The Long-Run Effects of Parental Wealth Shocks on Children

Cache Ellsworth
University of Wisconsin-Madison

Ian Fillmore
Washington University at St. Louis

Adrian Haws
Cornell University

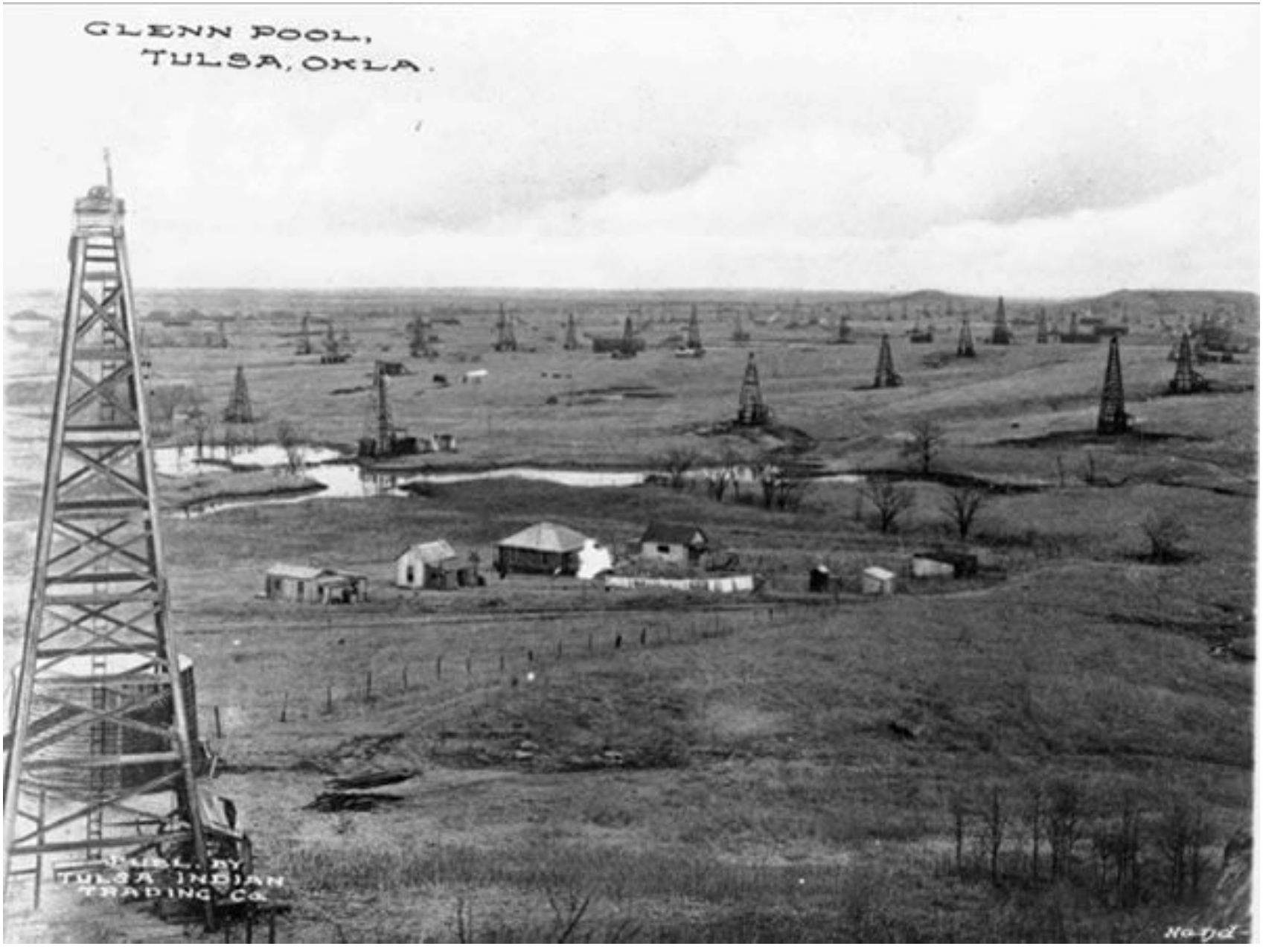
Joseph Price
Brigham Young University

- Active literature on intergenerational economic mobility in the US (e.g. Chetty et al. 2014; Olivetti and Paserman 2015; Feigenbaum 2018; Song et al. 2019; Ward 2023)
- Unobserved parental traits associated with wealth (e.g. health, education, social capital, culture)
- Causal intergenerational effects of wealth largely unknown

Contribution

- Winning the lottery modestly increases children's college attendance (Bulman et al. 2021)
- Winning the 1832 Georgia land lottery increased fertility but not children's long-run wealth, occupational status, or literacy (Bleakley and Ferrie 2016)

- Winning the lottery modestly increases children's college attendance (Bulman et al. 2021)
- Winning the 1832 Georgia land lottery increased fertility but not children's long-run wealth, occupational status, or literacy (Bleakley and Ferrie 2016)
- We study the effects of quasi-random oil wealth shocks in early 20th-century Oklahoma
  - Larger sample – nearly 200,000 initial homesteaders
  - Directly measure children's wealth, income, and education


GLENN POOL,
TULSA, OKLA.
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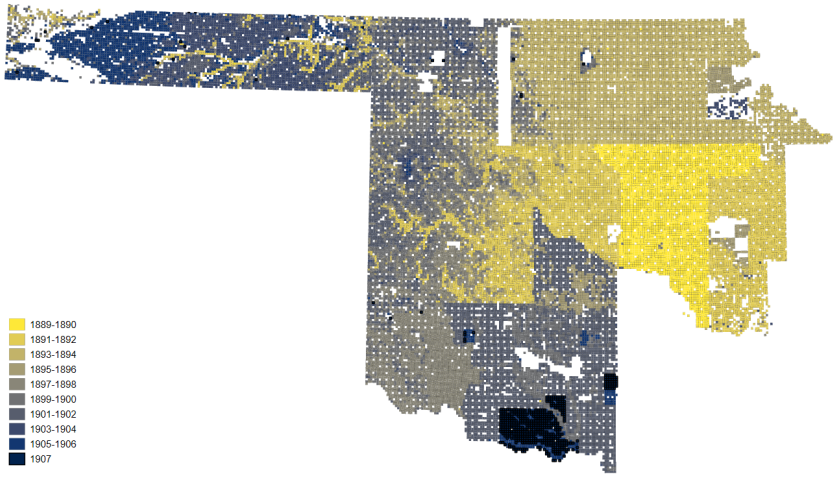
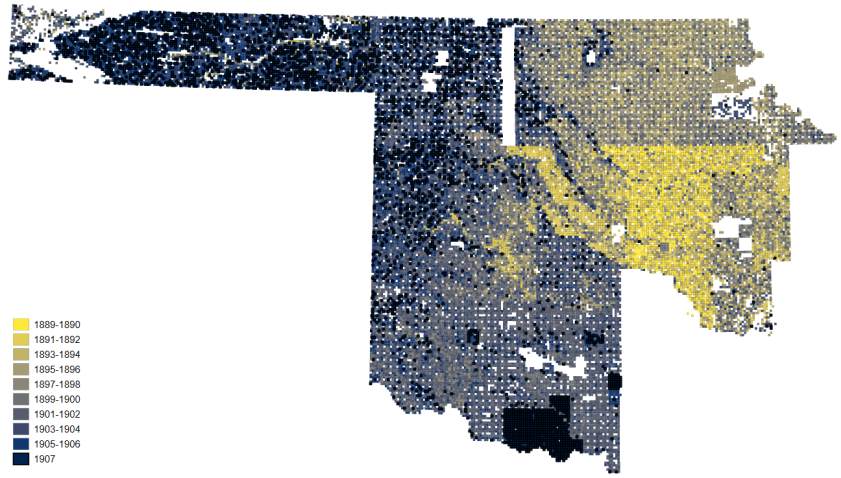
Initial Homesteaders in Oklahoma Territory

