Beliefs about the Gender Pension Gap and the Role of Financial Literacy*

Pre-Analysis Plan

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Abstract

This study has two main objectives. The first is to understand what shapes respondents' beliefs about the gender pension gap, that is, what factors they take into account when giving their estimate and how this relates to their socioeconomic characteristics as well as their financial literacy. The second objective is to understand the impact of providing the right information to a random subsample and whether this changes respondents' views and attitudes about the fairness and impact of the gender pension gap and about policies that could help reduce the gap, and whether respondents' financial literacy matters.

Keywords: survey experiment, financial literacy, gender pension gap, beliefs

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1 Motivation

According to the OECD (2021), the gender gap in pensions in the United States amounts to more than 30 percent, which is similar to some European countries such as France, Italy and Germany but is clearly above the OECD average. The finding that there are still gaps in pensions between men and women is in line with the forecasts by Even and Macpherson (2004) that suggest that gender pension gaps will decline but are likely to remain positive to some extent.

Therefore, it is important to understand whether people are aware of the current size of the gender pension gap and the factors contributing to the gap, which is one objective of this paper. The second objective is to understand whether receiving information about the gender pension gap changes the perceived fairness and impact of the gap as well as preferences for several policies that could impact the size of the gap. I am particularly interested in the role of financial literacy in this context, to understand whether people with higher financial literacy give better estimates of the gap and it's reasons as well as whether they react differently to the treatment.

With this study, I will contribute to the literature on gender inequality, but also to the literature on financial literacy by conducting a survey experiment that provides a random subset of respondents with information about the gender pension gap. This experiment contributes to the literature by explicitly addressing the considerations upon which respondents form their beliefs and by introducing financial literacy as a potentially relevant dimension of heterogeneity.

2 Experimental Design

Survey respondents will be randomly split into two groups: a control and a treatment group. The two experimental groups only differ with respect to the information they receive and the randomization is done by a computer.

2.1 Step 1: Prior Beliefs

In the first step, I will elicit respondents' prior beliefs about the gender pension gap in the United States. Therefore, I will ask them what they think how much the retirement income of a woman differs from the one of a man when considering the annual total retirement income, i.e. public pensions as well as individual and occupational pensions. The question is worded as follows:

Please think of all individuals in the United States, men and women, who receive a retirement income from public pensions as well as private pensions (occupational and individual). How many dollars do you think a woman on average received in 2019 for every $100 a man received?
Hint: *First, consider whether in 2019 on average a woman received more or less than a man in retirement income. Then, choose a number that is correspondingly larger or smaller than 100.*

I deal with outliers by winsorizing beliefs at $200.

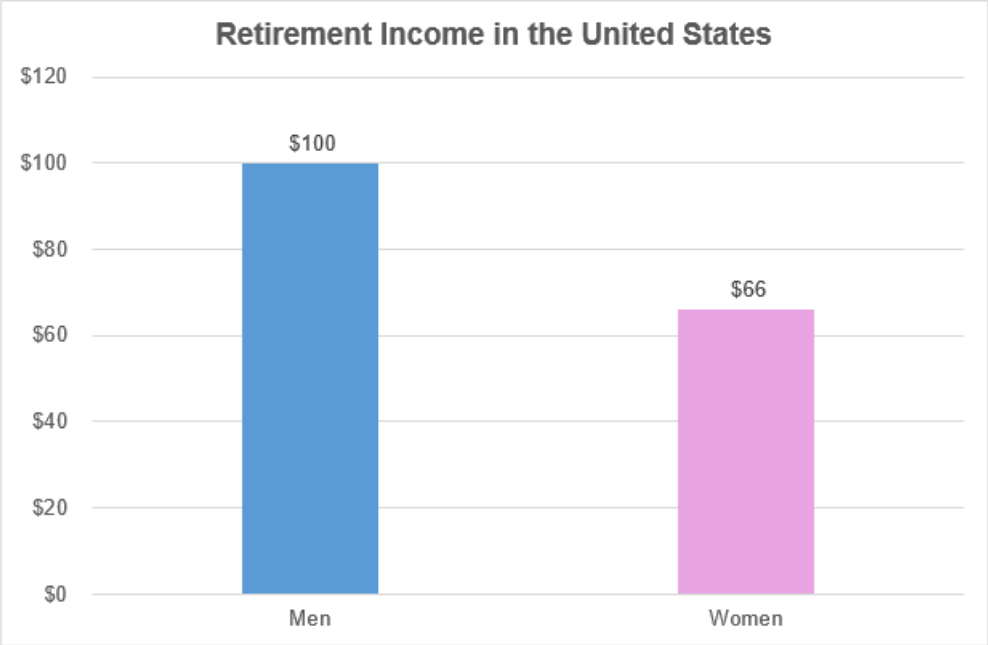
Furthermore, in this step respondents will also be asked about the main factors for their estimate with an open-ended question.
When you think about the size of the gender pension gap in the United States, what are the main factors that come to your mind?

2.2 Step 2: Provision of Information

In the second step respondents in the treatment group receive the correct information about the gender differences in retirement income, while respondents in the control group do not receive any information. The information first reminds respondents about their own estimate, before respondents are provided with the actual value. In addition, they will be provided with a picture displaying the gap in retirement income.

For the information I use the gender pension gap as calculated by the OECD (2021), which amounts to 34% and is based on the pension variables from the Luxembourg Income Study (LIS) and the Luxembourg Wealth Study (LWS) database[1], including public pensions (contributory and non-contributory) as well as private pensions (occupation and individual).

