**When is income inequality fair?**



**1. Background**

Economic inequality is on the rise - also in Denmark. High-income earners have gained more (in a relative sense), while low-income earners have gained less. But why do Danes have different opinions on whether the highest and lowest earners earn unreasonably much or unreasonably little? Do opinions depend on the eyes that see? The question of whether rising income inequality is fair is relevant in light of a number of structural changes, e.g. in the labour market (e.g. automation and deindustrialization) and in the welfare state (e.g. erosion of public benefits and privatization) that - according to some - challenge societal cohesion.

The purpose of this exam assignment is to learn more about the factors that influence Danes' perceptions of whether incomes at the top and bottom of society are fair. Individuals' perceptions of whether incomes are fair can stem from material and subjective factors. We focus on four factors in this paper: First, opinions can stem from the individual's material position. Individuals at the top and bottom of the income distribution have reason to believe that their income is either fair (high earners) or unfair (low earners). Secondly, opinions can stem from an individual's political orientation, e.g. whether they perceive themselves as left- or right-wing. Thirdly, opinions can stem from the individual's institutional trust, e.g. whether they fundamentally trust that society's institutions ensure that everyone has equal opportunities. Fourthly, opinions can stem from an individual's belief in meritocracy, i.e. that ability and hard work are rewarded with a high salary.

**2. problem formulation**

**The overall problem statement is as follows:** To what extent do material position and subjective attitudes influence the perception of whether the incomes of the 10% highest paid and 10% lowest paid are fair or unfair?

**3. Structure of the assignment**

For this assignment, you will analyze the effect of material position and subjective attitudes based on quantitative data and statistical methods. You will analyze the effect of material position and subjective attitudes on perceptions of income (un)fairness. You use the statistical tools learning in the lecture and give correct interpret the effect of empirical indicators of material position and subjective attitudes on perceptions of income (un)fairness, including considering the extent to which your results can be interpreted as causal.

**4. Data and variables**

Data comes from round 9 of the Danish part of the European Social Survey (ESS), which was collected in 2018. ESS interviews a representative sample of the adult population. You can read more about ESS here: https://www.europeansocialsurvey.org/. Data is cleaned so there are no missing values.

*4.1 Dependent variables*

The dataset contains two dependent variables. The two dependent variables measure the respondent's perception of whether the incomes of the top and bottom 10% of wage earners in Denmark are fair or unfair. The intro text to the questions reads as follows:

Income figures show that the top 10% of wage earners in Denmark earn more than DKK 735,000 per year and the bottom 10% of wage earners earn less than DKK 305,900 per year. The figures are based on income before tax and mandatory deductions for full-time employees.

Now I want to ask you how fair the incomes for each of these groups are.

- Dependent variable 1 (called **topindk\_fair** in your dataset): Think about the top 10% of full-time employees in Denmark who earn more than DKK 735,000 per year. Do you think these incomes are unreasonably low, reasonable or unreasonably high? Think generally about people with this income level.Respondenten svarede på følgende skala:

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Dependent variable 2 (called **bottomindk\_fair**): Think about the bottom 10% of full-time employees in Denmark who earn less than DKK 306,000 per year. Do you think these incomes are unreasonably low, fair, or unreasonably high? Think generally about people with this income level. The response scale is the same as for the first dependent variable.

You must use both dependent variables in your empirical analysis.

*4.2 Independent variables*

The dataset contains a number of variables that measure the respondent's material position and subjective attitudes (as well as two demographic control variables).

Material position:

- Dummy variable (0-1) measuring whether the respondent's own income is in the top 10% of the income distribution (**high\_inc**)

- Dummy variable (0-1) measuring whether the respondent's own income is in the bottom 10% of the income distribution (**low\_inc**)

- Dummy variable (0-1) measuring whether the respondent is currently in paid work (**working**)

- Dummy variable (0-1) measuring whether the respondent has ever been unemployed and looking for work for more than three months (**ever\_unempl**)

*4.3 Subjective attitudes:*

- Political orientation (**lrscale**): Ranking on a left-right scale (0-10), with higher values indicating that the respondent perceives themselves as more right-wing

- Institutional trust (**trstprl**): Trust in the Danish Parliament on a scale from 0-10, with higher values indicating higher trust

- Belief in meritocracy (**hard\_work**): Agreement or disagreement with the following statement: "A society is fair when those who work hard can earn more than others". Respondents answer on a scale of 1-5, with higher values indicating that they agree more with the statement.

*4.3 Demographic control variables*

- Gender (**women**): Dummy variable coded 1 = female; 0 = male.

- Age (**agea**): Age in years

4.4 Weight

- Design weight (**pspwght**): Post-stratification weight.

Requirements for the empirical analysis:

- You must estimate and interpret multiple OLS regressions for both dependent variables. Are the effects of material position and subjective attitudes the same when respondents assess the (un)fairness of the top and bottom of the income distribution?

- You must include (a) at least two indicators for material position and (b) at least one indicator for subjective attitudes as independent variables in your OLS regressions. You decide which indicators you want to work with

- Test for interaction effects between one material position indicator and one subjective attitudes indicator - and interpret the interaction effect if it is statistically significant

- You must include the two demographic control variables in all your OLS regressions (however, these are only control variables and therefore not central)

- Use the design weight in all analyses

- Consider any limitations in your empirical design in terms of being able to make causal interpretations. Could there be factors that challenge a causal interpretation?

**5. practical information**

- The maximum length of the assignment is 5 pages of 2400 characters if done by one student. There is an additional 2.5 pages per student if the assignment is done in groups.

- The deadline for submission is 10/1 2024.

- Do not write your name in the assignment - all assessments are anonymous

- Please refer to the department's policy on the use of AI in exam papers, which is as follows: "The Department of Sociology prohibits the use of generative AI software and large language models (AI/LLMs), such as ChatGPT, for generating novel and creative content in written exams. However, students may use AI/LLMs to enhance the presentation of their own original work, such as text editing, argument validation, or improving statistical programming code. Students must disclose in an appendix if and how AI/LLMs were used; this appendix will not count toward the page limit of the exam. This policy is in place to ensure that students' written exams accurately reflect their own knowledge and understanding of the material."