

Pre-Analysis Plan

Title:

A living wage vs UBI: Experimental evidence of wage floor framing and anchoring effects on redistributive preferences

Authors: Tim Schaitberger¹, Eddy Yeung²

Abstract:

In previous decades of rising economic inequality, the developed world saw various local, regional, and even national governments enact living wage policies to increase wages for those at the bottom of the income ladder. More recently, other government programs are testing universal basic income (UBI) payment to fight poverty. Both a living wage and UBI will require public support for plausible implementation, and both are forms of redistribution that don't rely on means tested welfare benefits. Political and economic literature suggests the framing and numeric anchoring of a policy can influence public preferences, and even a policy proposal frame can shape individual preferences for adjacent policies. This raises the question of how a living wage frame, and a higher minimum wage monetary anchor, affects support for the wage floor and other forms of redistribution, such as UBI. We posit a wage floor frame and anchor, the name and a proposed hourly wage respectively, can influence public attitudes. Furthermore, we hypothesize that a large monetary increase in the wage floor will reduce support for other economic redistribution policies, including UBI. A randomized choice experiment will test these theories by assigning American respondents to different informational treatments. Additionally, we will use Quadratic Voting to measure the intensity of preferences. Our experimental design allows us to estimate the causal effects of framing and anchoring on public attitudes toward the wage floor, as well as the spillover effects on public support for UBI and other redistributive policies.

1. Introduction & Background

In America, the minimum wage is one the most widely supported public policies compared with other policy levers for economic redistribution, with a majority favoring a \$15 federal minimum wage as of 2021 according to Pew Research (Lennon et al., 2023).³ However, the US federal minimum wage has not moved from \$7.25/hour since 2009, leaving it up to states and cities to increase their wage floors (Karney et al., 2022). As of July 2024, 30 out of 50 states and Washington DC have their own mandated minimum wage, with the highest being DC at \$17.50 and the median being Arkansas at \$11.00, plus dozens of cities enacting similar local ordinances

¹ King's College London, Department of Political Economy. Timothy.schaitberger@kcl.ac.uk

² Emory University, Department of Political Science. shing.fung.yeung@emory.edu

³ <https://www.pewresearch.org/short-reads/2021/04/22/most-americans-support-a-15-federal-minimum-wage/>

(Department of Labor, 2024). Two common slogans were used to summarize the movement during recent campaigns: “a living wage” and “Fight for \$15” (Rosenblum, 2017; Frangi et al., 2020; Luce, 2012; 2021). This slogan might need rebranding, given multiple states find their regulatory wage floor to be over \$15 including California, Connecticut, Maryland, New Jersey, New York, and Washington, covering about 25% of the American population (EPI, 2024). Therefore, politicians, non-profit organizations, and labor union leaders could begin to revamp their campaign slogans away from “Fight for \$15” towards a new number, or ditch the monetary figure and focus on “a living wage” similar to campaigns in the UK.

Conversely, Universal Basic Income (UBI) does not share the same broad public support, despite its growing public attention. As of 2020, most Americans were opposed to providing guaranteed income.⁴ Politically, the divide between the left and the right is embedded in the UBI debate. About two-thirds of Democrats and people who lean left claimed to favor UBI, while 78% of Republicans and right leaning independents opposed a UBI rollout. UBI is only one of the policy levers at the disposal of elected leaders attempting to distribute economic gains, including minimum wage, wealth tax, social welfare benefits, and others, during an era increasing economic inequality (Kuziemko, et al., 2015; Epp and Jennings, 2020).

The theoretical foundation of this project rests on the notion that both a living wage and UBI seek to alleviate negative market externalities felt by those at the bottom of the income ladder (Luce, 2012; Stabile, 2009; Sloman, 2018). Both policy proposals hope to enable those at the lowest income the freedom to fully participate in the economy with their own monetary power rather than be subject to the mercy of state directed benefits (Carr et al., 2018, Tondani, 2009). Given the similar goals of both policies, we posit the wage floor frame, living wage, influences public policy preferences, and that framing effect comes with negative spillover effects on public support for other redistributive policies, such as UBI. We design a survey experiment to answer the following question: when the wage floor is raised or perceived to be raised, will it reduce public support for UBI or other forms of redistribution to those at the bottom of the income ladder? We also randomize the monetary anchor associated with the wage floor to test the effects of a moderate and a high monetary anchor on support for the proposed policy. Through randomization of both the frame and anchor, we directly compare framing and anchoring effects on wage floor preferences, along with spillover effects on preferences for adjacent redistributive policies such as UBI.

This project contributes to the literature in three ways. First, we unpack the framing effect for the term living wage compared to the norm of a minimum wage, and quantitatively investigate how wage floor changes affect redistributive preferences (Fazio and Reggiani, 2023; Schaitberger, 2024). Second, following the work of Lennon and colleagues (2023), we compare the effects of calls for a modest versus high monetary increase to the wage floor on preferences, which also builds on the norm versus high anchoring effects of policy proposals studied by Arceneaux and Nicholson (2024). Third, we test if either treatment holds spillover effects (Hopkins and Mummolo, 2017) on other redistributive policies such as UBI, unemployment, and child-tax credit

⁴ <https://www.pewresearch.org/short-reads/2020/08/19/more-americans-oppose-than-favor-the-government-providing-a-universal-basic-income-for-all-adult-citizens/>

payments, using both traditional Likert scale questions and employing a quadratic voting (QV) survey method that offers a more holistic measure of individual preferences (Cavaillé, Chen and Van Der Straeten, 2019; Posner and Weyl, 2017).

