

Minimum Wages in Changing Labour Markets,
7 November 2024, Berlin

Minimum Wages, the Wage Distribution and Labour Shortages

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The UK National Minimum Wage

April 2024 marked 25 years since a National Minimum Wage (NMW) was introduced in the UK.

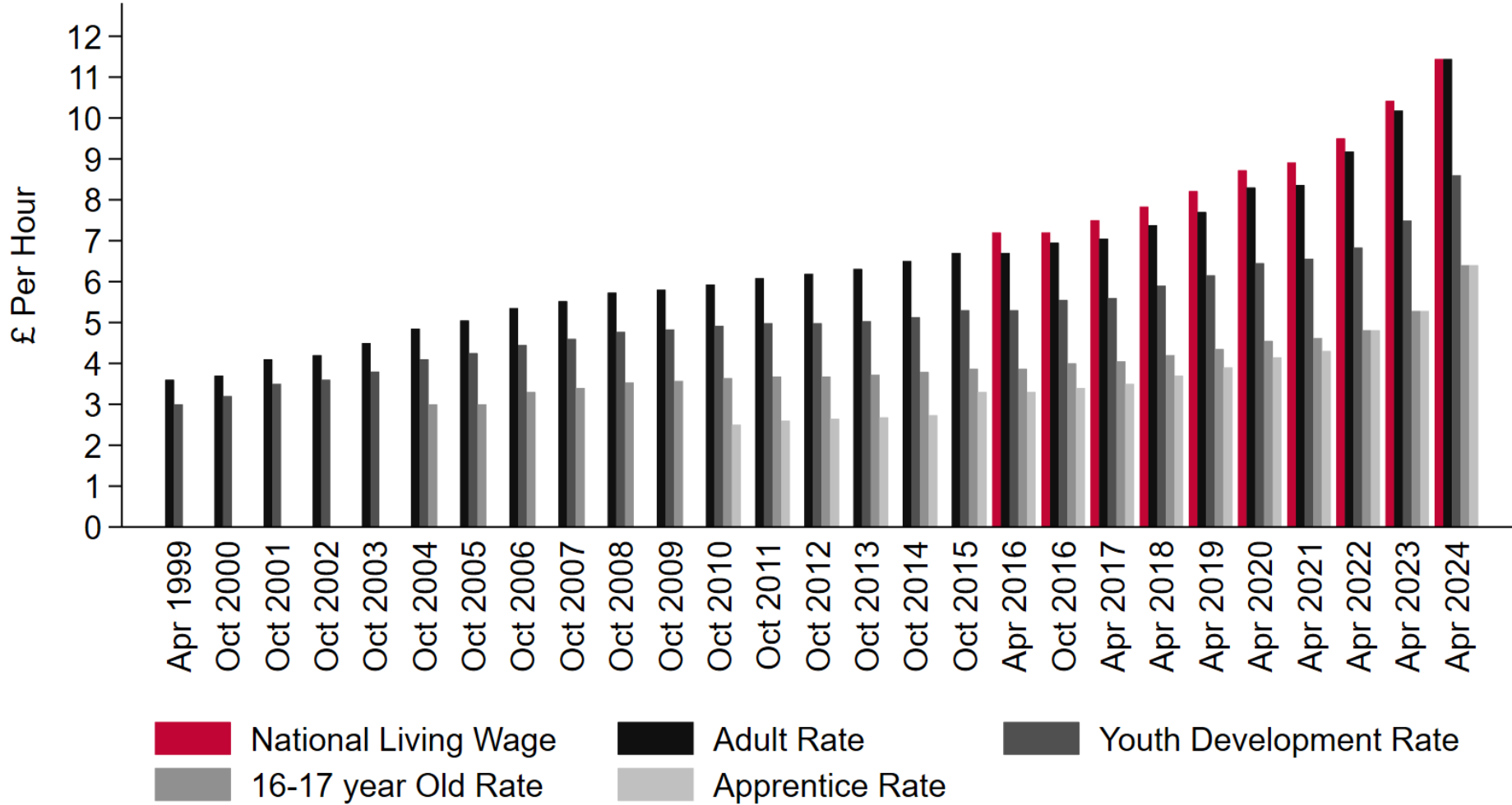
First introduced in April 1999 at £3.60 per hour for workers aged 22 and over, and at £3.20 per hour for 18-21s.

In April 2024 the adult rate that currently applies is £11.44 per hour for workers aged 21 and over, £8.60 for 18-20 year olds, and £6.40 for both those under 18 and for apprentices.

Once a controversial policy - due to fears that higher wage floors would lead to fewer jobs – it has instead proven to be highly successful, with the minimum wage now being a fully accepted part of the labour market.

The UK National Minimum Wage

National Minimum Wage Rates, UK, 1999-2024



Questions

This talk will consider two features of the UK experience with minimum wages that are key to its success or otherwise as a labour market policy and to its future evolution:

- 1). The pattern of moving from a low initial level to a relatively high minimum wage and evaluating its impact on wages and their distribution.
- 2). Minimum wage setting when the labour market has become tighter, through the 2010s and in the post-pandemic period.

The UK National Minimum Wage

When the NMW was introduced, the UK was something of an outlier in not having minimum wages.

Most countries then had minimum wage floors of some kind.

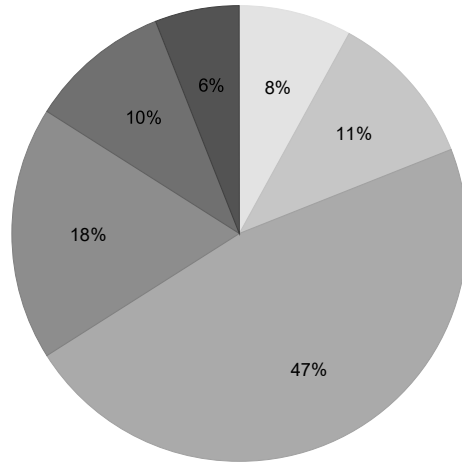
There are a number of different systems in operation across the world, ranging from situations where government mandates the minimum wage, through to systems where collective bargained wages are extended to cover low wage workers.

And various others in between.

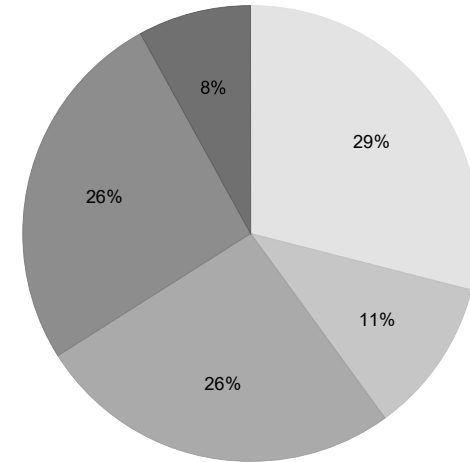
For evaluating the economic effects of minimum wages, understanding the institutional setting matters.

Who Sets Minimum Wages?

Worldwide



EU



Notes: From Dickens (2015) “Minimum Wage Systems”, IZA World of Labor.

UK Low Pay Commission – three employer representatives, three employee representatives, two independent members and a chair – with a secretariat. Expert body makes annual recommendation in response to changing government remit.

The UK Experience

The Labour party manifesto in 1997 election committed to the principle of a minimum wage, and the LPC was set up to produce an initial report making recommendations about the level and structure of minimum wages in its design and implementation of minimum wage policy.

It recommended that it was better to start low and evaluate, rather than run the risk of setting it too high.

This reflected some concern expressed in many quarters that a minimum wage could lead to job losses, despite research including several studies from the US and from LSE's Centre for Economic Performance, finding no evidence that wage floors damage employment.

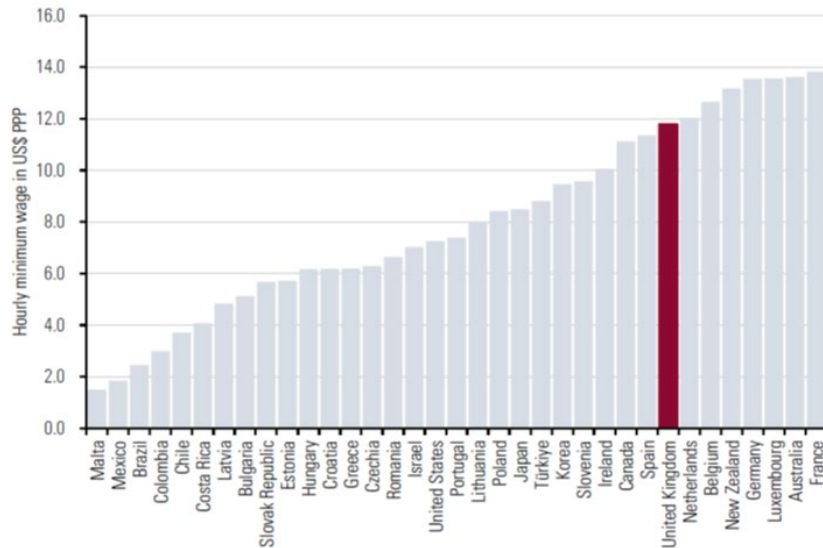
Michael Howard (then Secretary of State for Employment) predicted that Labour's plans for a national minimum wage would produce "between one and two million more unemployed".

