

Announcements

- Du Bois project is due Friday at 5pm
- Late assignments are accepted but there is a one point deduction (out of 20) that increases by a point every 24 hours
- Pay attention to the directions for file types and file names in the guidelines pdf
- You can submit two different ways (use whichever is easier for you)
 - Through Blackboard (Course Files → Du Bois Project Submissions)
 - By email sent to jmparman@wm.edu (may not work depending on your file sizes)
- You will get a confirmation email either from Blackboard or me

- We're moving onto historical inequality and mobility
- Next couple of lectures will be about measuring inequality in the past
- Next week will be about measuring mobility in the past
- That will also be a good opportunity to talk about the data project (we'll talk about it 2/13 or 2/15)
- Relevant readings for the next week:
 - Long and Ferrie (2013)
 - Feigenbaum (2014)
 - Olivetti and Paserman (2015)

Measuring Historical Inequality and Mobility

- As we'll discuss when we go over the data project, income and wealth data are a bit sparse historically
- If we want to go way back, wealth data is the way to go:
 - We have wills and probate records that go back centuries, particularly for England
 - By design, these will give details on all of an individual's assets
 - One problem is whether your missing a big swath of individuals

Measuring Historical Inequality and Mobility

List of the Sale of the personal property belonging to the Estate of William Miller deceased, as made the 1st day of January, 1833

Species of Property	To whom sold	£	s	d
One Ring	Peter Schwallier	-	50	
One Silver Watch & appendages	Silvanus Jackson	18	12	
One Fork	Isaac Barclay	-	75	
One dozen Shirts	Same	2	00	
One Towel	Same	1	75	
One Handkerchief	Same	3	00	
One Neck Square	Joseph Barker	-	50	
Set of Bath Towels	Andrew Stephenson	1	50	
Three Blankets	E. S. Brattle	6	00	
One Blanket	Same	1	00	
Tray & four Blankets	Same	1	25	
One Towel	Same	-	50	
One Shrug	Same	6	50	
One Six foot Bed	Thomas Sampson	-	75	
One dozen Linen	Charles Westlings	1	50	
One Shirts	Same	-	75	
One large Bed, former	Jonathan Slater	1	62	
One Bedstead	Same	-	75	
One Piece of Bed	Same	5	50	
State of Michigan Michigan County	Richard Brattle	45	50	

Personally appeared before the undersigned a justice of the peace within and for the County of Michigan, Richard Brattle, not named in the above List, containing a true account of the said Goods by Joseph Barker, administrator of the Estate of William Miller, deceased at the time in said List above specified. Richard Brattle sworn to and subscribed before me this 9th day of January, 1833. William M. Anthony, Justice of the Peace

Wm. Anthony Justice

Inventory of the sale of all the worldly belongings of one William Miller, 1833

Measuring Historical Inequality and Mobility

- As we'll discuss when we go over the data project, income and wealth data are a bit sparse historically
- If we want to go way back, wealth data is the way to go
- Wealth data is the first relevant thing to appear in the US census
 - In 1850, we get "Value of real estate owned"
 - In 1860 and 1870, we get "Value of Real Estate" and "Value of Personal Estate"
 - No wealth data in 1880
 - In 1900, 1910 and 1920, we know if a house is owned, mortgaged or rented
 - In 1930 we also get value of the home

Measuring Historical Inequality and Mobility

- What if we want to know about income?
- It's going to take a while for income data to show up
- In the federal census, it is not reported until 1940 and even then, it is only wage income
- Modern surveys with good income data won't come around for a few decades after that
- To get historical income distributions, what we really need is income tax data
- The big problem: we don't have federal income taxes for a while

Measuring Historical Inequality and Mobility

The Congress shall have Power To lay and collect Taxes, Duties, Imposts and Excises, to pay the Debts and provide for the common Defence and general Welfare of the United States; but all Duties, Imposts and Excises shall be uniform throughout the United States; – Article I, Section 8, Clause 1

Measuring Historical Inequality and Mobility



Revenue Act of 1861

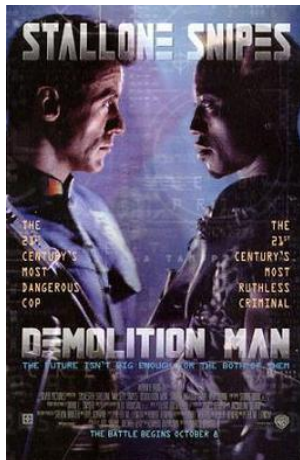
Measuring Historical Inequality and Mobility



