Exam
Empirical Labor Economics
Uwe Jirjahn

Winter semester 2018/19

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

Q.1 Discuss the results of the Twinsburg twin data study on schooling and wages.

Returns to schooling for Twinsburg twins

	Dependent variable			
	Log wage (1)	Difference in log wage (2)	Log wage (3)	Difference in log wage (4)
Years of education	.110 (.010)		.116 (.011)	
Difference in years of education		.062 (.020)		.108 (.034)
Age	.104 (.012)		.104 (.012)	
Age squared/100	−.106 (.015)		−.106 (.015)	
Dummy for female	−.318 (.040)		−.316 (.040)	
Dummy for white	−.100 (.068)		−.098 (.068)	
Instrument education with twin report	No	No	Yes	Yes
Sample size	680	340	680	340

Q.2 Discuss Angrist and Krueger's quarter-of-birth study on schooling and wages.

Returns to schooling using alternative quarter of birth instruments

	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)	2SLS (5)
Years of education	.071 (.0004)	.074 (.028)	.071 (.0004)	.075 (.028)	.105 (.020)
First-stage F-statistic		48		47	33
Instruments	None	Quarter 4	None	Quarter 4	3 quarter dummies
Year of birth controls	No	No	Yes	Yes	Yes

Notes: This table reports OLS and 2SLS estimates of the returns to schooling using quarter of birth instruments. The estimates in columns (3)–(5) are from models controlling for year of birth. Columns (1) and (3) show OLS estimates. Columns (2), (4), and (5) show 2SLS estimates using the instruments indicated in the third row of the table. F-tests for the joint significance of the instruments in the corresponding first-stage regression are reported in the second row. Sample size is 329,509. Standard errors are reported in parentheses.

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