



Minimum wage and tolerance for high incomes[☆]

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ABSTRACT

We suggest that stabilizing the baseline income can make low-wage workers more tolerant towards high income earners. We present evidence of this attitude in the UK by exploiting the introduction of the National Minimum Wage (NMW), which institutionally sets a baseline pay reducing the risk of income losses and providing a clear reference point for British workers at the lower end of the income distribution. Based on data from the British Household Panel Survey (BHPS), we show that workers who benefited from the NMW program became relatively more tolerant of high incomes and more likely to support and vote for the Conservative Party. As far as tolerance for high incomes is related to tolerance of inequality, our results may suggest that people advocate for equality also because they fear income losses below a given reference point.

1. Introduction

Standard economic reasoning suggests that people who earn below the mean income should ask for redistribution (Meltzer and Richard, 1981) and support parties that stand up for inequality reduction (Corneo and Gruner, 2002). However, the individual demand for redistribution is boundedly rational, and low-income groups are often averse to redistributive policies and support anti-egalitarian parties (Roemer, 1998). Why do those with a relatively low income tolerate top earners? Why do they not advocate for redistribution, especially as they would benefit from it without bearing its cost? Bénabou and Ok (2001) theorize that “prospects of upward mobility” (POUM) play a crucial role, as those with a low income accept inequality to the extent that they believe they can improve their condition in the future. This hypothesis supports the belief that fair opportunities for social mobility weaken support for redistribution (Alesina and La Ferrara, 2005; Alesina et al., 2018). However, individuals generally form their preferences around a reference point where losses weight more than gains (Tversky and Kahneman, 1991). New experimental research shows that

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individuals have biased perceptions of their position in the income distribution scale and that their preferences for redistribution depend significantly on their position in relation to their peers rather than on the full distributive range (Cruces et al., 2013; Kuziemko et al., 2014; Fisman et al., 2021; Charité et al., 2022). Following this line of thought, we suggest that the fear of income losses below a given reference point may be an additional driver of redistributive preferences.

Individuals may also support a more equal distribution of income so as to cope with the instability of their reference point. If this is the case, a measure stabilizing the reference income could make people more tolerant towards high income earners. We provide evidence of this attitude by exploiting the National Minimum Wage (NMW) introduction in the UK in 1999, which institutionally established a baseline pay reducing the risk of income losses for approximately 4% of the UK work force. Using data from the British Household Panel Survey (BHPS), we observe workers' tolerance for high incomes before and after the reform. Exploiting the panel dimension of the data, we show that workers who benefit from the NMW become significantly more tolerant of high incomes. This finding resists different specifications of the control group and is robust to an intention-to-treat approach in which the treatment group contains individuals whose hourly wage was below the NMW for their age in the eighth wave (the year before the reform). The effect is sizable: having benefited from the NMW increases the probability of tolerating high incomes by 11%. As far as tolerance for high incomes is related to tolerance of inequality (Burak, 2013; Bell and Reenen, 2013), this evidence may suggest that preferences for inequality are also driven by reference dependence considerations, as reducing the risk of income losses below the reference point (the guaranteed minimum wage rate) makes people more willing to accept disparities in the income distribution range. We strengthen this result by presenting complementary evidence on voting behavior. Workers who experience a wage increase due to the NMW are significantly more likely to vote for the Conservative Party. Having benefited from the NMW raises the probability of voting Conservative by approximately 9 percentage points. A battery of placebo tests supports a causal interpretation of our results.

Our contribution bridges three strands of economic literature. The first studies why people develop seemingly unselfish preferences for inequality and redistribution, by analyzing the role of prospects and beliefs about social mobility (Piketty, 1995; Bénabou and Ok, 2001; Alesina and La Ferrara, 2005), concerns for the fairness of social competition (Alesina and Angeletos, 2005; Sabatini et al., 2019), positional concerns (Kuziemko et al., 2015), experienced macroeconomic conditions (Giuliano and Spilimbergo, 2014; Roth and Wohlfart, 2018), altruism (Dahlberg et al., 2012), and civic capital (Algan et al., 2016; Cerqueti et al., 2019). A few studies address the potential role of reference dependence. Charité et al. (2022) provide experimental evidence that when taxpayers have manifest reference points, impartial spectators are reluctant to cause economic losses because they project their loss aversion onto recipients. Gualtieri et al. (2019) show that experiencing the fear of incurring economic losses due to a natural disaster raises support for redistribution, even for those who do not endure any material damage. Martén (2019) finds that the demand for redistribution increases when individuals lose their job, and decreases when their economic prospects return to the reference point. We add to this literature by providing causal evidence that people experiencing a reduction in the risk of economic setbacks tend to tolerate high income earners more.

The second strand of literature studies the impact of minimum wage policies on employment (e.g. Dickens et al., 1999; Stewart, 2004; Cengiz et al., 2019), fairness perceptions and reservation wages (Falk et al., 2006), wage inequality (Dickens and Manning, 2004; Autor et al., 2008; 2016), firm performance (Draca et al., 2011), consumption (Aaronson et al., 2012), tax compliance (Tonin, 2011), and health outcomes (Adams et al. 2012; Reeves et al., 2017), to name a few. We add to this field by offering an empirical analysis of the impact of a minimum wage programme on a, so far, unexplored outcome. Our contribution shows that measures aimed at reducing inequality can counterintuitively affect preferences related to the income distribution, possibly entailing an electoral penalty for the party that promoted them.

Finally, we connect to studies assessing the impact of reference dependence concerns on economic preferences and behavior such as support for redistribution (Charité et al., 2022; Martén, 2019), risk attitudes (Thaler et al., 1997), job search (Della Vigna et al., 2017), consumption (Karle et al., 2015), and tax compliance (Engstrom et al., 2015). We contribute to this field by providing support for the hypothesis that the fear of economic losses also prompts a change in workers' preferences (Charité et al., 2022; Della Vigna et al., 2017; Martén, 2019), resulting in a stronger support for the implementation of earning caps.

The rest of the paper proceeds as follows. In Section 2, we describe our data and empirical strategy. Section 3 presents and discusses our results. Section 4 offers conclusive remarks.

2. Data and empirical strategy

In this section, we first present the data. Then, we report some descriptive statistics and detail our empirical strategy. Our econometric analysis exploits the panel dimension of the data to assess how workers involved in the NMW scheme change their tolerance for high incomes compared to those who did not benefit from the reform. In our baseline specification, the treated group consists of the workers whose wages increased as a result of the NMW scheme. We also implement an *intention-to-treat* approach in which we employ alternative specifications of the treatment group. To corroborate the interpretation of results, we present complementary evidence on the impact of the minimum wage on voting intentions. Finally, we perform placebo tests to check for the validity of our identification.

2.1. Data

The British Household Panel Survey (BHPS) is a longitudinal survey based on a representative sample of the British population (Taylor et al., 2007). It started in 1991 and, though initially designed as an indefinite life panel, ended in 2008, when a new survey replaced it. The BHPS interviews all of the permanent members of the household face-to-face. The questionnaire collects information on economic characteristics, such as employment status, salary, number of worked hours, and on personal attitudes and opinions.