2. Research Questions & Hypotheses

As stated, there are two leading frames by political, social, and industrial leaders regarding the call for a higher wage floor. The first, a living wage, rests on the notion it is distinguishable from a minimum wage and permits participation in the economy by enforcing a qualitative, morally motivated regulation (Stable, 2013; Carr et al., 2021). The second, “Fight for \$15” is a simplistic, quantitatively driven frame that implies some level, \$XX, will be the monetary result of the first living wage frame (Luce, 2012; 2021). Both hold the potential to influence public support for the wage floor and hold spillover effects on adjacent policies of redistribution to low earners.

We plan to test these research questions at the state level, rather than national level. This follows Card and Krueger’s (1994; 2016) focus on state level wage floors, rather than the more politically salient topic of the US federal minimum wage. Therefore, we will be referencing state level wage floors for each research question and hypothesis. First, by empirically testing the frames living wage and minimum wage on policy preferences, we seek to add novel framing evidence to minimum wage literature (Schaitberger, 2024). Second, we test anchoring effects of a policy proposal with a high wage increase, compared with the average, median, state level wage floor (Arceneaux and Nicholson, 2024). The past 50 years of US wages did not see any state level wage floor increase over 100%, yet politicians, unions, and social leaders continue to call for radically higher wage floors, such as the Fight for \$15, with implied immediacy (Department of Labor, 2024; Frangi et al., 2020). Furthermore, the salience of a high monetary figure could lead to unintended, spillover effects on adjacent redistributive policies impacting low wage earners. Therefore, our work examines the both the frame living wage and the anchoring effects a high (\$18) proposed policy, each compared with the norm at the time of the experiment.

Research questions:

1. *How does the frame ‘living wage’ change public preferences for the wage floor and economic redistribution, including Universal Basic Income?*
2. *How does a wage floor policy proposal using a high monetary anchor change public preferences for the wage floor and economic redistribution, including Universal Basic Income?*

Hypotheses:

H1. A living wage frame will have the following effects compared to a minimum wage frame:

- *H1a. A living wage frame will increase support for a state-level regulatory wage floor.*
- *H1b. A living wage frame will increase the preferred monetary wage floor preferences, both at the national and state levels.*
- *H1c. A living wage frame will have positive or null effects on support for other redistributive policies, specifically UBI.*

We posit that the politically salient term living wage will have noticeable effects on public support and attitudes, even when controlling for the monetary amounts of the wage. The living wage frame implies a higher wage floor than a minimum wage, and therefore we hypothesize that using this frame will nudge the general population towards preferring a higher preferred hourly wage for those at the bottom on the income ladder, as previously demonstrated in the UK (Schaitberger, 2024). In other words, we hypothesize participants will react differently to a policy of a \$11 living wage compared to a policy of a \$11 minimum wage, with similar differences between a \$18 minimum and living wage, and this will have quantifiable effects on their preferences and attitudes.

H1 is rooted in living wage literature that suggests a living wage is higher (Stabile, 2009; Oldroyd, 1894), with locality and region taken into consideration (Hirsch, 2017) and is coupled with a sense of benevolence for those at the bottom of the income distribution (Nadeem, 2008; Ryan, 1915). Thus, our sub-hypotheses are guided by the literature, with the expectation that a living wage frame increases both the preferred wage floor support and increases redistributive support. However, it is less understood how a large proposed increase impacts wage floor preference and redistributive attitudes.

H2. A high, \$18/hour, anchored policy proposal will have the following effects compared to the current norm of a \$11/hour state wage.

- *H2a. A \$18/hour policy will decrease support for a state-level regulatory wage floor.*
- *H2b. A \$18/hour policy will increase agreement that the wage floor will lead to unemployment and hurt the economy.*
- *H2c. A \$18/hour policy will have positive effects on the preferred monetary wage floor preferences, both at the national and state levels.*
- *H2d. A \$18/hour policy will decrease UBI support and preferred UBI monthly payments.*
- *H2e. A \$18/hour policy will decrease support for other redistributive policies.*

We expect a high proposed increase to the wage floor could decrease public support, even in the face of broad public support, along with increasing participant beliefs that the policy will have negative economic effects. This result would be similar to those found on UK participants (Schaitberger, 2024). However, we also argue a policy of a large monetary increase will act as a numeric anchor, raising the preferred levels of both state and national wage floors (Brewer and Chapman, 2002; Buncic et al., 2021). While these hypotheses may seem intuitive to any observer, they have yet to be empirically tested on American participants in the academic literature (Searle, 2020).

H2 stems from the limited research on wage floor increases and spillover effects on redistributive preferences. Schaitberger (2024) showed that while term living wage primed participants to be more supportive of redistribution, a high wage floor proposal had opposite effects, strengthening participants' desire to cut redistribution such as welfare benefits. This negative experimental effect aligns with real-world findings of Fazio and Reggiani (2023) that showed the enactment of a UK minimum wage led to an 11% increase in tolerance for high income earners. However, it is unknown which redistributive policies are most susceptible to spillover effects. Furthermore, both articles mentioned above were based on UK resident preferences and not Americans. Finally, anchoring literature suggests the higher wage of \$18 will cause participants to increase preferred wage floor and could also affect their political relevant preferences (Tversky and Kahneman, 1974.; Arceneaux and Nicholson, 2024).

Overall, the different effects between H1 and H2 are expected as stated above. The frame living wage is more benevolent and ambiguous (Bennett, 2012; 2014) while the higher proposed wage is more salient with the numeric anchor (Arceneaux and Nicholson, 2024). The frame depicts a general system, while the wage can be interpreted as a direct pay increase for the lowest paid worker. For these reasons, we submit H1 with positive redistributive effects while H2 with negative spillover effects on economic redistribution to those at the bottom of the income ladder. Methodologically, the \$11/hour treatment is needed to rule out the anchoring effect and the salience of a numeric figure, by comparing how the norm to a high wage increase effects preferences. If both \$11 and \$18 have similar effects, then we can assume numeric salience plays a stronger role than a modest or high policy proposal. However, if \$18 has a higher coefficient size for certain preferences, then we can assume the difference stems from high proposed wage floor.