Ellsworth, Fillmore, Haws, Price

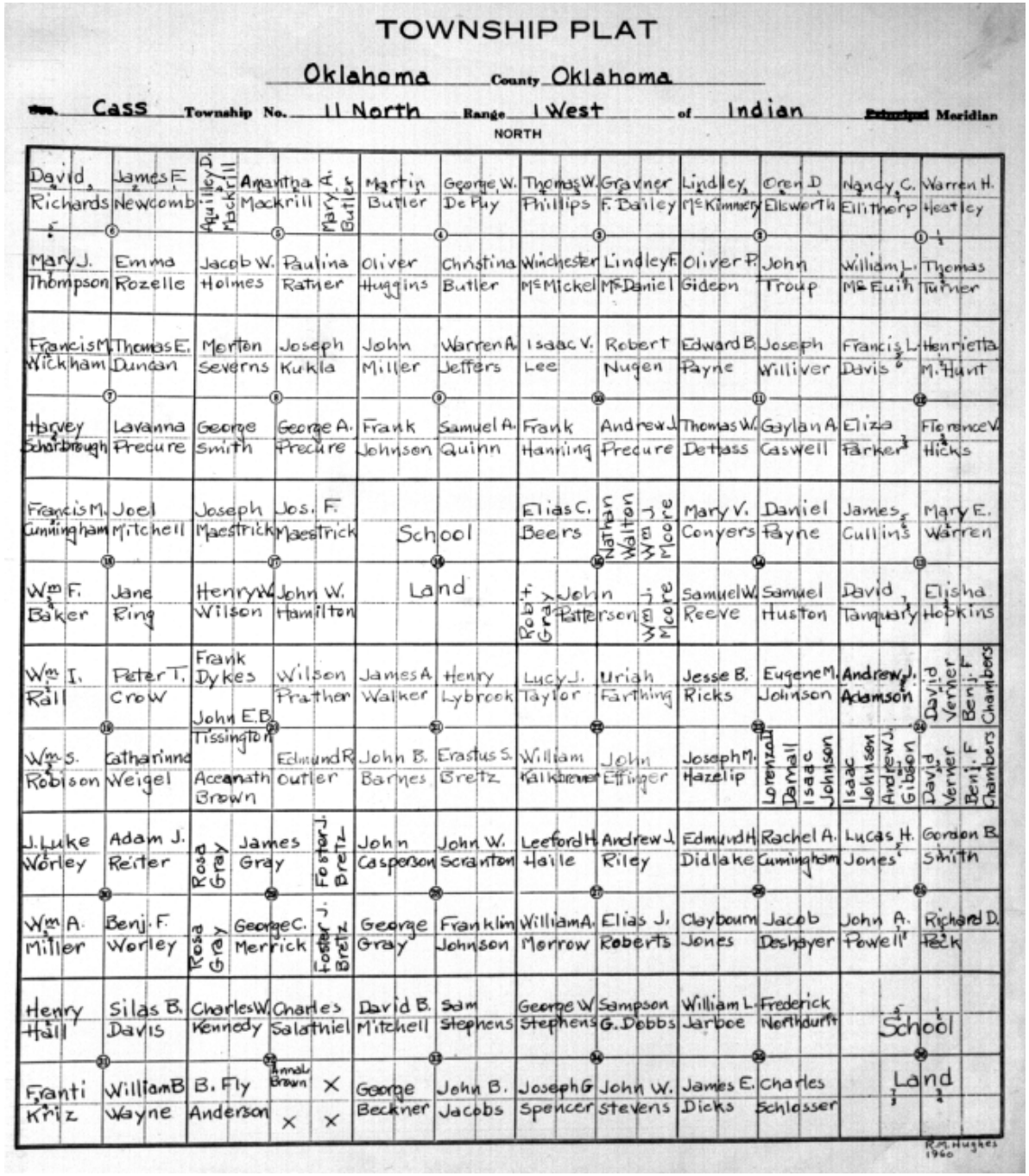
Dates of homesteading



Earliest homesteader



Latest homesteader



TOWNSHIP PLAT

Oklahoma County Oklahoma

Cass Township No. 11 North Range 1 West of Indian Meridian

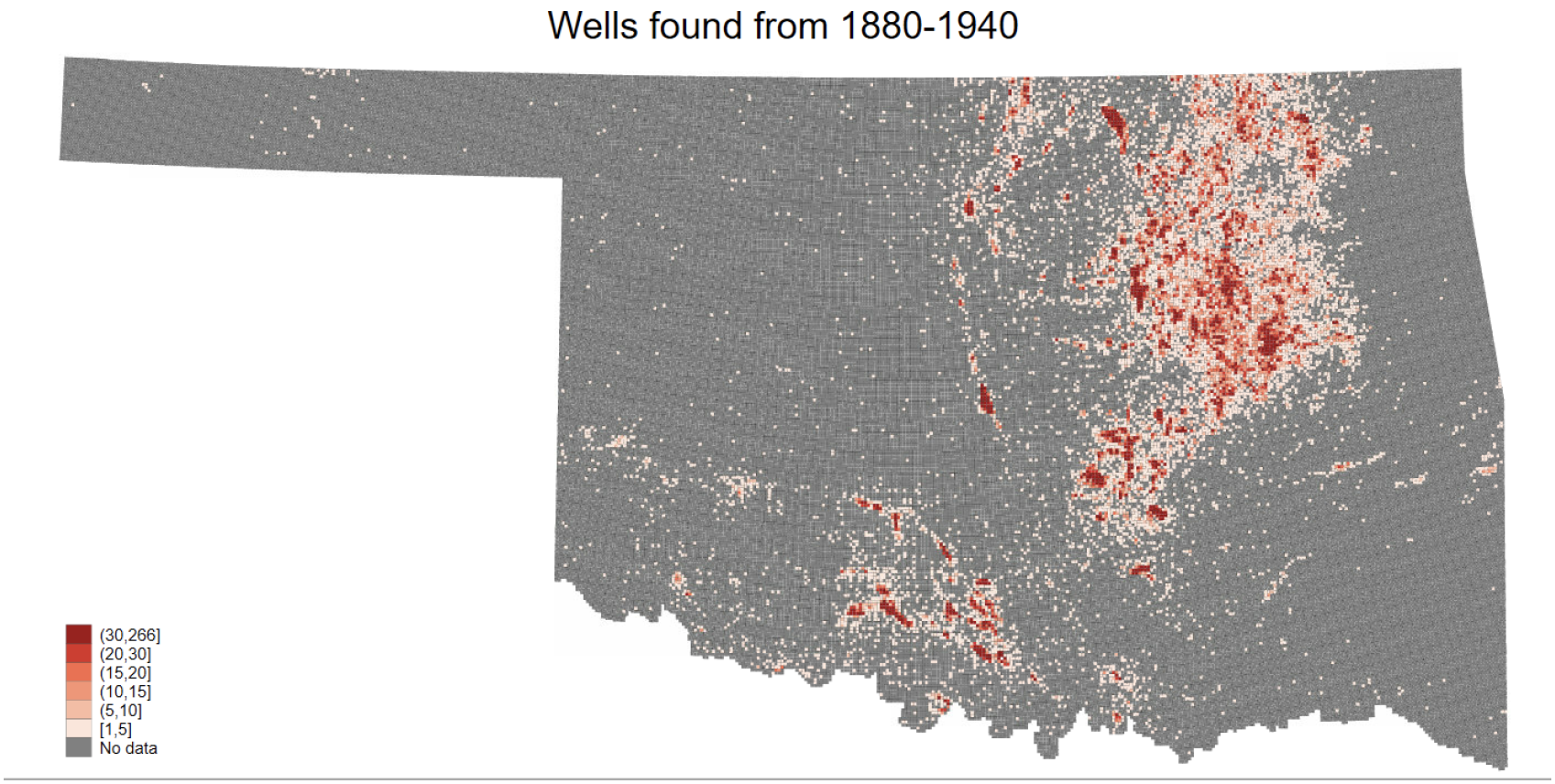
NORTH

David Richards	James E. Newcomb	Aquilley D. Mackrill / Amantha Mackrill / Mary A. Butler		Martin Butler	George W. De Puy	Thomas W. Phillips	Gravner F. Bailey	Lindley Mc Kimmey	Oren D. Ellsworth	Nancy C. Ellithorp	Warren H. Heatley
Mary J. Thompson	Emma Rozelle	Jacob W. Holmes	Paulina Rather	Oliver Huggins	Christina Butler	Winchester Mc Mickel	Lindley F. Mc Daniel	Oliver P. Gideon	John Troup	William L. Mc Euith	Thomas Turner
Francis M. Wickham	Thomas E. Duncan	Morton Severns	Joseph Kukla	John Miller	Warren A. Jeffers	Isaac V. Lee	Robert Nugen	Edward B. Payne	Joseph Williver	Francis L. Davis	Henrietta M. Hunt
Harvey Scharbrough	Lavanna Precure	George Smith	George A. Precure	Frank Johnson	Samuel A. Quinn	Frank Hanning	Andrew J. Precure	Thomas W. Dethass	Gaylan A. Caswell	Eliza Parker	Florence V. Hicks
Francis M. Cunningham	Joel Mitchell	Joseph Maestrick	Jos. F. Maestrick	School Land		Elias C. Beers	Nathan Walton / Wm J. Moore	Mary V. Conyers	Daniel Payne	James Cullins	Mary E. Warren
Wm F. Baker	Jane Ring	Henry W. Wilson	John W. Hamilton			Robt Gray / John Patterson	Wm J. Moore	Samuel W. Reeve	Samuel Huston	David Tanquary	Elisha Hopkins
Wm I. Rall	Peter T. Crow	Frank Dykes / John E. B. Tissington	Wilson Prather	James A. Walker	Henry Lybrook	Lucy J. Taylor	Uriah Farthing	Jesse B. Ricks	Eugene M. Johnson	Andrew J. Adamson	David Verner / Benj. F Chambers
Wm S. Robison	Catharine Weigel	Accanath Brown	Edmund R. Outler	John B. Barnes	Erastus S. Bretz	William Kalkbrener	John Effinger	Joseph M. Hazelip	Lorenzo D. Darnall / Isaac Johnson	Isaac Johnson / Andrew J. Gibson	David Verner / Benj. F Chambers
J. Luke Worley	Adam J. Reiter	Rosa Gray	James Gray / Foster J. Bretz	John Casperson	John W. Scranton	Leeford H. Haile	Andrew J. Riley	Edmund H. Didlake	Rachel A. Cunningham	Lucas H. Jones	Gordon B. Smith
Wm A. Miller	Benj. F. Worley	Rosa Gray	George C. Merrick / Foster J. Bretz	George Gray	Franklin Johnson	William A. Morrow	Elias J. Roberts	Clayborn Jones	Jacob Deshayer	John A. Powell	Richard D. Heck
Henry Hall	Silas B. Davis	Charles W. Kennedy	Charles Salathiel	David B. Mitchell	Sam Stephens	George W. Stephens	Sampson G. Dobbs	William L. Jarboe	Frederick Northdurft	School Land	
Franti Kriz	William B. Wayne	B. Fly Anderson	Annah Brown × ×	George Beckner	John B. Jacobs	Joseph G. Spencer	John W. Stevens	James E. Dicks	Charles Schlosser		