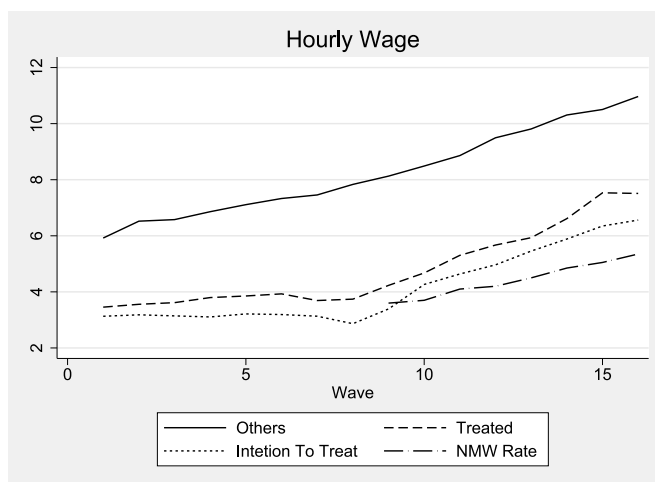


Fig. 1. Evolution of hourly wage.

Notes: Data show the evolution of real hourly wages for treated and control groups and the nominal rate of the Minimum Wage since its introduction.

2.1.1. Minimum wage in the BHPS

The introduction of a baseline pay provides a well-suited framework to study how reference dependence affects individual tolerance for high incomes by giving workers a precise reference point, under which their wage cannot decline and that is usually considered to be fair (Falk et al., 2006). In this study, we exploit information on the NMW established in the UK in April 1999. The baseline pay was initially set at £3.6 per hour for workers aged over 22 and to £3 for those aged between 18 and 21.¹ Research shows that while the employment effects of the NMW introduction were limited, the gains went mostly to the low-wage workers (Dickens et al., 1999; Dickens and Manning, 2004). This is an important difference from other policies such as the National Living Wage, which affects mostly middle-income workers (Cribb et al., 2021).

To collect information on NMW recipients, we use the British Household Panel Survey (BHPS), which, in its ninth wave in 1999, asked workers whether their hourly pay increased because of the NMW reform. Interviewees who gave an affirmative response to this question form the treatment group in our baseline estimates. Luckily, given the panel structure of the BHPS, we are able to track these individuals over the time span of our study. To reduce measurement errors, the BHPS only asks respondents who did not change employer between the waves before and after the introduction of the NMW about the minimum wage. While this likely leads to an underestimation of the number of workers who increased their pay due to the NMW, it also allows us to focus on workers with a more stable employment history.

To test the robustness of our baseline specification, we also use other measures of the treatment variable. We perform an intention-to-treat approach in the spirit of Arulampalam et al. (2004), by including in the treatment group those workers whose hourly pay was below the baseline level just before the introduction of the NMW and whose hourly pay was between the minimum wage and 25% more than the NMW in the year of the introduction. Our variable of interest takes a value equal to one for treated individuals and zero otherwise.

2.1.2. Tolerance for high incomes

To measure tolerance for high incomes, we use the 5-point Likert scale with which respondents were asked to score the statement: “People have different views about the way governments work. The government should place an upper limit on the amount of money that any one person can make”, 1 meaning “strongly agree” and 5 “strongly disagree”. The survey collected responses to this question in waves 2, 4, 6, 8, 11, 13, and 16. This statement does not explicitly ask about people’s redistributive preferences, as it mostly concerns tolerance for high incomes. However, this question has been used to measure preferences for redistribution and attitudes towards inequality in Burak (2013), Clark and D’Ambrosio (2015), Arunachalam and Watson (2018), and Chan (2019), among others.

We re-code the variable into a dummy measuring the tolerance for high incomes that takes value one if the respondent strongly disagrees, disagrees or neither agrees nor disagrees and zero otherwise (i.e., if the respondent agrees or strongly agrees), and we label the dummy “tolerance for high incomes” in the tables, for the sake of brevity.

To measure respondents’ political orientation, we use the question: “If there were to be a General Election tomorrow, which political party do you think you would be most likely to support?”. Possible responses are Conservative, Labour, Liberal Democrats or SDP, Plaid

¹ Since then, the NMW has been updated every year, usually in October. In April 2019, the baseline was set at £8.21 for those aged more than 25, reaching one of the highest rates in the world.

Table 1
Summary statistics.

Variable	Mean	Std. dev.	N
Dependent variables			
"Cap on earnings"			
Strongly agree	0.043	0.203	31114
Agree	0.16	0.367	31114
Neither agree nor disagree	0.164	0.371	31114
Disagree	0.483	0.5	31114
Strongly disagree	0.15	0.357	31114
Tolerance for high incomes (re-coded dependent var.)	0.797	0.403	31114
Vote conservative	0.102	0.303	19962
Close to conservative	0.309	0.462	47047
Support conservative	0.235	0.424	66378
Independent variables			
NMW	0.024	0.153	31114
NMW (intention-to-treat)	0.036	0.186	31114
Pay Increase	0.21	0.408	31114
Control variables			
Household size	3.07	1.187	31114
Household income	6.681	1.338	31114
Age	39.129	11.204	31114
Degree	0.16	0.366	31114
Married	0.625	0.484	31114
Female	0.516	0.5	31114

Cymru, Green Party, Other party, Other answer, None, Refused, Don't know, and Can't vote. Our variable of interest takes value one for Conservative and zero otherwise.²

Finally, we draw information from the BHPS to control for some socio-demographic characteristics of respondents, including the income of household members, household size, education, marital status, age, and age squared.

2.2. Descriptive statistics

Treated individuals amount to roughly 2.2% of workers, and 20% of the individuals in the sample declare that they are averse to earnings limits. Fig. 1 shows the incidence of the NMW introduction. From the ninth wave (collected in 1999, the year of the introduction of the NMW), the real hourly wage of minimum wage recipients started to increase significantly, underlining the effect of the policy.

A crucial assumption of our study is that the introduction of a minimum wage provides a clear reference point for workers. This is an assumption that builds on previous works see e.g. Falk et al., 2006 and which we attempt to show in our data also. Starting from the ninth wave, the BHPS introduced a question asking the hourly wage of the workers in the sample. Fig. 2 plots the rate of the minimum wage in each year and the mode of the answers to the question asking the hourly wage for our treated group. Answers from our treated individuals almost perfectly match the minimum wage rate in every wave of the sample.³ This evidence further suggests that the minimum wage sets a clear reference point for workers.

Our sample of workers has a low educational achievement (around 16% of workers have graduated) and genders are perfectly balanced (51% of workers in the sample are women). Among NMW recipients, 10.6% are housekeeping and restaurant services workers, 13.7% are personal care and related workers, 13.8% are shop salespersons and demonstrators and 14.6% are domestic and related helpers, cleaners, and launderers (see Table 1).

In Table 2 we show that since the introduction of the NMW the workers benefiting from the reform increased the number of worked hours.

2.3. Identification

To identify the effect of the minimum wage, we exploit the panel dimension of the data, which allows us to observe preferences concerning earnings caps before and after the treatment and control for individual fixed effects.

² As a robustness check, we also use answers to other two questions: "Generally speaking do you think of yourself as a supporter of any one political party?" and "Do you think of yourself as a little closer to one political party than to the others?". Responses for these two questions are Conservative, Labour, Liberal Democrats or SDP, Plaid Cymru, Green Party, Other party, Other answer, None, Refused, Don't know, and Can't vote. Our variables always take value one for Conservative and zero otherwise.