The UK Experience

The Low Pay Commission recommended the £3.60 rate in its first report, drawing on written evidence from 500 organisations, more than 200 visits around the country and cited more than 350 research studies.

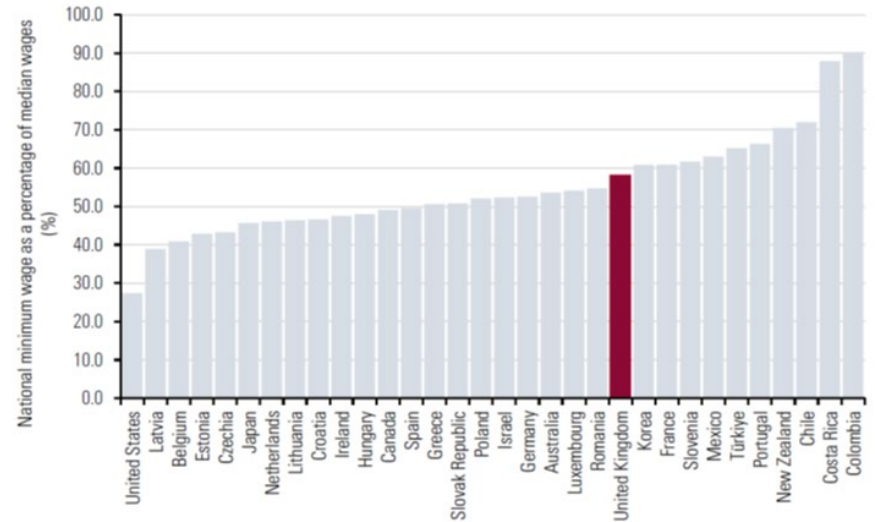
This starting level was quite low, but the rate did not stay low for long. The UK is now seen as a relatively high minimum wage country.

Figure A4.2: Comparison of international minimum wages adjusted for purchasing power parity, OECD, 2022



Source: LPC estimates based on OECD real minimum wage data (in 2022 constant prices at 2022 USD PPPs).
Note: Minimum wages are converted to an annual value to enable comparison across the whole of 2022. (For example, in the UK the minimum wage changed in April 2022 from £8.91 to £9.50. That is equivalent to £9.35 across the year: 3 months of £8.91 and 9 months of £9.50).

Figure A4.5: Comparison of international minimum wages relative to average median wages of full-time workers, 2022



Source: OECD (2023d). National minimum wage relative to average wages of full-time workers, 2022.

Economic Effects

A whole raft of academic and LPC studies have since (right up to now) reconfirmed lack of evidence of disemployment effects. The empirical studies of the UK experience find it hard to detect negative employment effects due to minimum wage increases. Even when the minimum wage has risen significantly.

The employment/labour demand response research continues, but this has also encouraged a body of research on other margins of firm adjustment to the cost shocks imposed by minimum wages, hence widening the search for possible economic effects of minimum wage floors.

Modes of adjustment do seem to be somewhat context specific, but at the same time the research evidence base highlights that the labour cost shocks that minimum wage floors generate do have economic impacts.

Minimum Wages and the Wage Distribution

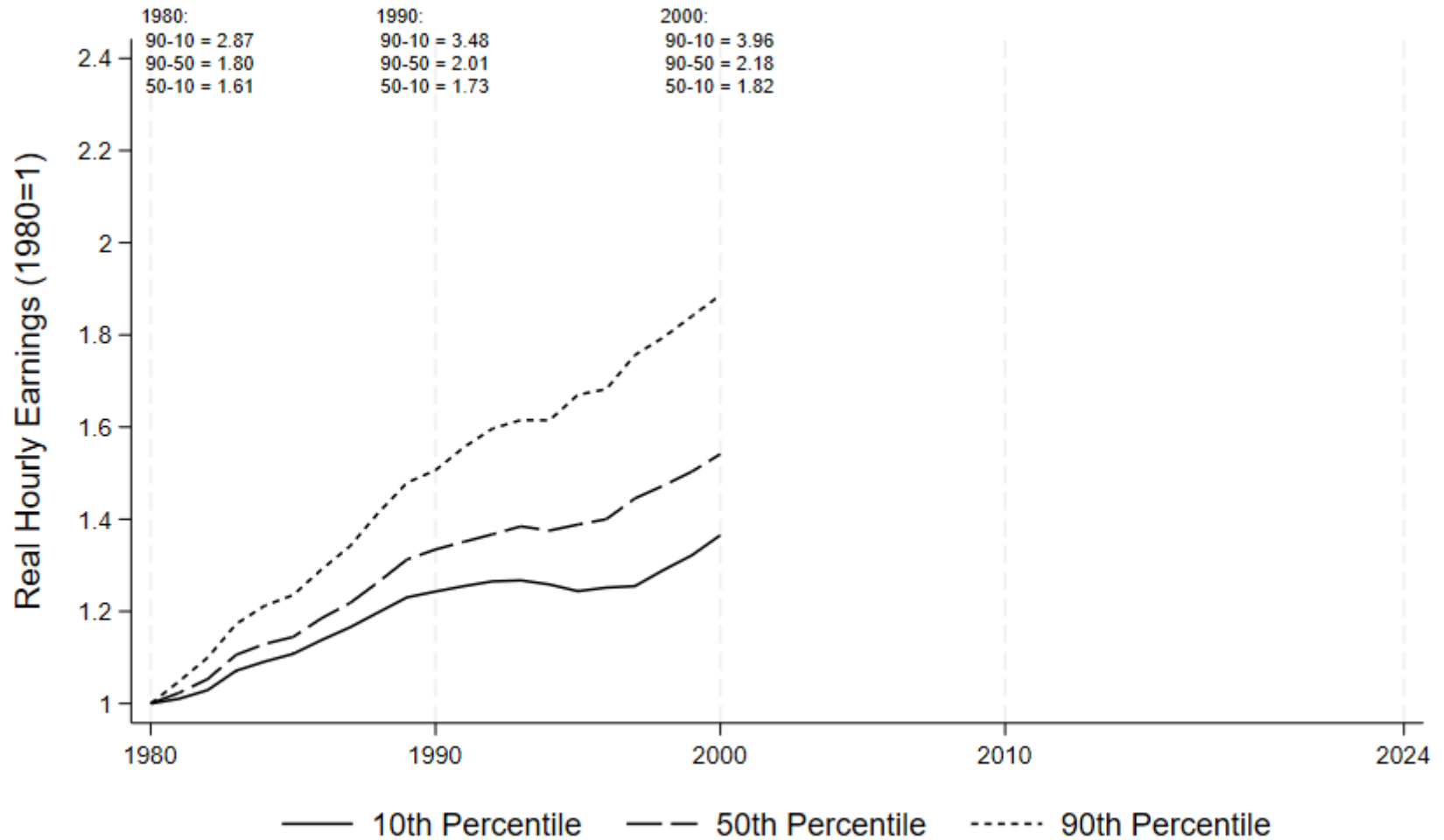
In light of the lack of employment effects, are there benefits to workers in terms of wage boosts and how do they affect the wage distribution?

This is an important question as, prior to minimum wage introduction, the distribution of wages became much more unequal in the UK over time since 1980.

