Pre-Analysis Plan:

Technological Change and Preferences for Redistribution

"Income and Task Complexity Study"

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1. Background

The existing evidence in this project shows that impartial spectators choose to redistribute less from top earners when they receive their income from performing complex tasks than when they receive their income from performing routine tasks. This evidence is based on small groups carrying out tasks in an online laboratory experiment. Redistributive decisions are then made by both workers and impartial spectators.

In a follow up (online) vignettes study, we then found that desired tax rate on hypothetical high-income office workers (with identical incomes) is lower when their job focuses primarily on complex (non-routine) tasks rather than repetitive (routine) tasks.

To further probe the external validity of our findings, we will run an additional (online) vignettes study to test whether individuals perceive that workers higher up the income distribution carry out more complex tasks (e.g., data analysis, strategic decision-making, managing others etc.) at work. This additional experiment will provide important insights into how the changing nature of tasks in the US labour market as a result of routine-biased technological change may have affected preferences for taxing high earners.

2. Experimental Design

Respondents each receive four vignettes. The order of the vignettes is randomised across respondents. Each vignette describes an (identical) office worker. The only difference between the vignettes is the annual income of the worker. We use four annual income levels: $25,000, $50,000, $100,000, and $500,000. This provides a good spread across the income distribution and includes top earners.

V1. $25,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $25,000.

V2. $50,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $50,000.

V3. $100,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $100,000.

V4. $500,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $500,000.

We use a within-subjects design for our main analysis.[1] After respondents have read each vignette, they are asked about the perceived complexity of the tasks the individual in the vignette carries out as part of their job. After respondents have seen all the vignettes, they are also asked a free-text question about their rationale for their perceptions of the task complexity of the jobs of the workers in the vignettes. At the end of the survey, we ask a set of questions on demographics and political preferences.[2]

3. Research Questions and Hypotheses

As outlined above, we are primarily interested in whether more highly paid workers' jobs are perceived to be more complex. More specifically, we are interested in whether the share of complex tasks in a worker's job is perceived to be higher when the worker has a higher annual income. Therefore, the central research question for this additional vignettes study is:

RQ1. Are higher paid workers' jobs perceived to be more complex?

And, our central hypothesis for this additional vignettes study is:

H1. The jobs of workers with higher annual incomes are perceived to have higher task complexity.

4. Sampling

To identify the minimum required sample size for our experiment, we conducted a power analysis. To do this, we used the results of a pilot study that we conducted in January 2023. We calculated the average treatment effects for each of the income levels on perceptions of task complexity. The lowest treatment effect was 0.98 for the difference between an individual income of $100,000 and $500,000. The standard deviation was around 2.1. Using this information, we conduct a power analysis assuming a conservative treatment effect size of 0.5 as well as an alpha of 0.05 and a power target of 0.8. Based on these assumptions, we would

[1] We also test the robustness of our results to a between-subjects design by just using the first vignette seen by each respondent.

[2] Detailed experimental instructions are in the appendix.

need around 280 observations per treatment group. To insure our study against potential margins of error of the power calculation, we aim to recruit around 2000 participants in total.

We will recruit participants using via Prolific Academic. Coding and randomization will be implemented via Qualtrics.

5. Empirical Strategy

The outcome variable in our empirical analysis is the perceived task complexity. This is elicited directly from respondents after they have read each vignette (see Section 2). We now describe our modelling specification. To test H1 and H2, we calculate the following model:

$$(1)\quad Y_i = \beta_0 + \beta_1 I1_i + \beta_2 I2_i + \beta_3 I3_i + \varepsilon_i$$

Y_i denotes our outcome variables (perceived task complexity) for each respondent i. $I1_i$, $I2_i, and\ I3_i$ are the binary treatment variables for the vignettes with annual income of \$50,000, \$100,000, and \$500,000 and β_1, β_2, and β_3 are the coefficients. The \$25,000 income vignette is the reference category. β_0 denotes the intercept. ε_i denotes the error term.

