Angrist and Krueger 1991: Figures 1 and 2
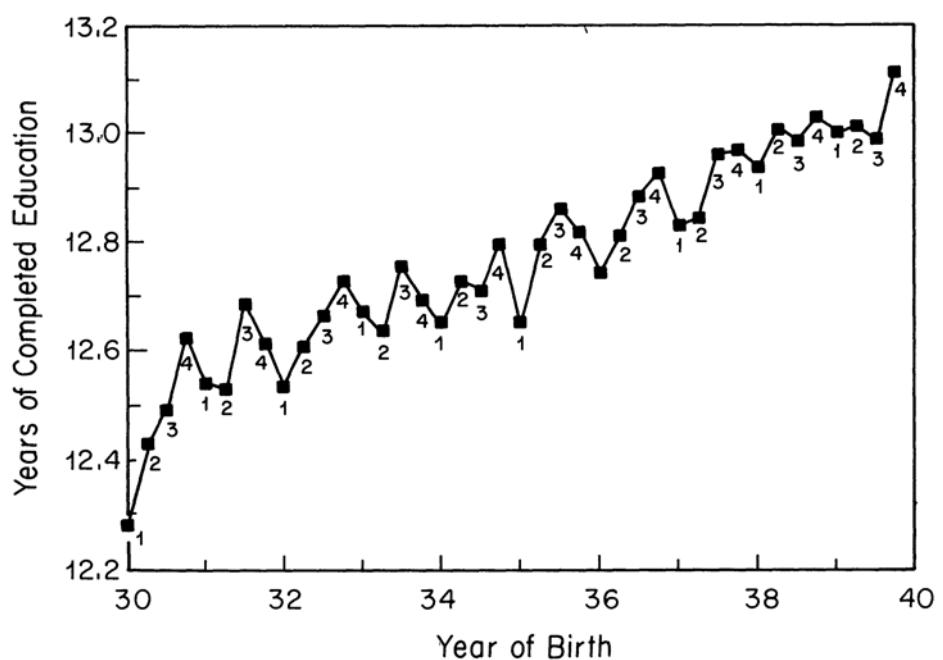
FIGURE I
Years of Education and Season of Birth
1980 Census
*Note.* Quarter of birth is listed below each observation.
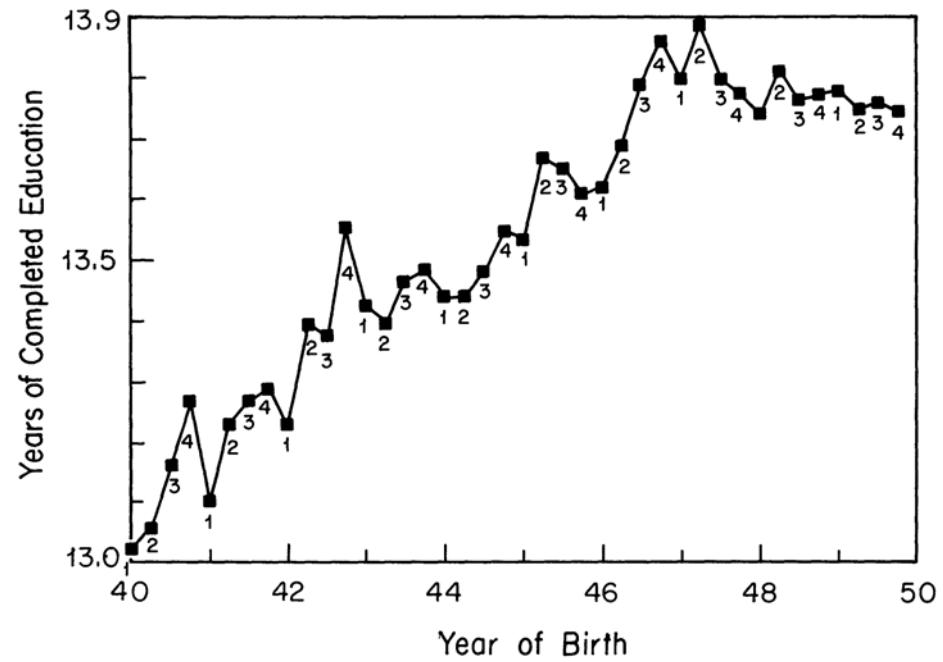
FIGURE II
Years of Education and Season of Birth
1980 Census
Note. Quarter of birth is listed below each observation.