3. Experimental Design

Our research design employs a choice experiment between a current and alternative public policy, with a frame of the alternative policy acting as the treatment (Elias et al., 2019; Lennon et al., 2022). We diverge from the work of Lennon et al. by testing wage floor preferences, expectations, and support for other redistributive policies, without any prompting of unemployment effects. Additionally, to test the framing effect of the wage name, we manipulate which frame is received by participants. The full survey instrument can be found in the Appendix.

3.1 Sample and Implementation

American citizens aged 18+ will be the study population. We will recruit 2,000 from the general adult US population in using the platform Prolific. Participants will be redirected to the Qualtrics platform to begin the survey. During the survey participants will be redirected twice to another survey platform, qvsr.io, to complete a Quadratic Voting (QV) 'game.' Qualtrics employs a function to divide participants to different treatment groups with an equal probability, ensuring fair and equal randomization. An example of the full survey can be found here: https://kclbs.eu.qualtrics.com/jfe/form/SV_b2B6Ms52zz1GVue.

3.2 Baseline QV

Given the unique nature of a Quadratic Voting Survey, a baseline QV game was used to familiarize participants with the research tool and allow for collecting baseline preferences of participants prior to administering treatments (Cavaillé, Chen & Van Der Straeten, 2019). Participants were shown a brief 90 second video on QV: https://youtu.be/GrY_RzDsqLY. Then a link to a QV game will be provided, where participants will have 25 points to assign to 5 different government policies that they either support or disapprove of each policy. However, QV requires all additional points to be counted quadratically, meaning points could be assigned as 1 vote = 1 point, 2 votes = 4 points, 3 votes = 9 points, 4 votes = 16 points, 5 votes = 25 points. The operationalization of QV preference will be an 11-point scale with -5 indicating five votes against the policy, 0 indicating no votes on the policy, and 5 indicating five votes in favor of the policy. Therefore, a strong preference would cost substantially more points than a weak preference, and the strongest preference of 5 would use all points to just a single policy. Once the Baseline QV was completed, participants are redirected back to Qualtrics for the experimental treatment vignette. The baseline QV can be found at: <https://qvsvr.io/survey/Zi0w4ogUAYOCLUMEkprN>.

3.3 Experimental Treatments

This experiment uses a factorial, cross-cutting design, which are “widely used to study multiple treatments in one experiment” (Muralidharan et al., 2023: 1). The framing and anchoring experimental treatments are a *Living Wage* and a *\$18/hour state wage* respectively (see Table 1). Experimental treatments will not be mutually exclusive. The four reference and treatment groups are seen in Table 1 & Figure 1, with vignettes in Table 2 and Figure 2. Participants will be evenly distributed to the four groups.

Table 1. Group Treatment Prescriptions

Group	Reference	Treatment 1	Treatment 2	Treatment 3
Alternative Policy	\$11/hour state minimum wage	\$11/hour state living wage	\$18/hour state minimum wage	\$18/hour state living wage
Current Policy	\$7.25/hour U.S. minimum wage	\$7.25/hour U.S. minimum wage	\$7.25/hour U.S. minimum wage	\$7.25/hour U.S. minimum wage

There will be one reference group and three treatment groups. Therefore, the state level alternative wage floor policies are as follows: (1) a \$11/hour state minimum wage; (2) a \$11/hour state living wage; (3) a \$18/hour state minimum wage; and (4) a \$18/hour state living wage. The first group will act as a reference group, while the remaining three groups will act as independent treatment groups which are prescribed a treatment frame, anchor or both. Participants will be asked to compare the existing and prescribed alternative policy, answer preference questions.

Overall, this choice experiment design follows the methods used by Elias et al. (2019) and Lennon et al. (2022), through directly asking participants to compare a current and a proposed policy. Our dependent variable, participant preferences for minimum wage and economic redistribution, is rooted this decision analysis between a current policy and a policy proposal. After the choice is presented, the preferences for the competing wage systems will be recorded via binary questions of support for the current policy or proposed policy. This includes asking participants to compare the current federal minimum wage policy to one of the alternative policies regarding support for a state mandated wage floor, expected unemployment effects, and desire for cities to also have their own wage floors. These questions are followed by asking participants to choose their preferred federal and state wage floor. These first five questions permit participants to directly compare

both policies, and then we will ask participants to focus on the alternative policy received after reflecting on how it compares to the existing policy.