Farmers' Loan & Trust Company Banking and Office Building, Fifth Avenue at 41st Street, New York City, Showing First Three Stories Executed in Shot Sawn variegated Indiana Limestone, With Entrance of Napoleon Gray Marble and Panels of Premier Red Levanto. Stone Work Was Executed and Set by William Bradley & Son. The Marble Was Furnished by Tompkins-Kiel Marble Company. Architects: Starrett & Van Vleck.

Pollock v. Farmers' Loan and Trust, 1895

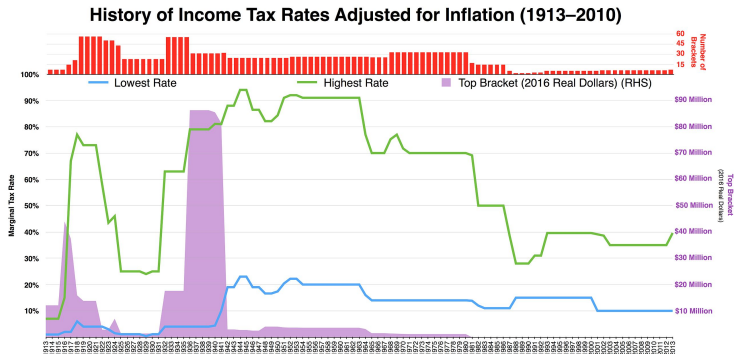
Measuring Historical Inequality and Mobility



Demolition Man, 1993

The Congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several States, and without regard to any census or enumeration.
– Sixteenth Amendment

Measuring Historical Inequality and Mobility



Measuring Historical Inequality and Mobility

- So for income, we've got no real hope prior to 1913
- We can calculate some inequality measures based on annual IRS report tables beginning in 1916
- In 1962, we get public use files from the Statistics of Income (SOI) division of the IRS
- The World Wealth and Income project has compiled all of these data for you for some one-stop data shopping
- Let's go play around with the data in another [Stata tutorial](#)
- We'll also take a look at census wealth and income data

Announcements

- Thank you for all of the Du Bois projects
- Let me know if you didn't get a confirmation from me
- I'm working on putting together an online gallery with everyone's figures
- Next thing you should be working on is the first referee report
- It is on Clark and Cummins "Intergenerational Wealth Mobility in England, 1858-2012"
- It is due by **5pm** on **February 22**
- Please submit them as pdfs by email (jparman@wm.edu)

Announcements

- We're still working on historical inequality and mobility
- This week will be about measuring mobility in the past
- That will also be a good opportunity to talk about the data project (we'll talk about it 2/13)
- Relevant readings for the week:
 - Long and Ferrie (2013)
 - Feigenbaum (2014)
 - Olivetti and Paserman (2015)

Measuring Historical Inequality and Mobility

- If we want to look at how inequality varies across different demographic groups, we want to turn to federal census data
- There are very well-organized versions of historical federal census data maintained by the [Integrated Public Use Microdata Series](#)
- Today, we'll wrap up our look at the 1940 census, looking at racial and gender gaps in earnings
- Back to [Stata tutorial](#)

Measuring Historical Mobility

- The cross-sectional data on income from the IRS or the 1940 census and on wealth from the 1870 census offer pretty good views of historical inequality patterns
- However, they cannot tell us much about mobility
- For mobility, we need some way to link generations and quality data about outcomes for both generations
- It turns out that both of these requirements are tough to meet