Angrist and Krueger 1991: Table 1

TABLE I
THE EFFECT OF QUARTER OF BIRTH ON VARIOUS EDUCATIONAL OUTCOME VARIABLES

Outcome variable	Birth cohort	Mean	Quarter-of-birth effect[a]			F-test[b] [P-value]
			I	II	III	
Total years of education	1930–1939	12.79	−0.124 (0.017)	−0.086 (0.017)	−0.015 (0.016)	24.9 [0.0001]
	1940–1949	13.56	−0.085 (0.012)	−0.035 (0.012)	−0.017 (0.011)	18.6 [0.0001]
High school graduate	1930–1939	0.77	−0.019 (0.002)	−0.020 (0.002)	−0.004 (0.002)	46.4 [0.0001]
	1940–1949	0.86	−0.015 (0.001)	−0.012 (0.001)	−0.002 (0.001)	54.4 [0.0001]
Years of educ. for high school graduates	1930–1939	13.99	−0.004 (0.014)	0.051 (0.014)	0.012 (0.014)	5.9 [0.0006]
	1940–1949	14.28	0.005 (0.011)	0.043 (0.011)	−0.003 (0.010)	7.8 [0.0017]
College graduate	1930–1939	0.24	−0.005 (0.002)	0.003 (0.002)	0.002 (0.002)	5.0 [0.0021]
	1940–1949	0.30	−0.003 (0.002)	0.004 (0.002)	0.000 (0.002)	5.0 [0.0018]
Completed master's degree	1930–1939	0.09	−0.001 (0.001)	0.002 (0.001)	−0.001 (0.001)	1.7 [0.1599]
	1940–1949	0.11	0.000 (0.001)	0.004 (0.001)	0.001 (0.001)	3.9 [0.0091]
Completed doctoral degree	1930–1939	0.03	0.002 (0.001)	0.003 (0.001)	0.000 (0.001)	2.9 [0.0332]
	1940–1949	0.04	−0.002 (0.001)	0.001 (0.001)	−0.001 (0.001)	4.3 [0.0050]

a. Standard errors are in parentheses. An $MA(+2, -2)$ trend term was subtracted from each dependent variable. The data set contains men from the 1980 Census, 5 percent Public Use Sample. Sample size is 312,718 for 1930–1939 cohort and is 457,181 for 1940–1949 cohort.

b. F-statistic is for a test of the hypothesis that the quarter-of-birth dummies jointly have no effect.

Angrist and Krueger 1991: Table 2

TABLE II
PERCENTAGE OF AGE GROUP ENROLLED IN SCHOOL BY BIRTHDAY AND LEGAL DROPOUT AGE[a]

| | Type of state law[b] | | |
| | School-leaving age: 16 | School-leaving age: 17 or 18 | Column |
Date of birth	(1)	(2)	(1) − (2)
	Percent enrolled April 1, 1960		
1. Jan 1–Mar 31, 1944	87.6	91.0	−3.4
(age 16)	(0.6)	(0.9)	(1.1)
2. Apr 1–Dec 31, 1944	92.1	91.6	0.5
(age 15)	(0.3)	(0.5)	(0.6)
3. Within-state diff.	−4.5	−0.6	−4.0
(row 1 − row 2)	(0.7)	(1.0)	(1.2)
	Percent enrolled April 1, 1970		
4. Jan 1–Mar 31, 1954	94.2	95.8	−1.6
(age 16)	(0.3)	(0.5)	(0.6)
5. Apr 1–Dec 31, 1954	96.1	95.7	0.4
(age 15)	(0.1)	(0.3)	(0.3)
6. Within-state diff.	−1.9	0.1	−2.0
(row 1 − row 2)	(0.3)	(0.6)	(0.6)
	Percent enrolled April 1, 1980		
7. Jan 1–Mar 31, 1964	95.0	96.2	−1.2
(age 16)	(0.1)	(0.2)	(0.2)
8. Apr 1–Dec 31, 1964	97.0	97.7	−0.7
(age 15)	(0.1)	(0.1)	(0.1)
9. Within-state diff.	−2.0	−1.5	0.5
(row 1 − row 2)	(0.1)	(0.2)	(0.3)