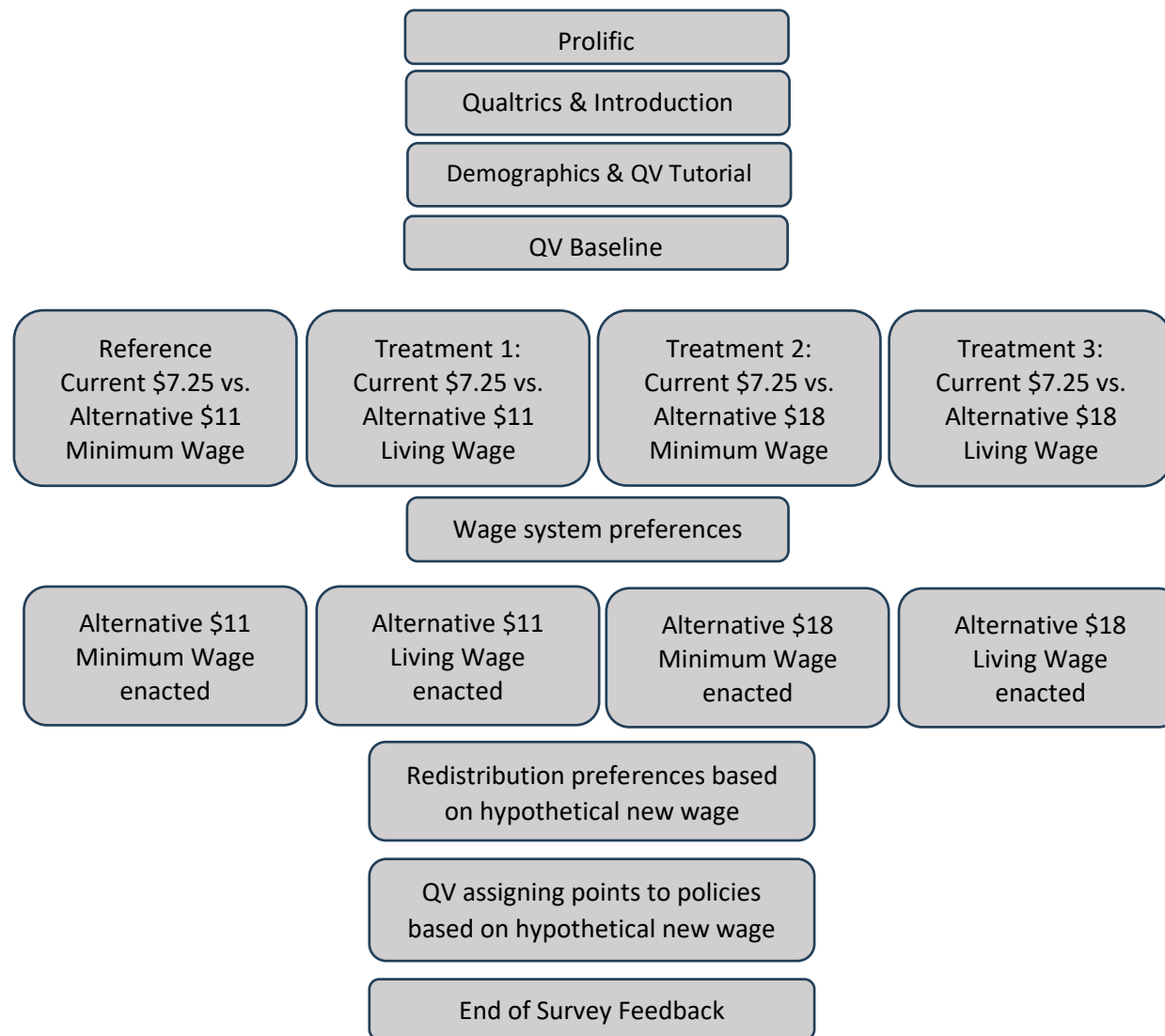


Figure 1. Choice Experiment Design.

Table 2. Choice Experiment. Vignette provided to Treatment Groups

System	Description to Participants
Current Policy	The federal government maintains the current minimum wage of \$7.25 per hour worked.
Alternative Policy	This system features a state level [minimum / living] wage set by each individual state legislatures. Every 50 U.S. states would have their own [minimum/living] wage stipulating employers must pay their employees at least the state [minimum / living] wage per hour. While state wages would differ, the average [minimum / living] wage in a state would be [\$11 / \$18] per hour worked.

Next, treatment groups will be asked to imagine one of the alternative policies is enacted (see Figure 1), with the reference group prescribed a regulatory state wage that matches the norm as of 2024 (Department of Labor, 2024). After this policy prescription, participants will be asked additional questions related to economic redistribution and UBI. An attention check question is also asked to ensure compliance and reinforce the monetary figures within the experiment. Once participants have answered questions in Qualtrics, they will be redirected to complete another QV. However, this time participants will be instructed to answer as if the prescribed alternative wage floor system was implemented. Overall, the sliders, numeric-textbox, Likert scale questions and QV should provide robust evidence of the framing and anchoring effects from both the term living wage and a high proposed regulatory wage floor. Please see the following link for an example post treatment QV prescribed to participants: <https://qvsr.io/survey/8cCD4ByX07jZ8eWA7p6z>.

Treatments

Now, suppose that the U.S. government has decided to adopt the new system. Therefore, every 50 U.S. states will soon be required to have a [*minimum / living*] wage, with the average state wage being [**\$11 / \$18**] per hour worked.

Figure 2. Alternative policy assignment prompt

4. Pilot Study & Power Analysis

4.1 Pilot Study

To identify the minimum required sample size for our experiment, we first conducted a pilot study in April 2024 and then used those results to conduct a power analysis. The pilot study consisted of 265 participants with approximately 64 per cohort of reference or treatment groups. The participants were paid \$2 per survey conducted. The median completion time was 12 minutes, thus

a median hourly pay-rate of \$11/hour. 242 participants completed all the required questions, suggesting an approximate 10% attrition rate.⁵

Surprisingly, some of the results were statistically significant. Results include mixed effects from both a high proposed wage floor anchor and using the term living wage on US wage preferences, state wage preferences, support for a statewide wage floor referendum, UBI monthly payment preference and UBI referendum support. Furthermore, the QV tool depicted an effect from a high anchor on a decrease in unemployment benefits support and increase in points assigned to the QV baseline policies. Overall, we employed four means of testing the treatment effects: binary choice questions, Likert scale preference questions, numeric sliders and QV.

4.2 Minimum Detectable Effects (MDEs)

We calculate the MDEs for the hypotheses, using the pilot survey data. A power study of the results for effects on wage floor support along with spillover effects on UBI and other redistributive support was conducted. A power estimate of 0.8 and an alpha of 0.05 was used with the coefficient and standard deviation for each dependent variable of interest, with the STAT 18.0 power analysis tool to produce a total N required based on the pilot study data. The total observations required for a MDE to either reject or accept the null hypothesis, based on the pilot study data, for each variable of interest is seen in the right most column of Table 3.