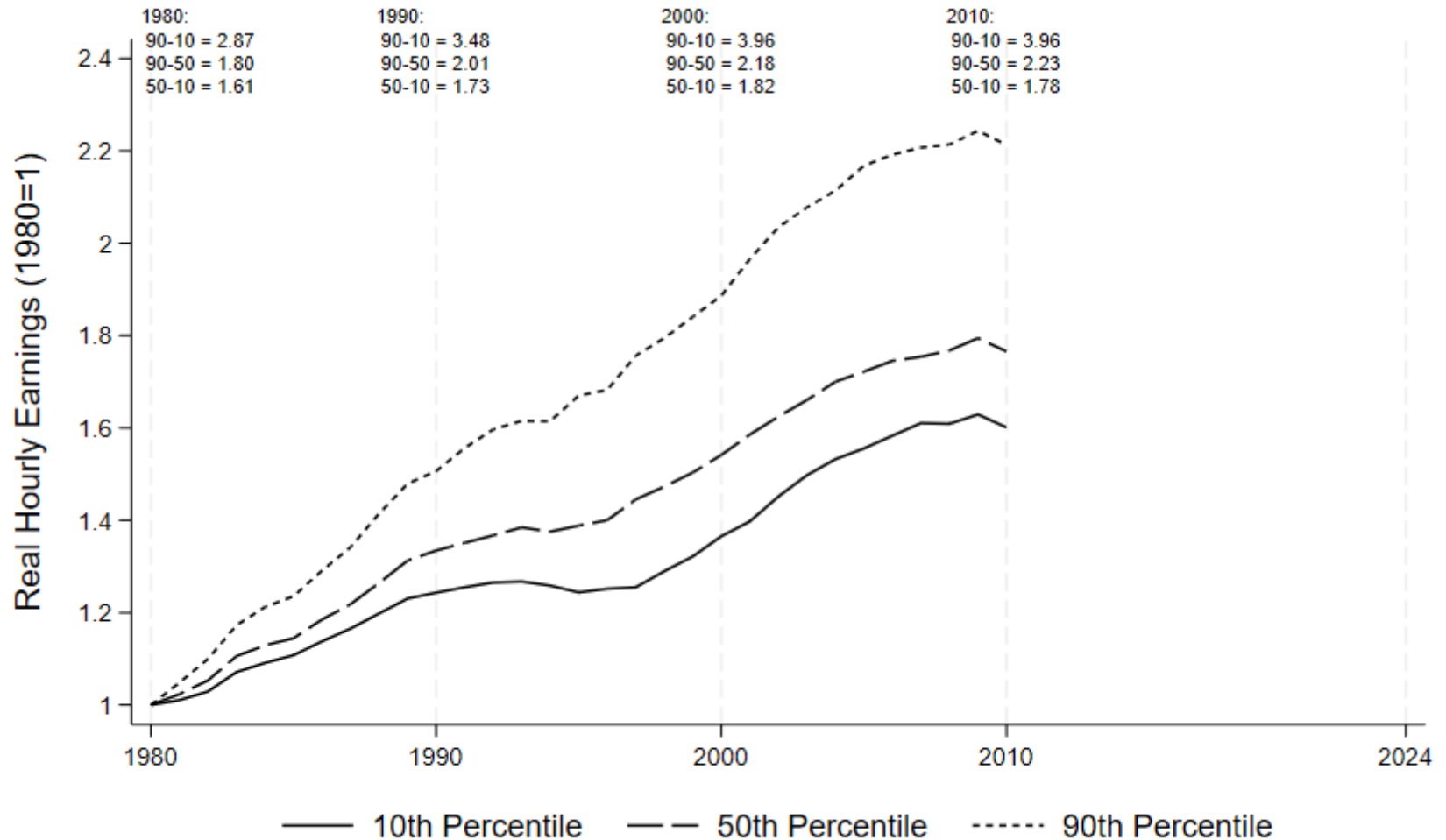
This issue has progressed to higher significance as real wages have stagnated for most workers in the UK since the global financial crisis, and more so than in other countries.

And as the labour market tightened over time, but not delivering real wage growth for most workers.