a. Standard errors are in parentheses.
b. Data set used to compute rows 1–3 is the 1960 Census, 1 percent Public Use Sample; data set used to compute rows 4–6 is 1970 Census, 1 percent State Public Use Sample (15 percent form); data set used to compute rows 7–9 is the 1980 Census, 5 percent Public Use Sample. Each sample contains both boys and girls. Sample sizes are 4,153 for row 1; 12,512 for row 2; 7,758 for row 4; 24,636 for row 5; 42,740 for row 7; and 131,020 for row 8.

Angrist and Krueger 1991: Figure 5

FIGURE V
Mean Log Weekly Wage, by Quarter of Birth
All Men Born 1930–1949; 1980 Census

Angrist and Krueger 1991: Table 3
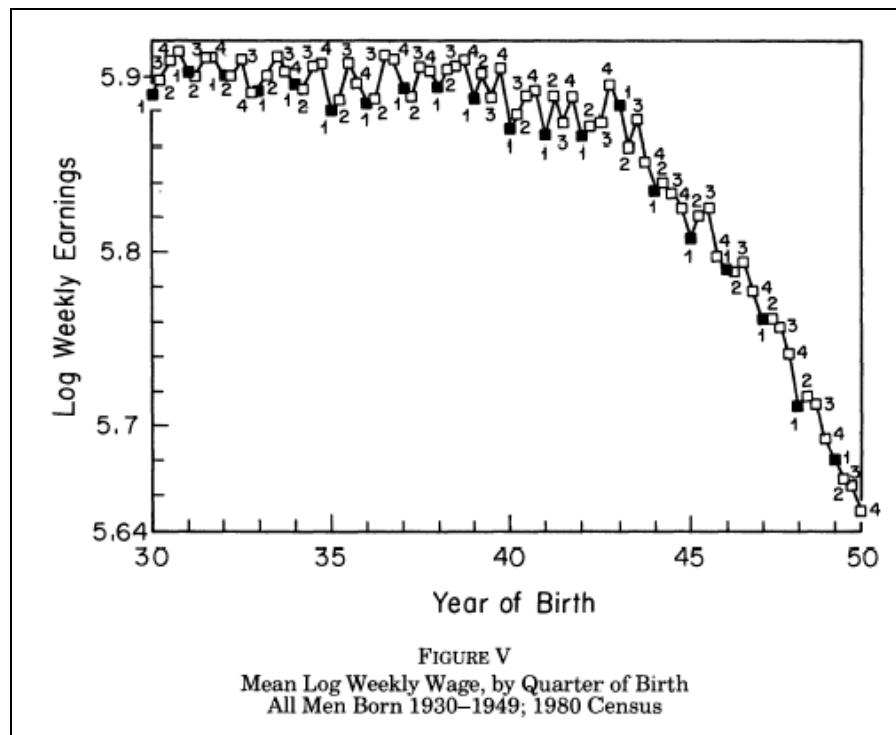
TABLE III
PANEL A: WALD ESTIMATES FOR 1970 CENSUS—MEN BORN 1920–1929[a]

	(1) Born in 1st quarter of year	(2) Born in 2nd, 3rd, or 4th quarter of year	(3) Difference (std. error) (1) − (2)
ln (wkly. wage)	5.1484	5.1574	−0.00898 (0.00301)
Education	11.3996	11.5252	−0.1256 (0.0155)
Wald est. of return to education			0.0715 (0.0219)
OLS return to education[b]			0.0801 (0.0004)

Panel B: Wald Estimates for 1980 Census—Men Born 1930–1939

	(1) Born in 1st quarter of year	(2) Born in 2nd, 3rd, or 4th quarter of year	(3) Difference (std. error) (1) − (2)
ln (wkly. wage)	5.8916	5.9027	−0.01110 (0.00274)
Education	12.6881	12.7969	−0.1088 (0.0132)
Wald est. of return to education			0.1020 (0.0239)
OLS return to education			0.0709 (0.0003)

a. The sample size is 247,199 in Panel A, and 327,509 in Panel B. Each sample consists of males born in the United States who had positive earnings in the year preceding the survey. The 1980 Census sample is drawn from the 5 percent sample, and the 1970 Census sample is from the State, County, and Neighborhoods 1 percent samples.

b. The OLS return to education was estimated from a bivariate regression of log weekly earnings on years of education.