Table 3. Power Analysis of Dependent Variables

DEPENDENT VARIABLES	QUESTIONS	TREATMENT GROUP	TOTAL (N) NEEDED
WAGE FLOOR PREFERENCES	Wage Referendum	Living Wage	1,826
		\$16	400
	US Wage (hourly)	Living Wage	232
		\$16	468
	State Wage (hourly)	Living Wage	384
		\$16	788
UBI PREFERENCES	UBI Referendum	Living Wage	8,500
		\$16	352
	UBI Payment (Monthly)	Living Wage	3,004
		\$16	1,002
	QV- UBI	Living Wage	1,206
		\$16	1,860
TRADITIONAL REDISTRIBUTION PREFERENCES	QV- Child Tax Credit	Living Wage	542
		\$16	8,724
	QV- Unemployment	Living Wage	348
		\$16	3,142
	QV-Reference	Living Wage	8,000
		\$16	2,598

⁵ The \$16 wage was the high wage treatment in the pilot, yet this will change to \$18 in the full experiment since Washington DC is increasing their local wage to \$17.50 on 1 July 2024, and we desire the high wage treatment to be above all possible regulatory wage floors at the state plus Washington DC level.

4.4 Proposed Total (N)

Surprisingly, the pilot study met some standards for an MDE. However, all variables listed in Table 3 are of interest to the final project. An MDE for all 9 questions is 2,598 for at least one of the treatments or QV reference per dependent variable. If we exclude the QV reference group, that number drops to 1,206 for one of the two treatments likely to have statistically significant effects on each of the 8 questions gauged. Considering the MDE's based on the pilot data, we propose a sample of 2,000 from the general population. This will meet the MDE for each variable of interest.

5. Estimation Strategy

Our focus is on estimating the effect of our treatments on support wage floor, redistribution and UBI. Our empirical strategy employs a cross-cutting, also called a factorial design, that accounts for all three treatments for testing each of these hypotheses, along with controlling for any interaction (Kremer, 2003). We will use OLS to estimate effects to estimate effects using the following equations for the full sample:

$$Preference_i = \beta_0 + \beta_1 Living_i + \beta_2 \$18_i + \beta_3 (Living_i \times \$18_i) + \sum \beta_k Z_{ik} + \varepsilon_i$$

For all equations, variables used for regression analysis include the dependent variable Preference for the individual i . Preference will be measured using binary choice questions, Likert scale questions measuring preferences on a 7-point scale, a monetary slider, and a 11-point QV method. Regarding treatment variables, Living, \$11, and \$18 are dummy variables indicating treatment status, with β_1 , β_2 , β_3 denoting the coefficients resulting from the participant exposure to the respective treatments. β_0 is the intercept, and ε_i is the error term. Covariates in each equation are denoted with Z for the coefficients for up to K covariates, which include gender, age, ethnicity, income, education, partisanship, political ideology, and employment status. Additionally, we will test heterogenous treatment effects by analyzing whether effects vary by major socio-economic characteristics, such as age, race, and partisanship.

5.1 Hypothesis Testing

In order to test H1, we will focus on β_1 . This will require controlling for the wage presented to participants, with the reference group being the comparison. In other words, we examine how adding the phrase living wage to \$11 or \$18 wage policy proposal changes preferences. For H2, we will focus on β_2 directly comparing the \$11 and \$18 groups. However, due to the cross-cutting nature of two treatment variables applied simultaneously, it is important to note our estimation strategy controls for the treatment interaction via β_3 (Muralidharan et al., 2023).

5.2 QV Estimation Strategy

Analysis of the QV results require a slightly different estimation strategy. The treatment and interaction coefficients will be the same, along with covariate controls. Additionally, we will control for the pre-treatment QV results to improve the statistical precision of our estimates (Clifford et al., 2021). The following equation will be used for analysis of the post-treatment QV results.

$$Preference_i = \beta_0 + \beta_1 Living_i + \beta_2 \$18_i + \beta_3 (Living_i \times \$18_i) + \beta_4 QV_baseline_i + \sum \beta_k Z_{ik} + \epsilon_i$$

6. Ethics

Our study has received ethical approval from King's College London. The reference number is MRSP-22/23-36066. We are neither using deception nor collecting any information that would allow us to identify subjects personally.

References.

- Ariely, D., Loewenstein, G. and Prelec, D., 2003. “Coherent arbitrariness”: Stable demand curves without stable preferences. *The Quarterly journal of economics*, 118(1), pp.73-106.
- Arceneaux, K. and Nicholson, S.P., 2024. Anchoring political preferences: The psychological foundations of status quo bias and the boundaries of elite manipulation. *Political Behavior*, 44, pp. 751–775.
- Belman, D., Wolfson, P. and Nawakitphaitoon, K., 2015. Who is affected by the minimum wage?. *Industrial Relations: A Journal of Economy and Society*, 54(4), pp.582-621.
- Bennett, F. (2012), ‘Reflections on the ’living wage’’, *Soundings*, 52(52), pp.63–74.
- Bennett, F. (2014), ‘The ’living wage’, low pay and in work poverty: Rethinking the relationships’, *Critical Social Policy*, 34(1), pp.46–65.
- Brewer, N.T. and Chapman, G.B., 2002. The fragile basic anchoring effect. *Journal of Behavioral Decision Making*, 15(1), pp.65-77.
- Brown-Podgorski, B.L., Doran-Brubaker, S. and Vohra-Gupta, S., 2023. State Minimum Wage Increases As a Potential Policy Lever to Reduce Black–White Disparities in Hypertension. *Health Equity*, 7(1), pp.280-289.
- Bunčić, S., Krstić, J. and Kostić, S.M., 2021. Cognitive biases in marketing communication: Influence of anchoring and message framing on consumers' perception and willingness to purchase. *Marketing*, 52(2), pp.103-117.
- Card, D. and Krueger, A.B., 2016. *Myth and measurement: The new economics of the minimum wage*. Princeton University Press.
- Card, D. and Krueger, A.B., 1994. Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania. *The American Economic Review*, 84(4), p.772.
- Cavaillé, C., Chen, D.L. and van Der Straeten, K., 2019. A Decision-Theoretic Approach to Understanding Survey Response: Likert vs. Quadratic Voting for Attitudinal Research. *University of Chicago Law Review*, 87, pp.22-43.
- Carr, S.C., Parker, J., Arrowsmith, J. and Watters, P.A., 2018. The living wage: Theoretical integration and an applied research agenda. *International Labour Review*, 155(1), pp.1-24.
- Clifford, S., Sheagley, G. and Piston, S., 2021. Increasing precision without altering treatment effects: Repeated measures designs in survey experiments. *American Political Science Review*, 115(3), pp.1048-1065.
- Department of Labor, 2024. US State Minimum Wage Laws. 2024. Retrieved from, <<https://www.dol.gov/agencies/whd/minimum-wage/state>>
- Derenoncourt, E. and Montialoux, C., 2021. Minimum wages and racial inequality. *The Quarterly Journal of Economics*, 136(1), pp.189-228.

