

The Impact of the National Living Wage on English Care Homes

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Interim Report

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1. Introduction

The National Living Wage (NLW) was introduced on 1 April 2016, raising the minimum wage of workers aged 25 and over to £7.20 per hour. Given the scale of the change – a 7.5 percent increase above the existing adult National Minimum Wage (NMW) of £6.70 – it is important to evaluate its economic impact. In this brief summary report we offer an initial appraisal of the analysis of data we collected on care home workers and firms before and after the NLW introduction.

The report is structured as follows. In section 2, we discuss the survey structure that was implemented. Section 3 presents descriptive statistics from the responses we obtained, and considers the representativeness of those responses. Section 4 reports on what the survey respondents stated about NLW introduction in terms of awareness, levels and perceived impact. Sections 4 and 5 present results from our statistical analysis of the data, the former reporting evidence on the impact of NLW introduction on wages, and the latter offering evidence on the impact on economic outcomes. Section 6 offers some concluding remarks and pointers to where the research may head in future.

2. Survey Structure

The Care Homes Sector

As with some of our earlier work when we combined data collection and statistical analysis to study the impact of the April 1999 introduction of the UK's National Minimum Wage, we chose to collect data on workers and firms operating in the residential care sector.¹ The main reason, as then, is that it is highly vulnerable to changes in minimum wages, since it has many low-paid workers. This is

¹ The earlier studies on NMW introduction are: Machin, Manning and Rahman (2003), Machin and Wilson (2004) and Draca, Machin and Van Reenen (2011).

especially pertinent for NLW introduction as the majority of its low paid workers are aged over 25. The sector offers a rather homogeneous service in a competitive environment and is very labour intensive, so the NLW introduction is likely to have a large impact on costs, thus potentially affecting economic outcomes of workers and firms that are more affected. The sector is also interesting as the regulation of resident fees by local authorities limits the possibility to pass on higher costs in the form of higher prices.

Survey Implementation and Responses

We obtained information from the Care Quality Commission's (CQC) directory of all care homes in England to provide the sampling frame, and sent questionnaires to all homes in January and February 2016 for the pre-NLW part of the survey (after a small pilot at the end of 2015) and in late June and August 2016 for the post-NLW part of the survey. The questionnaires are reproduced in the Appendix and asked questions at care home level, but also on individual workers within the homes.

We collected a total of 1410 responses in the pre-NLW survey and of 629 responses in the post-NLW survey so far. Among these there is a balanced panel of 182 firms who responded before and after the NLW introduction. The post-NLW data collection is still in progress, so the analysis presented in this report is still preliminary and will be updated as we gather more data.

3. Descriptive Statistics and Representativeness

Summary Statistics

Table 1 reports summary statistics on workers' data for all care homes and for the balanced panel, before and after the NLW introduction. The pre-NLW summary statistics on workers reported in Table 1 confirm that the care home sector is likely to be highly vulnerable to the NLW introduction, having relatively low hourly pay and workers that are on average older than 40. Around 80% of workers are female and around 55% work as a care assistant, most of whom do not hold nursing qualifications.

Table 2 shows summary statistics at care home level. They show that the care home sector is characterised by small-size establishments (median firm size is 15 employees) with occupancy rates of about 90% and a high proportion of revenues coming from fees paid by local authorities.

Representativeness

An important dimension of the usage of survey data is to assess the representativeness of respondents as compared to the full population of care homes. To this end, we make use of the National Minimum Dataset for Social Care (NMDS-SC) to compare the characteristics of workers and firms in our survey to those of the broader population of CQC regulated residential care homes. This is important to do as, for one reason or another, response rates this time round were not as good as when we did the surveys back in 1998 and 1999 to study the introduction of the National Minimum Wage.

Tables 3 to 6 report the distribution of a set of worker- and firm- level variables in our survey and in the NMDS-SC data both before and after the NLW introduction. Workers' statistics square up very well in both the pre- and post-NLW periods suggesting that we do not have a problem of representativeness at the worker level. Results for employment and occupancy rate at the firm level

line up quite satisfactorily too. This is highly reassuring for our ability to draw any general conclusions from the analysis of the data we undertake.

4. Views About NLW Introduction

In both the pre- and post-NLW surveys, we asked the respondents to the care homes surveys about their views on the level of minimum wages (NMW and NLW) and about what they perceive to be the consequences of the NLW on the running of their business.

NLW Levels

According to pre-NLW data, 97.3% of respondents were aware of the upcoming introduction of the NLW. While almost half of the sample (49.7%) believed that the level of the NMW was about right, 37.8% found it too low. About the same percentage (37.6%), however, thought the proposed level of the NLW too high. Interestingly enough, respondents appear much more favourable to the new wage floor after its implementation, with 52.4% considering it about right, 22.4% too low and only 20.5% deeming it too high (Table 7).

Perceived Impact

As for the consequences of the NLW introduction on the care home business (Table 8), the vast majority of firms expect that prices and profits will be the most affected: in the pre-NLW data a change in prices was expected by 78.8% of respondents, of which 90.7% predicted an increase; 85.7% worried that profits would be affected and of these 96.6% anticipated that they would decrease. Negative expectations about employment effects at the intensive and extensive margin were less pronounced. Similar figures are found in the post-NLW data. According to these results and to verbal comments left by the respondents, firms appear to be in favour of the minimum wage increase, but worry about detrimental effects on the economic and financial viability of their business, and on the quality of the service, given the limited increase in residents' fees by the local authorities.