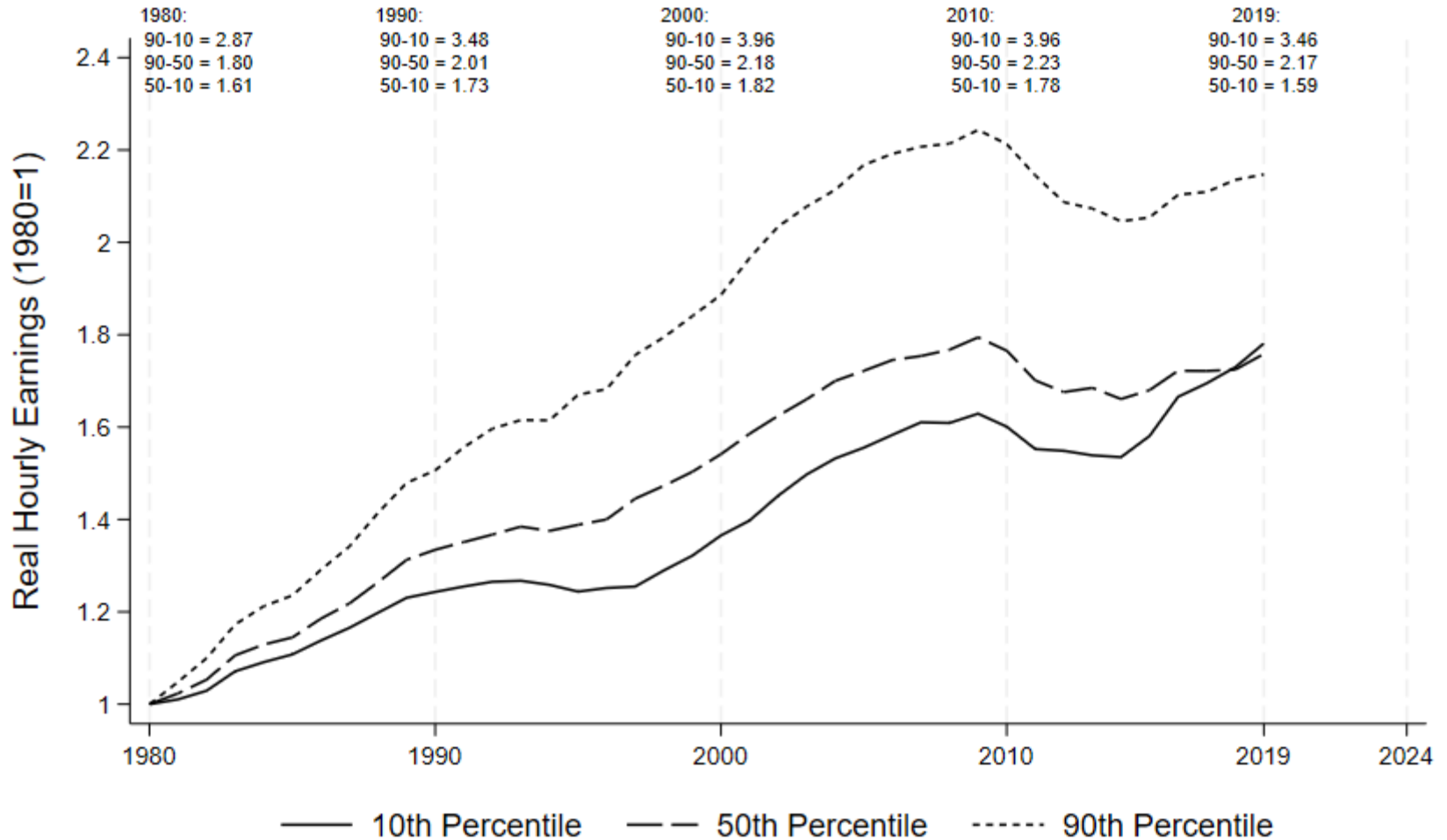
Wage Inequality, 1980 to 2000



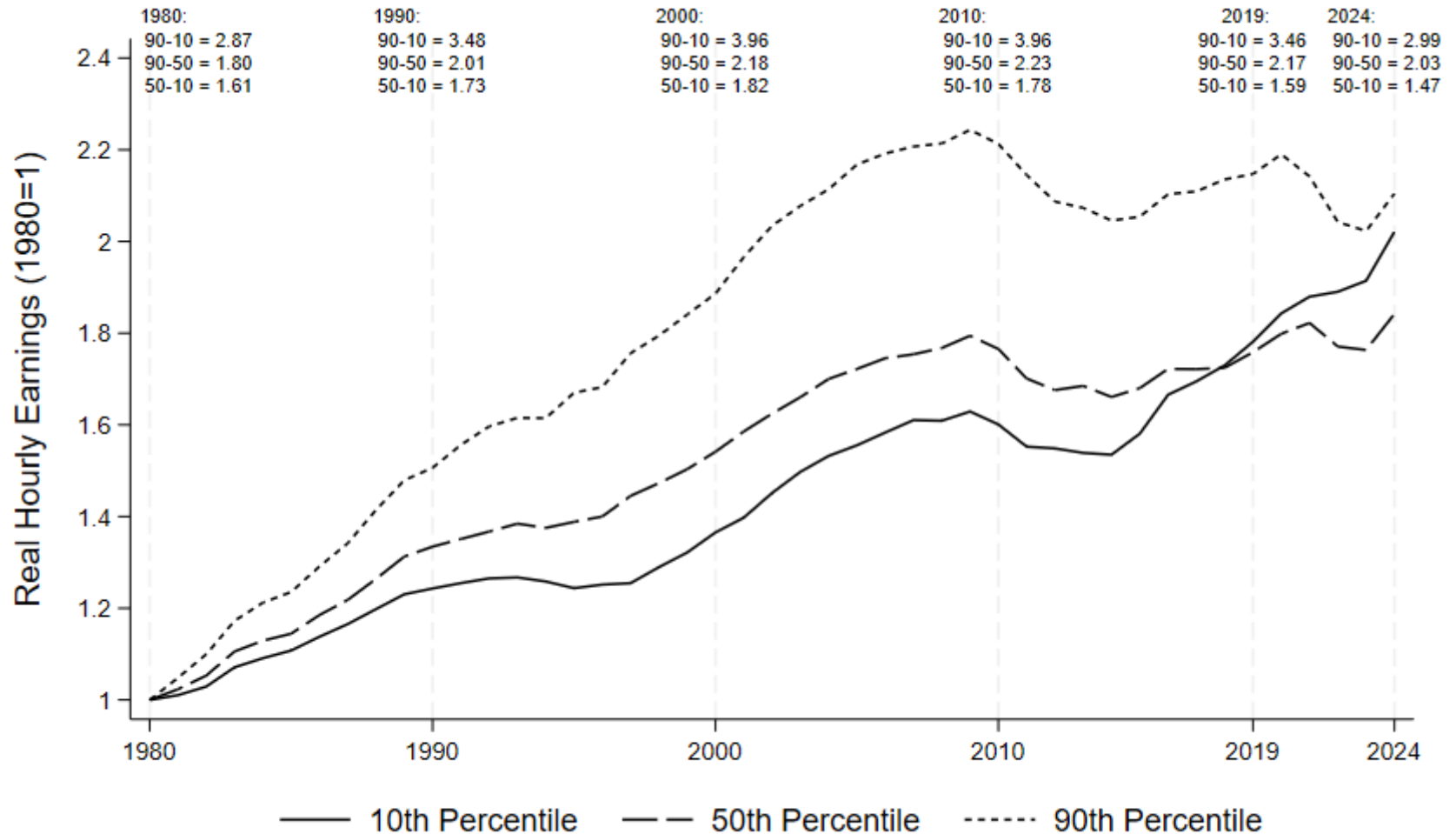
Wage Inequality, 1980 to 2010



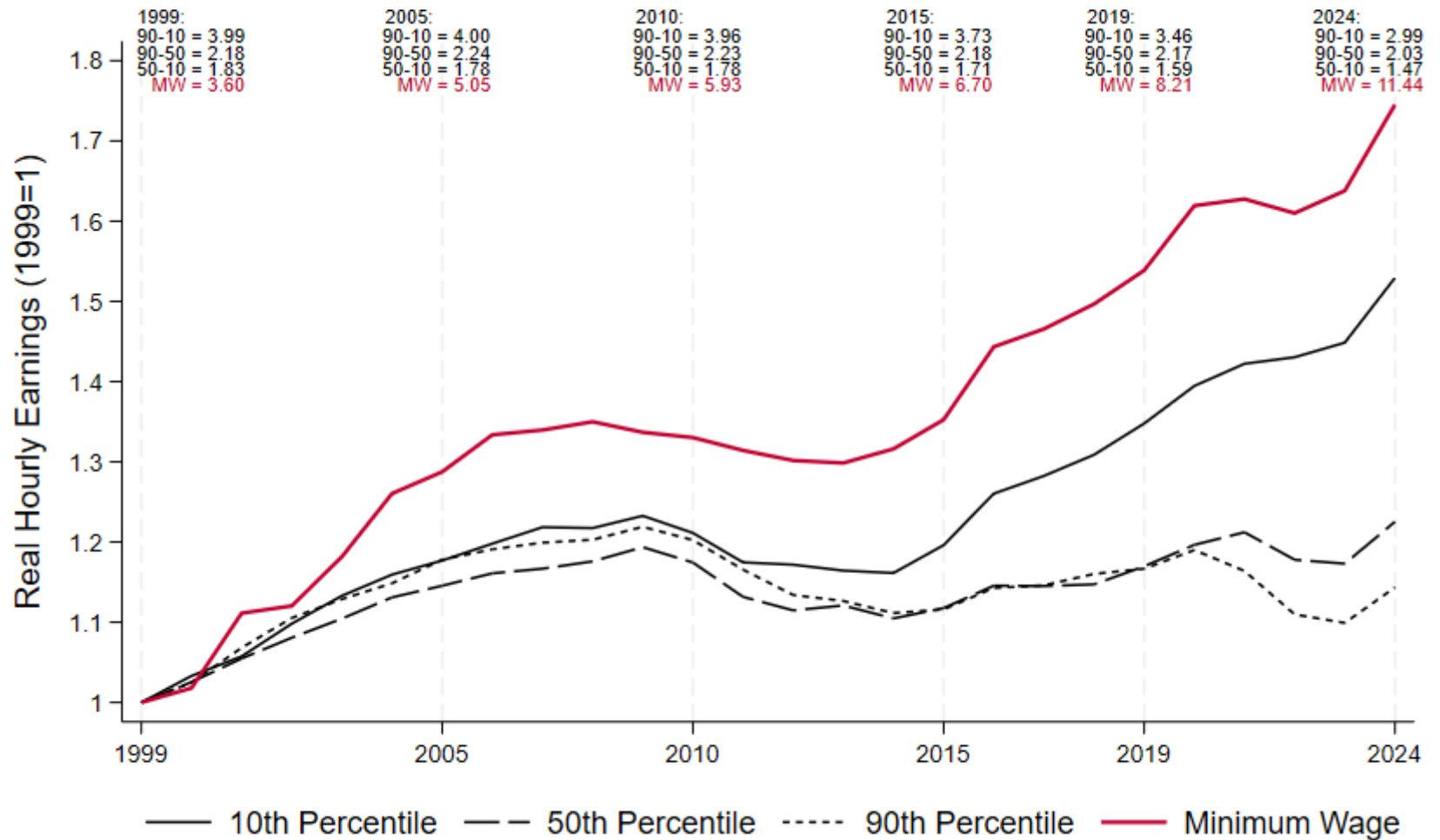
Wage Inequality, 1980 to 2019



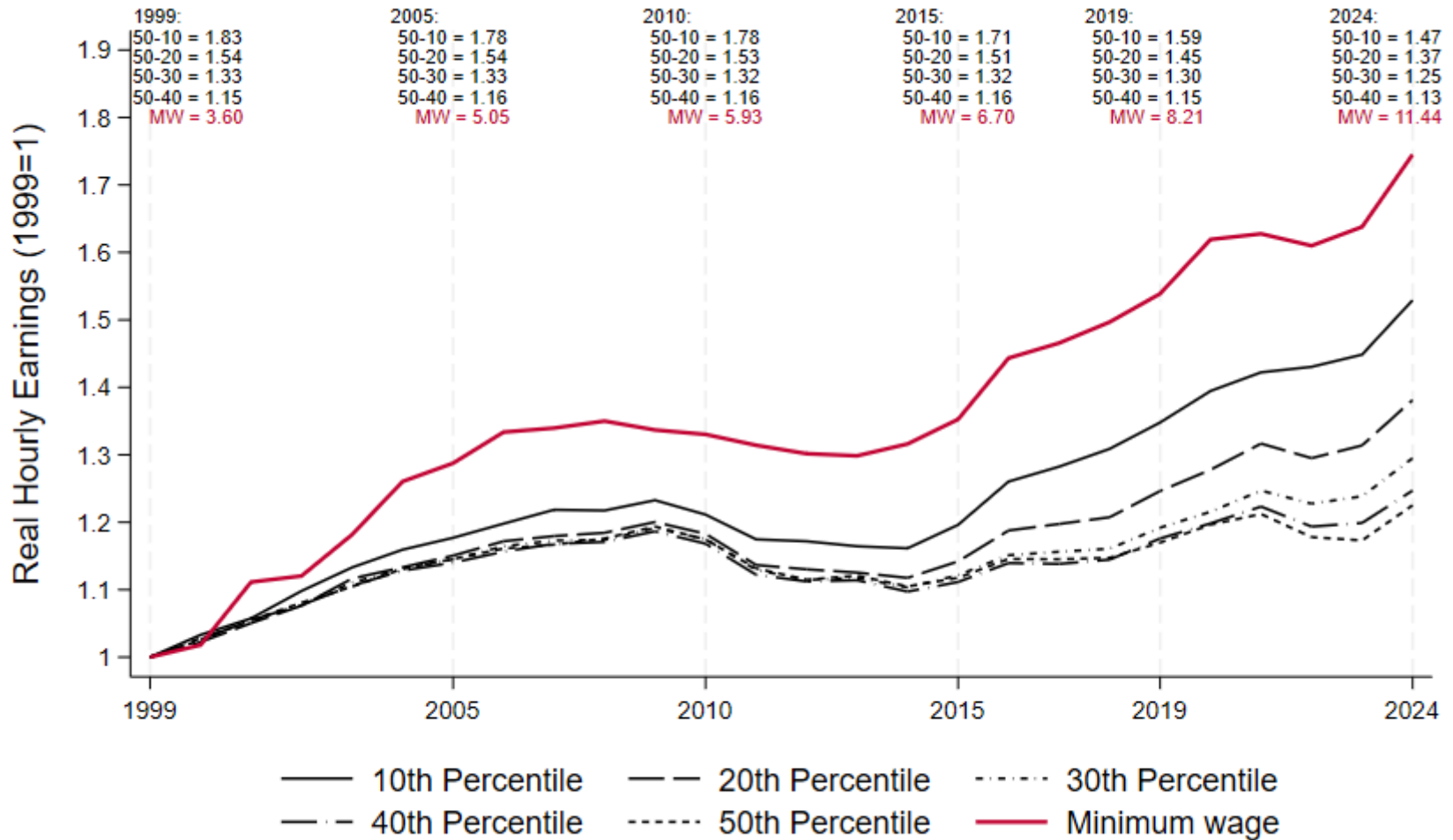
Wage Inequality, 1980 to 2024



Wage Inequality and the NMW, 1999 to 2024



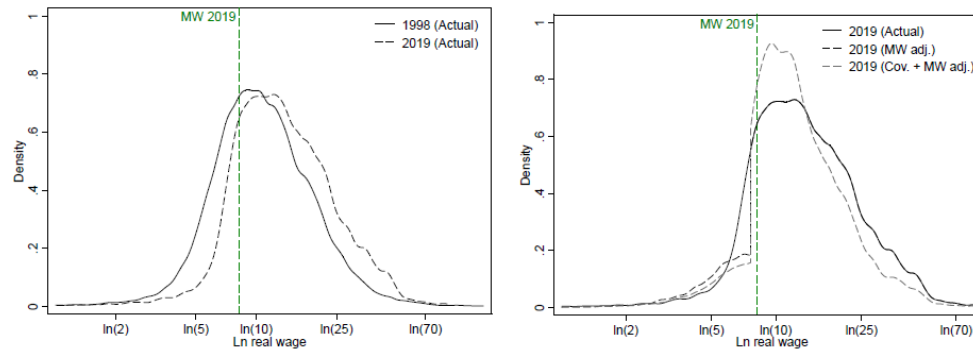
Wage Inequality and the NMW, 1999 to 2024



