

EC423: Applied Problem Set II

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February 9, 2025

This problem set covers the third lecture (Compensating Differentials) and replicates Mas, Alexandre, and Amanda Pallais. “Valuing Alternative Work Arrangements.” American Economic Review 107, no. 12 (2017): 3722-3759. 125.4 (2010): 1859-1887.

Please download the data “Mas_Pallais_2017.dta”, the treatment code spreadsheet “treatment_codes.xlsx” and the script *mle_programs.do* from Moodle, and prepare a presentation containing the following points:

1. The authors argue that their experiment provides a unique setting to study compensating differentials. Discuss some specific advantages of studying compensating differentials in this context compared to previous approaches we have discussed in the lecture.
2. How is their approach similar and different from Stern (2004) we have discussed in the lecture?
3. We have also discussed in the lecture some details about the experiment that manipulates information on job descriptions. A typical challenge in these experiments is that people might not fully process the information. Explain how the authors measure inattention and incorporate it in their econometric specification. In addition, show how the authors derive the final Equation (1).
4. Assume that the WTP follows a logistic distribution. Replicate the first two columns of Table 5. What do the results tell us?

In script *mle_programs.do*, you can find the original programs that define the error variable (*mylogit_mle1*) and the likelihood functions for error-corrected maximum likelihood logit model (*mylogit_mle2*). To run the programs, you should include the *mle_programs.do* script in the same folder as the data and your do-file, and run the following line:

```
1 qui do "mle_programs.do"
```

To set errors, you can run the following lines:

```
1 egen tag = tag(wagegap)
2 bys wagegap: egen mm1 = mean(chose_position1)
3 replace mm1 = . if tag != 1
4 me_correction
5 mylogit_mle1 ${error}
```

To estimate the error-corrected maximum likelihood logit model, you can run the following lines:

```
1 ml model lf mylogit_mle2 (chose_position1=wagegap),
   vce(robust)
2 qui ml maximize, iterate(100)
```

5. Perhaps the most surprising result is that most workers are not willing to pay for scheduling flexibility. Discuss some additional analyses implemented by the authors to rationalize this result. This discussion should also include a replication of the first column of Table 6.
6. Discuss how the module in the Understanding America Study (UAS) that elicited preferences over amenities nicely complements the discrete choice experiment.
7. In the original Rosen model, workers with the highest valuations for an amenity work at firms with the lowest cost of providing it. These firms provide the amenity, while higher-cost firms employing lower-valuation workers do not. The market compensating differential is the marginal worker's valuation of the amenity. Do you think the paper's results would hold after Covid-19? Why?

Data variables:

- treatment_number - Treatment number (see more details in the spreadsheet)
- mainsample - In treatments 1-5
- female - Female
- chose_position1 - Chose position 1
- wagegap - Wage gap
- version - 1 if 1.5x pay for overtime, 2 if 2x
- chose_ot - Dummy variable for whether applicant chose overtime job
- travel_group - Travel time to job (binned)