- Economic Policy Institute, 2024. Minimum Wage Tracker. Retrieved from, https://www.epi.org/minimum-wage-tracker/?gad_source=1&gclid=CjwKCAjw-O6zBhASEiwAOHeGxQzGxT7Gqb77e1c2K5ReFEjAEXcki9_daVcZDNEAxYBudcn-GsaYsBoC1McQAvD_BwE
- Elías, J.J., Lacetera, N. and Macis, M., 2019. Paying for kidneys? A randomized survey and choice experiment. *American Economic Review*, 109(8), pp.2855-2888.
- Epp, D.A. and Jennings, J.T., 2020. Inequality, media frames, and public support for welfare. *Public Opinion Quarterly*, 84(3), pp.629-653.
- Fazio, A. and Reggiani, T., 2023. Minimum wage and tolerance for high incomes. *European Economic Review*, 155, p.104445.
- Frangi, L., Zhang, T. and Hebdon, R., 2020. Tweeting and retweeting for fight for \$15: Unions as dinosaur opinion leaders?. *British Journal of Industrial Relations*, 58(2), pp.301-335.
- Hirsch, D. and Valadez, L., 2017. *The Living Wage*. Loughborough University.
- Hirsch, D., 2017. Contemporary UK wage floors and the calculation of a living wage. *Employee Relations*.
- Hopkins, D. J. & Mummolo, J. (2017), ‘Assessing the breadth of framing effects’, *Quarterly Journal of Political Science* 12(1), 37–57.
- Karney, B.R., Wenger, J.B., Zaber, M.A. and Bradbury, T.N., 2022. State minimum wage increases delay marriage and reduce divorce among low-wage households. *Journal of Marriage and Family*, 84(4), pp.1196-1207.
- Kremer, M., 2003. Randomized evaluations of educational programs in developing countries: Some lessons. *American Economic Review*, 93(2), pp.102-106.
- Kuziemko, I., Norton, M.I., Saez, E. and Stantcheva, S., 2015. How elastic are preferences for redistribution? Evidence from randomized survey experiments. *American Economic Review*, 105(4), pp.1478-1508.
- Lennon, C., Teltser, K. F., Fernandez, J. & Gohmann, S. 2023. ‘How morality and efficiency shape public support for minimum wages’, *Journal of Economic Behavior & Organization* 205, 618–637.
- Lorenz, J., Paetzel, F. and Tepe, M. 2017. ‘Just don’t call it a tax! framing in an experiment on voting and redistribution’, *Journal of Experimental Political Science*, 4(3), pp.183– 194.
- Luce, S., 2012. Living wage policies and campaigns: Lessons from the United States. *International Journal of Labour Research*, 4(1), pp.11-26.
- Luce, S., 2021. The living wage, Fight for \$15, and low-wage worker campaigns in the US. In *The Living Wage* (pp. 135-145). Routledge.

- Muralidharan, K., Romero, M. and Wüthrich, K., 2023. Factorial designs, model selection, and (incorrect) inference in randomized experiments. *Review of Economics and Statistics*, pp.1-44.
- Nadeem, S., 2008. The living wage movement and the economics of morality: Frames, ideology and the discursive field. In *Research in Social Movements, Conflicts and Change*, Vol. 28, pp.137-167. Emerald Group Publishing Limited.
- Oldroyd, M. 1894. *A Living Wage*. McCorquodale & Company.
- Posner, E.A. and Weyl, E.G., 2017. Quadratic voting and the public good: introduction. *Public Choice*, 172, pp.1-22.
- Rosenblum, J., 2017. Fight for \$15: Good wins, but where did the focus on organizing go?. *Labor Studies Journal*, 42(4), pp.387-393.
- Ryan, J.A., 1915. *A living wage: Its ethical and economic aspects*. Macmillan and Co.
- Schaitberger, T., 2024. Minimum or Living Wage? Framing Effects on Wage Floor Preferences and Expectations. Working Paper. King's College London.
- Searle, R. H. and McWha-Hermann, I., 2021. 'Money's too tight (to mention): a review and psychological synthesis of living wage research', *European Journal of Work and Organizational Psychology*, 30(3), 428-443.
- Sloman, P., 2018. Universal basic income in British politics, 1918-2018: from a 'Vagabond's Wage' to a global debate. *Journal of Social Policy*, 47(3), pp.625-642.
- Stabile, D., 2009. *The Living Wage: Lessons from the history of economic thought*, Edward Elgar Publishing.
- Strack, F. and Mussweiler, T., 1997. Explaining the enigmatic anchoring effect: Mechanisms of selective accessibility. *Journal of personality and social psychology*, 73(3), p.437.
- Tondani, D., 2009. Universal basic income and negative income tax: Two different ways of thinking redistribution. *The Journal of Socio-Economics*, 38(2), pp.246-255.
- Tversky, A. and Kahneman, D., 1974. Judgment under Uncertainty: Heuristics and Biases: Biases in judgments reveal some heuristics of thinking under uncertainty. *science*, 185(4157), pp.1124-1131.
- Yeung, E.S., 2024. Can conservatives be persuaded? Framing effects on support for universal basic income in the US. *Political Behavior*, 46(1), pp.135-181.