R.M. Hughes 1960

Oil Discoveries

Ellsworth, Fillmore, Haws, Price



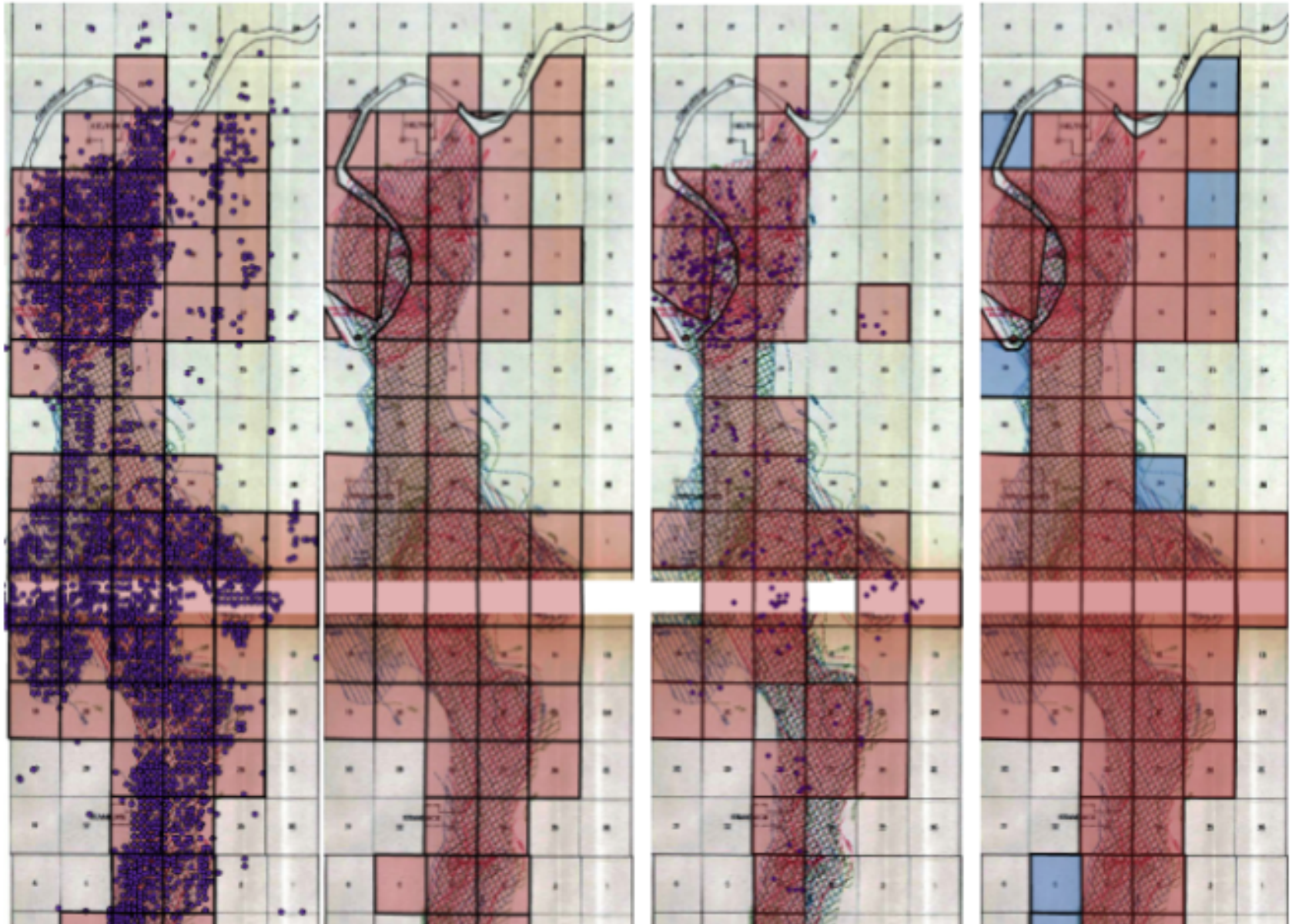
Cushing Oil Field

(a) Oklahoma Geological Survey

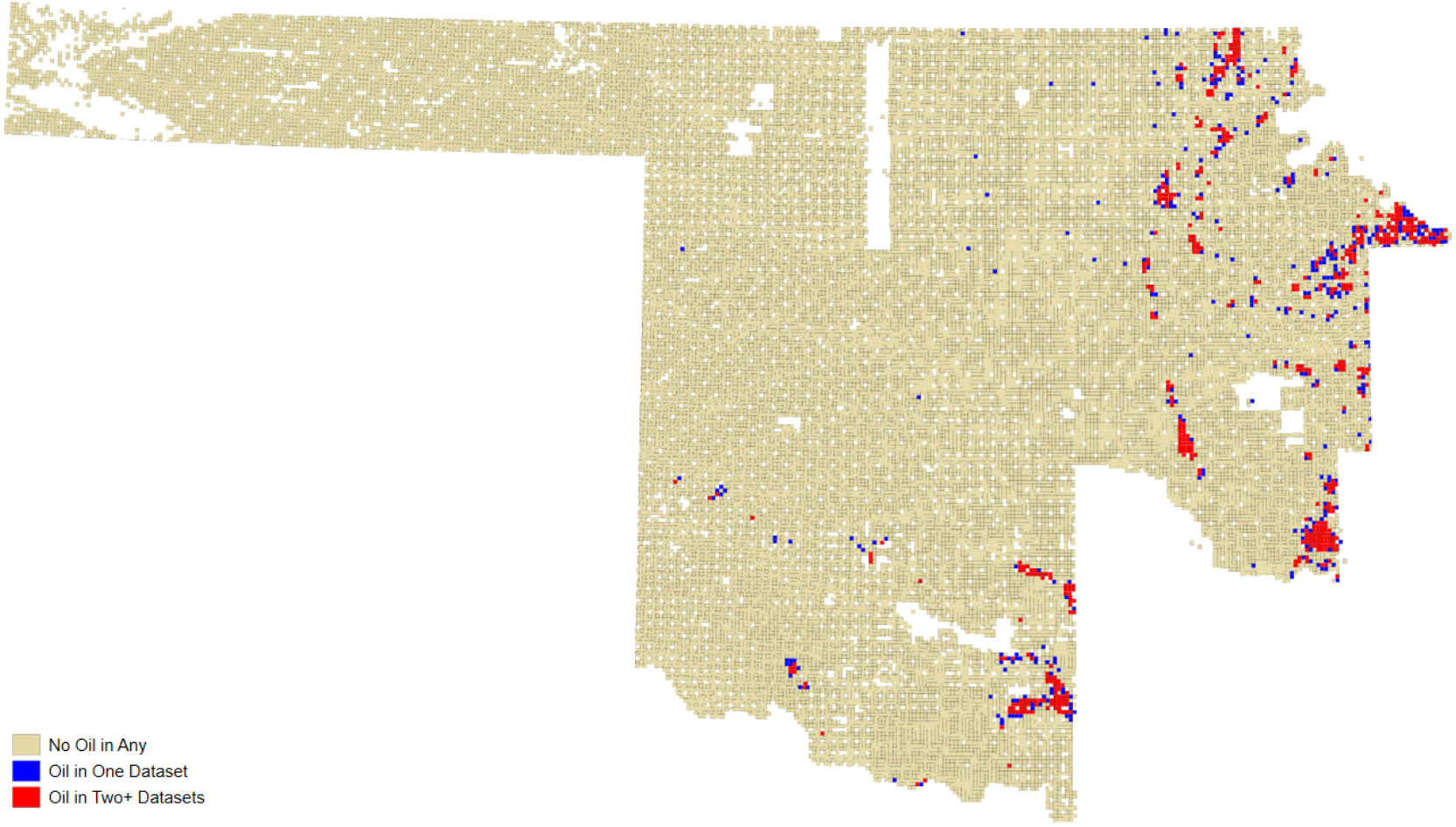
(b) U.S. Geological Survey