Angrist and Krueger 1991: Table 4

TABLE IV
OLS AND TSLS ESTIMATES OF THE RETURN TO EDUCATION FOR MEN BORN 1920–1929: 1970 CENSUS[a]

Independent variable	(1) OLS	(2) TSLS	(3) OLS	(4) TSLS	(5) OLS	(6) TSLS	(7) OLS	(8) TSLS
Years of education	0.0802 (0.0004)	0.0769 (0.0150)	0.0802 (0.0004)	0.1310 (0.0334)	0.0701 (0.0004)	0.0669 (0.0151)	0.0701 (0.0004)	0.1007 (0.0334)
Race (1 = black)	—	—	—	—	0.2980 (0.0043)	−0.3055 (0.0353)	−0.2980 (0.0043)	−0.2271 (0.0776)
SMSA (1 = center city)	—	—	—	—	0.1343 (0.0026)	0.1362 (0.0092)	0.1343 (0.0026)	0.1163 (0.0198)
Married (1 = married)	—	—	—	—	0.2928 (0.0037)	0.2941 (0.0072)	0.2928 (0.0037)	0.2804 (0.0141)
9 Year-of-birth dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8 Region of residence dummies	No	No	No	No	Yes	Yes	Yes	Yes
Age	—	—	0.1446 (0.0676)	0.1409 (0.0704)	—	—	0.1162 (0.0652)	0.1170 (0.0662)
Age-squared	—	—	−0.0015 (0.0007)	−0.0014 (0.0008)	—	—	−0.0013 (0.0007)	−0.0012 (0.0007)
χ^2 [dof]	—	36.0 [29]	—	25.6 [27]	—	34.2 [29]	—	28.8 [27]

a. Standard errors are in parentheses. Sample size is 247,199. Instruments are a full set of quarter-of-birth times year-of-birth interactions. The sample consists of males born in the United States. The sample is drawn from the State, County, and Neighborhoods 1 percent samples of the 1970 Census (15 percent form). The dependent variable is the log of weekly earnings. Age and age-squared are measured in quarters of years. Each equation also includes an intercept.

Angrist and Krueger 1991: Table 5

TABLE V
OLS AND TSLS ESTIMATES OF THE RETURN TO EDUCATION FOR MEN BORN 1930–1939: 1980 CENSUS[a]

Independent variable	(1) OLS	(2) TSLS	(3) OLS	(4) TSLS	(5) OLS	(6) TSLS	(7) OLS	(8) TSLS
Years of education	0.0711 (0.0003)	0.0891 (0.0161)	0.0711 (0.0003)	0.0760 (0.0290)	0.0632 (0.0003)	0.0806 (0.0164)	0.0632 (0.0003)	0.0600 (0.0299)
Race (1 = black)	—	—	—	—	−0.2575 (0.0040)	−0.2302 (0.0261)	−0.2575 (0.0040)	−0.2626 (0.0458)
SMSA (1 = center city)	—	—	—	—	0.1763 (0.0029)	0.1581 (0.0174)	0.1763 (0.0029)	0.1797 (0.0305)
Married (1 = married)	—	—	—	—	0.2479 (0.0032)	0.2440 (0.0049)	0.2479 (0.0032)	0.2486 (0.0073)
9 Year-of-birth dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8 Region-of-residence dummies	No	No	No	No	Yes	Yes	Yes	Yes
Age	—	—	−0.0772 (0.0621)	−0.0801 (0.0645)	—	—	−0.0760 (0.0604)	−0.0741 (0.0626)
Age-squared	—	—	0.0008 (0.0007)	0.0008 (0.0007)	—	—	0.0008 (0.0007)	0.0007 (0.0007)
χ^2 [dof]	—	25.4 [29]	—	23.1 [27]	—	22.5 [29]	—	19.6 [27]

a. Standard errors are in parentheses. Sample size is 329,509. Instruments are a full set of quarter-of-birth times year-of-birth interactions. The sample consists of males born in the United States. The sample is drawn from the 5 percent sample of the 1980 Census. The dependent variable is the log of weekly earnings. Age and age-squared are measured in quarters of years. Each equation also includes an intercept.

