay industries as defined by the Low Pay Commission

Figure 3.6: Wage adjustments required to off-set projected employer contributions to the NEST, and impact on the share of the labour force with low wages (%)

Panel A: proportional wage adjustments required to off-set projected cost of employer contributions to the NEST



Panel B: proportion of employees earning minimum wage



Source: authors' calculations using data from waves 2005 to 2009 of the ASHE – see Appendix A for details

Table 3.6: Wage adjustments required to off-set projected employer contributions to the NEST, and impact on the share of the labour force with low

	wage adj.*	prior to the NEST min wage	NEST with wage adj low pay min wage	effect of NEST min wage	low pay	low pay
low pay	0.8	1.4	17.1	3.1	18.2	1.1
hairdressing	1.1	6.2	31.2	14.3	32.8	1.6
employment agencies	1.3	0.6	13.8	6.8	14.7	0.8
hospitality	1.0	3.1	30.7	11.4	32.4	1.7
agriculture	1.2	1.0	10.9	3.0	12.2	1.3
cleaning	0.8	2.0	29.9	2.5	31.2	1.3
textiles and clothing	1.0	0.6	13.8	5.0	14.7	0.9
retail	0.9	1.3	19.1	2.2	20.6	1.5
leisure / travel / sport	0.8	1.2	11.5	1.4	12.3	0.8
childcare	0.5	2.9	25.6	3.1	27.3	1.6
office work	0.6	0.7	7.6	0.7	7.9	0.3
food processing	0.8	0.3	10.8	0.4	11.4	0.7
security	1.0	0.3	9.0	2.6	9.8	0.8
social care	0.5	0.4	5.9	0.4	6.1	0.2
non low pay, public sector	0.2	0.3	1.2	0.3	1.2	0.0
non low pay, private sector	0.7	0.5	3.0	0.7	3.1	0.2
1-9 employees	1.3	1.8	8.1	3.5	8.5	0.5
10-24 employees	1.2	0.7	4.6	1.7	4.9	0.3
25-249 employees	0.9	0.4	3.4	0.4	3.6	0.2
250-499 employees	0.6	0.3	2.3	0.4	2.5	0.1
500+ employees	0.5	0.2	1.5	0.2	1.5	0.0
all employees	0.6	0.7	7.4	1.4	7.8	0.5

Source: authors' calculations on data from ASHE 2005 to 2009 - see Appendix A for details

Notes: excludes employees under age 18, or identified in multiple low pay industries
low pay industries as defined by the Low Pay Commission

* downward wage adjustment factor required to exactly off-set employer contributions to the NEST
wage adjustments subject to lower bound defined by the minimum wage
min wage = proportion of employees with wage rate < minimum wage + 0.05
low pay = proportion of employees with wage rate < 1.1 x minimum wage

3.3. Summary

The current analysis suggests that between 8 and 11 million employees will participate in the NEST, contributing between £10 and £13 billion (2009 prices) to the scheme annually. This compares with official estimates that between 5 and 11 million employees will make contributions worth approximately £9 billion annually to the scheme. Furthermore, our estimates suggest that wages would need to fall by between 0.6 percent and 0.8 percent on average to off-set additional employer contributions to the NEST, which closely aligns with official estimates that the NEST will increase labour costs to employers by 0.7 percent.

Our analysis reveals a significant degree of variation by employment industry, sector, and firm size underlying these population aggregates, which is likely to have important implications for employers, employees, and the associated regulatory environment. Low pay industries and small private sector firms are identified as likely to be most affected by the NEST, as a disproportionate share of employees in these labour market subgroups are eligible to increased employer contributions under the scheme. We find that in excess of 60 percent of employees will be eligible for

higher employer pension contributions under the NEST in 9 out of 13 low pay industries, and in private sector firms with fewer than 250 employees.

Allowing for imperfect take-up of the NEST sees participation fall disproportionately in low pay industries, with projected rates of participation remaining in excess of 50 percent of employees in only three industry subgroups: employment agencies, agriculture, and textiles and clothing. Furthermore, the additional employer pension contributions to which employees will be eligible under the NEST tends to be lower in low pay industries on average, and to show more variation than in the wider labour market. Among low pay industries, employer contributions projected for the NEST are lowest – varying between £2.50 and £5.00 per week per eligible employee on average – in hairdressing, hospitality, cleaning, childcare, and office work. This is in contrast with the population average, which varies between £6.00 and £8.00 per week per eligible employee, depending upon employee take-up of the scheme.