³ Some measurement error might be due to the fact that annual increases of the NMW occurred in October, and that most of the interviews of the BHPS were conducted between September and October. As a result, in some years, the workers might refer to the rate of the previous period.

Table 2
Worked hours.

Variable	Before NMW introduction	After NMW introduction
NMW	27.87	28.438
NMW (intention-to-treat)	25.50	28.31

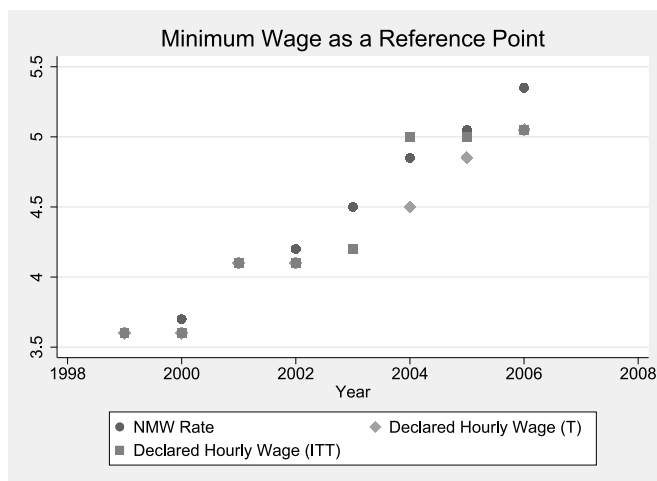


Fig. 2. Declared hourly wage.

Notes: Data show the mode of the declared nominal hourly wages and the nominal rate of the Minimum Wage. T refers to the treated group, while ITT refers to intention-to-treat.

The introduction of the NMW entailed the legal obligation to raise all wages previously lying below the baseline. This threshold was established by law, and employers and workers had no choice as to whether or not to comply, nor could they alter the baseline level. These circumstances allow us to circumvent the reverse causality and endogenous treatment assignment issues that are usually at stake in the analysis of individual beliefs. It is unlikely that workers self-selected below or above the baseline level according to their attitudes towards wage disparities, political views, or some experiences or characteristics that may in turn have affected the outcome variables considered in the analysis. By controlling for individual fixed effects and observing preferences before and after the introduction of the minimum wage, we can avoid the bias potentially caused by time-invariant characteristics that may be correlated with preferences for inequality.

We start the empirical analysis by presenting our preferred specification, where the treatment group consists of the workers whose wages increased thanks to the NMW. After assessing the impact of the NMW on the individual tolerance for high incomes, we test whether benefiting from the minimum wage made workers more (or less) supportive of pro-market-oriented political parties.

In Section 3, we perform the empirical analysis on employed workers aged between 18 and 65 and on those aged 60 years old or less in the ninth wave, in order to drop from the treatment group individuals who were about to retire in the period covered by our study. We also exclude self-employed workers, disabled workers, those who declared a monthly wage lower than £30, and those with a basic hourly pay lower than £1 after the introduction of the NMW. Finally, we drop those who lived in or moved to Northern Ireland as the BHPS extended its sample to Northern Ireland only after the sixth wave.

Our reference linear probability model is:

$$y_{it} = \alpha + \beta NMW_i * Post + \gamma X_{it} + Region_i + Wave_i + \eta_i + \varepsilon_i \quad (1)$$

Where y_{it} is a dichotomous variable measuring tolerance for high incomes, NMW_i is our treatment variable that takes value one if the respondent has declared that her hourly pay increased due to the introduction of the NMW (or if the worker has been treated according to the alternative specifications) and is interacted with the dummy variable “Post” that takes value equal to one from wave 9 onward (when the NMW kicks in) and zero otherwise. X_{it} is a set of observed time-varying characteristics, including, household size, education, marital status, age, and age squared. We also include regional and wave dummies to control for year and common regional trends. η_i is the individual fixed effect and ε_i is the error term. In fact, our estimation is a Difference in Differences estimation with individual fixed effects. In Table 3, we illustrate our post-treatment period and the waves in which the BHPS provides measures for our main variables of interest.

To check for alternative explanations for our results and to rule out the possibility that they capture spurious correlations by coincidence, we develop several robustness checks and placebo tests in Section 3.3. First, we add to our baseline controls other time-variant controls that might affect our results such as the income of the other member of the household and the job ISCO classifications. We also try to control for specific regional shocks including the interaction between the region of residence and the

Table 3
Treatment period and variables of interest.

BHPS waves	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum wage policy (treatment)																
Tolerance for high incomes		✓		✓		✓		✓		✓		✓		✓		✓
Vote conservative	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Close to conservative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support conservative	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 4
The effect of the minimum wage (I).

	(1)	(2)	(3)	(4)
	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes
NMW	0.084*** (0.029)	0.084*** (0.029)	0.082*** (0.030)	0.081*** (0.030)
Observations	31,114	31,114	31,114	31,114
R-squared	0.011	0.011	0.017	0.021
Number of individuals	8,222	8,222	8,222	8,222
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status, and household size. The dependent variable is a dummy variable taking a value equal to one if the respondent strongly agrees or agrees with the statement “People have different views about the way governments work. The government should place an upper limit on the amount of money that any one person can make” and zero otherwise. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5
The effect of the minimum wage (II).

	(1)	(2)	(3)	(4)
	Vote conservative	Vote conservative	Vote conservative	Vote conservative
NMW	0.097** (0.045)	0.097** (0.045)	0.093** (0.043)	0.084* (0.043)
Observations	19,962	19,962	19,962	19,962
R-squared	0.017	0.017	0.026	0.044
Number of individuals	4,927	4,927	4,927	4,927
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the Household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

wave. We then define an alternative treatment group by considering as treated all individuals whose hourly wage was below the NMW threshold the year before the introduction of the NMW, and between the NMW and the 25% of the NMW the year of the introduction.

We control for the possibility that the preferences of NMW recipients are in fact reacting to the increase in their wage, rather than to the establishment of a precise reference point. To this end, we restrict our control group to the workers who experienced an increase in their wages (unrelated to the NMW) in 1999. We also use the group of workers who experienced an increase in their wages as an alternative treatment group in order to run a placebo test.

Table 6
The effect of the minimum wage (III).

	(1)	(2)	(3)	(4)
	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes
NMW ITT	0.052** (0.025)	0.052** (0.025)	0.049** (0.024)	0.049** (0.024)
Observations	31,114	31,114	31,114	31,114
R-squared	0.011	0.011	0.017	0.021
Number of individuals	8,222	8,222	8,222	8,222
NMW (control pay increase)	0.072** (0.031)	0.072** (0.030)	0.074** (0.031)	0.080** (0.032)
Observations	7,295	7,295	7,295	7,295
R-squared	0.021	0.021	0.041	0.059
Number of individuals	1,660	1,660	1,660	1,660
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. The dependent variable is a dummy variable taking a value equal to one if the respondent strongly agrees or agrees to the statement “People have different views about the way governments work. The government should place an upper limit on the amount of money that any one person can make” and zero otherwise. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

We restrict our sample to workers who are more similar to those in the treatment group by performing our main results on two different sub-samples.⁴ The first sub-sample includes all those workers whose derived hourly wage is equal to or below the average hourly wage of the treatment group. Our treatment group is composed of workers who declare that they have benefited from the NMW in the year of its introduction. Therefore, some workers might have started to earn systematically more than the minimum wage as time progresses. We exclude such a possibility with this specification. Furthermore, this sample restriction allows us to narrow our control group only to low-wage workers with an income level that is similar to those benefiting from the NMW, but who did not declare that they received a wage increase due to the NMW.⁵ In the second sub-sample, we analyze the behavior of the specific categories of workers who most benefited from the minimum wage (cooks, waiters, shop sales assistants, domestic helpers, and cleaners). These results are shown in [Table A.2](#) in [Appendix](#).