(c) WellDatabase

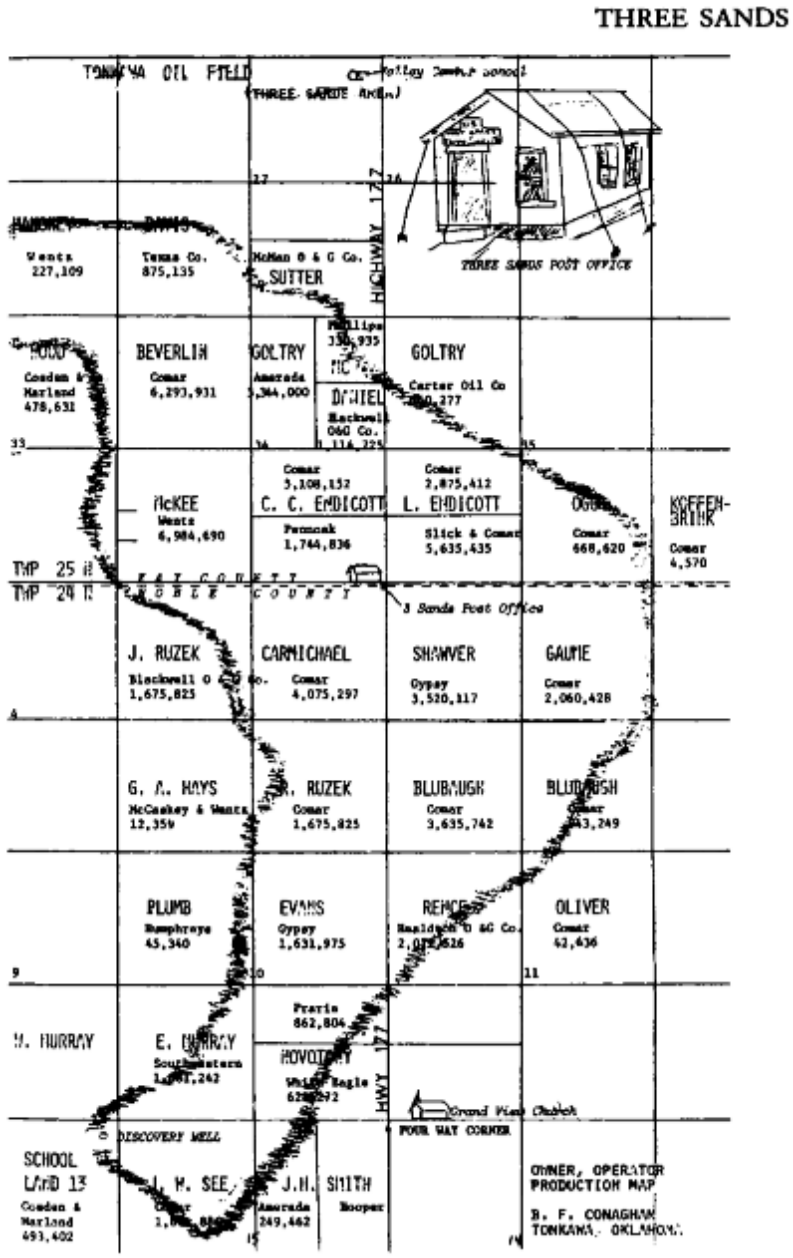
(d) All Oil

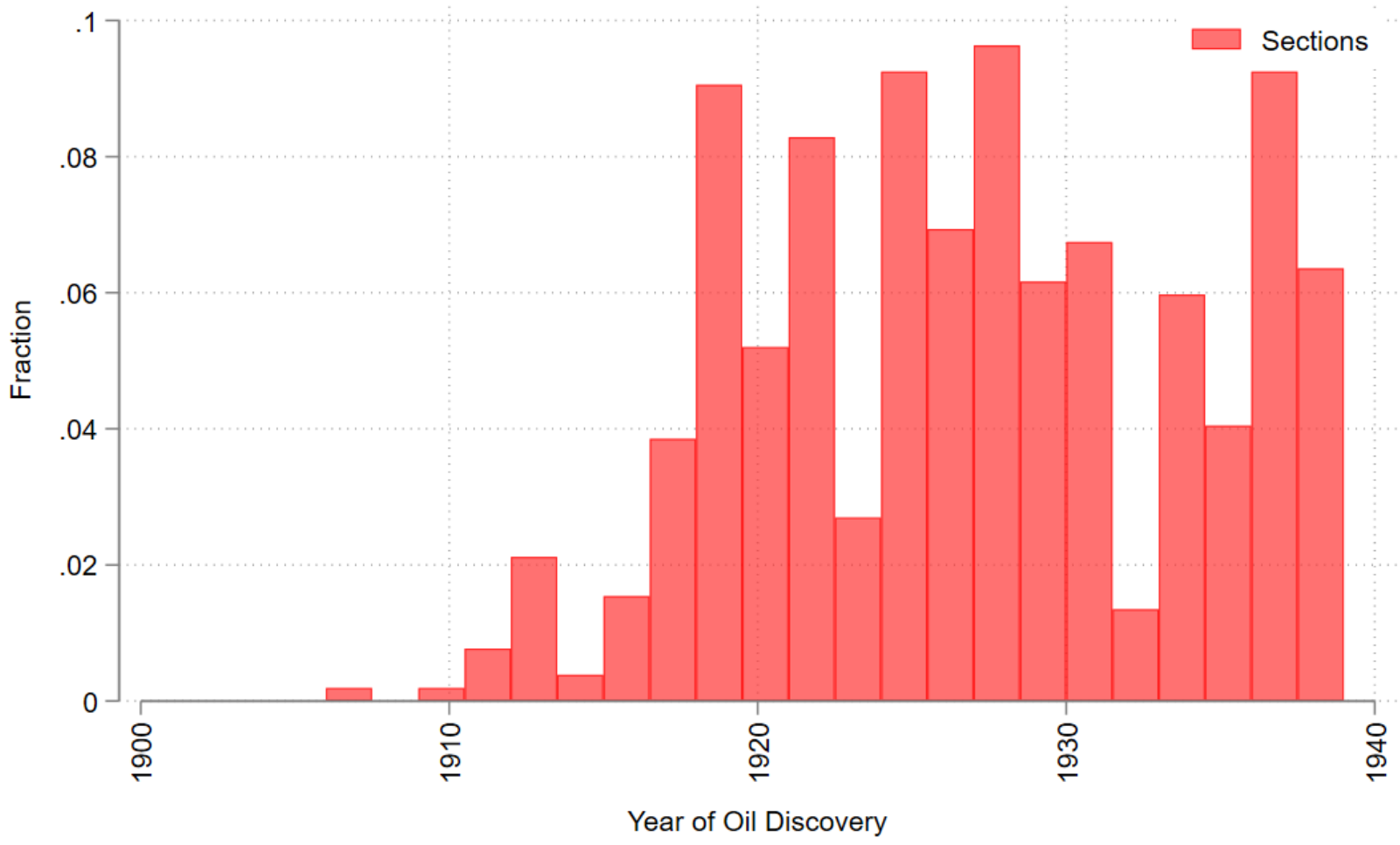


Oil Treatment

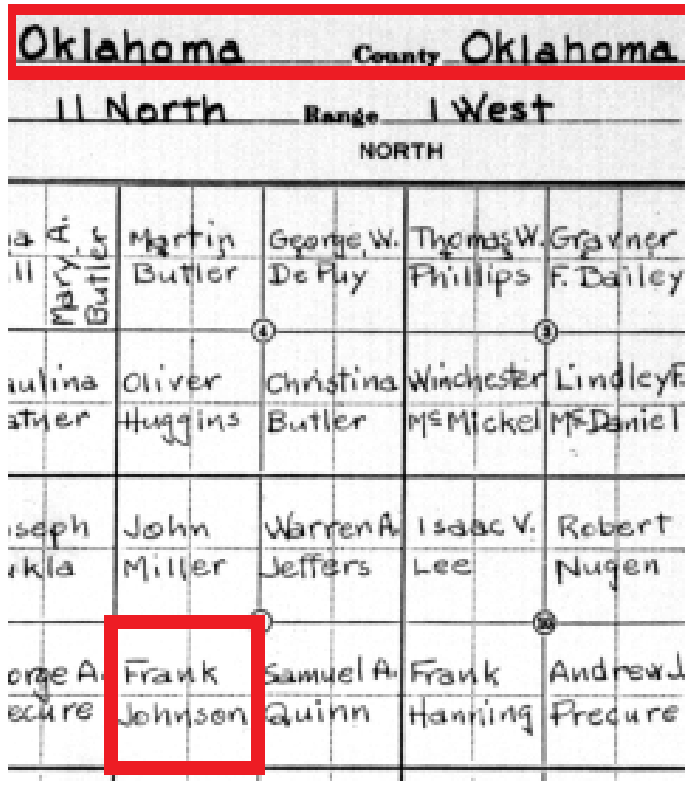


$160,000 to $18 million royalties per landowner (current)