We find that wages would have to fall by more than 1.4 percent in order to fully off-set the increase in eligible employer pension contributions mandated by the NEST in the low pay industries of hairdressing, employment agencies, hospitality and agriculture, and in non-low pay private sector firms employing fewer than 25 employees. Allowing for imperfect take-up of the NEST results in a disproportionate fall in the burden on employers in the hairdressing and hospitality industries, so that the wage adjustment to off-set the NEST is less than 1.1 percent in all but the low pay industries of employment agencies and agriculture, and in private sector firms employing fewer than 25 employees.

Our analysis reveals that, for the majority of the labour market, the minimum wage does not represent a significant limitation in regard to the wage adjustments that are identified to off-set the increase in employer pension contributions under the NEST. However, this is not the case in 7 of the 13 low pay industries identified in the analysis; hairdressing, employment agencies, hospitality, cleaning, textiles, leisure, food processing, and retail. Inclusion in this list of retail is of particular importance, as this is the largest low pay industry by employee headcount, which emphasises the need to exercise care in taking account of the NEST when defining the minimum wage.

In the analysis that is reported here, the minimum wage will help shield low pay workers from paying a share of the subsidies that the NEST will afford to its members. This appears to be a socially desirable objective, insofar as the subsidies offered under the NEST, and the likelihood of participation in the scheme, both vary positively with employee wages. Indeed, public support for the NEST may evaporate if it is seen as a vehicle that transfers wealth from people most in need – who are either ineligible for the scheme, or who reasonably choose to opt-out – to those with higher incomes. The minimum wage is a regulatory tool that could help to avoid such a circumstance.

However, use of the minimum wage to shield the lowest paid workers from suffering as a result of the introduction of the NEST comes at the expense of constrained wage flexibility for employers. It would hardly be advantageous to those on the lowest wages if the minimum wage – rather than acting as a shield against wage reductions – resulted in a loss of work. The resulting dilemma will be familiar to those engaged in the specification of the minimum wage, and the statistics reported here are designed to provide an indication of the extent to which the NEST will bear upon this difficult regulatory problem.

4. CONCLUSIONS

The introduction of the National Employment Savings Trust from 2012 will mark an important transition in the UK pensions system. For the first time, the NEST will require all employers to make a matching contribution in respect of eligible employees who choose to participate in a pension scheme. As up to 46 percent of all employees could be eligible to increased employer pension contributions under the NEST, the scheme is likely to have an important bearing on aggregate labour costs, savings rates, and ultimately upon private provisions for retirement.

Our analysis focuses upon the first of these issues, considering the implications of the NEST for employers and the wage bargain over the short to medium term. We find that, consistent with the objectives of the scheme, the NEST is likely to have the greatest impact on low pay industries and small private sector firms. This reflects the thin employer pension provisions that are currently afforded in these segments of the labour market. Furthermore, we find a substantial degree of heterogeneity among low pay industries, with the NEST set to have a substantial impact on employment agencies and agriculture, and a small impact on social care.

One of the key results of our analysis concerns the implications for low pay workers, who are least likely to participate in the NEST, but who are also employed in firms that will experience a disproportionate increase in costs due to the introduction of the scheme. The apparent contradiction of this unfortunate correspondence is due to the fact that many firms in low pay industries currently do not provide pension contributions to any of their employees, including those on relatively high wages. A worrying implication is that affected employers may seek to off-set the pension contributions that are mandated under the NEST by reducing wages to all of their employees, resulting in a cross-subsidisation from employees on the lowest wages to those who are better paid. Our analysis highlights the potential role of the minimum wage in shielding those employees who are most at risk from associated financial deprivation.

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Appendix A. Data Sources

The analysis is based upon data from the Annual Survey of Hours and Earnings (ASHE), and the Family Resources Survey (FRS).¹⁹

Annual Survey of Hours and Earnings (ASHE)

The ASHE replaced the New Earnings Survey (NES) in 2004, but comparable data imputed from the NES are available from 1997. The survey reports data that are primarily based upon a 1 percent sample of National Insurance numbers for February, supplemented by additional samples drawn from the Inland Revenue PAYE register in April, to cover employees that have either moved into the job market or changed jobs between the time of selection and the survey date.