We also administer the treatment three and five years before the introduction of the NMW to control for anticipatory effects. Finally, we show our main results when interacting the socio-demographic controls with the time dummies so to rule out any life-cycle effect ([Table A.5](#) in the [Appendix](#)) and we show the results when restricting our sample to individuals who are surveyed in all the BHPS waves ([Tables A.3](#) and [A.4](#) in the [Appendix](#)).

3. Results

In this section, we present the results of the estimations of the regression model in Eq. (1). We then present our baseline assessing the role of the NMW program and some alternative specifications in which we adopt different definitions of the control group, and we employ an intention-to-treat approach. We then analyze the political preferences of treated workers. Finally, we present the results of the placebo analysis and we investigate alternative explanations for our results.

⁴ We report in [Table A.1](#) of the [Appendix](#) a balanced test of the treatment and control groups for the full sample and the two sub-samples. Treatment and control groups show significant differences in gender, age, education, wage, and household income in the full sample. In the other two subsamples, most of these differences disappear.

⁵ There can be several reasons why this happens. For example, those in our control group may have changed jobs between 1998 and 1999, and/or did not receive the increase because their employer did not comply (thus breaking the law). Furthermore, it may be that some people in our treatment group received a wage increase even if they were earning exactly the minimum wage rate, while this did not happen for those in our control group. This difference is possible because the amount of the wage increase is discretionary to the employer. Some employers might have chosen, for example, to set minimum wages at £4 per hour. In this case, those who were earning between £3.6 and £3.9 per hour were subject to an increase due to the introduction of the NMW even if it was initially set at 3.6£ per hour. The data do not allow us to detect the relative weight of each of these alternatives. However, our intention is to test the robustness of our results, and to understand the behavioral effects of setting a precise reference point on workers' wages, even when comparing workers with similar wages.

Table 7
The effect of the minimum wage (IV).

	(1) Vote conservative	(2) Vote conservative	(3) Vote conservative	(4) Vote conservative
NMW ITT	0.038* (0.021)	0.038* (0.021)	0.035* (0.020)	0.035* (0.020)
Observations	19,962	19,962	19,962	19,962
R-squared	0.017	0.017	0.025	0.043
Number of individuals	4,927	4,927	4,927	4,927
NMW (control pay increase)	0.099** (0.047)	0.099** (0.047)	0.090** (0.045)	0.081* (0.048)
Observations	4,426	4,426	4,426	4,426
R-squared	0.032	0.032	0.065	0.135
Number of individuals	952	952	952	952
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.1. Main specification and robustness checks

We assess whether the NMW changed workers' tolerance for high incomes by observing their preferences before and after the reform. First, we contrast the treated group of NMW beneficiaries against all the other workers. The assumption is that the minimum wage recipients benefited from the introduction of a salient reference point with respect to all the other workers.

We report the results in [Table 4](#). Column 1 shows that workers benefiting from the NMW display a lower probability of supporting earnings caps. The effect is highly statistically significant ($p < 0.01$) and economically sizable. Benefiting from the minimum wage raises the likelihood of tolerating high incomes by 11% (corresponding to 8.4 percentage points). As we add controls in models 2 to 4, the significance and the magnitude of the effects remain unchanged.

[Table 5](#) shows the results of voting behavior. The baseline model in Column 1 shows that workers benefiting from the NMW are more likely to vote for the Conservative Party. This effect is significant at the 5 percent level and corresponds to an increase of 9.7 percentage points. However, as we add controls the significance of the effect slightly reduces. The model in column 4 is significant at the 10 percent level and shows that having benefited from the NMW increases the probability of voting for the Conservative Party by 8.4 percentage points. Results in [Tables A.6](#) and [A.7](#) corroborate these results as we use alternative variables to measure support for the Conservative Party.

We then use different treatment and control groups. First, we employ an intention-to-treat approach. In this exercise, the treatment group includes individuals whose hourly wage was below the NMW for their age in the eighth wave (the year before the reform) and whose hourly wage was between the minimum wage and 25% above the minimum wage in the year of the reform. Second, we narrow the control group to workers whose wage was increased in the same year as the NMW introduction, but for reasons unrelated to the minimum wage policy. In the next sub-section, we use this control group to run a placebo test.

The results in [Table 6](#) suggest that when we use these alternative definitions of the treatment and control groups, we find that having benefited from the minimum wage increases tolerance for high incomes. The results are very similar to our main results, except that the magnitude of the coefficients slightly decreases when using the intention-to-treat approach. [Table 7](#) displays the results on voting behavior. We find evidence of an effect of the minimum wage introduction on voting intention, albeit the results are slightly less significant with respect to our main results.

In [Table A.2](#) in the [Appendix](#), we run an additional robustness check by splitting the sample. First, we focus on workers whose hourly wage is at most equal to the average hourly wage of our treated individuals. Then, we focus on workers with the same occupations observed in the treatment group. Thus, we keep in the sample cooks, waiters and bartenders, shop sales persons, and domestic helpers and cleaners (following the ISCO International Standard Classification of Occupations). Last, [Tables A.3](#) and [A.4](#) in the [Appendix](#) show our main results when narrowing the sample using the balanced panel. The results are similar to those in the main text.

3.2. Placebo tests

In the ninth wave of the BHPS (administered in September-December 1999), respondents were asked whether or not they had received a pay increase since April 1999 (i.e., the month of the introduction of the NMW), for reasons outside introduction of the

Table 8
Placebo (I).

	(1) Tolerance for high incomes	(2) Tolerance for high incomes	(3) Tolerance for high incomes
Pay increase	0.006 (0.011)		
NMW wave 6		-0.036 (0.050)	
NMW wave 4			0.079 (0.062)
Observations	32,714	16,386	16,386
R-squared	0.011	0.005	0.005
Number of individuals	8,570	5,864	5,864
Basic controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes
Region FE	Yes	Yes	Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status, and household size. The dependent variable is a dummy variable taking a value equal to one if the respondent strongly agrees or agrees to the statement “People have different views about the way governments work. The government should place an upper limit on the amount of money that any one person can make” and zero otherwise. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 9
Placebo (II).

	(1) Vote conservative	(2) Vote conservative	(3) Vote conservative
Pay increase	-0.016 (0.015)		
NMW wave 6		-0.032 (0.036)	
NMW wave 4			0.012 (0.054)
Observations	21,179	7,063	7,063
R-squared	0.016	0.032	0.032
Number of individuals	5,144	2,770	2,770
Basic controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes
Region FE	Yes	Yes	Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

NMW. Observed pay increases do not stem from the reform; for example, they may relate to seniority or productivity bonuses. In a first placebo test, we use the workers who answered yes to this question as a placebo-treated group to check whether or not the effect revealed in our baseline specification is driven solely by wage increases or by the introduction of a reference point preventing wage losses. To perform this exercise, we assign a value equal to one to all the workers who received a pay increase (not due to the NMW introduction).