5. Impact of the NLW on Wages

The Bite of the NLW

Table 9 reports on the first part of our investigations of the impact of the NLW introduction on wages, showing the percentage of workers paid less than the NLW, the percentage paid exactly at the minimum and measures of how much wages would have to increase to meet the legal requirements. As before, pre- and post-NLW statistics are reported for all care homes and for the balanced panel.

Firstly, the residential care sector has clearly the potential to be heavily affected by the NLW. Around 48% of workers were paid below the NLW before it was introduced. We also compute a measure of the wage gap, that is the average increase in wages needed to bring workers paid below the NLW up to the NLW. The wage gap is computed as:

$$GAP_i = \frac{\sum_j h_{ij} \max \{W_{ij}^{min} - W_{ij}, 0\}}{\sum_j h_{ij} W_{ij}}$$

where h_{ij} is weekly hours worked by worker i in firm j , W_{ij} is the hourly wage of worker i in firm j and W_{ij}^{min} is the minimum wage relevant for worker i in firm j . The NLW wage gap averaged 2.4% before the NLW introduction, confirming the high vulnerability of the sector to the minimum wage increase.

Results in Table 9 also demonstrate that the NLW has actually strongly affected wages in the care home industry. The post-NLW data show very little underpayment, with only 3% of workers being paid below the NLW and a noticeable spike at the new minimum (29%) after April 2016. The NLW has also had a sizeable compression effect on the bottom half of the hourly wage distribution (the gap between the 50th and the 10th percentiles narrowed from 0.5 to 0.3), while leaving the top half almost unchanged. The substantial distributional impact of the NLW can be appreciated by looking at Figures 1 and 2, which plot the hourly wage distribution for care assistants before and after the NLW introduction respectively.

Impact on Care Home Wages

Having established a strong impact of the minimum wage on wages in the care home industry, we would like to show that homes with the highest potential to be affected are indeed the most affected.

To this end, we estimate hourly wage change equations and weekly earnings change equations, regressing the change in the logarithm of the average wage (or in the logarithm of weekly earnings) on measures of the NLW bite at the care home level, namely the initial proportion paid below the NLW and the NLW wage gap.

Regression estimates for hourly wages and weekly earnings are reported in Table 10 and 11 respectively. The specifications in Columns 2 and 4 include firm-level controls (the proportion of females, the proportion of workers with a nursing qualification, the proportion of all staff working as care assistants, average age, the occupancy rate and the proportion of residents paid for by the local authority). In all cases there is significant evidence of larger wage increases in homes with more low-wage workers in the pre-NLW period. For instance, according to column 2 in Table 10, a 10 percentage point increase in the proportion of workers paid below the minimum is associated with an average wage growth of almost 0.8%. Figure 3 provides additional evidence of the negative association between average wage growth and initial log wages.

Spill-over Effects on Hourly Wages of Workers under 25

The NLW increases the minimum wage for workers aged 25 and over to £7.20 per hour. But for workers aged 21-24 the binding minimum wage rate remains as the October 2015 level of £6.70 per hour. It is an interesting question, then, whether on NLW introduction care homes decide to raise wages also to workers under 25 (perhaps for reasons of administrative simplicity or inequality aversion within the firm) or whether they leave them unchanged at the old NMW.

We provide compelling graphical evidence that it is indeed the case that the NLW has generated positive spill-over effects on the wages of younger cohorts. Figures 4 and 5 show the hourly wage distribution for care assistants aged under 25 before and after the NLW introduction. Strikingly, we observe a strong wage compression of the bottom half of the distribution analogous to what we found for the entire sample of care assistants (over all age groups), with the spike moving from the NMW to the NLW level. Figure 6 shows the distribution of care assistants at or below the NMW and the NLW by age groups, and provides additional evidence in favour of spill-over effects. Before April 2016, almost 40% of carers aged under 25 and 25% of older carers were paid at or

below the NMW. After the NLW introduction, the latter percentage drops to zero as dictated by the law and almost 40% of older workers are at the new minimum wage. Surprisingly enough, the percentage of younger workers paid at or below the NMW falls too (by almost 30 percentage points), while that paid at the NLW exceeds 30%.

We complement the graphical analysis illustrated above by performing some regression analysis of spill-over effects on wages. Firstly, we run simple reduced-form models of the growth rate of hourly wages and weekly earnings of workers under 25 as a function of measures of the NLW bite for older workers. Estimates are reported in columns 1 to 4 of Tables 12 and 13. Secondly, we provide structural estimates of the spill-over elasticity by regressing the growth rate of hourly wages and weekly earnings of workers under 25 against the growth rate of hourly wages for older workers and instrumenting the latter with the NLW wage gap for older workers. Structural estimates are reported in the fifth column of the above tables. Reduced-form estimates in Table 12 indicate significantly positive spill-overs on hourly wages. For instance, according to column 1, a 10 percentage point increase in the share of older workers paid below the NLW is associated with an average wage growth of 0.7% for younger workers.

These spillovers therefore provide some first evidence that care homes are coping with NLW introduction as also raising wages of workers below 25 was not something they were forced to do by the NLW introduction. However, before reaching such a conclusion, it is important to study the impact of the sizable wage cost shock we have documented in this section on economic outcomes for homes and their workers.

6. Impact of the NLW on Economic Outcomes

Having established there were important wage and wage structure effects, we next consider a ‘second stage’ of whether or not homes were able to absorb the wage cost shock induced by the NLW.