The survey is addressed to employers, and provides information on the earnings and hours paid for employees within industries, occupations and regions. From 2005, the ASHE was augmented to include detailed information regarding the pension arrangements of employees, including the pension contributions of both employees and employers. These data consequently represent the principal source upon which the analysis is based. It is important to note, however, that the ASHE may not fully identify personal pension contributions if these are made on an *ad hoc* basis, and are ill-suited to consider pension arrangements with which employers have no involvement.

The analysis focuses upon two measures of pay. The first is a measure of basic pay that excludes over-time, shift, and premium payments (GPOX – SPPAY), which is used to evaluate employee circumstances relative to the statutory minimum wage rate and to disaggregate the population by wage quintile. The second, focuses upon total gross pay including overtime and bonus payments, and is used to evaluate pension contributions and contribution rates (consistent with the terms of the National Employment Savings Trust). Low pay sectors are identified using the definitions set out by the Low Pay Commission in Table A4.1 of the annual report for 2010 (LPC, 2010). The ‘old’ series definition is used for data to 2006, and the ‘new’ series definition is used from 2007 (following introduction of the Standard Industrial Classification 2007).²⁰ Low paid workers are identified with reference to the cut-off threshold of 10 percent above the adult rate of the minimum wage for the respective year.

Statistics are weighted by the low-pay weights from 2004 (lpcalwght), and by the broader population weights (calwght) for earlier years (in the few instances where these are referenced).

The full sample provided by the ASHE was restricted to focus upon the principal employment (MJOB) of employees in excess of age 16 and under state pension age (60 for women and 65 for men). Any individual with Gross Pay (GPAY) less than £5 per week, or basic gross hourly pay less than £0.20 was excluded from the analysis, as

¹⁹ The British Household Panel Survey has a sample size that is appreciably smaller than that of either the ASHE or the FRS, making it of limited use here. The Expenditure and Food Survey identifies employee contributions to pension schemes but does not establish the nature of these schemes, whether employers contribute, or employee occupational classifications. The Labour Force Survey does not provide information on pension provision by employers.

²⁰ An individual is identified as being employed in a low pay industry if they are classified as such on *either* the associated Standard Industrial Classification (SIC) *or* the Standard Occupational Classification (SOC).

was any observation recorded as having been affected by “loss of pay” (LOP). Individuals working less than 0.5 hours per week, 90+ hours per week, or more than 50 hours of overtime were also excluded from the analysis. Furthermore, the analysis considers data that includes supplementary information for 2004 (numstrata = 3), and occupations coded by an automatic coding tool were considered from 2006 (numstrata = 4). These sample adjustments resulted in the population sample sizes reported in Tables A.1 to A.3.

Table A.1 ASHE Sample Size

year	full sample	restricted sample
1997	153950	137984
1998	161378	143714
1999	161750	143468
2000	158965	141017
2001	161358	138191
2002	163821	140642
2003	166431	142740
2004	166794	142064
2005	168343	146514
2006	169930	148395
2007	140936	124765
2008	141605	124018
2009	171891	150488