Sections
Fraction
.1
.08
.06
.04
.02
0
1900
1910
1920
1930
1940
Year of Oil Discovery

Linking to Children of Homesteaders

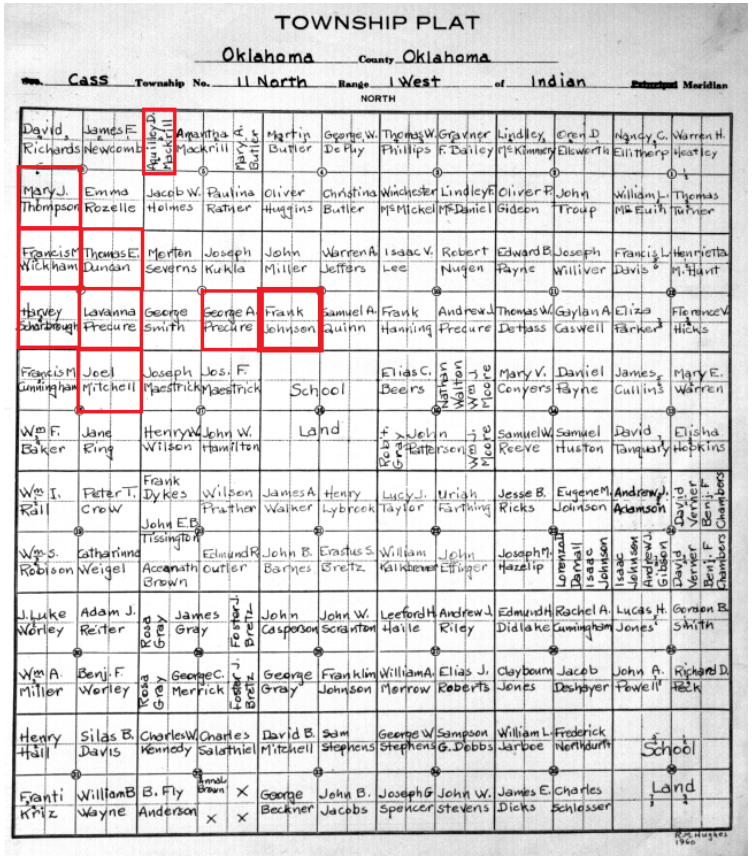

Oklahoma County Oklahoma

11 North Range 1 West

NORTH

Mary A. Butler	Martin Butler	George W. DeFuy	Thomas W. Phillips	Gravner F. Dailey
aulina	Oliver Huggins	Christina Butler	Winchester McMickel	Lindley McDaniel
seph kla	John Miller	Warren A. Jeffers	Isaac V. Lee	Robert Nugen
orge A. ecure	Frank Johnson	Samuel A. Quinn	Frank Hanning	Andrew J. Precure

4 “Frank Johnson”s in Oklahoma County in the 1900 Census



TOWNSHIP PLAT

Oklahoma County Oklahoma

Twp. Cass Township No. 11 North Range 1 West of Indian Principal Meridian

NORTH

David Richards	James F. Newcomb	Merrilley D. Mackrill	Amantha A. Mackrill	Mary E. Butler	Martin Butler	George W. De Puy	Thomas W. Phillips	Gravner F. Dailey	Lindley Mc Kinney	Oren D Ellsworth	Ngady C. Ellithorp	Warren H. Heatley
Mary J. Thompson	Emma Rozelle	Jacob W. Holmes	Paulina Rather	Oliver Huggins	Christina Butler	Winchester Mc Mickel	Lindley F. Mc Daniel	Oliver P. Gideon	John Troup	William L. Mc Ewith	Thomas M. Turner	
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Harvey Scharbrough	Lavanna Precure	George Smith	George A. Precure	Frank Johnson	Samuel A. Quinn	Frank Hanning	Andrew J. Precure	Thomas W. Dethass	Gaylan A. Gaswell	Eliza Parker	Flemince V. Hicks	
Francis M. Cunningham	Joel Mitchell	Joseph Maestrick	Jos. F. Maestrick	School Land		Elias C. Beers	Nathan Walton / Wm J. Moore	Mary V. Conyers	Daniel Payne	James Cullins	Mary E. Warren	
Wm F. Baker	Jane Ring	Henry W. Wilson	John W. Hamilton			Robt Gray / John Patterson	Wm J. Moore	Samuel W. Reeve	Samuel Huston	David Tanquary	Elisha Hopkins	
Wm I. Rail	Peter T. Crow	Frank Dykes	Wilson Prather	James A. Walker	Henry Lybrook	Lucy J. Taylor	Uriah Farthing	Jesse B. Ricks	Eugene M. Johnson	Andrew J. Adamson	David Verner / Benj. F. Chambers	
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J. Luke Worley	Adam J. Reiter	Road Gray	James Gray	Foster J. Bretz	John Casperson	John W. Scranton	Leeford H. Haile	Andrew J. Riley	Edmund H. Didlake	Rachel A. Cunningham	Lucas H. Jones	Gerson B. Smith
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Henry Hall	Silas B. Davis	Charles W. Kennedy	Charles Salathiel		David B. Mitchell	Sam Stephens	George W. Stephens	Sampson G. Dobbs	William L. Jarboe	Frederick Northdurft	School Land	
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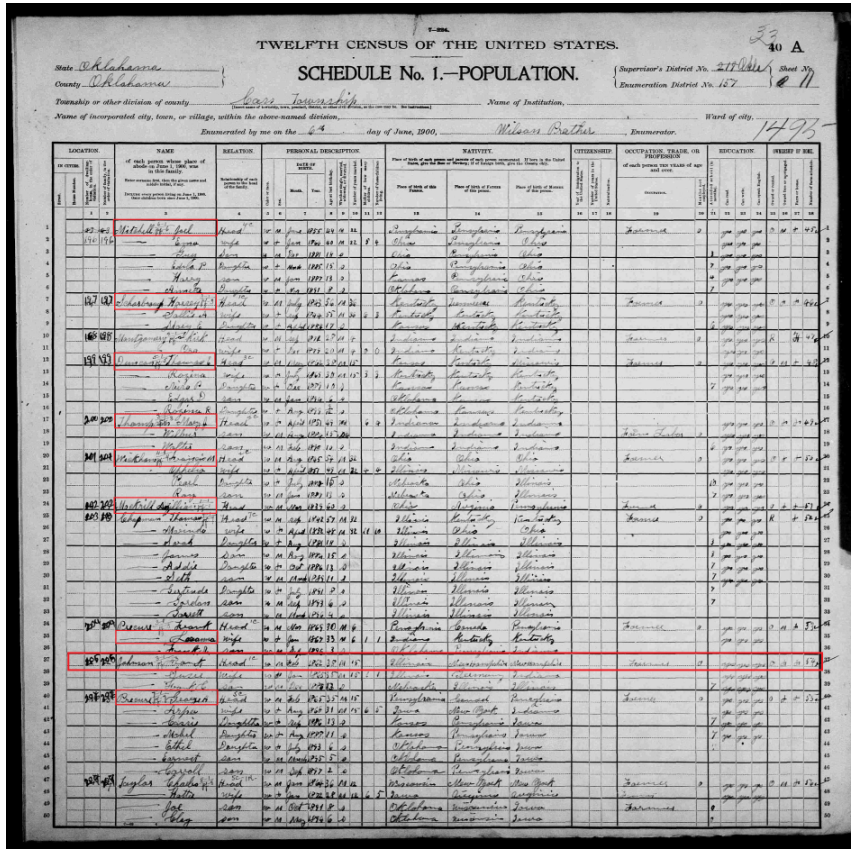
R.M. Hughes 1960



T-624.