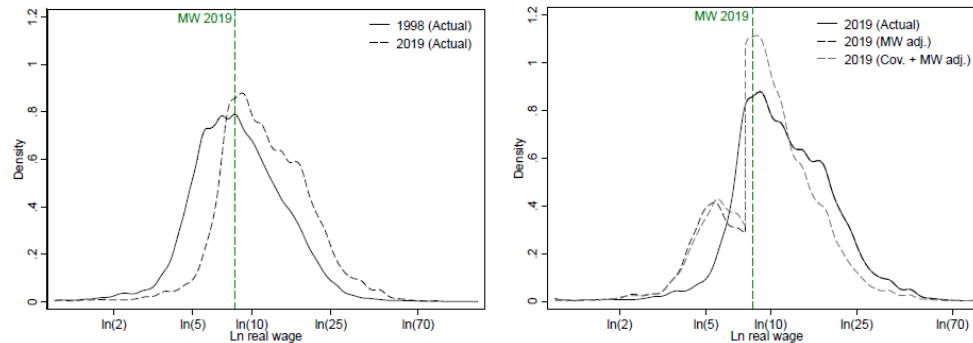
Decomposition (DFL)

Figure 24. Density of real ln hourly wages in 1998 and 2019, adjusted for the indicated factors (real wages in 2015 pounds)

Panel A. Men



Panel B. Women



Note: The left-hand panels plot the hours-weighted kernel estimates of the density of real hourly wages for male (panel A, left chart) and female (panel B, left chart) employees, in 1998 and 2019. The dashed vertical line indicates the location of the 2019 NLW in real terms. The right-hand panels decompose changes in the distribution of wages due to changes in the composition of employment and changes in minimum wage policy over time. A first counterfactual density shows what the density of wages in 2019 would have been if no minimum wage had been introduced (MW adjusted series). A second counterfactual shows what the density of wages in 2019 would have been, had the minimum wage not been introduced and had workforce composition stayed at its 1998 level (covariates and MW adjusted series). The charts also report the actual density of wages in 2019 (actual series). Covariate adjustment is based on age (cubic), university education, marital status, ethnicity (white versus non-white), working full time, working in the public versus private sector, occupation, industry and region of work.

Minimum Wages and the Wage Distribution

The NMW fully reversed and wiped out the previous 20 year increase in lower tail wage inequality.

In the era of real wage stagnation, minimum wage workers did better in terms of real wage growth than those higher up the distribution.

It shows minimum wages, if set in an appropriate evidence-based way as through the LPC structure and operation, can produce beneficial impacts from wage floors.

Institute of Government in its survey about government policies refers to UK minimum wage policy as “the most successful government policy of the past 30 years”.

Economic Effects

In most settings, higher minimum wages have not led to adjustment of total employment, nor firm closure, but there are some more subtle margins of adjustment related to labour demand and its composition.

Modest effects of changes in employment contract structure (e.g. zero hours contracts, Datta, Giupponi and Machin, 2019) and other aspects of the employment relation.

And in UK evidence of profit margins being reduced (Draca, Machin, Van Reenen, 2011; Bell and Machin, 2018).

In other countries other performance or labour demand composition effects are seen without overall employment reductions (examples – Hungary, Harasztori and Lindner (2019); Germany, Dustmann et al, 2022).

Labour Shortage and Tight Labour Markets

Progressively through 2010s, the labour market tightened as employment rates rose to record levels, and unemployment and inactivity came down.

Tightness (the relative strength of labour demand to labour supply) increased after the global financial crisis, dropped in the pandemic, then bounced back to historically high levels.

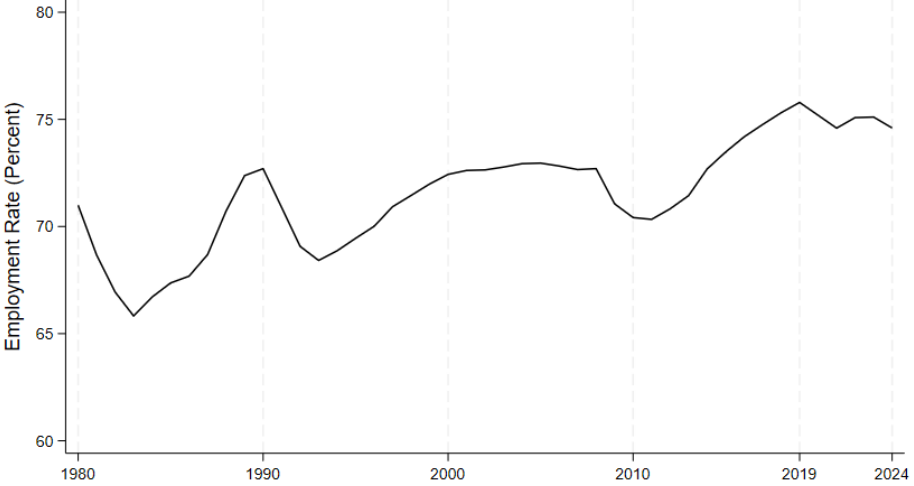
As in many countries, following the pandemic labour shortages became more prevalent (and with price inflation rising).

An important question to ask is how did the minimum wage function in these episodes of labour market tightening?

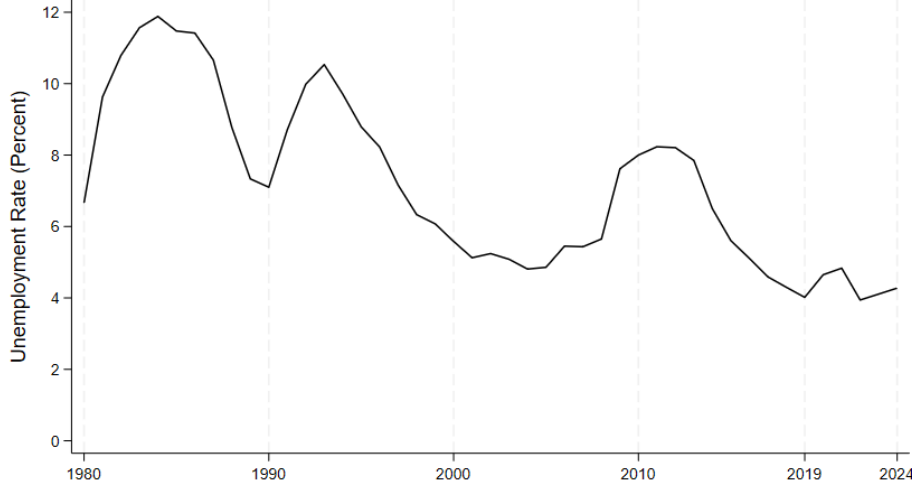
→ The minimum wage was raised by more in tighter labour markets, with a bigger compression impact, especially post-Covid).