Table A.2 ASHE Sample – employee numbers by subgroup category

sex	employment characteristics	earnings quintile					average
		Lowest	2	3	4	highest	
men	low pay	23712	30184	22162	14632	11507	102255
	hairdressing	78	54	44	18	21	215
	employment agencies	1289	1122	754	599	635	4399
	hospitality	4618	3785	2565	1553	999	13528
	agriculture	390	1352	621	349	188	2906
	cleaning	2814	2951	1325	478	289	7864
	textiles and clothing	199	499	369	230	218	1515
	retail	11270	13522	10277	6719	4915	46705
	leisure / travel / sport	1531	1535	1098	845	867	5877
	childcare	183	88	63	45	27	411
	office work	278	350	232	132	55	1047
	food processing	1143	2923	1953	1497	1020	8536
	security	794	1843	2013	819	278	5748
	social care	1573	2571	1931	1850	2197	10150
women	low pay	76972	37549	20647	13040	7165	155954
	hairdressing	811	479	338	237	72	1938
	employment agencies	1263	864	585	487	409	3608
	hospitality	11968	4407	2110	1090	442	20032
	agriculture	452	304	129	73	20	978
	cleaning	10404	2148	585	198	93	13494
	textiles and clothing	501	568	195	101	51	1416
	retail	33047	14622	7374	3793	2453	61291
	leisure / travel / sport	2848	1359	819	567	276	5870
	childcare	5197	1518	856	373	104	8312
	office work	3943	2557	987	426	173	8086
	food processing	1195	1375	580	337	283	3770
	security	303	358	345	151	56	1213
	social care	13327	10276	6929	5722	2940	39426
	low pay	100684	67733	42809	27672	18672	258209
men	non-low pay	11879	38799	57897	65544	76974	251216
women	non-low pay	36027	39287	38766	38639	31837	184755
	non-low pay	47906	78086	96663	104183	108811	435971
men		35591	68983	80059	80176	88481	353471
women		112999	76836	59413	51679	39002	340709
	public sector	37490	36147	37288	41001	33650	185590
	private sector	111100	109672	102184	90854	93833	508590
	1-9 employees	14198	10157	8275	6419	4949	44573
	10-24 employees	9299	10030	9284	7920	6441	42995
	25-249 employees	19275	26343	24763	22548	22731	115691
	250-499 employees	5337	7939	7805	7195	7575	35873
	500+ employees	100403	91230	89217	87615	85588	454173
		148590	145819	139472	131855	127483	694180

Source: authors' calculations on data from ASHE data from 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments
low pay industries as defined by the Low Pay Commission

Table A.3 ASHE Sample – number of employees receiving an employer pension contribution by subgroup category

sex	employment characteristics	earnings quintile					average
		lowest	2	3	4	highest	
men	low pay	2498	6705	6585	5447	5613	26850
	hairdressing	0	2	0	1	0	3
	employment agencies	12	35	33	45	133	258
	hospitality	108	231	227	238	291	1096
	agriculture	31	206	174	103	74	588
	cleaning	320	878	452	138	102	1890
	textiles and clothing	30	187	142	96	115	570
	retail	1415	2669	2719	2223	1975	11002
	leisure / travel / sport	98	317	285	286	321	1307
	childcare	39	31	32	20	19	141
	office work	36	83	79	48	14	260
	food processing	161	837	886	788	642	3314
	security	132	529	684	222	82	1649
	social care	349	1134	1072	1314	1870	5739
women	low pay	19101	12883	8475	6158	3655	50278
	hairdressing	29	20	15	11	1	76
	employment agencies	35	39	46	71	63	254
	hospitality	1867	738	275	165	95	3143
	agriculture	27	53	32	23	6	141
	cleaning	2119	605	154	48	24	2950
	textiles and clothing	80	160	73	25	10	348
	retail	7399	3790	2117	1076	769	15151
	leisure / travel / sport	360	263	202	185	99	1110
	childcare	1770	667	442	134	29	3042
	office work	1565	1128	433	112	24	3262
	food processing	272	471	261	151	183	1338
	security	77	157	183	67	33	517
	social care	4553	5496	4434	4146	2335	20966
	low pay	21599	19588	15060	11605	9268	77128
men	non-low pay	2782	15728	31550	40671	53389	144154
women	non-low pay	18410	23895	26186	28159	23766	120461
	non-low pay	21192	39623	57736	68830	77155	264615
men		5280	22433	38135	46118	59002	171004
women		37511	36778	34661	34317	27421	170739
	public sector	24474	29712	32263	35664	29222	151348
	private sector	18317	29499	40533	44771	57201	190395
	1-9 employees	548	700	910	865	1057	4087
	10-24 employees	1163	1791	1930	2048	2254	9193
	25-249 employees	2650	6703	8677	9633	12372	40063
	250-499 employees	1097	2857	3813	4120	5046	16936
	500+ employees	37332	47129	57416	63693	65538	271126
		42791	59211	72796	80435	86423	341743

Source: authors' calculations on data from ASHE data from 2005 to 2009 - see Appendix A for details

Notes: earnings quintile based on weekly wage excluding overtime, shift and premium payments

low pay industries as defined by the Low Pay Commission

Family Resources Survey

The FRS was introduced in 1992, and reports data regarding the demographic, employment, income and financial circumstances of households in the United Kingdom (Great Britain prior to 2002). Data for the FRS are collected on a continuous basis from a cross-section sample of approximately 24,000 voluntary participating households that is designed to be representative of the wider United Kingdom population. Information is collected at both the household and individual level. Household level questions are asked of one adult (usually the household reference person / head), and individual level data are collected from all non-dependant people aged in excess of 16 years.