TWELFTH CENSUS OF THE UNITED STATES. 40 A

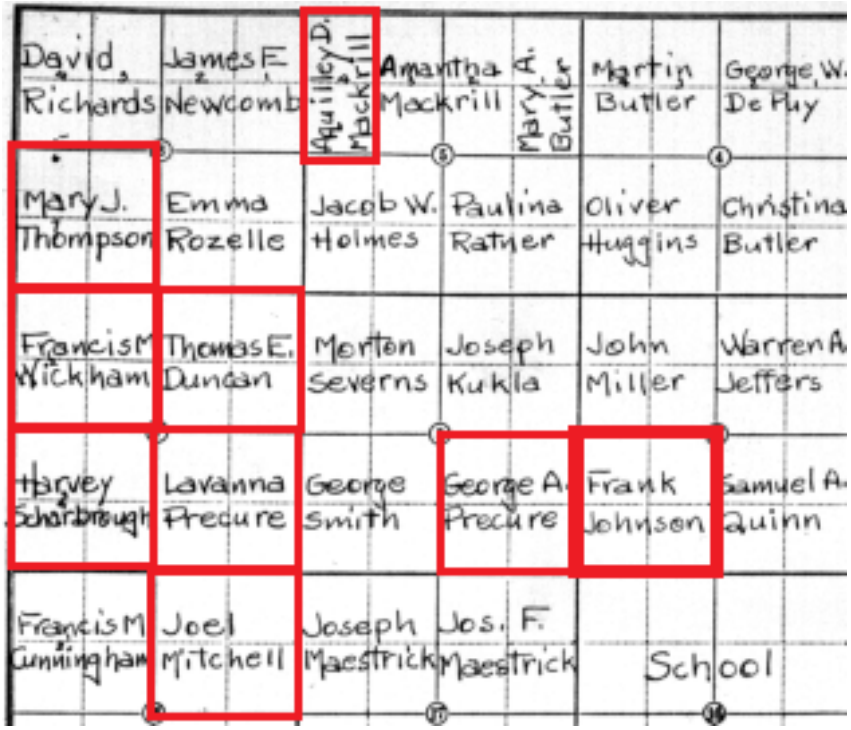
SCHEDULE No. 1.—POPULATION.

State Oklahoma
County Oklahoma

Supervisor's District No. 11 Sheet No. 2
Enumeration District No. 157

Township or other division of county Cass Township Name of Institution
Name of incorporated city, town, or village, within the above-named division Ward of city
Enumerated by me on the 24 day of June, 1900. Wilson Rather Enumerator.

LOCATION.	NAME of each person whose place of abode on June 1, 1900, was in this family.	RELATION.	PERSONAL DESCRIPTION.							NATIVITY.			CITIZENSHIP	OCCUPATION, TRADE, OR PROFESSION of each person ten years of age and over.	EDUCATION	HOME OWNED OR RENTED.		
			Color.	Sex.	DATE OF BIRTH. Month.	DATE OF BIRTH. Year.	Age at last birthday.	Single, Married, Widowed, or Divorced.	Mother of how many children, and number living.	Place of birth of this person.	Place of birth of Father of this person.	Place of birth of Mother of this person.	Year of immigration to the United States.	Number of years a resident in the United States.		Attended School within the year.	Can read.	Can write.	Owned or rented.	Free or mortgaged.
			4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
82 82	Mitchell Wm Jail	Head	W	M	June	1855	44	M	22	Pennsylvania	Pennsylvania	Pennsylvania			Farmer		yes	yes	O	M
83 83	" Jane	wife	W	F	Jan	1856	44	M	22	Ohio	Pennsylvania	Ohio					yes	yes		
	" Ray	dau	W	F	Apr	1878	22	S		Ohio	Pennsylvania	Ohio					yes	yes		
	" Lucile M	daughter	W	F	Mch	1887	13			Ohio	Pennsylvania	Ohio					yes	yes		
	" Mary	dau	W	F	Jan	1889	11			Kansas	Pennsylvania	Ohio					yes	yes		
	" Harry	Daughter	W	M	Feb	1891	9			Oklahoma	Pennsylvania	Ohio					yes	yes		
84 84	Cheatham Thomas H	Head	W	M	July	1845	54	M		Kentucky	Kentucky	Kentucky			Farmer		yes	yes	O	M
	" Sallie M	wife	W	F	Aug	1860	39	M	10	Kentucky	Kentucky	Kentucky					yes	yes		
	" Liddy A	Daughter	W	F	Apr	1882	18			Kansas	Kentucky	Kentucky					yes	yes		
85 85	Montgomery Wm Rich	Head	W	M	Aug	1858	41	M		Indiana	Indiana	Indiana			Farmer		yes	yes	R	M
	" Ina	wife	W	F	Jan	1873	27	M	3	Indiana	Kentucky	Indiana					yes	yes		
86 86	Owens Thomas L	Head	W	M	May	1856	44	M		Kansas	Kentucky	Kentucky			Farmer		yes	yes	O	M
	" Rosena	wife	W	F	Mch	1858	42	M	10	Kentucky	Kentucky	Kentucky					yes	yes		
	" Edith M	Daughter	W	F	Oct	1877	22			Kansas	Kansas	Kentucky					yes	yes		
	" Edgar D	son	W	M	Jan	1880	20			Oklahoma	Kansas	Kentucky					yes	yes		
	" Rosena R	Daughter	W	F	Aug	1892	7			Oklahoma	Kansas	Kentucky					yes	yes		
87 87	Thompson Thomas	Head	W	M	April	1851	49	M	2	Indiana	Kentucky	Indiana			Farmer		yes	yes	O	M
	" Mollie	wife	W	F	Aug	1858	41	M	2	Indiana	Indiana	Indiana					yes	yes		
	" Phyllis	dau	W	F	Feb	1890	10			Indiana	Indiana	Indiana					yes	yes		
88 88	Whitehead Thomas	Head	W	M	Aug	1862	37	M	14	Ohio	Virginia	Virginia			Farmer		yes	yes	R	M
	" Ida	wife	W	F	Oct	1864	35	M	14	Illinois	Indiana	Illinois					yes	yes		
	" Pearl	Daughter	W	F	July	1884	15			Oklahoma	Ohio	Illinois					yes	yes		
	" Ray	son	W	M	Jan	1889	11			Oklahoma	Ohio	Illinois					yes	yes		
89 89	Westfall Jay	Head	W	M	Mch	1833	67			Ohio	Virginia	Pennsylvania			Farmer		yes	yes	O	M
90 90	Telgman Thomas	Head	W	M	Feb	1861	39	M	12	Illinois	Kentucky	Kentucky			Farmer		yes	yes	R	M
	" Minnie	wife	W	F	April	1878	22	M	12	Illinois	Ohio	Ohio					yes	yes		
	" Jessie	Daughter	W	F	Aug	1898	1			Illinois	Illinois	Illinois								
	" Jesse	son	W	M	Aug	1894	5			Illinois	Illinois	Illinois					yes	yes		
	" Addie	Daughter	W	F	Oct	1896	3			Illinois	Illinois	Illinois					yes	yes		
	" Seth	son	W	M	March	1898	2			Illinois	Illinois	Illinois					yes	yes		
	" Estanda	Daughter	W	F	July	1899	0			Illinois	Illinois	Illinois								
	" Gordan	son	W	M	July	1899	0			Illinois	Illinois	Illinois								
	" Russell	son	W	M	March	1900	0			Illinois	Illinois	Illinois								
91 91	Owens Arnold	Head	W	M	Mch	1863	37	M	6	Pennsylvania	Kentucky	Pennsylvania			Farmer		yes	yes	R	M
	" Emma	wife	W	F	Jan	1873	27	M	6	Kentucky	Kentucky	Kentucky					yes	yes		
	" Frank	son	W	M	July	1894	5			Oklahoma	Kentucky	Indiana								
92 92	Johnson Wm A	Head	W	M	Dec	1870	29	M	6	Illinois	Pennsylvania	Pennsylvania			Farmer		yes	yes	R	M
	" Grace	wife	W	F	Jan	1875	25	M	6	Illinois	Indiana	Indiana					yes	yes		
	" Ray E	son	W	M	Jan	1893	7			Illinois	Illinois	Illinois					yes	yes		
93 93	Beswick Thomas	Head	W	M	Feb	1865	35	M	10	Pennsylvania	Canada	Pennsylvania			Farmer		yes	yes	O	M
	" Agnes	wife	W	F	Jan	1871	29	M	6	Kansas	New York	Indiana					yes	yes		
	" Harley	Daughter	W	F	Mch	1892	8			Kansas	Pennsylvania	Kansas					yes	yes		
	" Mabel	Daughter	W	F	Aug	1897	2			Kansas	Pennsylvania	Kansas								
	" Ethel	Daughter	W	F	July	1898	1			Oklahoma	Pennsylvania	Kansas								
	" Leonard	son	W	M	March	1900	0			Oklahoma	Pennsylvania	Kansas								
	" Lowell	son	W	M	March	1900	0			Oklahoma	Pennsylvania	Kansas								
94 94	Douglas Charles H	Head	W	M	June	1856	44	M	12	Wisconsin	New York	New York			Farmer		yes	yes	O	M
	" Hattie	wife	W	F	Jan	1858	42	M	12	Indiana	Indiana	Indiana					yes	yes		
	" Jay	son	W	M	Oct	1881	8			Oklahoma	Wisconsin	Indiana			Farmer					
	" Clay	son	W	M	May	1884	6			Oklahoma	Wisconsin	Indiana								