Employment and Hours Effects

We investigate the employment and hours consequences of the NLW introduction using an empirical strategy similar to the wage analysis. Specifically, we estimate employment equations at the care home level, regressing the change in log average employment, or the change in log total weekly hours, on measures of the NLW bite, as reported in Tables 14 and 15 in columns 1 to 4. In column 5 of both tables we also present structural estimates of the labour demand elasticity, obtained by instrumenting the change in the log average wage with the NLW gap.

The regression estimates indicate a negative impact on employment and a positive one on total hours. However, given that none of the estimated coefficients is significantly different from zero, there is no clear evidence of detrimental employment nor total hour effects. The pattern is potentially interesting, however. A look back at Tables 10 and 11 actually uncovers bigger wage effects on weekly as compared to hourly earnings. Thus it may be that there is evidence of a modest employment cutback but those workers still employed are working more hours with an associated boost to their weekly pay. This is one area of our research that remains tentative and we will need to study more in terms of possible labour demand adjustment when we have more data.

Spillovers on Employment and Hours

Analogously to the wage analysis, we also test for the presence of spill-over effects on employment and total hours for workers under 25. We adopt a methodology similar to the one for wage spill-overs, regressing the change in the share of total employment under 25 and the change in the share of total hours worked by workers under 25 on measures of the NLW bite amongst workers aged 25 and over. Columns 1 to 4 of Tables 16 and 17 report the estimated results for employment and total hour respectively. Additionally, we provide structural estimates of the spill-over elasticity in column 5 of both tables, where we instrument wage growth for workers 25 and over with their age-specific NLW wage gap. Even though the point estimates are consistently positive across the different models, there is no statistically significant evidence in favour of spill-over effects.

Price and Productivity Effects

It is possible that firms have passed increased costs due to higher minimum wages onto prices, even though their ability to do so is limited by the local authority regulations. Tables 18 and 19 investigate this point by reporting regression estimates of price change equations, for minimum and maximum weekly prices respectively. Apart from some mildly significant increases in maximum weekly prices (columns 1 and 2 of Table 19), overall we do not find clear evidence of price increases, as the presence of price regulations would suggest.

Another possibility is that firms try to improve their productivity in response to the increase in costs. We explore this hypothesis measuring productivity growth as the change in the logarithm of residents per worker and regress it against measures of the NLW bite. According to the estimates reported in Table 20, there is no evidence of productivity improvements. Therefore prices and productivity do not appear to be margins of response to the NLW introduction.

Conclusions

This research project aims at assessing the impact of the NLW introduction in the social care sector through a survey of all care homes in England. From our data analysis, we find that the NLW has had significant bite in the industry, as indicated by the important wage compression effect at the bottom half of the wage distribution for care assistants. Interestingly, even though the minimum wage increase is legally binding only for workers 25 and over, we find evidence of positive spill-over effects on wages of workers under 25. So far there is no clear evidence of negative employment consequences nor of compositional changes in employment in favour of workers under 25.

We conclude by remarking that, all in all, our results to date are not consistent with the dramatic detrimental effects that some predicted for this sector. Indeed, most care homes seem to have so far adapted to the NLW introduction. However, we still have to collect and process more data, which may shed more light on some of the NLW effects by adding more to the current short-term analysis and also looking to the medium and longer term.

References

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Table 1 – Summary statistics: workers’ data

Variable	All firms		Balanced panel	
	Pre-NLW	Post-NLW	Pre-NLW	Post-NLW
Hourly wage	7.93 (2.37)	8.24 (2.13)	7.98 (2.19)	8.28 (2.36)
Weekly hours	29.16 (10.82)	29.96 (10.48)	28.75 (10.64)	29.35 (10.88)
Weekly earnings	234.34 (124.73)	250.04 (121.80)	231.07 (116.94)	246.24 (129.1)
Proportion female	0.82	0.79	0.84	0.83
Average age	42.18 (13.95)	41.69 (13.90)	43.03 (13.96)	43.10 (14.13)
Proportion UK born	0.75	0.69	0.78	0.71
Proportion care assistant	0.56	0.57	0.54	0.55
Proportion with qualification	0.06	0.08	0.08	0.08
Average years of tenure	5.38 (5.87)	5.42 (5.99)	5.73 (6.24)	5.77 (6.26)
Number of homes	1410	629	182	182

Table 2 – Summary statistics: firms’ data

Variable	All firms		Balanced panel	
	Pre-NLW	Post-NLW	Pre-NLW	Post-NLW
Number of homes	1410	629	182	182
Average number of workers	44.80 (199.07)	32.97 (38.47)	20.35 (18.78)	20.51 (18.84)
Average number of beds	32.40 (53.50)	27.06 (31.21)	18.01 (12.90)	18.31 (13.10)
Average number of residents	29.60 (49.93)	24.11 (28.83)	16.12 (12.21)	16.24 (11.84)
Occupancy rate	0.90 (0.18)	0.89 (0.16)	0.90 (0.16)	0.89 (0.15)
Average minimum weekly price	600.21 (340.57)	628.70 (283.08)	607.44 (298.80)	619.59 (282.89)
Average maximum weekly price	896.28 (663.45)	937.28 (865.64)	893.85 (794.98)	894.70 (678.95)
Proportion paid by LA	0.66 (0.47)	0.62 (0.34)	0.63 (0.33)	0.63 (0.34)