The survey reports data regarding the nature of employment, including hours worked, occupation, industry and firm size. The survey also reports individual level data regarding pension eligibility, actual membership, and the magnitude of private contributions made to pension schemes. Respondents are asked to distinguish between alternative pension schemes, and whether an individual's employer contributes to their pension. Importantly, however, the survey does not report the size of any employer pension contribution. Furthermore, the FRS is ill-suited for considering low-paid workers for three reasons: the Standard Industrial Classification is reported only to 2 digits, the Standard Occupational Classification is reported to only 1 digit, and the survey is not designed to provide hourly wage rates.

The FRS is used to validate statistics calculated on ASHE data, and to explore the nature of private pension arrangements with which the employer has no involvement (and which are consequently poorly reported by ASHE). The former of these issues is particularly important, given that the NEST is designed specifically for low income earners who may not be fully represented by ASHE due to the sampling methods employed for that survey. This issue is returned to below.

The full sample provided by the FRS was restricted to consider only employees between ages 16 and state pension age, working between 0.5 and 90 hours per week, with gross usual pay in excess of £5 per week. These sample adjustments resulted in the population sample sizes reported in Table A.2.

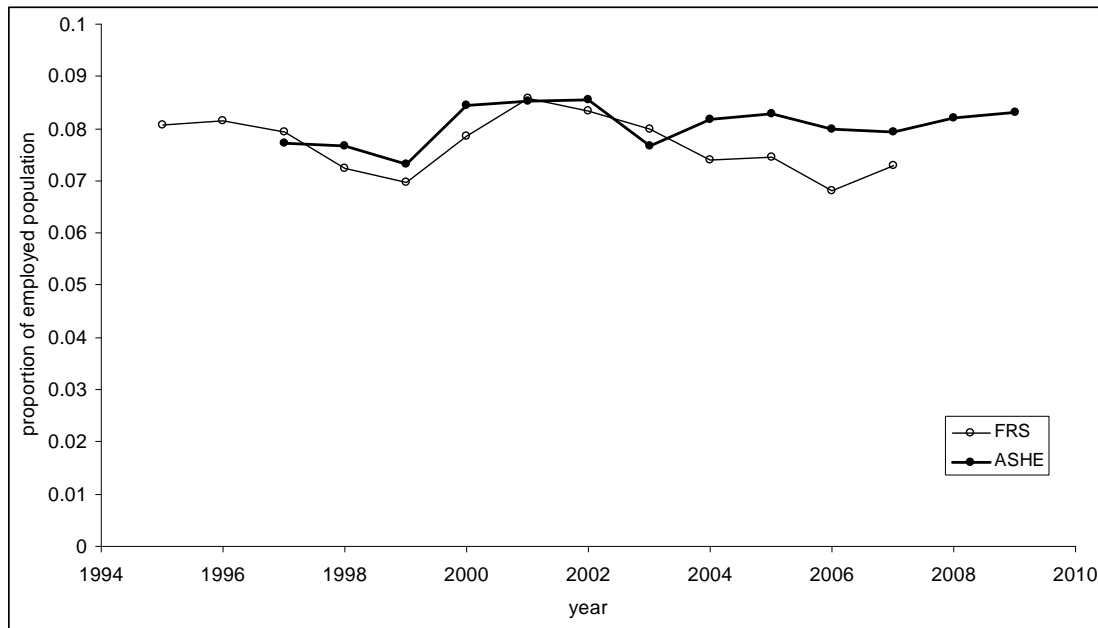
Table A.2 FRS Sample Size

wave	full sample	restricted sample
1995-1996	46924	25942
1996-1997	45251	24420
1997-1998	41800	22001
1998-1999	40586	21395
1999-2000	44107	23105
2000-2001	41842	21661
2001-2002	44748	22787
2002-2003	50534	25942
2003-2004	50727	26536
2004-2005	49220	25790
2005-2006	49320	25739
2006-2007	45133	23727
2007-2008	43428	23019

One question of particular relevance, given the focus of the NEST, is how well the respective data sources reflect employees on modest earnings. Figure A.1 reports the proportion of the employed population (as described above) that were defined as earning a weekly wage below the Primary Threshold for National Insurance, by year of observation, for both the FRS and ASHE.²¹ This figure indicates that the two data sources report low wages for a very similar proportion of the working population between 1997 to 2003, after which the ASHE tends to describe a slightly higher proportion of low earners than the FRS. This is likely due to the addition from 2004 to the ASHE of additional population samples designed to capture employees who either move jobs or enter the labour market between February and April.