The information will be provided in the following way:
You estimated that on average a woman in the United States received $xx in retirement income for every $100 an man received in 2019. According to the OECD (2021), on average ***a woman received $66 in retirement income for every $100 a man received.***



2.3 Step 3: Outcome Variables

The survey has three types of outcome variables that are all measured on an 11-point Likert scale ranging from "strongly disagree" to "strongly agree":

1 Impact and fairness of the gender pension gap

2 Factors impacting the gender pension gap

3 Policy measures targeting different aspects of retirement savings and retirement income

[1]Both are cross-national databases.

Impact and fairness of the gender pension gap

With these outcomes respondents are asked whether the gender pension gap has important direct effects on their own life and whether the retirement income a woman receives on average per year is fair compared to the one a man receives. The variable measuring the fairness will be recoded for the analysis to ensure that all outcomes point towards the same direction.

Factors impacting the gender pension gap

In this set of outcome variables respondents are asked whether they agree that several factors have a large impact on the gender pension gap. These factors include the unequal distribution of care work, gender differences in earnings ad wages, the chosen profession and qualification, differences in hours worked per week and social norms.

Policies

In the third set of outcome variables respondents are asked to which extend they agree with several policy measures targeting various aspects of retirement savings and retirement income. Three measures target occupational pensions. Respondents are asked whether all employers should offer an occupation retirement plan, whether participation for employees should be mandatory and whether all employees should be eligible for participation as well as for matched contributions by the employer. Further policies suggest to tailor financial education and information about pensions to the needs of individual groups and to split retirement benefit entitlements equally between spouses. One further measure asks whether everyone should receive the same pension from Social Security.

For the analysis, all outcome variables will be standardized using mean and standard deviation of the control group.

2.4 Step 4: Posterior Beliefs

Near the end of the survey all respondents are asked again about their beliefs of the gender differences in retirement income.

3 Sample and Data

The data will be collected in late November and early December 2022 via an online survey that is distributed by a professional survey company. Eligible for participation are all citizens of the United States aged 18 and above. The sample is supposed to be representative in terms of age, gender, education and US census region and it is planned to consist of 3000 respondents.

This sample size allows me to detect treatment effects of around 10 percent of a standard deviation at a 0.05 significance level with a statistical power of 0.8.

4 Hypotheses

Hypothesis I - Main Sample: Receiving information about the gender gap in retirement income leads to a stronger disagreement with the perceived fairness, to a stronger agreement with the perceived impact of the gap as well as to a stronger support for policy measures adjusting different aspects of retirement savings.

Hypothesis II - Financial Literacy: Respondents with a higher financial literacy score show a stronger reaction to the treatment than respondents with a lower financial literacy score.

Hypothesis III - Gender: Women show a stronger reaction to the treatment than men.

Hypothesis IV - Political Affiliation: Democrats and Independents show a stronger reaction to the treatment than Republicans.

5 Analysis

5.1 Balance

To see whether randomization was successful, I will conduct t-tests to compare the control group and the treatment group. They will be conducted on the following variables:

- age
- gender
- region
- born in the US
- education
- self-assessed financial and pension knowledge
- trust in public institutions
- financial literacy
- attitudes towards gender equality and divorce
- prior beliefs
- marital status
- employment status
- household income
- ethnicity/ race
- political affiliation

5.2 Determinants of Prior Beliefs and Belief Updating

In order to understand the determinants of prior beliefs I analyze which characteristics are correlated with the (bias in) prior beliefs. Furthermore, I analyze whether respondents update their beliefs after receiving the information treatment and which factors impact the belief updating.

5.3 Treatment Effect of Information Provision

I estimate the treatment effect by using the following equations:

$$y_i = \beta_0 + \beta_1 Treat_i + \varepsilon_i \tag{1}$$

$$y_i = \beta_0 + \beta_1 Treat_i + \beta^T X_i + \varepsilon_i \tag{2}$$

where y_i denotes the outcome variables, $Treat_i$ indicates whether a respondent is in the treatment group, X_i denotes the control variables and ε_i is the error term. Control variables will include the variables that are also used for the balance test as described in Section 5.1.

5.4 Heterogeneity

Since some groups might react differently to the treatment than other groups I also aim to analyze different dimensions of heterogeneity by interacting the treatment indicator with the heterogeneity dimension of interest. The three main dimensions of interest are financial literacy, gender and political affiliation. Therefore, I will estimate the following equations, with the same notation as above and where Int denotes the interacted variable:

$$y_i = \gamma_0 + \gamma_1 Treat_i + \gamma_2 Int_i + \gamma_3 Treat_i \times Int_i + \varepsilon_i \tag{3}$$

$$y_i = \gamma_0 + \gamma_1 Treat_i + \gamma_2 Int_i + \gamma_3 Treat_i \times Int_i + \gamma^T X_i + \varepsilon_i \tag{4}$$

To include financial literacy as a dimension of heterogeneity the questionnaire includes several questions to capture general financial literacy as well as pension specific literacy. The questions consist of the "Big Three" financial literacy questions by Lusardi and Mitchell (2008) as well as two more pension specific questions introduced by Clark et al. (2014). All five literacy questions will be used to calculate a financial literacy score for each individual, where a respondent will receive one point for each correct answer and zero points if the answer is wrong or they state that they do not know the answer. Each respondent can therefore reach a maximum of 5 points.

5.5 Open-ended Question

The survey includes an open-ended question, asking respondents after stating their prior beliefs which main factors come to their mind when thinking about the gender pension gap. To analyze the responses to this question I will develop a coding scheme that allows me to categorize the answer in a consistent way. This will enable me to translate the qualitative responses into a quantitative variable which can then be used as part of the aforementioned analysis.

5.6 Multiple Hypothesis Testing

To take multiple hypothesis testing into account I will calculate indices based on my outcome variables, combining factors impacting the gender pension gap into one index and policies into another index.

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