Table 3 – Representativeness of pre-NLW data for care assistants

Variable	Source	Mean	SD	5 th	10 th	25 th	50 th	75 th	90 th	95 th	Obs.
Female	NMDS-SC	.84	.36								33935
	NLWS	.88	.32								10959
Age	NMDS-SC	39	14	20	22	26	37	50	57	61	33977
	NLWS	39	14	20	22	27	39	50	58	62	9424
UK born	NMDS-SC	.82	.38								25751
	NLWS	.80	.40								10560
Weekly hours	NMDS-SC	31	8.4	16	20	24	34	36	40	42	33473
	NLWS	29	11	10	16	21	30	36	40	42	10145
Hourly wage	NMDS-SC	7.3	1.3	6.5	6.7	6.7	7.0	7.5	8.2	8.6	33977
	NLWS	7.2	1.2	6.7	6.7	6.7	7.0	7.5	8.0	8.6	10803

Table 4 – Representativeness of post-NLW data for care assistants

Variable	Source	Mean	SD	5 th	10 th	25 th	50 th	75 th	90 th	95 th	Obs.
Female	NMDS-SC	.85	.36								70111
	NLWS	.86	.35								4859
Age	NMDS-SC	39	14	20	22	27	39	51	58	61	70135
	NLWS	39	14	20	21	27	39	50	58	62	4115
UK born	NMDS-SC	.81	.39								46322
	NLWS	.80	.40								4517
Weekly hours	NMDS-SC	31	8.6	16	20	24	33	37	42	44	69815
	NLWS	30	10	12	16	23	32	37	40	42	4726
Hourly wage	NMDS-SC	7.4	0.9	6.6	6.7	7.1	7.2	7.6	8.2	8.5	70135
	NLWS	7.6	0.7	7.2	7.2	7.2	7.3	7.8	8.4	8.7	4969

Table 5 – Representativeness of pre-NLW data for care homes

Variable	Source	Mean	SD	5 th	10 th	25 th	50 th	75 th	90 th	95 th	Obs.
Employees	NMDS-SC	37	37	5	8	15	28	48	74	92	5116
	NLWS	45	199	6	8	14	24	40	74	109	1374
Beds	NMDS-SC	54	209	3	5	10	28	49	81	122	5118
	NLWS	32	54	5	6	12	21	35	60	83	1386
	CQC	27	23	3	5	8	22	40	60	70	16873
Residents	NMDS-SC	30	35	3	4	8	22	41	65	83	5118
	NLWS	30	50	4	6	11	19	32	55	75	1380
Occupancy rate	NMDS-SC	.91	.95								5040
	NLWS	.90	.18								1375

Table 6 – Representativeness of post-NLW data for care homes

Variable	Source	Mean	SD	5 th	10 th	25 th	50 th	75 th	90 th	95 th	Obs.
Employees	NMDS-SC	38	35	6	8	15	29	52	79	99	5945
	NLWS	33	38	5	7	12	22	39	70	95	617
Beds	NMDS-SC	36	62	3	4	8	28	49	75	95	5946
	NLWS	27	31	5	6	11	20	31	52	71	619
	CQC	28	23	3	5	8	22	40	60	71	16716
Residents	NMDS-SC	31	79	2	4	7	23	43	66	84	5946
	NLWS	24	29	4	6	10	18	29	45	60	619
Occupancy rate	NMDS-SC	.94	.83								5901
	NLWS	.89	.16								618

Table 7 – Firms’ awareness and perception of minimum wages

	Pre-NLW	Post-NLW
Awareness of NLW introduction	97.3%	
- Nr of respondents	[1393]	
Level of NMW is		
- About right	49.7%	
- Too low	37.8%	
- Too high	8.7%	
- Don't know	3.8%	
- Nr of respondents	[1386]	
Level of NLW is		
- About right	42.7%	52.4%
- Too low	15.0%	22.4%
- Too high	37.6%	20.5%
- Don't know	4.7%	4.7%
- Nr of respondents	[1383]	[616]

Table 8 – Firms’ expectations about NLW effects

	Pre-NLW			Post-NLW		
	Yes	Increase	Decrease	Yes	Increase	Decrease
Employment	58.4%	30.5%	69.5%	51.9%	36.7%	63.3%
Hours	49.5%	13.7%	86.3%	44.4%	26.9%	73.1%
Worker effort	28.9%	61.2%	38.8%	33.1%	55.3%	44.7%
Prices	78.8%	90.7%	9.3%	75.3%	86.5%	13.5%
Profits	85.7%	3.4%	96.6%	86.4%	7.2%	92.8%

Table 9 – The bite of the NLW

Variable	All firms		Balanced panel	
	Pre-NLW	Post-NLW	Pre-NLW	Post-NLW
Proportion below NMW	0.03	0.01	0.03	0.02
Proportion below NLW	0.48	0.03	0.43	0.04
Proportion at NMW	0.20	0.01	0.15	0.01
Proportion at NLW	0.03	0.29	0.02	0.29
NMW gap	0.003	0.001	0.003	0.002
NLW gap	0.024	0.002	0.021	0.003
Difference 50-10 pct of wage distr	0.50	0.30	0.62	0.30
Difference 90-50 pct of wage distr	2.80	2.77	2.68	2.5
Number of homes	819	385	159	159

Table 10 – Hourly wage change equations

Change in log average hourly wage				
	(1)	(2)	(3)	(4)
Initial low-paid proportion	0.075*** (0.018)	0.072*** (0.018)		
Initial NLW gap			1.190*** (0.209)	1.153*** (0.214)
Constant	0.005 (0.011)	0.077 (0.080)	0.010 (0.008)	0.073 (0.079)
Controls	No	Yes	No	Yes
N. Obs.	161	161	161	161