Results in column one of [Tables 8](#) and [9](#) show that the effect of this placebo-treatment on the tolerance for high incomes and voting intention is never statistically different from zero. In columns 2 and 3 of [Tables 8](#) and [9](#), we also control for anticipatory effects anticipating the treatment in waves 6 and 4. Last, in [Fig. A.1](#) we show an event-study graph in the spirit of [Autor \(2003\)](#). These checks are carried out to test the parallel trend assumption. Our empirical strategy crucially hinges on the assumption that the evolution of tolerance for high incomes and voting for the Conservative Party in the control group is a good counterfactual for what would have been observed in the treated group had the NMW not been introduced. Hence, finding significant differences before the introduction of the NMW would bring evidence against parallel trends. Overall, both the results in [Tables 8](#) and [9](#) and the results depicted in [Fig. A.1](#) do not appear to suggest significant differences in the period before the NMW introduction.

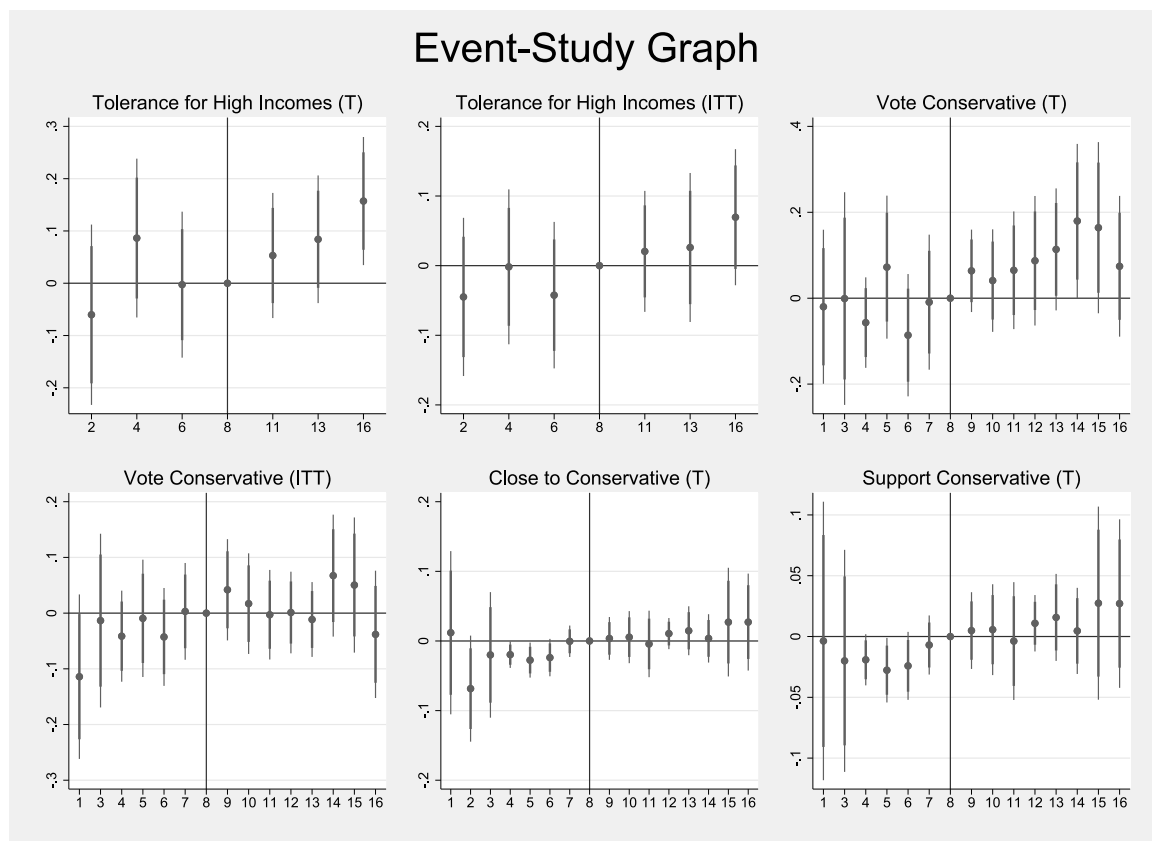


Fig. A.1. Main results. Notes: T refers to the treated group, while ITT refers to intention-to-treat.

3.3. Alternative explanations

Our results suggest that workers benefiting from the NMW become more tolerant towards high income earners. Our interpretation of the results is that workers become more tolerant of high incomes because the NMW stabilizes their income giving them a precise reference point. However, there can be alternative explanations for our findings.

A straightforward interpretation of our results may be that the introduction of the NMW reduces the level of wage inequality, hence low-wage workers might then be more satisfied with the new level of wage inequality. We try to test this possible channel by adding to our control variables the level of wage inequality within each job category. Results in [Table A.8](#) show that even if we control for the development of wage inequality, the introduction of the minimum wage increases the tolerance for high incomes. This is consistent with the literature showing that the NMW introduction in the UK has had a limited effect on wage inequality ([Dickens and Manning, 2004](#)).

Similarly, it may be that after the introduction of the NMW, minimum wage workers started to support the Conservative Party because the Conservative Party itself did not oppose the NMW policy starting from 2005 and even supported it afterward. Hence, rather than a change in inequality-related attitudes, minimum wage workers might support the Conservative Party so as to continue to benefit from the minimum wage. To test this possibility, we show in [Table A.9](#) the results of the introduction of the NMW on support for the Conservative party limiting the time span to 2004, when the Conservative Party opposed the NMW. The results show that at least in one of our measures (the one with the larger sample size), workers benefiting from NMW introduction supported the Conservative party even between 1999 and 2004 when the Conservative party was opposing the NMW. This is also consistent with the results in [Fig. A.1](#) which show that support for the Conservative party started in wave 9. Overall, these results appear to suggest that both mechanisms might be driving our results. Most likely, NMW workers started to support the Conservative party both because the Conservatives supported the NMW starting from 2005 and because they became more tolerant towards high income earners.

Table A.1
Balanced table.

Full sample			
Covariate	Control	Treatment	
Female	0.513 (0.500)	0.831 (0.375)	0.318*** (0.031)
Wage	6.762 (0.795)	6.314 (0.751)	-0.449*** (0.054)
Income other members of the household	6.676 (1.341)	7.035 (1.126)	0.360*** (0.071)
Household size	3.068 (1.186)	3.185 (1.245)	0.117 (0.095)
Age	39.078 (11.201)	42.791 (11.505)	3.713*** (0.912)
Degree	0.161 (0.368)	0.035 (0.184)	-0.126*** (0.016)
Married	0.624 (0.484)	0.617 (0.487)	-0.007 (0.038)
Average pay sample			
Female	0.736 (0.441)	0.908 (0.290)	0.171*** (0.028)
Wage	5.968 (0.753)	6.055 (0.659)	0.087 (0.056)
Income other members of the household	6.903 (1.067)	7.033 (1.055)	0.130 (0.085)
Household size	3.246 (1.188)	3.109 (1.164)	-0.136 (0.110)
Age	38.683 (12.598)	43.239 (11.231)	4.556*** (1.092)
Degree	0.027 (0.162)	0.013 (0.112)	-0.015 (0.013)
Married	0.581 (0.493)	0.601 (0.491)	0.020 (0.047)
ISCO sample			
Female	0.885 (0.320)	0.960 (0.196)	0.076*** (0.018)
Wage	5.885 (0.779)	5.984 (0.672)	0.099 (0.068)
Income other members of the household	6.907 (1.019)	7.025 (1.240)	0.118 (0.106)
Household size	3.238 (1.198)	3.239 (1.237)	0.001 (0.140)
Age	40.522 (11.725)	44.739 (10.398)	4.217*** (1.165)
Degree	0.018 (0.132)	0.017 (0.130)	-0.001 (0.017)
Married	0.649 (0.477)	0.653 (0.477)	0.004 (0.053)

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Finally, to have a more complete picture of how the introduction of the minimum wage might affect preferences related to wage inequality, we show in [Table A.10](#) the effect of becoming unemployed, both before and after the introduction of the NMW. We find no significant effect of unemployment on the tolerance for high incomes both before and after the NMW introduction, nor do we find a significant effect when we restrict the sample to low-wage workers. Possibly, we do not find significant differences because the introduction of the NMW has had small effects on employment ([Stewart, 2004](#)).