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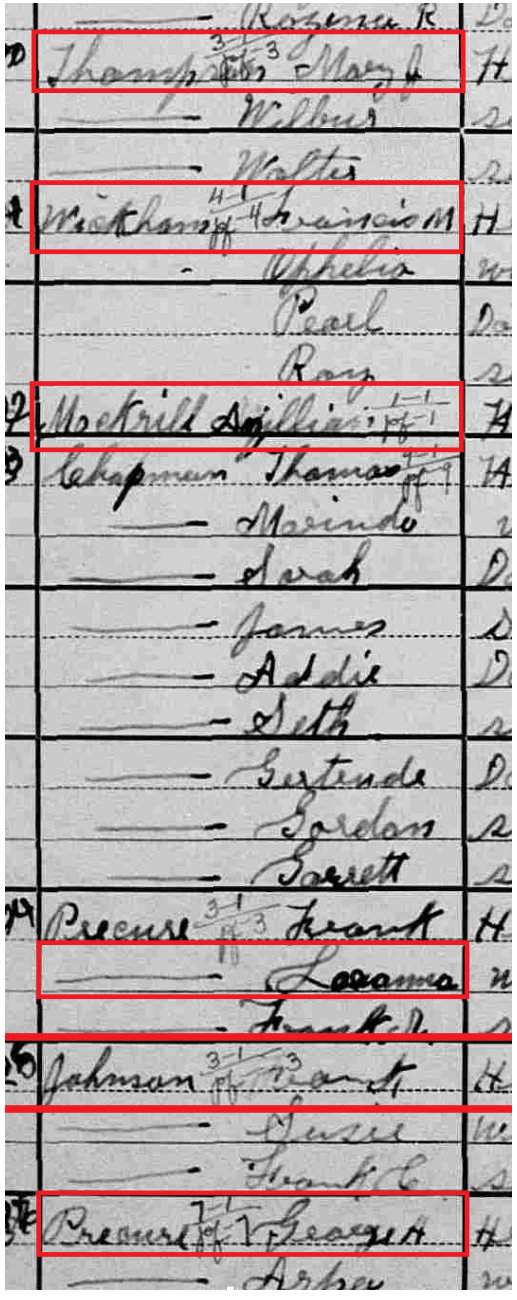
Francis M. Cunningham	Joel Mitchell	Joseph Maestrick	Jos. F. Maestrick		School	



- We link 39% of homesteaders to the 1900 or 1910 census
- 61% of initial claims were converted to patents within 5 years
  - This is an upper limit on the match rate (if no migration)

- Use Census Tree links (Buckles et al. 2023) to gather children living with a homesteader in any census
- Link children to their adulthood outcomes in 1940

Identification Strategy

Intention to Treat estimator

$$y_{ij} = \delta_1 Oil_j + \delta_2 PossibleOil_j + \alpha_{T(j)} + X_i'\beta + \epsilon_{ij}$$

- δ_1 is the causal effect of the presence of oil on children's outcome y_i
- X_i: Gender, race, age FE
- SEs clustered by section

Additional specifications

1. Bounded estimates using IV
2. (Later) restrict to homesteaders who stayed on their land to get closer to treatment on the treated

Conditional Independence Assumption

1. Initial homesteading location decision is unrelated to the presence of oil
2. Record linking does not introduce differences across treatment groups
   - We find that record linking is unrelated to the presence of oil
3. (Later) Out-migration does not introduce differences across treatment groups

Table 2. Summary statistics, linked homesteaders

	Oil in section (2-3 sources)	Oil in section (1 source only)	No oil	Difference (I - III)		Difference (II - III)	
	(I)	(II)	(III)	Within township	Unconditional	Within township	Unconditional
Year of entry	1894.93	1894.51	1897.53	0.03	-2.60***	0.06	-3.02***
	[3.89]	[3.76]	[5.08]	(0.08)	(0.11)	(0.10)	(0.14)
Male	0.89	0.86	0.85	0.01	0.04***	-0.02	0.01
				(0.01)	(0.01)	(0.01)	(0.01)
Black	0.04	0.03	0.04	-0.01	0.00	-0.02*	-(0.01)
				(0.01)	(0.01)	(0.01)	(0.01)
Indigenous	0.01	0.02	0.02	0.00	0.00	0.01	0.01
				(0.00)	(0.00)	(0.01)	(0.01)
Age	36.27	35.60	32.47	-0.27	3.81***	-0.97	3.13***
	[17.47]	[18.20]	[18.35]	(0.59)	(0.48)	(0.71)	(0.65)
Married	0.72	0.70	0.67	0.00	0.04***	-0.03	0.03
				(0.02)	(0.01)	(0.02)	(0.02)
Home	0.77	0.76	0.76	0.01	0.01	0.00	0.00
				(0.01)	(0.01)	(0.02)	(0.02)
On farm	0.73	0.77	0.78	-0.02	-0.05***	0.01	-0.01
				(0.01)	(0.01)	(0.02)	(0.02)
Farmer	0.68	0.68	0.63	0.01	0.05***	0.00	0.05***
				(0.02)	(0.01)	(0.02)	(0.02)
Children linked to 1940	3.12	3.11	3.22	0.08	-0.10	0.02	-0.11
	[2.78]	[2.70]	[2.83]	(0.09)	(0.08)	(0.11)	(0.10)
Observations	1,336	791	70,476				

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 3. Summary statistics in 1940 census, children of homesteaders

	Oil in section (2-3 sources)	Oil in section (1 source only)	No oil	Difference (I - III)		Difference (II - III)	
	(I)	(II)	(III)	Within township	Unconditional	Within township	Unconditional
Characteristics							
Male	0.52	0.52	0.51	0.00	0.01	0.00	0.01
				(0.01)	(0.01)	(0.01)	(0.01)
Black	0.02	0.02	0.02	0.00	0.00	-0.01	0.00*
				(0.00)	(0.00)	(0.01)	(0.00)
Indigenous	0.01	0.01	0.01	0.00	0.00	0.00	0.00
				(0.00)	(0.00)	(0.00)	(0.00)
Age	45.39	45.72	42.73	-0.09	2.66***	0.37	3.00***
	[16.83]	[17.58]	[17.57]	(0.48)	(0.27)	(0.64)	(0.37)
Over 18 years at oil discovery	0.68	0.73					
Outcomes							
Home	0.55	0.54	0.52		0.04***		0.02*
					(0.01)		(0.01)
Home value >$5000	0.06	0.06	0.04		0.02***		0.01***
					(0.00)		(0.00)
Nonwage income >$50	0.24	0.23	0.21		0.04***		0.03***
					(0.01)		(0.01)
Wage income	389.83	358.32	322.69		67.14***		16.25**
	[763.69]	[726.42]	[663.70]		(13.09)		(16.25)
Hours worked	18.15	18.44	18.98		-0.83**		-0.54
	[24.64]	[25.01]	[24.98]		(0.04)		(0.52)
In labor force	0.52	0.52	0.54		-0.02**		-0.02
					(0.01)		(0.01)
Oklahoma	0.54	0.53	0.49		0.05***		0.03***
					(0.01)		(0.01)
Urban	0.42	0.41	0.36		0.06***		0.04***
					(0.01)		(0.01)
Years of Education	8.65	8.62	8.53		0.13**		0.09
	[3.46]	[3.36]	[3.42]		(0.06)		(0.07)
Observations	3,932	2,310	212,329				

* $p < .1$, ** $p < .05$, *** $p < .01$

Results

ITT effects of oil discovery on children's wealth in 1940

	Home		Home value >$5000		Nonwage income >$50	
Oil in section (2-3 sources)	0.02**	0.03*	0.01**	0.01	0.02**	-0.01
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
Oil in section (2-3 sources) x over 18 at discovery		-0.02		0.00		0.03**
		(0.02)		(0.01)		(0.02)
Oil in section (1 source only)	0.01	0.00	0.01	0.01	0.00	0.00
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Oil in section (1 source only) x over 18 at discovery		0.02		-0.01		0.00
		(0.02)		(0.01)		(0.02)
Mean outcome, no oil	0.52		0.04		0.22	
Observations	198,690		198,690		198,690	

