

# Econ 675 Assignment 3

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1	Question 1: Many Instruments Asymptotics
2	Question 2: Weak Instruments Simulations

### Results for $n\gamma^2 = 0$

reg_type	variable	mean	st.dev	quant .1	quant .5	quant .9
ols	estimate	1.00	0.01	0.99	1.00	1.01
ols	std.error	0.01	0.00	0.01	0.01	0.01
ols	rej	1.00	0.00	1.00	1.00	1.00
2sls	estimate	1.37	1.87	0.79	1.00	1.78
2sls	std.error	26.80	108.52	0.07	0.20	6.78
2sls	rej	0.64	0.48	0.00	1.00	1.00
2sls	f_stat	0.94	1.16	0.01	0.66	2.37

### Results for $n\gamma^2 = 0.25$

reg_type	variable	mean	st.dev	quant .1	quant .5	quant .9
ols	estimate	1.00	0.01	0.99	1.00	1.01
ols	std.error	0.01	0.00	0.01	0.01	0.01
ols	rej	1.00	0.00	1.00	1.00	1.00
2sls	estimate	1.20	4.84	-1.20	0.68	4.11
2sls	std.error	38.99	126.72	0.18	1.22	94.19
2sls	rej	0.26	0.44	0.00	0.00	1.00
2sls	f_stat	0.96	1.50	0.00	0.46	2.59

### Results for $n\gamma^2 = 9$

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\*Shouts out to Ani for the help with this. Could not have done it without you!

reg_type	variable	mean	st.dev	quant .1	quant .5	quant .9
ols	estimate	0.96	0.02	0.94	0.96	0.98
ols	std.error	0.02	0.00	0.01	0.02	0.02
ols	rej	1.00	0.00	1.00	1.00	1.00
2sls	estimate	-0.15	0.51	-0.72	-0.03	0.25
2sls	std.error	0.53	0.59	0.19	0.34	1.08
2sls	rej	0.08	0.27	0.00	0.00	0.00
2sls	f_stat	9.68	5.82	2.57	9.32	18.58

**Results for  $n\gamma^2 = 99$**

reg_type	variable	mean	st.dev	quant .1	quant .5	quant .9
ols	estimate	0.67	0.03	0.62	0.66	0.71
ols	std.error	0.03	0.00	0.03	0.03	0.04
ols	rej	1.00	0.00	1.00	1.00	1.00
2sls	estimate	-0.01	0.10	-0.10	-0.01	0.10
2sls	std.error	0.10	0.02	0.08	0.10	0.13
2sls	rej	0.02	0.14	0.00	0.00	0.00
2sls	f_stat	100.87	21.97	71.43	102.56	129.40