4. Discussion and conclusion

Our analysis provides robust evidence that British workers whose hourly pay increased as a result of the introduction of the National Minimum Wage (NMW) became more tolerant towards high income earners. This result is robust to different specifications of the treatment and control groups and resists several robustness checks and placebo tests.

Our preferred interpretation of this result is that the introduction of the NMW establishes a clear and salient reference point. Stabilizing workers' wages may weaken their concerns about top earners. In support of this interpretation, we provide

Table A.2
The effect of the minimum wage sample split.

	(1)	(2)	(3)	(4)	(5)	(6)
	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Vote conservative	Vote conservative	Vote conservative
NMW	0.084*** (0.029)	0.105** (0.041)	0.142*** (0.043)	0.097** (0.045)	0.082** (0.040)	0.017 (0.067)
Observations	31,114	5,546	4,250	19,962	5,384	3,425
R-squared	0.011	0.020	0.028	0.017	0.022	0.028
Number of individuals	8,222	1,992	1,379	4,927	1,663	994
Sample	Full	Average pay	ISCO	Full	Average pay	ISCO
Basic controls	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.3
The effect of the minimum wage balanced panel (I).

	(1)	(2)	(3)	(4)
	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes
NMW	0.082** (0.041)	0.082** (0.042)	0.088** (0.042)	0.092** (0.042)
Observations	6,909	6,909	6,909	6,909
R-squared	0.019	0.019	0.039	0.062
Number of individuals	987	987	987	987
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

ancillary evidence that workers who benefited from the minimum wage also changed their voting intentions in favor of a more pro-market-oriented party, potentially withdrawing votes for the Labour Party that introduced the reform in 1999.

Although our dependent variable does not measure inequality explicitly, we suggest that – as long as tolerance for high incomes is related to tolerance of inequality (Burak, 2013; Bell and Reenen, 2013) – our results contribute to the current debate on tolerance of inequality.

Research on preferences for inequality suggests that individuals carefully differentiate between fair and unfair inequalities (Cappelen et al., 2020, 2014). If a society believes that socioeconomic success depends only on merit, and that everyone should fully enjoy the fruits of their work, this society will demand low redistribution. If, instead, the belief prevails that wealth is mostly determined by random “luck”, society will likely be more concerned with inequality, thereby supporting higher redistribution (Alesina and Angeletos, 2005; Bénabou and Tirole, 2006).

According to Falk et al. (2006), the introduction of a minimum wage shapes workers’ perceptions of what is considered a fair wage. Providing workers with a clear reference wage that is considered fair may mitigate concerns related to high incomes even at the bottom of the distribution.

The finding that NMW beneficiaries soften concerns about top earners may also help to explain why individuals with a relatively low income tolerate high incomes and do not advocate for redistribution even if they would benefit from it without bearing its cost. The fear of suffering from economic losses likely plays a role, with a lower vulnerability being associated with weaker concerns about pulling down high incomes from the top of the redistribution.

This mechanism could be reinforced by the notable popularity that the minimum wage has gained in the UK. Minimum wage policies have long been (and still are) debated among academics and policymakers (Neumark and Wascher, 2008). Many Western countries have adopted minimum wage laws; however, little is known about the underlying support and the determinants for leading

Table A.4
The effect of the minimum wage balanced panel (II).

	(1) Vote conservative	(2) Vote conservative	(3) Vote conservative	(4) Vote conservative
NMW	0.284** (0.130)	0.288** (0.128)	0.213** (0.107)	0.205** (0.086)
Observations	2,231	2,231	2,231	2,231
R-squared	0.062	0.064	0.107	0.237
Number of individuals	370	370	370	370
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic Controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

to such policies (Adema et al., 2019; Zavodny, 2020). Recent research suggests that gender and political affiliation are the strongest drivers of public support for minimum wages in the U.S. (Lennon et al., 2023). Using data from the 1997 British Election Study (BES), we show that this was also the case in the UK at the time of the NMW introduction, with individuals supporting the Conservative Party opposing the introduction of the minimum wage laws (see Table A.11 in the Appendix). However, starting from the general election of 2005, the Conservative Party also supported the minimum wage laws with the proposed increases (Party, 2005). Public support for the NMW from the major political parties may have further mitigated inequality-related concerns of minimum wage workers, as they did not foresee the possibility of removing minimum wage laws.

The exogenous exposure to the minimum wage reform allows us to circumvent the reverse causality issues that are usually at stake in the analysis of social preferences. However, it is still possible that confounding factors have biased our estimates. Workers may self-select below the NMW threshold according to some personality traits that may correlate with both their attitudes towards inequality and redistribution and their skills, productivity, and wage. The panel structure of the data helps to control for the influence of such personal features, allowing us to observe workers' attitudes before and after the reform. Nevertheless, further research is needed to understand the mechanisms underlying the relationship between stabilizing workers' reference income and their redistributive preferences. Manipulations of the reference point in a controlled environment could help to better understand the transmission channels of reforms, such as the NMW, that prevent wage losses below a reference point. Our ancillary evidence on the pro-market change in workers' political orientation also is worth further in-depth investigation, as it involves the political sustainability of redistributive policies. Our findings may suggest that institutions and politics affect individuals' reference points, by also shaping fairness concerns in the general public. This line of research is worth additional exploration to understand how fairness concerns and the support and implementation of public policies interact. Overall, our results add another layer to the extant knowledge about redistributive preferences that help to understand why individuals develop seemingly unselfish attitudes towards public policies.

Data availability

Data will be made available on request.

Appendix A

See Tables A.1–A.11 and Fig. A.1.

Appendix B. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.euroecorev.2023.104445>.

Table A.5
The effect of the minimum wage interaction with controls.

	(1) Tolerance for high incomes	(2) Vote conservative
NMW	0.071** (0.030)	0.099** (0.045)
Observations	31,114	19,962
R-squared	0.012	0.023
Number of individuals	8,222	4,927
Basic controls	Yes	Yes
Individual FE	Yes	Yes
Wave FE	Yes	Yes
Region FE	Yes	Yes
Wave × Income other members of the household	Yes	Yes
Wave × Sex	Yes	Yes
Wave × Degree	Yes	Yes
Wave × Married	Yes	Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6
Close to conservative.