Historical Income Mobility Rates and the Great State of Iowa



Historical Income Mobility Rates and the Great State of Iowa

Card No. H986	Name Harry L. Roseman Age 48	
Sex ☒ Male ☐ Female	County Des Moines P. O. 1121-36	
Color White	Town or Township Des Moines	Ward 1
Married ☒ Widowed ☐	Occupation Traveling Salesman	Months in 1914 1
Single ☐ Divorced ☐	Unemployed ☐	
Months in School 1914	Total earnings for 1914 from occupation \$ 1800.00	
Public ☐ High ☐	Extent of Education ☐ Common ☒ Grammar 8 ☐ High School 4 ☐ College	
Private ☐ College ☐	Birth Place Michigan	Do you own your home or farm? ☒ Yes ☐ No
Read ☒	Incumbrance on farm or home \$	Value of farm or home \$
Write ☒	Military Service: Civil War ☐ Mexican ☐ Spanish ☐ Infantry ☐ Cavalry ☐	
Blind ☐ Deaf ☐	Artillery ☐ Navy ☐ State ☐ Regiment ☐ Company ☐	
Insane ☐ Idiot ☐	Church Affiliation Episcopal	
If Foreign Born are you Naturalized ☐	Father's Birthplace Pennsylvania	Mother's Birthplace England
Years in U. S. 15	Remarks	
Years in Iowa 15	Signed Charles L. Bell Assessor	

Historical Income Mobility Rates and the Great State of Iowa

Table 3: Probability of Matching a Record from Iowa 1915 to the Federal Census 1940

	(1)	(2)	(3)	(4)	(5)
Name commonness, first name	0.041** (0.017)				0.056*** (0.020)
Name commonness, last name	-0.122*** (0.039)				-0.121*** (0.039)
String length, first name		0.013*** (0.004)			0.020*** (0.004)
String length, last name		-0.002 (0.004)			-0.002 (0.004)
Normalized letter similarity score, first name			0.019*** (0.007)		0.024*** (0.007)
Normalized letter similarity score, last name			0.006 (0.007)		0.005 (0.007)
Normalized scrabble score, first name				-0.001 (0.006)	-0.002 (0.007)
Normalized scrabble score, last name				0.009 (0.006)	0.008 (0.006)
Observations	7580	7580	7580	7580	7580
Clusters	4731	4731	4731	4731	4731
Adjusted R^2	0.002	0.002	0.001	0.000	0.007

Linear probability model with an indicator variable for a successful match as the outcome. Standard errors are clustered by family. Results are consistent using a probit or logit model as well. Name commonness is measured as the share of 100 men in the 1910 and 1920 IPUMS sample with the same first or last name. Name length is the number of characters in the first or last name. Name similarity scores are based on character typology similarity from Simpson et al. (2013).

Sources: 1915 Iowa State Census Sample; 1940 Federal Census

Historical Income Mobility Rates and the Great State of Iowa

Table 4: Effects of Family Covariates on the Probability of Matching Records from 1915 to 1940

X	β	SE	Predicted Match Rate with X at	
			25th Percentile	75th Percentile
Father Log Earnings	0.013	0.011	59.6	60.6
Father Education	0.004	0.002	59.2	60.0
Mother Education	0.003	0.003	59.8	60.3
Urban in 1915	-0.034	0.012	60.5	57.1
Son Born in IA	0.138	0.018	61.0	61.0
Father Foreign Born	-0.063	0.013	61.2	54.8

This table presents the coefficients from a series of linear probability regressions with X as the primary independent variable, controlling for first and last name commonness, length, letter similarity, and Scrabble score. As in Table 3, there are 7580 observations and 4731 clusters, clustering standard errors by family.

Sources: 1915 Iowa State Census Sample; 1940 Federal Census

Historical Income Mobility Rates and the Great State of Iowa

Table 1: Intergenerational Mobility Results Summary

Intergenerational Mobility Measure	Estimates		Modern Source
	1915 to 1940	Modern	
Intergenerational Elasticity of Income	0.249	0.36 to 0.54	Lee and Solon (2009)
Income Rank-Rank Coefficient	0.210	0.307 to 0.317	Chetty et al. (2014)
Educational Persistence	0.187	0.46	Hertz et al. (2007)
Occupation Score Elasticity (1915 Basis)	0.234	.	
Occupation Score Elasticity (1950 Basis)	0.391	.	
Altham-Ferrie Occupation Transition Statistic	16.03	20.76	Ferrie (2005)

Historical Occupational Mobility

- So the 1940 federal census and the 1915 Iowa state census offer us a glimpse at income mobility rates prior to modern surveys
- But it is one very brief glimpse for a very particular place and time (think of all that happens between 1915 and 1940)
- We can get a more comprehensive view of mobility, using similar linking techniques, if we are willing to consider occupation as the outcome rather than income