Table 11 – Weekly earnings change equations

Change in log average weekly earnings				
	(1)	(2)	(3)	(4)
Initial low-paid proportion	0.100** (0.049)	0.083* (0.044)		
Initial NLW gap			1.482** (0.661)	1.195** (0.594)
Constant	0.028 (0.022)	0.289* (0.161)	0.037** (0.018)	0.299* (0.158)
Controls	No	Yes	No	Yes
N. Obs.	158	158	158	158

Table 12 – Spill-over effects on hourly wages

Change in log hourly wage for workers under 25					
	Reduced form				IV
	(1)	(2)	(3)	(4)	(5)
Initial low-paid proportion (25+)	0.070* (0.038)	0.111*** (0.042)			
Initial NLW gap (25+)			1.031 (0.630)	1.601** (0.698)	
Change in log average wage (25+)					2.085 (1.290)
Constant	-0.001 (0.023)	0.235 (0.167)	0.008 (0.019)	0.241 (0.168)	-0.148 (0.329)
Controls	No	Yes	No	Yes	Yes
N. Obs.	92	92	92	92	92
Instrument					NLW gap

Table 13 – Spill-over effects on weekly earnings

Change in log weekly earnings for workers under 25					
	Reduced form				IV
	(1)	(2)	(3)	(4)	(5)
Initial low-paid proportion (25+)	0.255 (0.162)	0.318* (0.182)			
Initial NLW gap (25+)			3.819 (2.675)	4.681 (2.988)	
Change in log average wage (25+)					5.804 (4.481)
Constant	-0.066 (0.095)	0.644 (0.801)	-0.035 (0.080)	0.653 (0.803)	-0.465 (1.172)
Controls	No	Yes	No	Yes	Yes
N. Obs.	89	89	89	89	89
Instrument					NLW gap

Table 14 – Employment change equations

Change in log number employed					
	Reduced form				IV
	(1)	(2)	(3)	(4)	(5)
Initial low-paid proportion	-0.094 (0.064)	-0.102 (0.065)			
Initial NLW gap			-1.065 (0.786)	-1.101 (0.772)	
Change in log average wage					-0.930 (1.059)
Constant	0.036 (0.037)	-0.027 (0.135)	0.020 (0.037)	-0.023 (0.135)	-0.011 (0.167)
Controls	No	Yes	No	Yes	Yes
N. Obs.	161	161	161	161	161
Instrument					NLW gap

Table 15 – Total hours change equations

Change in log total weekly hours					
	Reduced form				IV
	(1)	(2)	(3)	(4)	(5)
Initial low-paid proportion	0.111 (0.137)	0.117 (0.124)			
Initial NLW gap			1.625 (1.893)	1.577 (1.631)	
Change in log average wage					1.192 (1.435)
Constant	-0.015 (0.053)	0.270 (0.224)	-0.005 (0.056)	0.269 (0.223)	0.228 (0.245)
Controls	No	Yes	No	Yes	Yes
N. Obs.	158	158	158	158	158
Instrument					NLW gap

Table 16 – Spill-over effects on employment

Change in share of employment that is under 25					
	Reduced form				IV
	(1)	(2)	(3)	(4)	(5)
Initial low-paid proportion (25+)	0.028 (0.021)	0.021 (0.021)			
Initial NLW gap (25+)			0.317 (0.344)	0.256 (0.338)	
Change in log average wage (25+)					0.235 (0.336)
Constant	-0.021* (0.012)	-0.080 (0.106)	-0.016 (0.011)	-0.074 (0.104)	-0.131 (0.117)
Controls	No	Yes	No	Yes	Yes
N. Obs.	140	140	140	140	140
Instrument					NLW gap

Table 17 – Spill-over effects on total hours

Change in share of total hours worked by under 25					
	Reduced form				IV
	(1)	(2)	(3)	(4)	(5)
Initial low-paid proportion (25+)	0.034 (0.022)	0.034 (0.025)			
Initial NLW gap (25+)			0.472 (0.350)	0.558 (0.371)	
Change in log average wage (25+)					0.620 (0.501)
Constant	-0.020 (0.013)	-0.056 (0.134)	-0.016 (0.011)	-0.046 (0.131)	-0.196 (0.161)
Controls	No	Yes	No	Yes	Yes
N. Obs.	140	140	140	140	140
Instrument					NLW gap

Table 18 – Price change equations: minimum prices

Change in log minimum price				
	(1)	(2)	(3)	(4)
Initial low-paid proportion	0.038 (0.053)	-0.014 (0.051)		
Initial NLW gap			0.453 (0.587)	-0.195 (0.598)
Constant	0.005 (0.036)	0.238 (0.245)	0.011 (0.029)	0.238 (0.245)
Controls	No	Yes	No	Yes
N. Obs.	135	135	135	135