²¹ The Primary Threshold was introduced from the 2000/01 tax year. The Lower Earnings Limit was taken as the wage threshold for data from earlier years.

Figure A.1: Proportion of employees with earnings below the Primary Threshold for National Insurance



Appendix B. Regression Analysis of Existing Employer Pension Provisions

The analysis reported in this report focuses upon the incidence of existing employer pension contributions. Section 2 provides a qualitative analysis based upon cross-tabulations of survey microdata, which identifies the key margins of concern. Cross-tabulations were used in Section 2 because the associated interpretation does not require any understanding of econometric techniques. Nevertheless, that analytical approach is a fairly cumbersome way of controlling for cross-correlations between the characteristics that are identified as influencing the incidence (and scale) of pension contributions. Here we augment the analysis reported in Section 2, by considering results of a probit regression for the incidence of employer pension contributions, which is explicitly designed to control for cross-correlations between explanatory variables.

Regression statistics for the probit model calculated on data from waves 2005 to 2009 of the ASHE are reported in Table B.1. This table reveals that the estimated model correctly predicts the incidence of an employer pension contribution for more than three quarters of the regression sample, and does substantially better than a model that takes no account of individual specific circumstances (compare the last two rows of the table). This impression is bolstered by the coefficients that are reported for individual characteristics, which tend to have an intuitive interpretation throughout.

All else being equal, male employees are less likely than females to receive an employer pension contribution, except very early in the working lifetime. The scale of the impact of sex on the incidence of receiving an employer pension contribution, is, however, small relative to most of the other characteristics reported in the table. The regression statistics for age indicate that the incidence of receiving an employer pension contribution tends to rise to the early fifties, before falling away late in the

working lifetime. That the incidence of an employer pension contribution should be low at younger ages reflects the relatively weak life-cycle savings motivation early in the working lifetime. Although retirement savings motives tend to be strongest late in the working lifetime, this is partly off-set by a greater prevalence of men in the workforce at that time, and by the early departure from the workforce of individuals with access to favourable pension arrangements.

The probability of receiving an employer pension contribution rises fairly strongly with the size of the employer, and is higher among public sector employees. Full-time and permanent employees are more likely to receive an employer pension contribution, although between these two is complicated by the fact that 93 percent of all employees, and 95 percent of full-time employees, are also recorded as being permanently employed.

Employment in a low-pay sector, as defined by the Low Pay Commission, tends to be associated with a lower probability of receiving an employer pension contribution. This is exaggerated in sectors such as employment agencies, hospitality, and hairdressing, and is off-set in sectors such as office work, textiles, and food processing.

The positive relationship between the incidence of employer pension contributions and rates of pay is reinforced by the pay statistics that are reported in the table. This is true for both hourly rates of pay – as indicated by the coefficients on the ‘low pay by wage’ variable reported in the table – and for weekly rates of pay – as indicated by the ‘primary threshold’ and ‘wage decile’ variables.

Table B.1: Probit Regression Statistics for the Incidence of employees receiving an employer pension contribution

