

**Exam**  
**Empirical Labor Economics**  
**Uwe Jirjahn**

Summer semester 2020

Choose **either** question Q.1 **or** question Q.2.

**Q.1**

Q.1.a Compare the random effects and the fixed effects approach.

Q.1.b Discuss the problems entailed by weak instruments.

Q.1.c Interpret and compare the following two wage estimations:

$$(1) \ln Wage = \alpha + 0.070 \textit{Schooling} + \varepsilon$$

(0.002)

$$(2) \ln Wage = \alpha + 0.107 \textit{Schooling} + 0.081 \textit{Experience} - 0.0012 \textit{Experience}^2 + \varepsilon$$

(0.001)                      (0.001)                      (0.00002)

Standard errors are in parentheses.

**Question 2**

Please explain the differences between local average treatment effect, intention-to-treat effect, treatment effect on the treated, and treatment effect on the nontreated.

**Note:** If you answer both questions, we will only consider Q.1.