Angrist and Krueger 1991: Table 6

TABLE VI
OLS AND TSLS ESTIMATES OF THE RETURN TO EDUCATION FOR MEN BORN 1940–1949: 1980 CENSUS[a]

Independent variable	(1) OLS	(2) TSLS	(3) OLS	(4) TSLS	(5) OLS	(6) TSLS	(7) OLS	(8) TSLS
Years of education	0.0573	0.0553	0.0573	0.0948	0.0520	0.0393	0.0521	0.0779
	(0.0003)	(0.0138)	(0.0003)	(0.0223)	(0.0003)	(0.0145)	(0.0003)	(0.0239)
Race (1 = black)	—	—	—	—	−0.2107	−0.2266	−0.2108	−0.1786
					(0.0032)	(0.0183)	(0.0032)	(0.0296)
SMSA (1 = center city)	—	—	—	—	0.1418	0.1535	0.1419	0.1182
					(0.0023)	(0.0135)	(0.0023)	(0.0220)
Married (1 = married)	—	—	—	—	0.2445	0.2442	0.2444	0.2450
					(0.0022)	(0.0022)	(0.0022)	(0.0023)
9 Year-of-birth dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8 Region-of-residence dummies	No	No	No	No	Yes	Yes	Yes	Yes
Age	—	—	0.1800	0.1325	—	—	0.1518	0.1215
			(0.0389)	(0.0486)			(0.0379)	(0.0474)
Age-squared	—	—	0.0023	0.0016	—	—	0.0019	0.0015
			(0.0006)	(0.0007)			(0.0005)	(0.0007)
χ^2 [dof]	—	101.6 [29]	—	49.1 [27]	—	93.6 [29]	—	50.6 [27]

a. Standard errors are in parentheses. Sample size is 486,926. Instruments are a full set of quarter-of-birth times year-of-birth interactions. Sample consists of males born in the United States. The sample is drawn from the 5 percent samples of the 1980 Census. The dependent variable is the log of weekly earnings. Age and age-squared are measured in quarters of years. Each equation also includes an intercept.

Angrist and Krueger 1991: Table 7

TABLE VII
OLS AND TSLS ESTIMATES OF THE RETURN TO EDUCATION FOR MEN BORN 1930–1939: 1980 CENSUS[a]

Independent variable	(1) OLS	(2) TSLS	(3) OLS	(4) TSLS	(5) OLS	(6) TSLS	(7) OLS	(8) TSLS
Years of education	0.0673	0.0928	0.0673	0.0907	0.0628	0.0831	0.0628	0.0811
	(0.0003)	(0.0093)	(0.0003)	(0.0107)	(0.0003)	(0.0095)	(0.0003)	(0.0109)
Race (1 = black)	—	—	—	—	−0.2547	−0.2333	−0.2547	−0.2354
					(0.0043)	(0.0109)	(0.0043)	(0.0122)
SMSA (1 = center city)	—	—	—	—	0.1705	0.1511	0.1705	0.1531
					(0.0029)	(0.0095)	(0.0029)	(0.0107)
Married (1 = married)	—	—	—	—	0.2487	0.2435	0.2487	0.2441
					(0.0032)	(0.0040)	(0.0032)	(0.0042)
9 Year-of-birth dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8 Region-of-residence dummies	No	No	No	No	Yes	Yes	Yes	Yes
50 State-of-birth dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age	—	—	−0.0757	−0.0880	—	—	−0.0778	−0.0876
			(0.0617)	(0.0624)			(0.0603)	(0.0609)
Age-squared	—	—	0.0008	0.0009	—	—	0.0008	0.0009
			(0.0007)	(0.0007)			(0.0007)	(0.0007)
χ^2 [dof]	—	163 [179]	—	161 [177]	—	164 [179]	—	162 [177]

a. Standard errors are in parentheses. Excluded instruments are 30 quarter-of-birth times year-of-birth dummies and 150 quarter-of-birth times state-of-birth interactions. Age and age-squared are measured in quarters of years. Each equation also includes an intercept term. The sample is the same as in Table VI. Sample size is 329,509.