Table 19 – Price change equations: maximum prices

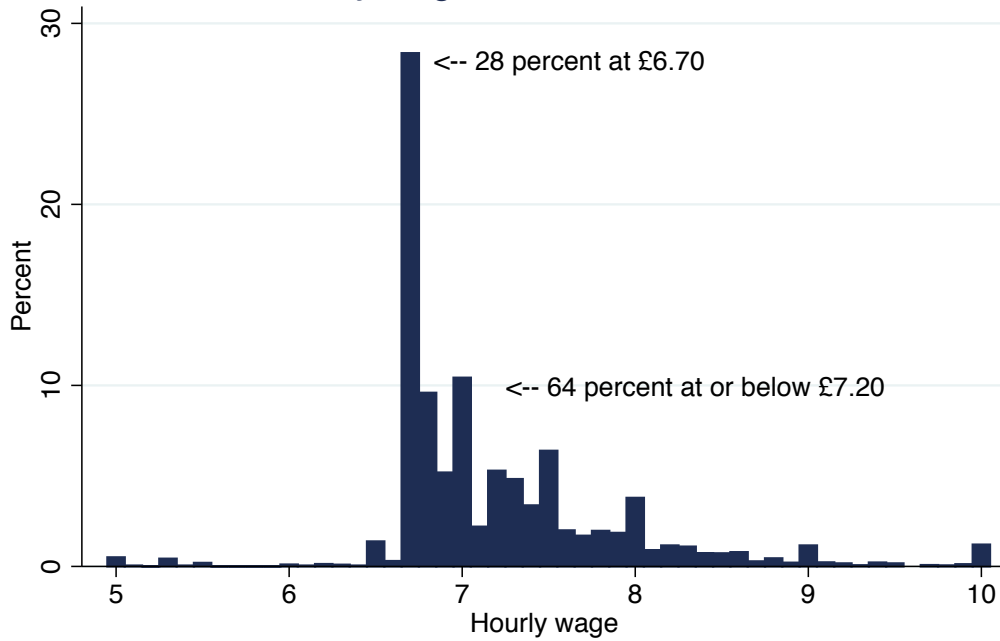
	Change in log maximum price			
	(1)	(2)	(3)	(4)
Initial low-paid proportion	0.093*	0.064*		
	(0.049)	(0.038)		
Initial NLW gap			0.952	0.605
			(0.606)	(0.482)
Constant	-0.019	0.327	-0.002	0.330
	(0.034)	(0.279)	(0.028)	(0.281)
Controls	No	Yes	No	Yes
N. Obs.	135	135	135	135

Table 20 – Productivity change equations

	Change in log residents per worker			
	(1)	(2)	(3)	(4)
Initial low-paid proportion	-0.031	-0.005		
	(0.067)	(0.073)		
Initial NLW gap			-0.233	0.115
			(0.809)	(0.852)
Constant	0.029	-0.116	0.022	-0.118
	(0.038)	(0.262)	(0.035)	(0.261)
Controls	No	Yes	No	Yes
N. Obs.	167	167	167	167

Figure 1

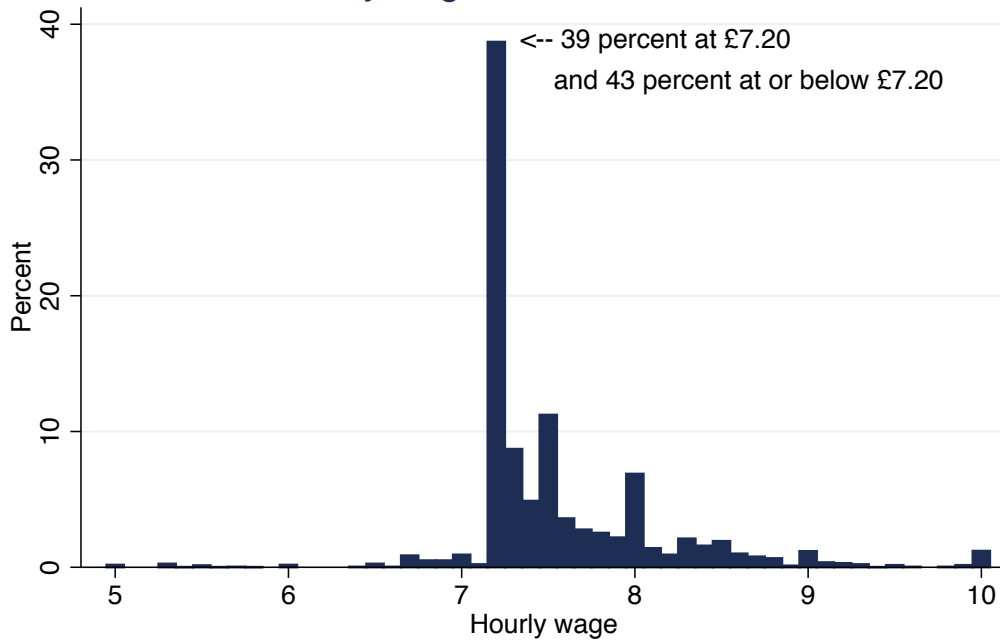
Pre-NLW hourly wage distribution for care assistants



Note: The hourly wage distribution is left-censored at 5 and right-censored at 10.

Figure 2

Post-NLW hourly wage distribution for care assistants



Note: The hourly wage distribution is left-censored at 5 and right-censored at 10.