Historical Occupational Mobility - Some Motivation

...[a]mong aristocratic peoples, families remain for centuries in the same condition and often in the same place...Among democratic peoples [e.g., in the US], new families continually spring from nowhere while others disappear to nowhere and all the rest change their complexion. – de Tocqueville, Democracy in America, 1835

Historical Income Mobility Rates and the Great State of Iowa

Table 1: Intergenerational Mobility Results Summary

Intergenerational Mobility Measure	Estimates		Modern Source
	1915 to 1940	Modern	
Intergenerational Elasticity of Income	0.249	0.36 to 0.54	Lee and Solon (2009)
Income Rank-Rank Coefficient	0.210	0.307 to 0.317	Chetty et al. (2014)
Educational Persistence	0.187	0.46	Hertz et al. (2007)
Occupation Score Elasticity (1915 Basis)	0.234	.	
Occupation Score Elasticity (1950 Basis)	0.391	.	
Altham-Ferrie Occupation Transition Statistic	16.03	20.76	Ferrie (2005)

Historical Occupational Mobility

- Long and Ferrie are going to take a census linking approach to measuring occupational mobility
- The basic idea is to look at a transition matrix for father and son occupations
- Many people in the off-diagonal cells suggests mobility
- Many people on the diagonal suggests persistence from one generation to the next

Historical Occupational Mobility

TABLE 1—INTERGENERATIONAL OCCUPATIONAL MOBILITY IN BRITAIN AND THE US,
1949–1955 TO 1972–1973, FREQUENCIES
(*Column percent*)

Son's occupation	Father's occupation				Row sum
	White collar	Farmer	Skilled/semiskilled	Unskilled	
Britain (Table P)					
White collar	174 (68.2)	11 (25.6)	206 (30.7)	38 (24.5)	429
Farmer	2 (0.8)	9 (20.9)	3 (0.4)	1 (0.6)	15
Skilled/semiskilled	71 (27.8)	19 (44.2)	417 (62.2)	102 (65.8)	609
Unskilled	8 (3.1)	4 (9.3)	44 (6.6)	14 (9.0)	70
Column sum	255	43	670	155	1,123
US (Table Q)					
White collar	595 (71.4)	144 (31.9)	539 (43.6)	164 (35.1)	1,442
Farmer	3 (0.4)	61 (13.5)	7 (0.6)	5 (1.1)	76
Skilled/semiskilled	186 (22.3)	193 (42.8)	576 (46.6)	236 (50.5)	1,191
Unskilled	49 (5.9)	53 (11.8)	115 (9.3)	62 (13.3)	279
Column sum	833	451	1,237	467	2,988

Note: Occupation of father when respondent was age 14 (Britain) or age 16 (US), compared to occupation at survey in 1972 (Britain) or 1973 (US), males 31–37 (Britain) and 33–39 (US) in survey year.

Historical Occupational Mobility

TABLE 5—INTERGENERATIONAL OCCUPATIONAL MOBILITY IN THE US,
1860–1880 AND 1880–1900, FREQUENCIES
(Column percent)

	Father's occupation				
Son's occupation	White collar	Farmer	Skilled/semiskilled	Unskilled	Row sum
US 1880 (Table P)					
White collar	115 (46.0)	233 (13.8)	115 (25.2)	39 (16.5)	502
Farmer	43 (17.2)	949 (56.2)	103 (22.5)	60 (25.3)	1,155
Skilled/semiskilled	59 (23.6)	286 (16.9)	173 (37.9)	75 (31.6)	593
Unskilled	33 (13.2)	220 (13.0)	66 (14.4)	63 (26.6)	382
Column sum	250	1,688	457	237	2,632
US 1900 (Table Q)					
White collar	161 (56.9)	234 (16.6)	143 (26.6)	51 (19.0)	589
Farmer	27 (9.5)	658 (46.6)	58 (10.8)	43 (16.0)	786
Skilled/semiskilled	61 (21.6)	276 (19.6)	252 (46.9)	95 (35.4)	684
Unskilled	34 (12.0)	243 (17.2)	84 (15.6)	79 (29.5)	440
Column sum	283	1,411	537	268	2,499

Note: Occupation of father in 1860 or 1880 when son was age 13–19, compared to occupation of son in 1880 or 1900, males 33–39 in 1880 or 1900.