	(1) Close to conservative	(2) Close to conservative	(3) Close to conservative	(4) Close to conservative
NMW	0.023** (0.011)	0.023** (0.011)	0.023** (0.011)	0.028** (0.012)
Observations	47,049	47,049	47,049	47,049
R-squared	0.026	0.026	0.031	0.040
Number of individuals	7,941	7,941	7,941	7,941
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7
Support for conservative party.

	(1) Support conservative	(2) Support conservative	(3) Support conservative	(4) Support conservative
NMW	0.056*** (0.019)	0.056*** (0.019)	0.056*** (0.019)	0.057*** (0.019)
Observations	66,381	66,381	66,381	66,381
R-squared	0.022	0.022	0.026	0.032
Number of individuals	10,526	10,526	10,526	10,526
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic Controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.8

The effect of the minimum wage controlling for level of wage inequality within job category.

	(1)	(2)	(3)	(4)
	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes
NMW	0.084*** (0.029)	0.084*** (0.029)	0.082*** (0.030)	0.082*** (0.030)
Gini	-0.005 (0.050)	-0.005 (0.050)	0.049 (0.072)	0.056 (0.072)
Observations	31,113	31,113	31,113	31,113
R-squared	0.011	0.011	0.017	0.021
Number of individuals	8,222	8,222	8,222	8,222
Basic controls	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Income other members of the household		Yes	Yes	Yes
Job classification ISCO			Yes	Yes
Wave × Region FE				Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic Controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.9

Support for conservative party (up to 2004).

	(1)	(2)	(3)
	Vote conservative	Close to conservative	Support conservative
NMW	0.055 (0.039)	0.013 (0.013)	0.045** (0.018)
Observations	15,103	38,846	52,679
R-squared	0.021	0.030	0.028
Number of individuals	4,587	7,640	9,999
Basic controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes
Region FE	Yes	Yes	Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.10

The effect of the minimum wage on becoming unemployed.

	Before NMW				After NMW	
	(1)	(2)	(3)	(4)	(5)	(6)
	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes	Tolerance for high incomes
Unemployed	-0.138 (0.092)	-0.277 (0.205)	-0.294 (0.188)	-0.063 (0.065)	-0.087 (0.155)	0.336 (0.264)
Observations	15,831	2,955	2,532	15,365	4,179	2,455
R-squared	0.004	0.021	0.019	0.005	0.007	0.013
Number of individuals	5,702	1,791	1,247	6,688	2,554	1,421
Sample	Full	Average pay	ISCO	Full	Average pay	ISCO
Basic controls	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table shows the results of a linear probability model with individual fixed effects. Basic controls: Age, age squared, education, marital status and household size. Standard errors (in parenthesis) are clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.11
Support for minimum wage.

	(1) Support minimum wage
Male	-0.033**
(Base Cat.= Female)	(0.017)
Age	0.102
	(0.069)
Age Squared	-0.024
	(0.018)
Degree	0.029
(Base Cat.= No qualification)	(0.032)
Higher Educ Below Degree	0.046*
	(0.027)
A level or equivalent	0.028
	(0.029)
O level or equivalent	0.029
	(0.025)
CSE or equivalent	-0.022
	(0.030)
Foreign or Other	0.099
	(0.079)
Black	-0.000
(Base Cat.= White)	(0.091)
Asian	0.044
	(0.074)
Conservative	-0.270***
(Base Cat.= None)	(0.035)
Labour	0.136***
	(0.029)
Liberal Democrat	0.094***
	(0.035)
Scottish National Party	0.079*
	(0.047)
Plaid Cymru	0.254***
	(0.048)
Green Party	0.214***
	(0.045)
Other	0.085
	(0.070)
Working Class	0.004
(Base Cat.= Middle Class)	(0.020)
Household Size	-0.007
	(0.008)
Separated/Divorced	-0.069**
(Base Cat.= Married)	(0.029)
Widowed	-0.046
	(0.033)
Never Married	0.001
	(0.027)
Self-Employed	-0.114***
	(0.029)
Less than 3,999 £	-0.021
(Base Cat.= 4,000 - 5,999 £)	(0.040)
6,000 - 7,999	0.039
	(0.036)
8,000 - 9,999 £	-0.020
	(0.039)
10,000- 11,999 £	-0.063
	(0.041)
12,000- 14,999 £	-0.022
	(0.036)
15,000- 17,999 £	-0.017
	(0.040)
18,000- 19,999 £	-0.019
	(0.047)
20,000- 22,999 £	0.034
	(0.038)
23,000- 25,999 £	-0.001
	(0.042)
26,000- 28,999 £	-0.062
	(0.045)
29,000- 31,999 £	-0.011
	(0.053)
32,000- 34,999 £	-0.095*
	(0.054)
35,000- 37,999 £	-0.038
	(0.072)
38,000- 40,999 £	-0.096
	(0.065)
41,000 £ or more	-0.079*
	(0.044)
Constant	0.682***
	(0.086)
Observations	2,243
R-squared	0.201
Region FE	Yes

Notes: The table shows the results of a linear probability model. Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