Labour Shortage and Tight Labour Markets

Employment Rate



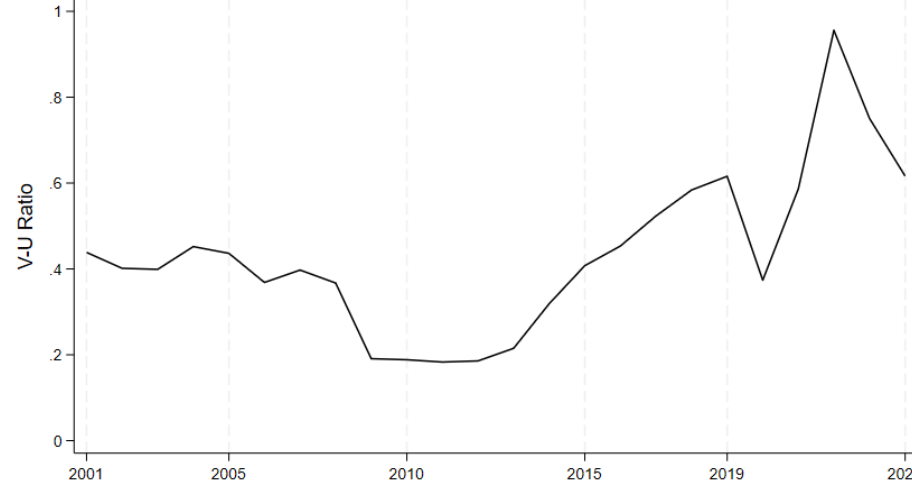
Unemployment Rate



Inactivity Rate



Vacancies/Unemployment



Labour Shortage and Tight Labour Markets

	1999	2005	2010	2015	2019	2024
Nominal Minimum Wage	3.60	5.05	5.93	6.70	8.21	11.41
Annual % Change in Nominal Minimum Wage		6.7	3.5	2.6	5.6	7.9
Annual % Change in Real Minimum Wage		4.8	0.7	0.3	3.5	2.7
Unemployment Rate	6.08	4.86	8.00	5.61	4.02	4.28
Annual % Change in Unemployment Rate		-3.3	16.0	-6.0	-7.1	1.3
50-10 Wage Ratio	1.83	1.78	1.78	1.71	1.59	1.47
Annual % Change in 50-10 Wage Ratio		-0.5	0.0	-0.8	-1.8	-1.5

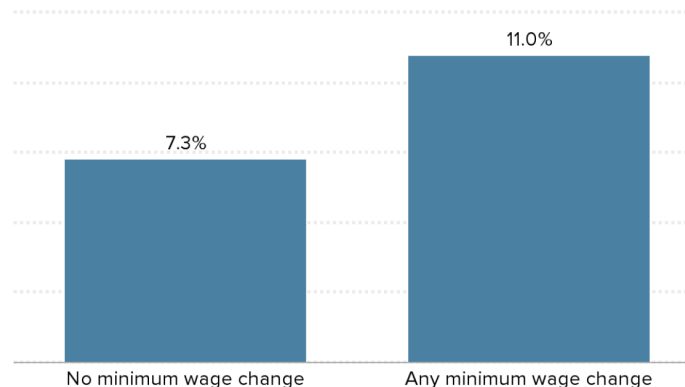
Labour Shortage and Tight Labour Markets

Recent experience in the US shows significant wage boosts that have reduced wage inequality in the tight labour market of the post-pandemic years (Autor, Dube, McGrew, 2023). And by more in states where minimum wages have been raised above the federal minimum (EPI, 2024).

FIGURE A

Wage growth was 50% faster for low-wage workers in states with increases to their minimum wage

Real wage growth at the 10th percentile among states grouped by presence of minimum wage increase, 2019–2023



Notes: Figure C details the list of states in each category. See EPI's [minimum wage tracker](#) for the most current state-level minimum wage information. We exclude workers whose wages were allocated or imputed. The wage allocation model does not include state (Census 2021). This can mute or flatten differences in wages between states.

Source: EPI analysis of the Current Population Survey Outgoing Rotation Group microdata, EPI Current Population Survey Extracts, Version 1.0.48 (2024a), <https://microdata.epi.org>, and EPI analysis of state minimum wage laws.

Conclusions

In its 25 years in the UK labour market, the minimum wage has been a major success in raising the pay floor, in boosting worker wages without bad employment effects and in mediating wage inequality.

The system of operation with an independent body making recommendations to government on minimum wage increases has proven crucial to deliver consensus from the LPC on a permanent statutory basis. The inequality reducing impact of the minimum wage is clear, and it has been very marked in the tightening labour market of the 2010s and the post-pandemic years.

The first 25 years have revealed what is possible with policy directed at wages, but there is more to be done to generate both decent work and to boost wages and living standards. There are good lessons for other policies for the new UK government (e.g. the Employment Rights Bill). And with the scale of planned changes to come.

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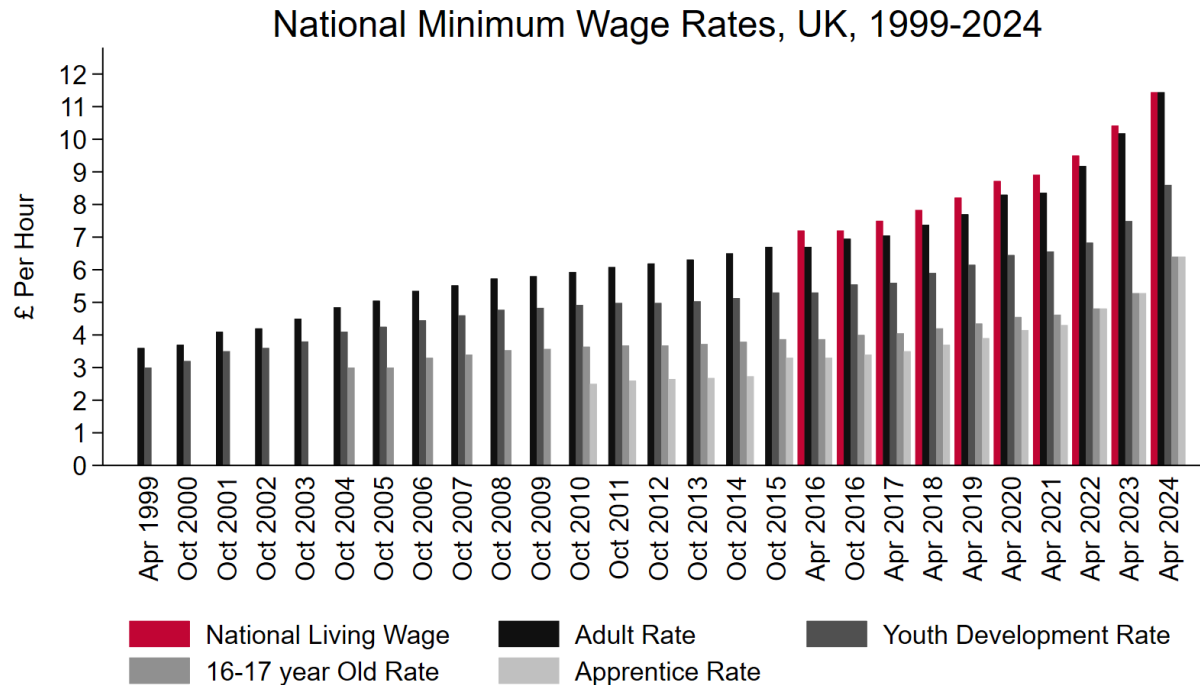
Additional Slides

Minimum Wage Setting 1

1). Expert body:

Typically comprised of employer and employee stakeholders, and sometimes independent members – make a recommendation to government.

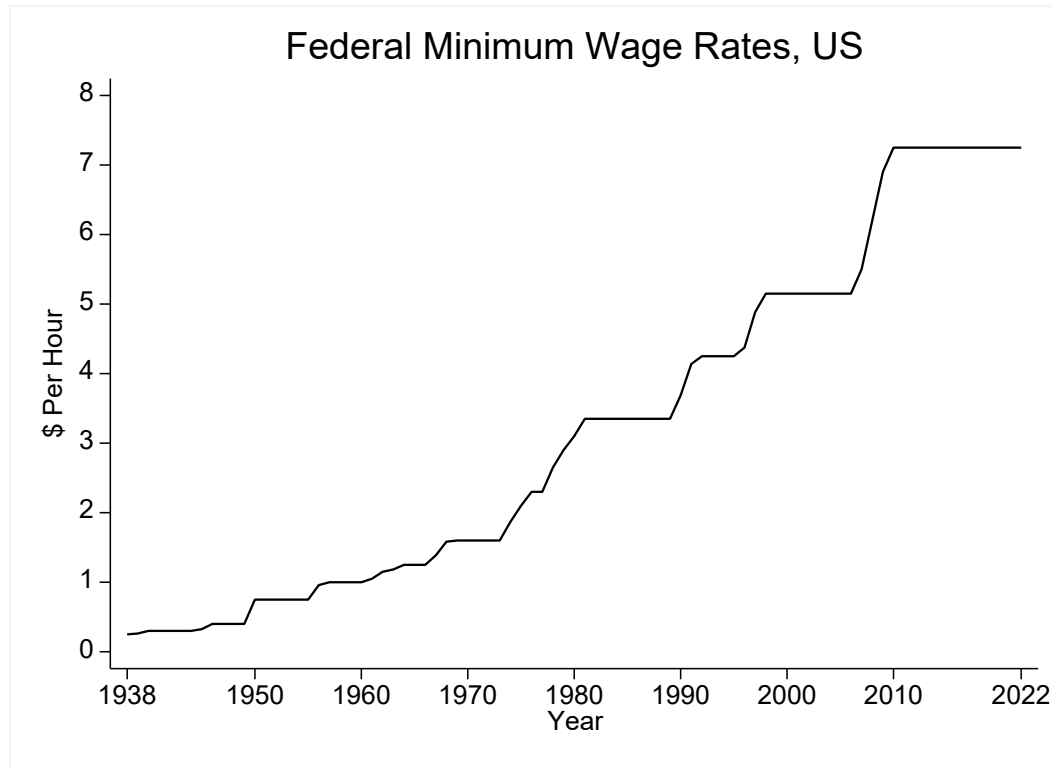
UK Low Pay Commission – three employer representatives, three employee representatives, two independent members and a chair – with a secretariat.