* $p < .1$, ** $p < .05$, *** $p < .01$

ITT effects of oil discovery on children's wealth in 1940

	Home		Home value >$5000		Nonwage income >$50	
Oil in section (2-3 sources)	0.02**	0.03*	0.01**	0.01	0.02**	-0.01
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
Oil in section (2-3 sources) x over 18 at discovery		-0.02		0.00		0.03**
		(0.02)		(0.01)		(0.02)
Oil in section (1 source only)	0.01	0.00	0.01	0.01	0.00	0.00
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Oil in section (1 source only) x over 18 at discovery		0.02		-0.01		0.00
		(0.02)		(0.01)		(0.02)
Mean outcome, no oil	0.52		0.04		0.22	
Observations	198,690		198,690		198,690	

* $p < .1$, ** $p < .05$, *** $p < .01$

ITT effects of oil discovery on children's income and labor supply in 1940

	Wage income		Hours worked		In labor force	
Oil in section (2-3 sources)	-0.88	15.55	-0.59	-2.12***	-0.01	-0.02
	(17.45)	(27.29)	(0.44)	(0.80)	(0.01)	(0.01)
Oil in section (2-3 sources) x over 18 at discovery		-22.80		1.96**		0.02
		(29.93)		(0.84)		(0.01)
Oil in section (1 source only)	-26.92	-28.03	0.15	-0.68	0.00	0.00
	(19.93)	(31.05)	(0.50)	(0.97)	(0.01)	(0.01)
Oil in section (1 source only) x over 18 at discovery		1.81		1.05		-0.01
		(30.30)		(1.00)		(0.01)
Mean outcome, no oil	353.23		20.52		0.53	
Observations	179,122		198,690		198,690	

* $p < .1$, ** $p < .05$, *** $p < .01$

ITT effects of oil discovery on children's income and labor supply in 1940

	Wage income		Hours worked		In labor force	
Oil in section (2-3 sources)	-0.88	15.55	-0.59	-2.12***	-0.01	-0.02
	(17.45)	(27.29)	(0.44)	(0.80)	(0.01)	(0.01)
Oil in section (2-3 sources) x over 18 at discovery		-22.80		1.96**		0.02
		(29.93)		(0.84)		(0.01)
Oil in section (1 source only)	-26.92	-28.03	0.15	-0.68	0.00	0.00
	(19.93)	(31.05)	(0.50)	(0.97)	(0.01)	(0.01)
Oil in section (1 source only) x over 18 at discovery		1.81		1.05		-0.01
		(30.30)		(1.00)		(0.01)
Mean outcome, no oil	353.23		20.52		0.53	
Observations	179,122		198,690		198,690	

* $p < .1$, ** $p < .05$, *** $p < .01$

ITT effects of oil discovery on children's education and migration in 1940

	Years of Education		Oklahoma		Urban	
Oil in section (2-3 sources)	0.02	0.18	0.01	-0.02	0.03**	0.06***
	(0.10)	(0.16)	(0.02)	(0.03)	(0.01)	(0.02)
Oil in section (2-3 sources) x over 18 at discovery		-0.21		0.04*		-0.04*
		(0.16)		(0.02)		(0.02)
Oil in section (1 source only)	0.03	-0.01	0.00	-0.04	0.01	0.03
	(0.10)	(0.16)	(0.02)	(0.03)	(0.01)	(0.03)
Oil in section (1 source only) x over 18 at discovery		0.05		0.05**		-0.03
		(0.15)		(0.03)		(0.02)
Mean outcome, no oil	8.84		0.49		0.38	
Observations	192,753		198,690		198,690	

* $p < .1$, ** $p < .05$, *** $p < .01$

ITT effects of oil discovery on children's education and migration in 1940

	Years of Education		Oklahoma		Urban	
Oil in section (2-3 sources)	0.02	0.18	0.01	-0.02	0.03**	0.06***
	(0.10)	(0.16)	(0.02)	(0.03)	(0.01)	(0.02)
Oil in section (2-3 sources) x over 18 at discovery		-0.21		0.04*		-0.04*
		(0.16)		(0.02)		(0.02)
Oil in section (1 source only)	0.03	-0.01	0.00	-0.04	0.01	0.03
	(0.10)	(0.16)	(0.02)	(0.03)	(0.01)	(0.03)
Oil in section (1 source only) x over 18 at discovery		0.05		0.05**		-0.03
		(0.15)		(0.03)		(0.02)
Mean outcome, no oil	8.84		0.49		0.38	
Observations	192,753		198,690		198,690	

* $p < .1$, ** $p < .05$, *** $p < .01$

Summary

1. Unique context for understanding the intergenerational effects of wealth
2. Direct measures of education and income
3. Preliminary evidence of long-run effects on wealth, labor supply, and migration
4. No evidence of long-run effects on wage income or education

Thank You

Table 1. Summary statistics by linkage to 1900 or 1910 census, homesteaders

	Linked	Unlinked	Within township difference
Intention to treat			
Oil in section (2-3 sources)	0.02	0.02	-0.02
	[0.13]	[0.13]	(0.01)
Oil in section (1 source only)	0.01	0.01	0.00
	[0.10]	[0.10]	(0.01)
Tract books			
Year of entry	1897.45	1898.41	0.03**
	[5.07]	[5.26]	(0.01)
Male first name	0.84	0.78	0.04***
			(0.00)
Given names count	446.39	430.11	-0.87
	[735.54]	[721.93]	(3.57)
Surname count	115.53	186.97	-73.64***
	[284.91]	[381.05]	(1.63)
Has middle initial	0.69	0.70	-0.02***
			(0.00)
Observations	72,603	113,290	

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 7. Effects of oil exposure on children's wealth in 1940 using instrumental variables

	Home		Home Value > $5000		Nonwage Income > $50	
	(1)	(2)	(1)	(2)	(1)	(2)
OGS oil in section	0.010	0.052***	0.010*	0.030***	0.014	0.033***
	(0.011)	(0.016)	(0.006)	(0.010)	(0.009)	(0.013)
OGS oil in section	0.009	0.045	0.010	0.032	0.010	-0.012
	(0.021)	(0.032)	(0.010)	(0.020)	(0.015)	(0.025)
OGS oil in section × over 18 at discovery	0.001	0.008	0.001	-0.002	0.005	0.056**
	(0.021)	(0.032)	(0.009)	(0.018)	(0.016)	(0.028)
IV	-	X	-	X	-	X
Mean, no Oil	0.52		0.04		0.22	
Observations	198,678		198,678		198,679	

*$p < .1$, **$p < .05$, ***$p < .01$

Table 8. Effects of oil exposure on children's income and labor supply in 1940 using instrumental variables

	Wage Income		Hours Worked		In Labor Force	
	(1)	(2)	(1)	(2)	(1)	(2)
OGS oil in section	0.275	-13.080	-0.470	-0.316	-0.008	-0.008
	(16.300)	(23.195)	(0.411)	(0.592)	(0.007)	(0.009)
OGS oil in section	25.055	61.213	-0.436	-2.735**	-0.003	-0.026
	(27.411)	(47.384)	(0.813)	(1.344)	(0.014)	(0.020)
OGS oil in section × over 18 at discovery	-30.474	-92.715*	-0.041	2.986**	-0.007	0.022
	(29.130)	(50.013)	(0.848)	(1.424)	(0.014)	(0.022)
IV	-	X	-	X	-	X
Mean, no Oil	353.23		20.52		0.53	
Observations	179,112		198,679		198,679	

*$p < .1$, **$p < .05$, ***$p < .01$

Table 9. Effects of oil exposure on children's education and migration in 1940 using instrumental variables

	Years of Education		Oklahoma		Urban	
	(1)	(2)	(1)	(2)	(1)	(2)
OGS oil in section	0.077	0.046	0.011	0.013	0.032***	0.049***
	(0.088)	(0.127)	(0.014)	(0.021)	(0.012)	(0.018)
OGS oil in section	0.404**	0.405	-0.041	-0.027	0.082***	0.089**
	(0.163)	(0.253)	(0.027)	(0.040)	(0.024)	(0.036)
OGS oil in section × over 18 at discovery	-0.398**	-0.448*	0.064**	0.050	-0.061***	-0.050
	(0.158)	(0.254)	(0.025)	(0.039)	(0.023)	(0.036)
IV	-	X	-	X	-	X
Mean, no Oil	8.84		0.49		0.38	
Observations	192,744		198,679		198,679	

*$p < .1$, **$p < .05$, ***$p < .01$

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