Historical Occupational Mobility

TABLE 3—INTERGENERATIONAL OCCUPATIONAL MOBILITY IN BRITAIN AND THE US,
1850–1851 TO 1880–1881, FREQUENCIES (*Column percent*)

	Father's occupation				
Son's occupation	White collar	Farmer	Skilled/semiskilled	Unskilled	Row sum
Britain (Table P)					
White collar	103 (36.6)	31 (11.1)	219 (13.3)	63 (7.3)	416
Farmer	8 (2.8)	114 (40.9)	39 (2.4)	21 (2.4)	182
Skilled/semiskilled	143 (50.0)	90 (32.3)	1,155 (70.2)	386 (44.6)	1,774
Unskilled	32 (11.2)	44 (15.8)	233 (14.2)	395 (45.7)	704
Column sum	286	279	1,646	865	3,076
US (Table Q)					
White collar	55 (38.5)	177 (12.9)	82 (22.6)	30 (23.3)	344
Farmer	44 (30.8)	850 (62.0)	92 (25.3)	35 (27.1)	1,021
Skilled/semiskilled	33 (23.1)	214 (15.6)	166 (45.7)	40 (31.0)	453
Unskilled	11 (7.7)	129 (9.4)	23 (6.3)	24 (18.6)	187
Column sum	143	1,370	363	129	2,005

Note: Occupation of father in 1851 (Britain) or 1850 (US) when son was age 13–19, compared to occupation of son in 1881 (Britain) or 1880 (US), males 43–49 in 1881 (Britain) or 1880 (US).

Historical Occupational Mobility

TABLE 2—SUMMARY MEASURES OF MOBILITY IN BRITAIN AND THE US

	<i>M</i> (1)	<i>M'</i> (2)	<i>d(P, J)</i> (3)	<i>d(Q, J)</i> (4)	<i>d(P, Q)</i> (5)	<i>dⁱ(P, Q)</i> (6)
1. Britain 1972 (P) versus US 1973 (Q)	45.3 56.7	53.7 48.3	24.0***	20.8***	7.9	7.2
2. Britain 1881 (P) versus US 1880 (Q)	42.6 45.4	35.5 47.9	22.7***	11.9***	13.2***	4.5
3. US 1880 (P) versus US 1973 (Q)	50.6 56.7	57.7 43.7	12.1***	20.8***	10.7***	2.4
4. US 1900 (P) versus US 1973 (Q)	54.0 56.7	54.1 51.8	14.6***	20.8***	9.1***	2.4

Notes: *M* is total mobility (percent off the main diagonal); *M'* is total mobility using the marginal frequencies from the other table (see Appendix). Significance levels for the likelihood ratio χ^2 statistic G^2 (d.f. 9 for $d(\mathbf{P}, \mathbf{J})$, $d(\mathbf{Q}, \mathbf{J})$, and $d(\mathbf{P}, \mathbf{Q})$; 5 for $d^i(\mathbf{P}, \mathbf{Q})$).

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

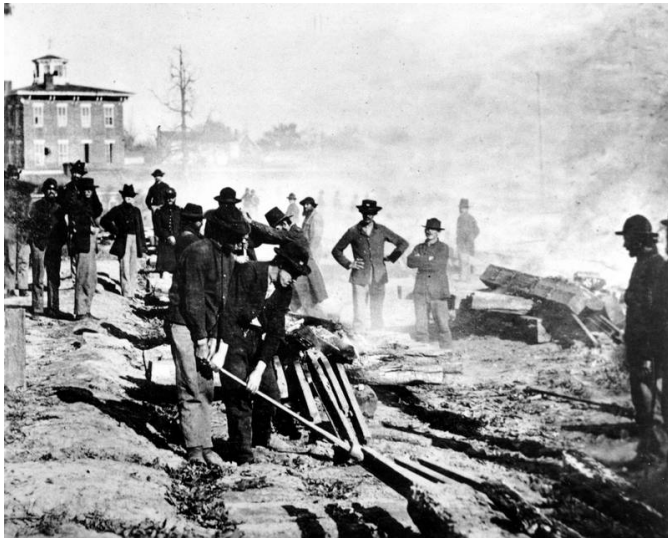
Explaining US - Britain Differences

- So the US looks mobile relative to Britain in the nineteenth century and then US mobility declines to British levels in the twentieth century
- First, a couple of obvious potential culprits:
 - The Civil War
 - The frontier
- Long and Ferrie are going to argue that those can't be the explanation because US mobility is high into the start of the twentieth century
- First, do we buy these dismissals?
- Second, what else should we look at?