Figure 3

Relationship between wage growth and initial wages

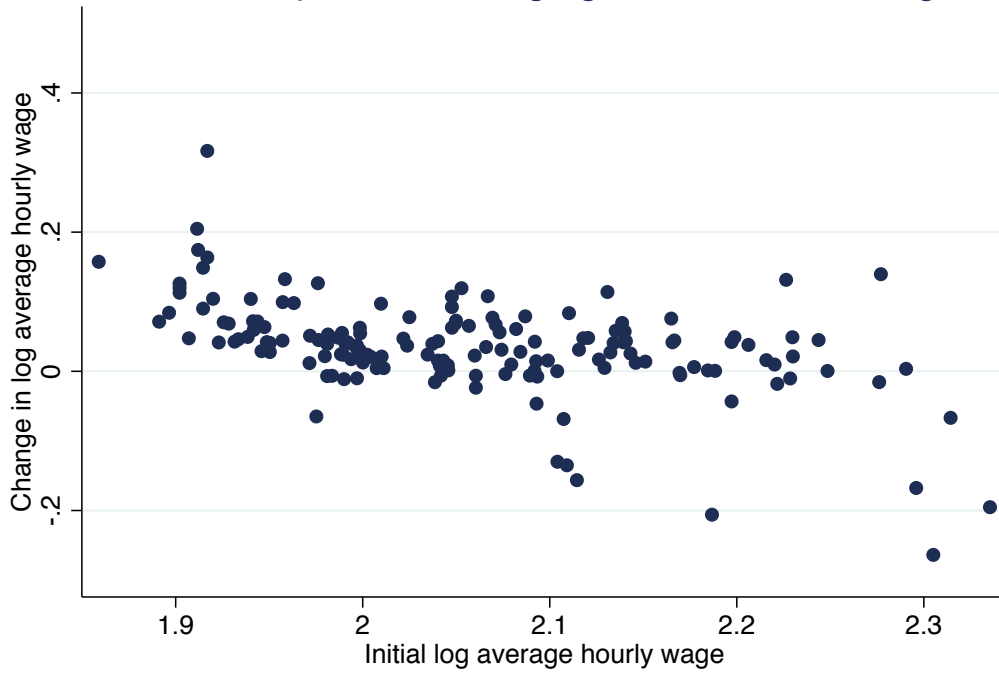


Figure 4

Pre-NLW hourly wage distribution for care assistants under 25

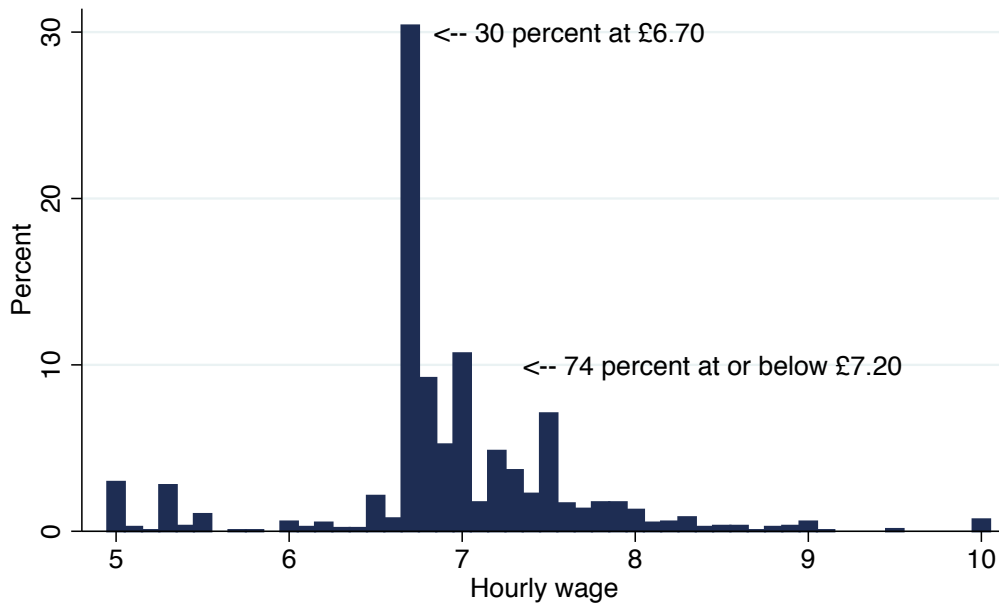
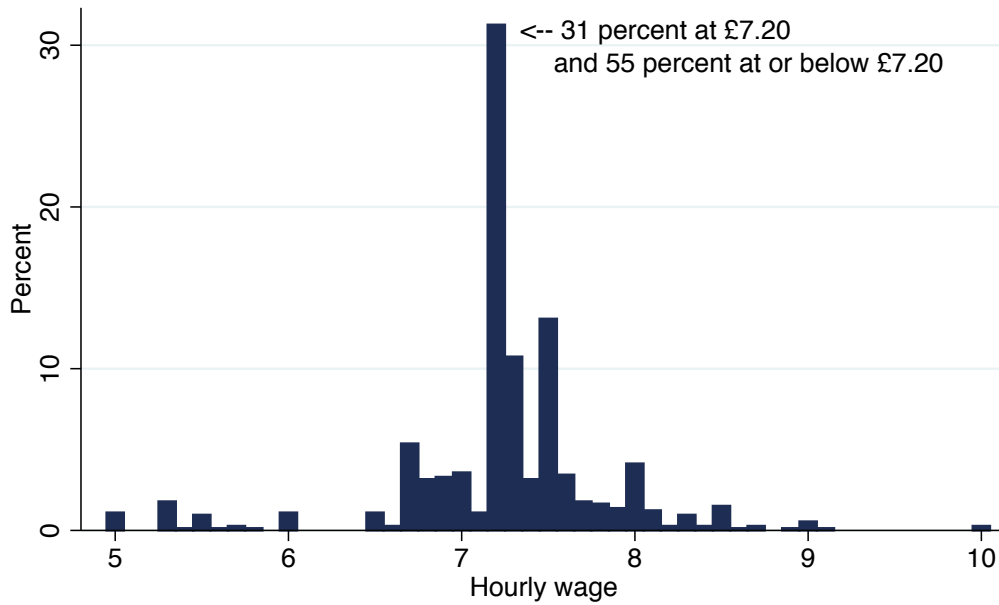