We also check for heterogenous treatment effects by analysing whether effects vary by major socio-economic characteristics (e.g., age, income, gender, partisanship etc.).

6. Ethics

Our study has received ethical approval from King's College London. The reference number is MRSP-21/22-29830. We are neither using deception nor collecting any information that would allow us to identify subjects personally.

Appendix: Experimental Instructions

Introduction – All

Thank you for participating in this study.

In the following, you will be given four scenarios in which individuals earn different incomes. You will then be asked about the type of work you believe these individuals do. Please consider each scenario individually and keep in mind that we are interested in your personal opinion.

Your answers will be used solely for academic research. The study is being carried out by non-partisan academic researchers seeking to advance our knowledge of society. It is important for the research that you answer as accurately as you can, so please read each of the statements and questions carefully.

Please click on the arrow below to proceed to the first scenario.

Vignettes

V1. $25,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $25,000.

V2. $50,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $50,000.

V3. $100,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $100,000.

V4. $500,000 income Consider a person working in an office. They typically work from 9am to 6pm. Their annual income last year was $500,000.

Beliefs and preferences

B1. How complex do you believe the tasks this person completes at work are?
[Scale. from 0 – very routine tasks to 10 – very complex tasks]

Reasoning

R1. What was your rationale for your answers to the previous questions?
[ ]

Demographics

D1. How old are you?
[Number.]

D2. What is your gender?

- Female
- Male
- Other
- Prefer not to answer

D3. To which of these groups do you consider you belong? You can choose more than one group.

- American Indian or Alaska Native
- Asian
- Black or African-American
- Native Hawaiian or other Pacific Islander
- Spanish, Hispanic or Latino
- White
- Other group
- Prefer not to answer

D4. Which category best describes your highest level of education?

- Primary education or less
- Some high school
- High school degree/GED
- Some college
- 2-year college degree
- 4-year college degree
- Master's degree;
- Doctoral degree
- Professional degree (JD, MD, MBA)
- Prefer not to answer

D5. What is your total (annual) household income before tax?

- Under $10,000
- $10,000 – $20,000
- $20,001 – $30,000
- $30,001 – $40,000

- $40,001 – $50,000
- $50,001 – $60,000
- $60,001 – $80,000
- $80,001 – $100,000
- $100,001 – $150,000
- $150,001 – $200,000
- $200,001 - $350,000
- $350,001 - $500,000
- Above $500,000
- Don't know
- Prefer not to answer

D6. What is your current employment status?

- Full-time employee
- Part-time employee
- Self-employed or small business owner
- Medium or large business owner
- Unemployed and looking for work
- Student
- Not currently working and not looking for work (e.g. full-time parent)
- Retiree
- Prefer not to answer

D7. Have you ever taken a module on economics or a related subject area at university?

- Yes
- No
- I have never attended higher education

D8. Do you think you can trust the government to do what is right?

- Never
- Only some of the time
- Most of the time
- Always

D9. In politics people sometimes talk of left and right. Where would you place yourself on the following scale?

Left										Right	Don't know
0	1	2	3	4	5	6	7	8	9	10	

D10. Which party do you feel closest to?

- Democratic party
- Republican party
- Other
- Don't know

D11. Who did you vote for in the recent 2020 Presidential Election?

- Joe Biden
- Donald Trump
- Other candidate
- Didn't vote
- Don't remember
- Prefer not to say

D12. Please tell us, in general, how willing or unwilling you are to take risks. Please use a scale from 0 to 10, where 0 means "completely unwilling to take risks" and a 10 means you are "very willing to take risks". You can also use any numbers between 0 and 10 to indicate where you fall on the scale.
[Scale.]

D13. Please respond to the following statements by indicating the extent to which you agree or disagree with them on a scale from 1 (I strongly agree) to 7 (I strongly disagree).

- There is a right way and a wrong way to do almost everything
- Practically every problem has a solution
- I feel relieved when an ambiguous situation suddenly becomes clear
- I find it hard to make a choice when the outcome is uncertain

End