References

- Aaronson, D., Agarwal, S., French, E., 2012. The spending and debt response to minimum wage hikes. *Amer. Econ. Rev.* 102 (7), 3111–3139.
- Adams, S., Blackburn, M.L., Cotti, C.D., 2012. Minimum wages and alcohol-related traffic fatalities among teens. *Rev. Econ. Stat.* 94 (3), 828–840.
- Adema, J., Giesing, Y., Schönauer, A., Stitteneder, T., 2019. Minimum wages across countries. *IFO Rep.* 16 (4), 55–63.
- Alesina, A., Angeletos, G.M., 2005. Fairness and redistribution. *Amer. Econ. Rev.* 95 (4), 960–980.
- Alesina, A., La Ferrara, E., 2005. Preferences for redistribution in the land of opportunities. *J. Public Econ.* 89, 897–931.
- Alesina, A., Stantcheva, S., Teso, E., 2018. Intergenerational mobility and preferences for redistribution. *Amer. Econ. Rev.* 108 (2), 521–554.
- Algan, Y., Cahuc, P., Sangnier, M., 2016. Trust and the welfare state: The twin peaks curve. *Econ. J.* 126 (593), 861–883.
- Arulampalam, W., Booth, A.L., Bryan, M.L., 2004. Training and the new minimum wage. *Econ. J.* 114, C87–C94.
- Arunachalam, R., Watson, S., 2018. Height, income and voting. *Br. J. Political Sci.* 48 (4), 1027–1051.
- Autor, D.H., 2003. Outsourcing at will: The contribution of unjust dismissal doctrine to the growth of employment outsourcing. *J. Labor Econ.* 21 (1), 1–42.
- Autor, D.H., Katz, L.F., Kearney, M.S., 2008. Trends in US wage inequality: Revising the revisionists. *Rev. Econ. Stat.* 90 (2), 300–323.
- Autor, D.H., Manning, A., Smith, C.L., 2016. The contribution of the minimum wage to US wage inequality over three decades: A reassessment. *Am. Econ. J.: Appl.* 8 (1), 58–99.
- Bell, B.D., Reenen, J.V., 2013. Extreme wage inequality: Pay at the very top. *Am. Econ. Rev.* 103 (3), 153–157.
- Bénabou, R., Ok, E.A., 2001. Social mobility and the demand for redistribution: The POUM hypothesis. *Q. J. Econ.* 116 (2), 447–487.
- Bénabou, R., Tirole, J., 2006. Belief in a just world and redistributive politics. *Q. J. Econ.* 121 (2), 699–746.
- Burak, E., 2013. The social maximum: American attitudes toward extremely high incomes. *Res. Soc. Stratification Mob.* 31, 97–114.
- Cappelen, A.W., Eichele, T., Hugdahl, K., Specht, K., Sørensen, E.Ø., Tungodden, B., 2014. Equity theory and fair inequality: A neuroeconomic study. *Proc. Natl. Acad. Sci.* 111 (43), 15368–15372.
- Cappelen, A.W., Falch, R., Tungodden, B., 2020. Fair and unfair income inequality. In: *Handbook of Labor, Human Resources and Population Economics*. Springer, pp. 1–25.
- Cengiz, D., Dube, A., Lindner, A., Zipperer, B., 2019. The effect of minimum wages on low-wage jobs. *Q. J. Econ.* 134 (3), 1405–1454.
- Cerqueti, R., Sabatini, F., Ventura, M., 2019. Civic capital and support for the welfare state. *Soc. Choice Welf.* 53 (2), 313–336.
- Chan, T.W., 2019. Understanding cultural omnivores: Social and political attitudes. *Br. J. Sociol.* 70 (3), 784–806.
- Charité, J., Fisman, R., Kuziemko, I., Zhang, K., 2022. Reference points and redistributive preferences: Experimental evidence. *J. Public Econ.* 216, 104761.
- Clark, A., D'Ambrosio, C., 2015. Attitudes to income inequality: Experimental and survey evidence. In: *Handbook of Income Distribution*. Elsevier, Amsterdam.
- Corneo, G., Gruner, H.P., 2002. Individual preferences for political redistribution. *J. Public Econ.* 83, 83–107.
- Cribb, J., Giupponi, G., Joyce, R., Lindner, A., Waters, T., Wernham, T., Xu, X., 2021. The Distributional and Employment Impacts of Nationwide Minimum Wage Changes. Technical Report, IFS Working Paper.
- Cruces, G., Perez-Truglia, R., Tetaz, M., 2013. Biased perceptions of income distribution and preferences for redistribution: Evidence from a survey experiment. *J. Public Econ.* 98, 100–112.
- Dahlberg, M., Edmark, K., Lundqist, H., 2012. Ethnic diversity and preferences for redistribution. *J. Polit. Econ.* 120 (1), 41–76.
- Della Vigna, S., Lindner, A., Reizer, B., Schmieder, J.F., 2017. Reference-dependent job search: Evidence from Hungary. *Q. J. Econ.* 132 (4), 1969–2018.
- Dickens, S., Machin, S., Manning, A., 1999. The effects of minimum wages on employment: Theory and evidence from Britain. *J. Labor Econ.* 17 (1), 1–22.
- Dickens, R., Manning, A., 2004. Has the national minimum wage reduced UK wage inequality? *J. R. Stat. Soc.: Ser. A (Stat. Soc.)* 167 (4), 613–626.
- Draca, M., Machin, S., Van Reenen, J., 2011. Minimum wages and firm profitability. *Am. Econ. J.: Appl.* 3 (1), 129–151.
- Engstrom, P., Nordblom, K., Ohlsson, H., Persson, A., 2015. Tax compliance and loss aversion. *Am. Econ. J.: Econ. Policy* 7 (4), 132–164.
- Falk, A., Fehr, E., Zehnder, C., 2006. Fairness perceptions and reservation wages - The behavioral effects of minimum wage laws. *Q. J. Econ.* 121 (4), 1347–1381.
- Fisman, R., Kuziemko, I., Vannutelli, S., 2021. Distributional preferences in larger groups: Keeping up with the joneses and keeping track of the tails. *J. Eur. Econom. Assoc.* 19 (2), 1407–1438.
- Giuliano, P., Spilimbergo, A., 2014. Growing up in a recession. *Rev. Econom. Stud.* 81, 787–817.
- Gualtieri, G., Nicolini, M., Sabatini, F., 2019. Repeated shocks and preferences for redistribution. *J. Econ. Behav. Organ.* <http://dx.doi.org/10.1016/j.jebo.2019.09.016>.
- Karle, H., Kirchsteiger, G., Peitz, M., 2015. Loss aversion and consumption choice: Theory and experimental evidence. *Am. Econ. J. Microecon.* 7 (2), 101–120.
- Kuziemko, I., Buell, R.W., Reich, T., Norton, M.I., 2014. “Last-place aversion”: Evidence and redistributive implications. *Q. J. Econ.* 129 (1), 105–149.
- Kuziemko, I., Norton, M.I., Saez, E., Stantcheva, S., 2015. How elastic are preferences for redistribution? Evidence from randomized survey experiments. *Amer. Econ. Rev.* 105 (4), 1478–1508.
- Lennon, C., Teltser, K.F., Fernandez, J., Gohmann, S., 2023. How morality and efficiency shape public support for minimum wages. *J. Econ. Behav. Organ.* 205, 618–637.
- Martén, L., 2019. Demand for redistribution: Individuals’ responses to economic setbacks. *Scand. J. Econ.* 121 (1), 225–242.
- Meltzer, A., Richard, S.F., 1981. A rational theory of the size of government. *J. Polit. Econ.* 89 (5), 914–927.
- Neumark, D., Wascher, W.L., 2008. *Minimum Wages*. MIT Press.
- Party, C., 2005. *Election Manifesto*.
- Piketty, T., 1995. Social mobility and redistributive politics. *Q. J. Econ.* CX (3), 551–584.
- Reeves, A., McKee, M., Mackenbach, J., Whitehead, M., Stuckler, D., 2017. Introduction of a national minimum wage reduced depressive symptoms in low-wage workers: A quasi-natural experiment in the UK. *Health Econ.* 26 (5), 639–655.
- Roemer, J., 1998. Why the poor do not expropriate the rich: an old argument in new garb. *J. Public Econ.* 70, 399–424.
- Roth, C., Wohlfart, J., 2018. Experienced inequality and preferences for redistribution. *J. Public Econ.* 167, 251–262.
- Sabatini, F., Ventura, M., Yamamura, E., Zamparelli, L., 2019. Fairness and the unselfish demand for redistribution by taxpayers and welfare recipients. *South. Econ. J.* <http://dx.doi.org/10.1002/soej.12416>.
- Stewart, M.B., 2004. The impact of the introduction of the UK minimum wage on the employment probabilities of low-wage workers. *J. Eur. Econom. Assoc.* 2 (1), 67–97.
- Taylor, M., Brice, J., Buck, N., Prentice, E., 2007. *BHPS User Manual, Volume A: Introduction. Technical Report and Appendices*, University of Essex, <http://www.iser.essex.ac.uk/ulsc/bhps/doc>.
- Thaler, R.H., Tversky, A., Kahneman, D., Schwartz, A., 1997. The effect of myopia and loss aversion on risk taking: An experimental test. *Q. J. Econ.* 112 (2), 647–661.
- Tonin, M., 2011. Minimum wage and tax evasion: Theory and evidence. *J. Public Econ.* 95 (11–12), 1635–1651.
- Tversky, A., Kahneman, D., 1991. Loss aversion in riskless choice: A reference-dependent model. *Q. J. Econ.* 106 (4), 1039–1061.
- Zavodny, M., 2020. Political economy of minimum wages. In: *Handbook of Labor, Human Resources and Population Economics*. Springer, pp. 1–14.