Figure 5

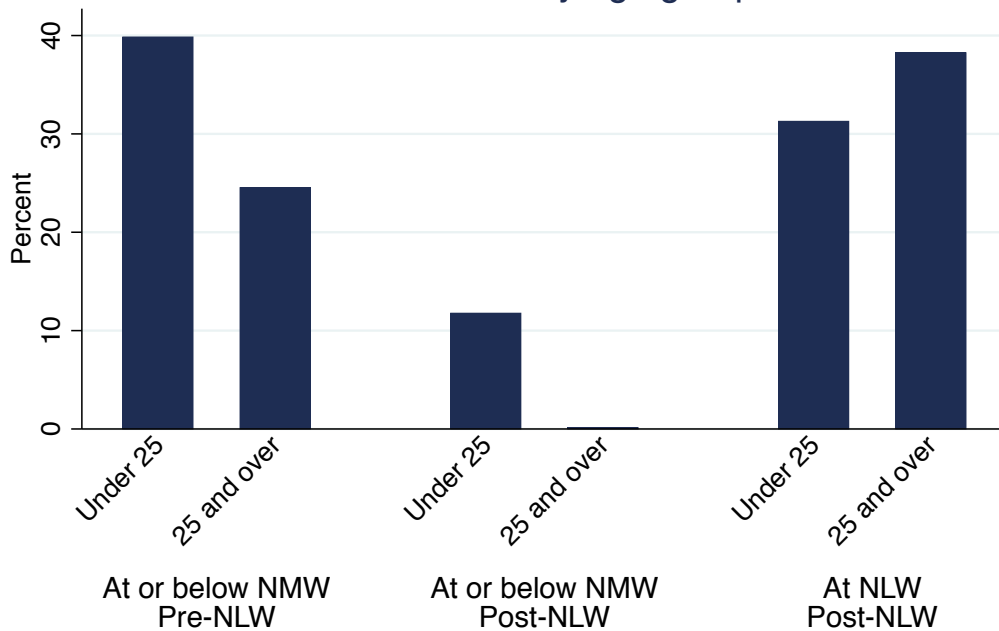
Post-NLW hourly wage distribution for care assistants under 25



Note: The hourly wage distribution is left-censored at 5 and right-censored at 10.

Figure 6

Distribution of carers at or below NMW and at NLW by age group



Appendix – Pre NLW Survey



National Living Wage Survey

The National Living Wage

1. Before receiving this questionnaire were you aware that a National Living Wage setting a higher minimum wage than currently for workers aged 25 and over is to be introduced in April 2016?
 - Yes
 - No

2. Do you think the current level of the National Minimum Wage is: about right, too high or too low?
 - About right
 - Too high
 - Too low
 - Don't know

3. Do you think the proposed level of the National Living Wage is about right, too high or too low?
 - About right
 - Too high
 - Too low
 - Don't know

4. Do you think the National Living Wage will have an impact on the following aspects of your business?

			If Yes:	
	Yes	No	Increase	Decrease
Employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worker effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Your Business

5. What type of business do you run?
 - Private
 - Voluntary
 - Local authority

6. Is your business part of a larger organisation?
- Yes
- No
7. How many registered beds do you have? _____
8. How many residents do you have at the moment? _____
9. How many of your residents at the moment require specialist care? _____
10. What is the typical weekly charge for a resident in your home? Min _____ Max _____
11. How many of the current residents are paid for by the Local Authority? _____

Your Workers

12. How many employees do you have at the moment (full and part-time)? _____
13. In the past three months how many workers have you recruited in total? _____
14. In the past three months how many workers have left in total? _____
15. Approximately what percentage of your total costs are labour costs? _____
16. For all your current employees could you please provide the following information: job title, sex, age, whether born in the UK or not, length of service, possession of a nursing qualification, hours worked and basic hourly wages (excluding higher night-work rates, etc.)

	Job title	Sex	Age	UK born (Yes/No)	Length of service	Nursing qualification	Weekly hours	Basic hourly wage
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

If you have more than 10 employees please continue overleaf

	Job title	Sex	Age	UK born (Yes/No)	Length of service	Nursing qualification	Weekly hours	Basic hourly wage
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

We thank you for your time spent taking this survey.

Appendix – Post NLW Survey



National Living Wage Survey

The National Living Wage

1. Do you think the current level of the National Living Wage is about right, too high or too low?

- About right Too high Too low Don't know

2. What impact do you think the National Living Wage has had or will have on your business?

3. Do you think the National Living Wage has had or will have an impact on the following aspects of your business?

	Yes, increase	Yes, decrease	No
Employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worker effort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your Business

4. What type of business do you run?

- Private Voluntary Local authority

5. Is your business part of a larger organisation?

- Yes No

6. How many registered beds do you have? _____
7. How many residents do you have at the moment? _____
8. How many of your residents at the moment require specialist care? _____
9. What is the typical weekly charge for a resident in your home? Min _____ Max _____
10. How many of the current residents are paid for by the Local Authority? _____

Your Workers

11. How many employees do you have at the moment (full and part-time)? _____
12. In the past three months how many workers have you recruited in total? _____
13. In the past three months how many workers have left in total? _____
14. How many employees did you have on January 1st 2016? _____
15. Approximately what percentage of your total costs are labour costs? _____
16. For all your current employees could you please provide the following information? For basic hourly wage, please exclude higher night-work rates.

	Job title (e.g. care assistant, chef)	Sex (M/F)	Age	UK born (Yes/No)	Length of service	Nursing qualification (Yes/No)	Weekly hours	Basic hourly wage
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

If you have more than 10 employees please continue overleaf

	Job title (e.g. care assistant, chef)	Sex (M/F)	Age	UK born (Yes/No)	Length of service	Nursing qualification (Yes/No)	Weekly hours	Basic hourly wage
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
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40								

We thank you for your time spent taking this survey.