<i>variable</i>	<i>coefficient</i>	<i>std. error</i>	<i>p value</i>
male	-0.1038	0.0120	0.000
age*			
under 22	-1.4332	0.0167	0.000
22 to 24	-0.7915	0.0132	0.000
25 to 29	-0.3891	0.0103	0.000
30 to 34	-0.1146	0.0104	0.000
40 to 44	0.0498	0.0098	0.000
45 to 49	0.1040	0.0100	0.000
50 to 54	0.1235	0.0104	0.000
55 to 59	0.0401	0.0110	0.000
60+	-0.1193	0.0169	0.000
male x age group			
under 22	0.1584	0.0234	0.000
22 to 24	-0.0479	0.0199	0.016
25 to 29	-0.0580	0.0156	0.000
30 to 34	-0.0954	0.0155	0.000
35 to 39	-0.1050	0.0150	0.000
40 to 44	-0.0768	0.0149	0.000
45 to 49	-0.0497	0.0151	0.001
50 to 54	-0.0155	0.0157	0.325
firm size			
1 to 9	-1.0017	0.0499	0.000
10 to 24	-0.5722	0.0496	0.000
25 to 249	-0.1837	0.0492	0.000
250 to 499	0.1531	0.0496	0.002
500+	0.3757	0.0492	0.000
full time employee	0.0137	0.0187	0.465
permanent employee	0.4976	0.0124	0.000
part-time x permanent	0.1643	0.0181	0.000
low pay by wage	-0.4707	0.0171	0.000
public sector	1.2373	0.0338	0.000
public sector x			
male	-0.1162	0.0098	0.000
full-time employee	0.1179	0.0110	0.000
permanent employee	-0.1760	0.0179	0.000
firm size 250 to 499	-0.5010	0.0406	0.000
firm size 500+	-0.3628	0.0290	0.000
low pay by wage	0.3523	0.0231	0.000

Table continued on next page

Table B.1: Probit Regression Statistics for the Incidence of employees receiving an employer pension contribution (continued)

<i>variable</i>	<i>coefficient</i>	<i>std. error</i>	<i>p value</i>
low pay by sector:			
employment agencies	-0.5777	0.0274	0.000
hospitality	-0.2786	0.0144	0.000
hairdressing	-0.2722	0.0727	0.000
cleaning	-0.1996	0.0145	0.000
security	-0.0108	0.0201	0.590
childcare	0.0377	0.0204	0.065
leisure / travel / sport	0.0401	0.0183	0.028
retail	0.1871	0.0115	0.000
social care	0.2680	0.0123	0.000
agriculture	0.3438	0.0293	0.000
food processing	0.3939	0.0160	0.000
textiles and clothing	0.4159	0.0288	0.000
office work	0.5775	0.0178	0.000
SOC2000	-0.2817	0.0222	0.000
SIC2003/2007	-0.4768	0.0218	0.000
low pay by SIC x			
low pay by wage	0.1800	0.0191	0.000
permanent employee	-0.1291	0.0208	0.000
low pay by SOC x			
low pay by wage	0.0698	0.0175	0.000
permanent employee	-0.0303	0.0213	0.154
primary threshold	0.4479	0.0187	0.000
wage decile**			
2	0.1282	0.0104	0.000
3	0.2089	0.0117	0.000
4	0.3461	0.0123	0.000
5	0.5016	0.0125	0.000
6	0.6178	0.0127	0.000
7	0.6966	0.0129	0.000
8	0.8441	0.0131	0.000
9	0.9424	0.0133	0.000
10	1.1080	0.0135	0.000

Table continued on next page

Table B.1: Probit Regression Statistics for the Incidence of employees receiving an employer pension contribution (continued)

<i>variable</i>	<i>coefficient</i>	<i>std. error</i>	<i>p value</i>
year			
2005	-0.0173	0.0056	0.002
2006	0.0126	0.0055	0.021
2007	0.0462	0.0057	0.000
2008	0.0078	0.0057	0.171
region			
north east	0.2222	0.0103	0.000
north west	0.2360	0.0074	0.000
Yorkshire	0.2264	0.0079	0.000
east midlands	0.2121	0.0084	0.000
west midlands	0.2052	0.0078	0.000
south east	0.1555	0.0069	0.000
south west	0.2401	0.0080	0.000
east	0.1727	0.0078	0.000
Wales	0.2826	0.0101	0.000
Scotland	0.2007	0.0080	0.000
constant	-1.5806	0.0546	0.000
Number of Observations		699749	
Pseudo R2		0.3181	
proportion with an employer pension		0.4913	
Correct predictions		0.7743	

Source: authors' calculations on data from ASHE, 2005 to 2009

low pay by wage = 1 if hourly wage is less than 10% above the adult rate for the minimum wage

primary threshold = 1 if weekly wage in excess of the Primary Threshold for National Insurance

firm size describes number of individuals employed with employer

low pay sectors aggregated by industry and occupational classification as defined in Table A4.1 of Low Pay Commission Report 2010

old low pay sector definition used to 2006

new low pay sector definition used from 2007

* age group 35 to 39, lowest wage decile, year dummy for 2009, and London regional dummy all omitted to avoid collinearity

** wage deciles based on weekly wage