Appendix . Survey Instrument

[page 1]

This survey is being conducted by researchers at King's College London. The survey should take about 8 - 12 minutes to complete. The study focuses on the wage for workers at the lowest end of the income ladder, and what policies shape their wages.

Overall, this study will involve four parts:

1. First, you'll be asked demographic questions about yourself.
2. Next, we will ask you to play a game involving assigning credits to various government policies. In the game you'll have 25 credits that you must assign to show your support (or disapproval) of a range of policies. You should try to assign all 25 of your credits to policies.
3. Then, you will be given information on the current lowest legal wage law in America compared with an alternative, proposed system for the lowest wage law. One of those systems will be randomly picked for you as a future policy, and then asked to share your views on a range of issues assuming that wage system was implemented.
4. Lastly, you will be asked to play the game again. However, this time assuming a specific wage scenario was implemented across America.

Please read the questions carefully and answer honestly. Any time you don't know the answer, please give your best guess. There are no wrong answers, and you are strongly encouraged to give your personal views.

Your participation in this study is completely voluntary and all information to include your answers will be kept anonymous. There will be no way for researchers to match your name or identity to any answer, and the results remain completely anonymous throughout each stage of the survey and review. You may contact the researchers via the Prolific messaging center and anonymously request to withdraw your data at any point until the 30th of November 2024. If you have any questions about this study, you may contact the researcher at K1925697@kcl.ac.uk.

Do you consent to this study?

- Yes
- No, I do not consent [respondents will be redirected too Prolific.co]

Please enter your Prolific ID to receive credit for completing the survey
(Please note that this response should auto-fill with the correct ID)

[page 2]

In the first section you'll be asked questions about your background. If unsure, please choose the closest answer.

What is your age?

[SLIDER]

What is your gender?

- Male
- Female
- Non Binary

Please choose the ethnic group you most closely identify with.

- White
- Black or African American
- Asian
- Hispanic or LatinX
- Pacific Islander
- Native American, American Indian or Alaska Native
- Other

What is the highest level of education you have completed?

- Some high school or less
- High school diploma or GED
- Some college, but no degree
- Associates or technical degree
- Bachelor's degree
- Graduate or professional degree (MA, MS, MBA, PhD, JD, MD, DDS etc.)

Some people believe strongly that the government should play an active role in supporting social and political change, and they support a strong role for the government in economic and social matters. Suppose these people are on one end of the scale, at point 1.

Other people believe strongly that the government should uphold traditional values, and that government intervention in economic and social matters should be as little as possible. Suppose these people are at the other end, at point 7.

And, of course, some other people have beliefs somewhere in between.

Where would you place yourself on this scale?

1 (Government plays strong and active role”) to 7 (“Government intervenes as little as possible), 4 (“Middle of the road”)

[Slider 1 – 7]

Generally speaking, do you think of yourself as a...?”

- Democrat
- Republican
- Independent
- Other

[new page]

Do you think of yourself as closer to the Republican or Democratic party?

- Closer to Republican
- Closer to Democratic
- Neither

In the last US Presidential election of 2020, which party did you vote for?

- Republican
- Democrat
- Green
- Libertarian
- Other
- Did not vote

What was your total household income before taxes during the past 12 months?

- Less than \$25,000
- \$25,000-\$49,999

- \$50,000-\$74,999
- \$75,000-\$99,999
- \$110,000-\$149,999
- \$150,000 or more
- Prefer not to say

What best describes your employment status?

- In full-time employment
- In part-time employment
- Unemployed (and seeking work)
- Not in paid work (e.g. homemaker, retired, disabled, long-term sick)
- In full-time education
- Freelance worker
- None of these

In which state do you currently reside? [Drop down menu]

[new page]

To learn more about your policy preferences, we will now ask you to play a game called Quadratic Voting. In the game, you'll have 25 credits that you must assign to show your support for (or opposition to) a range of policies. Credits can be added or taken away from any policy. You're allowed to assign more credits to policies you favor more, but please note assigning additional credits will cost more each time per policy. Again, in our game you'll only have 25 credits to distribute, so please use them wisely.

Please watch the following tutorial for further information on the game, and then proceed to the next icon. The next icon will appear in 60 seconds.

[YouTube video plays on Qualtrics screen]

[Redirected to QV]

In the game you'll have 25 credits that you will assign to a list of government policies you support (or oppose). Credits can be added or taken away from any policy. You're allowed to assign more credits to policies you favor or oppose more than others, but please note assigning additional credits will cost more each time per policy.

Therefore, think carefully which policies you want to give additional credits towards, or take credits away from. You should try to assign all 25 of your credits to policies, click submit.

Here are the 5 policies you'll be asked to show your support or opposition in the next game.

Universal Basic Income. In the US, some places are testing programs for universal basic income (UBI). UBI entails the government paying everyone a monthly income to cover essential costs. Everyone receives the same amount regardless of whether they are working or unemployed. This program is paid for by taxes.

Border Security. Strengthening border security on the US border with Mexico.

Child Tax Credit. A direct cash payment child-tax credit program where families receive a payment per child (ages 6 to 17) to assist with essential costs.

Unemployment Benefits. Government funding used to help people that are unemployed.

Environmental Protection. The government regulating business to protect the environment.