Minimum Wage Setting 2

2). Government set minimum wages:

In a number of countries the minimum wage is set by the national government. In the US, congress votes on changes to the minimum wage - this results in infrequent jumps in the Federal minimum wage that to some degree depends upon the political balance of power at the Federal level.



Minimum Wage Setting 3

3). Formula:

Some countries have a formula or rule, often tying minimum wage upratings to prices or earnings. In France the SMIC (salaire minimum interprofessionnel de croissance) is tied to consumer prices. Also the case in Luxembourg. The Netherlands has a formula linking to wages.

4). Collective bargaining:

In some places with no formal minimum wage legislation in place, collectively agreed minimum wages (often at sectoral level) are a part of the union-employer bargaining rounds.

This model is most prominent in the Scandinavian countries, but also in Italy (and notably Germany until its minimum wage introduction in 2015).

5). Formal/informal sectors:

In some (mostly developing) countries the minimum wage is set only for those working in the formal sector.

Opinion Polls

Opinion polls show that mandated minimum wages are highly popular with the general public.

Yougov poll of 5012 GB adults in October 2021, asked their views on a £10 per hour minimum wage.

	Vote in 2019 GE			EU Ref 2016		Gender		Age				Social Grade		Region						
	Total	Con	Lab	Lib Dem	Remain	Leave	Male	Female	18-24	25-49	50-64	65+	ABC1	C2DE	London	Rest of South	Midlands / Wales	North	Scotland	
Weighted Sample	5012	1699	1243	451	1859	1985	2436	2576	546	2090	1208	1168	2857	2155	601	1684	1088	1208	431	
Unweighted Sample	5012	1706	1258	462	2085	2012	2086	2926	343	1942	1314	1413	3017	1995	481	1737	1126	1223	445	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Much too low	10	9	12	10	12	11	11	9	5	9	13	11	10	11	15	10	7	9	17	
Somewhat too low	29	24	41	31	34	28	27	32	18	30	34	29	30	29	35	31	26	28	27	
TOTAL TOO LOW	39	33	53	41	46	39	38	41	23	39	47	40	40	40	50	41	33	37	44	
About right	47	52	38	51	45	47	46	48	63	46	45	45	47	48	37	46	55	49	45	
Somewhat too high	5	7	5	3	3	7	6	5	4	7	4	5	5	6	7	4	6	6	7	
Much too high	1	3	0	1	1	2	2	1	0	2	2	2	2	1	0	1	2	2	2	
TOTAL TOO HIGH	6	10	5	4	4	9	8	6	4	9	6	7	7	7	7	5	8	8	9	
Don't know	6	5	4	5	5	6	7	6	10	7	3	8	7	6	6	9	4	7	2	

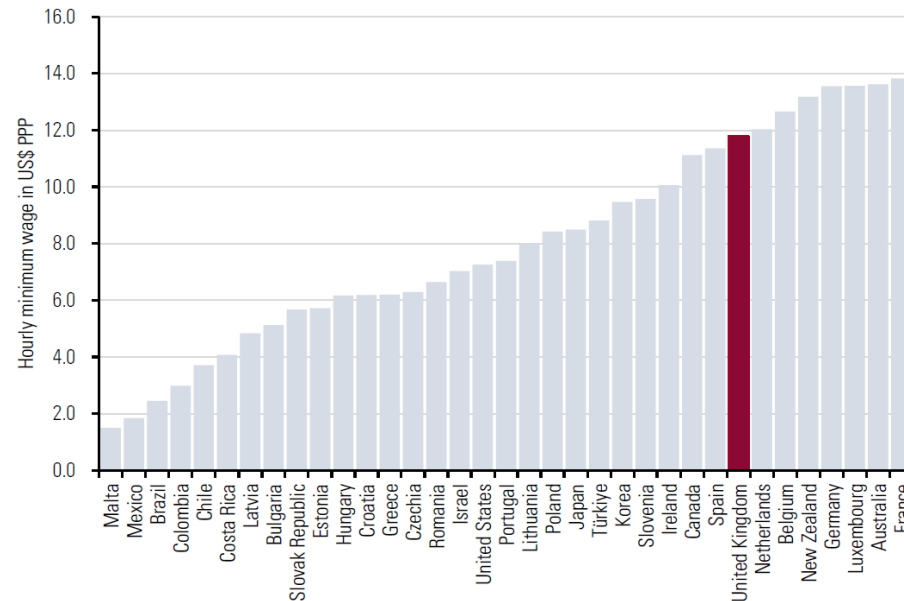
Imagine that all age groups were paid the same minimum wage. For each of the following minimum wage rates, please say whether you think they are too low, about right, or too high

[Asked to group 1; n=1649]

Levels of Minimum Wages 1

Comparing levels across countries is difficult. One approach is to convert to the same currency, or use PPP adjustment, though of course in the Eurozone this is not necessary. Defining a level is difficult (maybe) also infeasible for the countries without a national minimum (e.g. Denmark, Italy, Cyprus, Finland, Norway, Sweden, Switzerland).

Figure A4.2: Comparison of international minimum wages adjusted for purchasing power parity, OECD, 2022



Source: LPC estimates based on OECD real minimum wage data (in 2022 constant prices at 2022 USD PPPs).

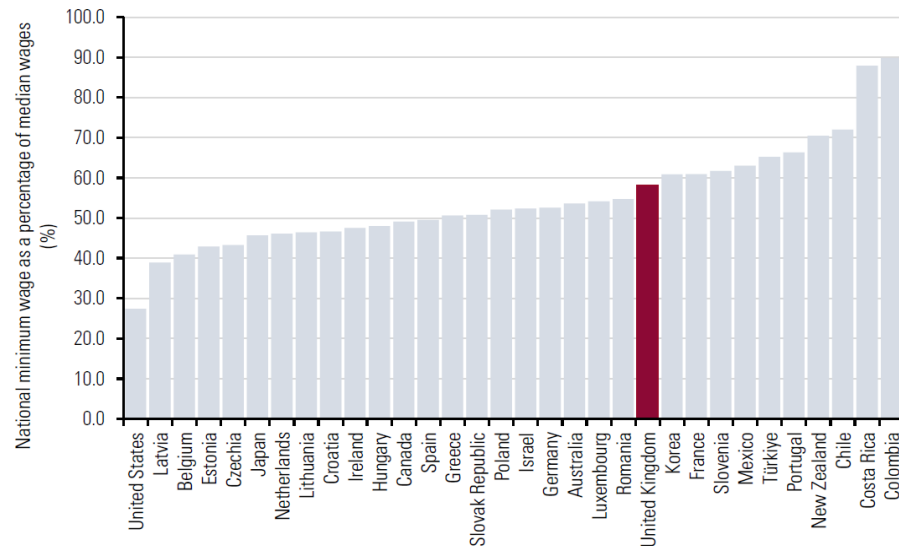
Note: Minimum wages are converted to an annual value to enable comparison across the whole of 2022. (For example, in the UK the minimum wage changed in April 2022 from £8.91 to £9.50. That is equivalent to £9.35 across the year: 3 months of £8.91 and 9 months of £9.50).

Levels of Minimum Wages 2

There are, of course, big variations. An issue is that this comparison does not take into account variations in the general level of wages, nor their dispersion, in a country. A better comparison of the importance of minimum wages needs to normalise on country-specific wages.

The ‘bite’ or ‘toughness’ of the minimum wage can be defined in terms of the ratio of the minimum wage level to the wages of typical workers in the relevant country (e.g. median or mean).

Figure A4.5: Comparison of international minimum wages relative to average median wages of full-time workers, 2022



Draca, Machin and Van Reenen (2011)

For UK NMW introduction, look at firm adjustment, specifically asking whether there is any impact on profit margins.

Evidence of impact on margins for UK companies, and in care homes, in difference-in-differences estimates.

TABLE 1—CHANGES IN FIRM AVERAGE WAGES AND PROFITABILITY BEFORE AND AFTER THE INTRODUCTION OF THE NATIONAL MINIMUM WAGE

	Pre-NMW introduction (1)	Post-NMW introduction (2)	Difference (3)
<i>Panel A. ln(average wage), lnW</i>			
Pre-NMW low-wage firm, $T = 1$	2.149	2.378	0.229
Pre-NMW not low-wage firm, $T = 0$	2.775	2.893	0.118
Difference-in-difference			0.111*** (0.029)
<i>Panel B. Π/S</i>			
Pre-NMW low-wage firm, $T = 1$	0.128	0.089	-0.039
Pre-NMW not low-wage firm, $T = 0$	0.070	0.058	-0.012
Difference-in-difference			-0.027** (0.014)

Notes: Pre-NMW corresponds to the three financial years April 1, 1996–March 31, 1999 and Post-NMW refers to the three financial years April 1, 1999–March 31, 2002. $T = 1$ indicates the treatment group and $T = 0$ indicates the comparison group. Pre-NMW Low-wage firm—the treatment group is defined as firms with an average wage equal to or below £12,000 per annum in the pre-policy financial year up to March 31, 1999; the comparison group is defined as firms with average wages between £12,000 and £20,000 in the pre-policy financial year up to March 31, 1999. Standard errors in parentheses are clustered by firm and sample size is 4,112 (there are 951 firms).

