

Wage Gaps Major Project

As part of your assessment for BUS135 you will submit a written project worth 40% of your final mark. This document sets out the main aspects of this project.

The aim of the project is to integrate the learning from the entire module in the service of conducting your own exploration of the determinants of pay gaps. The data to use for this study is the extract of Understanding Society, available in the 'Major Project' tab of our module's QMPlus page. A reminder: our project dataset differs from our lab dataset. Make sure you are looking at the right one

You will decide what source pay gaps you will examine (this is your 'research question'), and then conduct an appropriate data analysis and writeup.

You are encouraged to start working on your project early in the semester. It is extremely hard to do well on this project at the last minute, as it requires some contemplation. It is at least as much about 'thinking' as about 'doing', especially since you will have easy access to all the Jamovi tools you will need, through the labs and homework assignments (and associated solutions). You are being assessed chiefly on your thoughtfulness in drawing meaning from numbers.

Although this is an individual assignment, you are more than welcome to work with a fellow student on specific parts. Specifically, you may work together on writing Jamovi syntax and thinking through the analytical choices you make. **However, your written report must be *entirely yours*.**

You are strongly encouraged to attend office hours to get help on your project, or to ask for support from the Quant Skills Tutor.

Note also that, in the scheduled lab session in Week 12, we will run a 'surgery' where you can get targeted assistance.

Deliverables

Using data available on the course QMPlus page and following the instructions below, you are expected to submit a 2,000-word research report (not including references, tables and figures).

There is no +10% leeway on the word limit. In other words, the 2,000 word limit means do not write more than 2,000 words.

The due date for the report is **April 16th, 2021 at 23:55**.

Submit your report via the project dropbox on QMPlus.

Step-by-Step Instructions

1. Your first task is to choose which research question you will work on. You will spend some time during the lab in week 2 exploring the project data and making some initial choices.
How to decide?
 - Skim through the following two articles (they can easily be found online). I mean skim – they are both very long, but they are useful as they cover many different potential causes of pay inequality.
 - Hills, J. (2010) An Anatomy of Economic Inequality in the UK An Anatomy of Economic Inequality in the UK - Report of the National Equality Panel. LSE STICERD Research Paper No. CASE report 60
 - Longhi S., and Platt, L. (2008) Pay Gaps Across Equalities Areas: An analysis of pay gaps and pay penalties by sex, ethnicity, religion, disability, sexual orientation and age using the Labour Force Survey. Institute for Social and Economic Research, Research Report 9. University of Essex.
 - Based on these articles, identify a source of pay gaps in the UK other than gender that interests you. A possible, but by no means exhaustive list would include location, disability, ethnicity etc.
 - Be sure that there are variables in our project dataset that allow you to explore your topic (and if there are not, choose a topic that does have relevant variables).
2. Next, use Google Scholar or the QMUL library website to identify 3 additional journal articles or academic working papers that examine the pay gap of your choice. These must be from peer-reviewed sources – not journalistic ones.
3. Use these three studies (plus relevant parts of Longhi & Platt, and Hills) to motivate your own empirical inquiry into the pay gap of your choice. Using the Labour Force Survey data, conduct research and write a report that does the following
 - Determine whether there are significant differences in pay according to the factor of your choosing
 - Consider if these differences survive the inclusion of individual-level control variables. Make sure you are explaining why the control variables make sense.
 - Diagnose your regression results, in terms of key assumptions that might or might not be upheld.
 - Discuss the relationship between your findings that those of the previous literature that is motivating your analysis. Why might they differ?
 - Consider the confidence with which we might speak of the relationship you describe being causal. What might limit our confidence, and what strengthens it?

Report Structure and Tips

Your assignment should be structured like a mini-scientific article with the following major sections:

1. Introduction
2. Prior knowledge
3. Data and Methods
4. Results
5. Conclusion
6. References
7. Tables and Figures

1) Introduction

The introduction section introduces the problem or question to be studied. It usually briefly tells us the state of knowledge on the issue, and why and for whom the topic is an important one.

2) Prior knowledge

In this section you will succinctly synthesize what the studies you examined tell us about your particular question or hypotheses.

Components:

1. Theory: What does the work you read say in terms of a theory or model telling you why/how your independent variable of interest shapes your dependent variable?
2. Empirics: Write carefully about what the studies you read (plus other work they cite in their own literature review sections) show in terms of evidence regarding your question or questions related to it.

3) Data and Methods

The purpose of this section is to primarily address two questions: 1) How was the data collected or generated? 2) How was it analysed? Since there are many different ways that research can be done, you must provide some justification for the choices that you make.

Components:

1. Identify, describe, and justify the main study variables (dependent, independent, and control) that you have selected for the quantitative analysis. Justification for these typically comes from your wider reading, should be cited, and should include a logic. One additional reason to conduct your literature review is to

identify possible control variables, based on what other researchers have used in their work.

2. If you recoded any variables, please describe how you did so and why.
3. Describe the type of statistical analysis you did, and why it is appropriate.

4) Results

The purpose of the results section is to present your key results in a logical sequence. There should be little interpretation here – just a statement of what the results are, as opposed to what they mean.

Tables and figures (and any notes and titles for those tables and figures) do not count towards the word limit.

Components:

1. Describe the characteristics of your study sample.
 - Refer to a table of descriptive statistics that includes a summary of your dependent, independent, and control variables.
2. Using some form of descriptive statistics, describe the relationship between the dependent and independent variables in your analysis.
3. Describe the results of a bivariate and multivariate regression analysis, including the F-statistics, regression coefficients, and R-squared.
 - Refer to a table that shows both bivariate and multivariate regression results. Again – place the table itself in the final section of the report.

Tips for a good Results section

- Be selective. The point of this section is to provide statistical results that address your research question – not to present as many figures and tables as you can.
 - As a rule, do not include any figures or tables that you do not describe in words in the body of your report.
 - This is especially important since the word limit is tight. You need to be judicious about what matters and what does not.
- Make sure the numbers in your tables/figures and your text are the same.
- Make sure that the results you present directly relate to your research question.
- It is very useful to carefully read (and to *loosely* mimic) the way the studies you read phrase their results sections. I DO NOT MEAN PLAGIARIZE.
- Also remember that there are examples in the lab outlines and in my slides on how to talk about your findings.

Tips for the tables and figures:

- Tables and figures should be well-formatted
- Tables and figures should include clear titles, as well relevant notes.

- Tables and figures should be numbered consecutively (ie Table 1, 2, 3...; Figure 1, 2, 3...)
- Does not present estimates with a million decimal places if they are not useful. Usually not more than three decimal places, unless more is important. This is a substantive issue, so think of it in those terms.

5) Conclusion

The purpose of the conclusion is to interpret and describe the significance of your findings in light of what was already known about the research problem being investigated from your literature review, and to explain any new understanding or insights about the problem generated from your findings. Thus, the conclusion should connect to the introduction by way of the research questions or hypotheses you posed and the literature you reviewed. The conclusion is also your chance to acknowledge the limitations of your study.

Components

1. *Briefly* summarise the main findings of the study.
2. Discuss the relationship between your results and those found in prior research, including potential explanations of any discrepancies and unexpected findings.
3. Analyse the strengths and limitations of your study/analysis.
4. *Briefly* discuss wider implications of the results.

Tips for the Conclusion:

- Do not introduce new results in this section.
- When discussing study limitations, go beyond simply listing it to think about what it means in terms of the knowledge you have generated.

6) References (not counted as part of word limit)

Include references for the articles that you summarise, as well as any resources related to the methods that you use.