1. Read the paper by Glover, Pallais and Pariente (2017). Summarize its main finding in 2-3 sentences, using your own understanding and language (no copy-pasting please).

The study found evidence of managerial bias against minority cashiers at French grocery stores. When cashiers from minority backgrounds were supervised by managers with implicit biases against them, it negatively impacted the cashiers' job performance – including increased absenteeism, slower checkout times, and working less than their scheduled hours. The authors suggest this effect occurs because the biased treatment undermines the work efficiency and motivation of the minority employees. It likely reinforces discriminatory hiring practices by creating the perception that minority workers have poorer performance.

1. Comment on the research design of the paper. Which of the tools described in the Mastering Econometrics videos did they use? How did they use them?

They used the difference-in-differences approach to examine the effect of managerial bias. Specifically, they compared the performance of minority and non-minority cashiers before and after being assigned to managers with high or low levels of implicit bias against minorities. By comparing performance trends between the minority and non-minority groups, the study could attribute differences in outcomes to the influence of managerial bias. Through this research design, the authors established a causal relationship between biased management and reductions in minority cashier performance.

1. Comment on any possible remaining threats to inference that may result from measurement or implementation problems likely encountered by the researchers.

Omitted variable bias could be a concern in the study if there are unobserved factors that both affect manager behavior and cashier performance. For example, certain personality traits may influence both the likelihood of a manager exhibiting bias and the productivity of cashiers, but these traits are not included in the model. Besides, implementation problems could involve the practical challenges of accurately tracking and measuring cashier performance across different managers and stores. For example, variation in store policies, customer demographics, or economic conditions could affect cashier behavior independently of manager bias. Additionally, the potential for measurement error in capturing cashier performance, such as inaccuracies in scanning speed or absenteeism records, could also affect the study’s outcomes.

1. Think about patent examiners now. If you were to try to establish why examiners leave the USPTO, what could be **one causal**hypothesis to test? (Hint: Think about many of the reasons certain workers may leave and pick one that you would like to test.)

The hypothesis could be whether the volume of patent applications assigned to an examiner increases the likelihood of job dissatisfaction and, consequently, lead the decision to leave the agency.

1. Outline a research design that would use one of the tools described in the course to test the hypothesized causal link. Be as specific as possible about your implementation.

I would apply the instrumental variables approach. The design would identify an external factor that affects examiner workload but is not directly related to their decision to leave. For example, the introduction of a new system that randomly assigns patent applications to examiners, affecting their workload independently of other factors. By comparing attrition rates of examiners who are randomly assigned higher workloads due to this system to those with lower workloads, while controlling for other variables, the causal impact of workload stress on attrition can be isolated.