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

TABLE 4—NATIONAL MINIMUM WAGE INTRODUCTION AND WAGES AND PROFITABILITY IN CARE HOMES, 1998–1999

Period before and after NMW introduction, 1998–1999		
<i>Panel A. Wages</i>		
	Change in $\ln(\text{average wage})$, $\Delta \ln W$	
Pre-NMW wage gap	0.861*** (0.045)	0.886*** (0.052)
Controls	No	Yes
<i>Panel B. Profitability</i>		
	$\Delta(\Pi/S)$, Change in profit margin	
Pre-NMW wage gap	-0.433*** (0.173)	-0.492*** (0.202)
Controls	No	Yes

Notes: Coefficients estimated by ordinary least squares. Robust standard errors are in parentheses under coefficients. Sample covers 454 nursing homes in 1998 and 1999. Initial pre-minimum wage period ($t - 1$) controls include workforce characteristics (proportion female, mean worker age, proportion with nursing qualifications), the proportion of residents paid for by the government (“DSS”), region dummies, and month dummies.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Bell and Machin (2018)

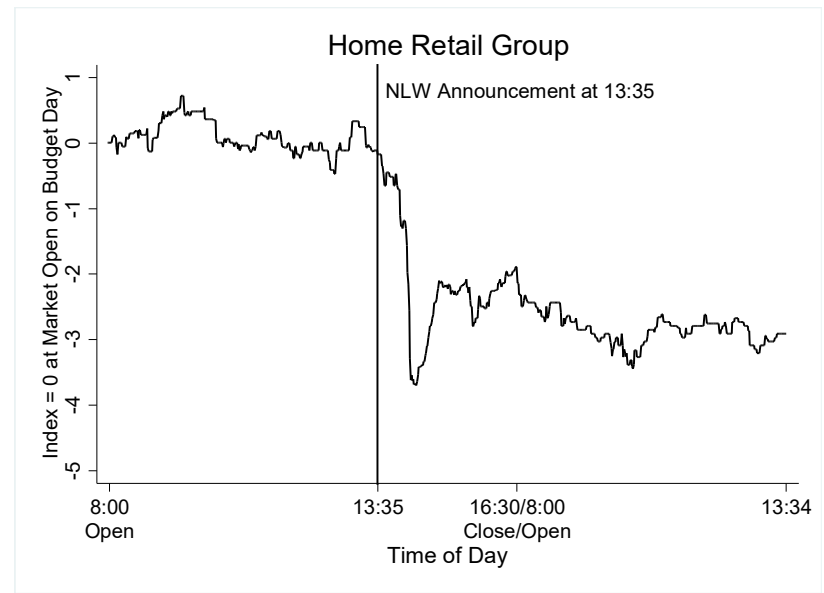
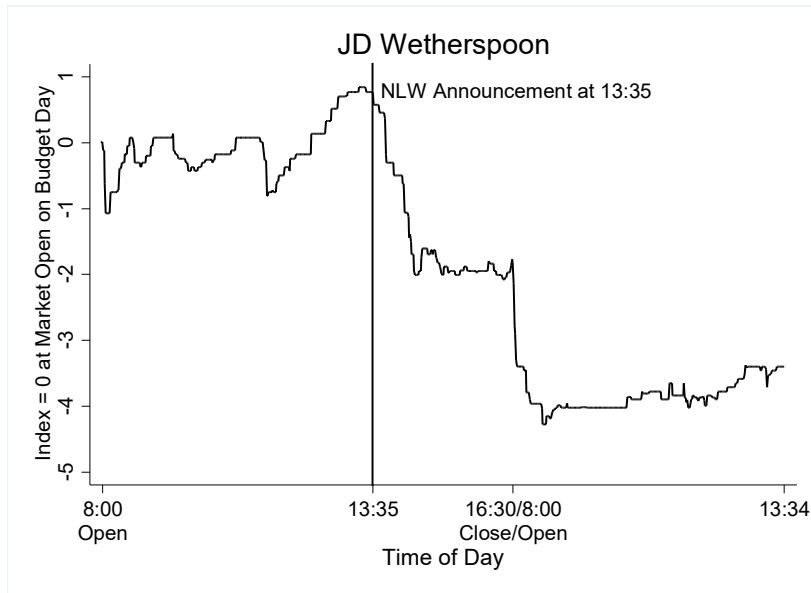
Stock market event study of surprise announcement of National Living Wage in 2015 budget.

Emergency budget called for July 8 2015, the then Chancellor George Osborne made the completely unexpected announcement of introducing a new National Living Wage that would raise the NMW for age 25 year olds and older workers by 50 pence from April 2016.

[Justification why? To offset sizable tax credit cuts.]

Gives opportunity to study share price response of employers of low wage labour.

Bell and Machin (2018)



Bell and Machin (2018)

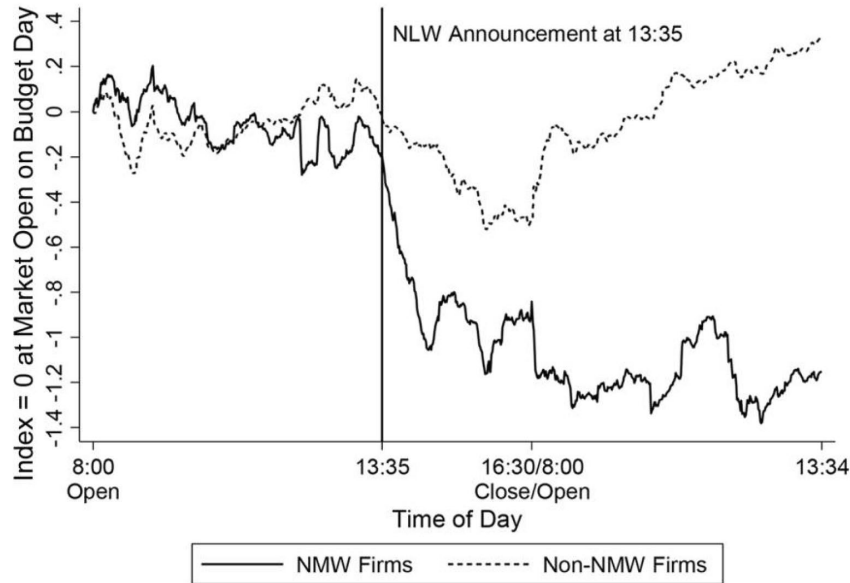


FIG. 4.—Returns on budget day and 24 hours after the national living wage (NLW) announcement. Data are based on 442 FTSE All-Share Index–quoted firms (excluding investment trusts), comprising the 20 national minimum wage (NMW) firms and 422 non-NMW firms. The 20 NMW firms are listed in the appendix.

Table 3
Estimates of Intraday Cumulative Abnormal Returns (CARs) for National Minimum Wage (NMW) Firms

	Equal Weighted		Value Weighted	
	Market Model (1)	Industry- Matched Model (2)	Market Model (3)	Industry- Matched Model (4)
A. Postannouncement:				
CAR($A, 20$)	-.342** (.131)	-.271* (.125)	-1.419** (.551)	-1.246** (.537)
CAR($A, 60$)	-.694** (.238)	-.638** (.242)	-1.759** (.681)	-1.564** (.662)
CAR($A, 120$)	-.469 (.288)	-.575 (.312)	-1.495** (.447)	-1.408** (.425)
CAR($A, \text{market close}$)	-.280 (.323)	-.262 (.334)	-.996* (.495)	-.815 (.491)
CAR($A, 24 \text{ hours}$)	-1.300** (.491)	-1.420** (.519)	-2.019** (.196)	-1.997** (.209)
B. Preannouncement:				
CAR($-20, A$)	-.040 (.045)	-.121* (.054)	.034 (.038)	-.080 (.040)
CAR(budget start, A)	-.023 (.089)	-.054 (.093)	.149 (.086)	.086 (.075)
CAR(market open, A)	-.183 (.368)	.038 (.363)	-.164 (.159)	.298 (.139)
CAR(24 hours, A)	-.103 (.313)	-.279 (.334)	-.280 (.201)	-.365 (.212)

NOTE.—CAR(A, Y) denotes the CAR from announcement time A (1335 hours) to minute Y relative to the announcement time. There are 20 firms in the NMW sample. Panel A reports results for the postannouncement period, and panel B reports results for the preannouncement period. The market closed 175 minutes after the announcement, it opened 334 minutes before the announcement, and the budget began 62 minutes before the announcement. The CAR for each firm is equal weighted in cols. 1 and 2 and weighted by their share of the total value of all trades in NMW stocks over the relevant period in cols. 3 and 4.

* Significant at the 5% level.
** Significant at the 1% level.