[new page]

1. Implementing Universal Basic Income
2. Border Security
3. Regulating Business to Protect the Environment
4. Increasing Unemployment Benefits
5. Providing Child Tax Credit

[Redirected to Qualtrics]

In the United States, over 20 million workers are receiving wages at or near the current minimum wage. Currently the federal minimum wage is \$7.25 per hour worked. While some states have their own minimum wage, this is optional, with several other states only having the federal wage as the lowest threshold. Policymakers often debate alternate systems, and one alternative is presented below, along with the current minimum wage system.

System	Description
Current System	The federal government maintains the current minimum wage of \$7.25 per hour worked.
Proposed System	This system features a state level [minimum / living] wage set by each individual state legislature. Every 50 U.S. states would have their own [minimum / living] wage requiring employers to pay their employees at least the state [minimum / living] per hour. While state wages would differ, the average [minimum / living] wage in a state would be [\$11 / \$18] per hour worked.

You will now be asked a few questions comparing the two systems.

If a referendum were scheduled for today, where voters are asked to vote between these two systems, which system would you support?

- Support Current System
- Support Proposed System

Overall, which system is more likely to lead to higher unemployment, causing more people to lose their jobs?

- Current System more likely to cause higher unemployment
- Neither System more likely to cause higher unemployment
- Proposed System more likely to cause higher unemployment

In your opinion, if the U.S. were to [maintain/implement] some level of a national [minimum/living] wage, what hourly rate do you think should be the [minimum/living] wage required for all American employers to pay their workers?

[Slider 0-30]

How do you feel about cities proposing their own [minimum/living] wage laws?

- Against city [minimum/living] wage laws
- Neutral
- Support city [minimum/living] wage laws

Think about your state for a moment. Again, in your opinion, what hourly rate do you think should be a [minimum / living] wage required for employers in your state to pay their workers?

[Slider 0 - 30]

[new page]

Now, suppose that the U.S. government has decided to adopt the proposed system. Therefore, every U.S. state will soon be required to have a [minimum / living] wage, with the average state wage being [\$11 / \$18] per hour worked.

In the US, some places are testing programs for universal basic income (UBI). UBI entails the government paying everyone a monthly income of \$1,000 to cover essential costs. Everyone receives the same amount regardless of whether they are working or unemployed. This program is paid for by taxes.

If the proposed [minimum/living] wage system were implemented, would you approve or disapprove of having a national UBI in America?

- Strongly Disapprove
- Disapprove
- Slightly Disapprove
- Neutral
- Slightly Approve
- Approve
- Strongly Approve

In your opinion, if the proposed [minimum / living] wage system were implemented, what should be the UBI paid monthly to citizens?

Please type a number between 0 and 2000 to indicate, in your view, the optimal amount of monthly UBI payment. [Text Box]

Assuming the proposed [minimum / living] wage system was implemented, do you agree or disagree we should spend government funds on welfare for the poor, even if it might result in higher taxes?

- Strongly Disagree
- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree
- Strongly Agree

During the COVID19 pandemic, a direct payment child-tax credit program was briefly tested in America. Families received up to \$300 per child under age 6 and \$250 per child ages 6 to 17, to assist with costs ranging from health care to childcare or simply food and clothing. However, the federal direct payments stopped towards the end of the pandemic.

Assuming the proposed [minimum / living] wage in system was implemented, how much would you agree or disagree that the government should enact a monthly payment for parents using tax dollars?

- Strongly Agree
- Agree
- Slightly Agree
- Neutral
- Slightly Disagree
- Disagree
- Strongly Disagree

To what extent do you agree or disagree with the following statements:

"It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes."

- Strongly Agree
- Agree
- Slightly Agree

- Neutral
- Slightly Disagree
- Disagree
- Strongly Disagree

[new page]

[Attention check]

We would like to ask you to play the Quadratic Voting game one more time assigning points to government policies you support or oppose.

However, for this game, imagine the U.S. government decided to implement the proposed [minimum / living] wage system of an average state level of [\$11 / \$18] per hour worked. Then think about how strongly you would support or oppose the following policies? To receive credit for completing the survey, please submit your answers for this second game.

To make sure you're paying attention, please select the amount of [minimum / living] wage in the proposed system.

- \$18
- \$12
- \$11
- \$7.25

[redirected QV]

Now, suppose that the U.S. government has decided to adopt the [\$11 / \$18] [minimum / living] Wage system. Therefore, every state will soon be required to have a [minimum / living] wage, with the average state [minimum / living] wage being [\$11 / \$18] per hour worked.

We would like to ask you to play a game one more time assigning points to government policies, but this time assuming the wage system is implemented.

As before, you'll have 25 credits that you will assign to a list of government policies you support (or oppose). Credits can be added or taken away from any policy. You're allowed to assign more credits to policies you favor or oppose more than the others, but please note that assigning additional credits will cost more each time per policy.

Here are the 5 policies you'll be asked to assign credits for or against:

Universal Basic Income. In the US, some places are testing programs for universal basic income (UBI). UBI entails the government paying everyone a monthly income to cover essential costs. Everyone receives the same amount regardless of whether they are working or unemployed. This program is paid for by taxes.

Border Security. Strengthening border security on the US border with Mexico

Child Tax Credit. A direct cash payment child-tax credit program where families receive a payment per child (ages 6 to 17) to assist with essential costs.

Unemployment Benefits. Government funding used to help people that are unemployed.

Environmental Protection. The government regulating business to protect the environment.

Again, please think about how you would support these policies if the new normal [minimum / living] wage was [\$11 / \$18]/hour.

[new page]

1. Implementing Universal Basic Income
2. Border Security
3. Regulating Business to Protect the Environment
4. Increasing Unemployment Benefits
5. Providing Child Tax Credit

[redirected back to Qualtrics]

Thank you for completing this survey.

Are there any comments or thoughts that you would like to share in regards to this survey? What did you like? And what can be improved? If so, please use the space below to provide feedback to our research team.

Once finished, please click the next button to end the survey. If needed, your completion code is: CW8W4YEL

Thank you!

[redirected to Prolific]