Explaining US - Britain Differences, The Civil War

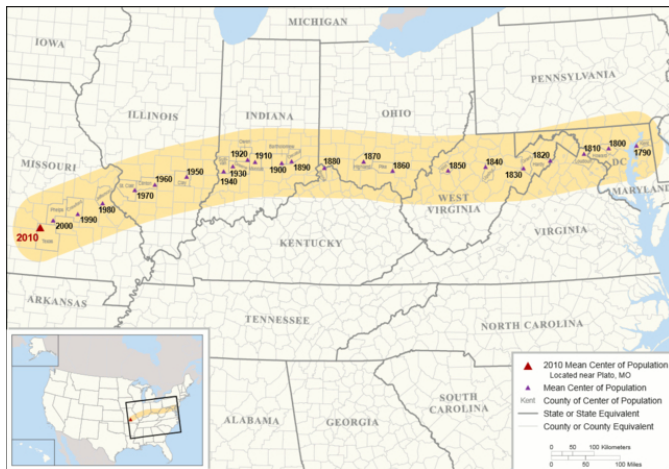


Explaining US - Britain Differences, The Civil War

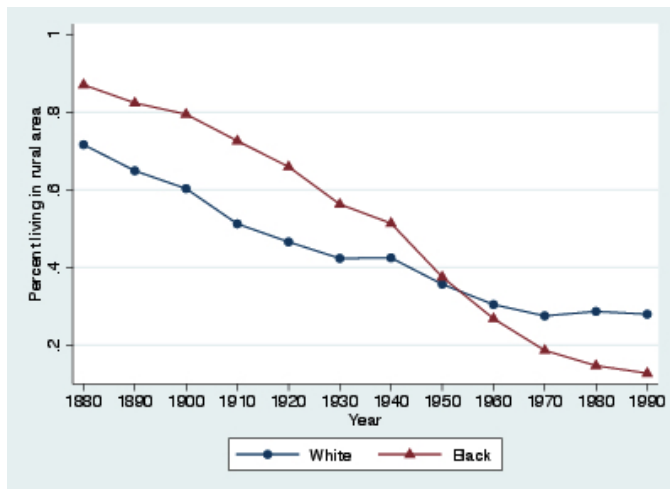


...[u]p to and including 1880 the country had a frontier of settlement, but at present the unsettled area has been so broken into by isolated bodies of settlement that there can hardly be said to be a frontier line. In the discussion of its extent, its westward movement, etc., it can not, therefore any longer have a place in the census reports. – US Census Office, 1891

Explaining US - Britain Differences, The Frontier



Explaining US - Britain Differences, Selection Out of Farming



Explaining US - Britain Differences

A few other possibilities:

- Heterogeneity of the population? Think back to the Corak reading
- Public schools?
 - 68.1 percent of 5-14-year-olds were enrolled in primary school in the US in 1850
 - 49.8 percent were enrolled in Britain
- Residential mobility?
 - Between 1870 and 1880, 50 percent of young men in US changed counties, 26 percent changed states
 - Regional specialization rose in the 1800s, fell in the 1900s

Another View of Declining American Mobility

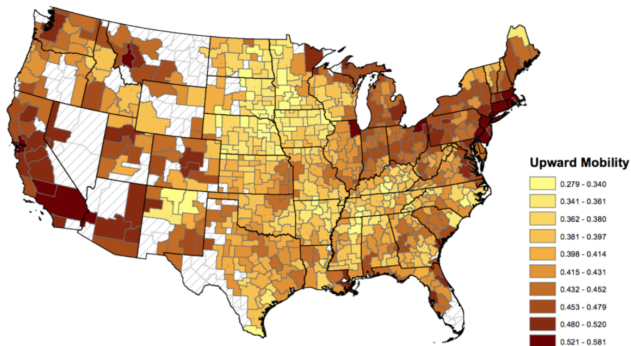
- There are a variety of limitations to the Long and Ferrie approach
 - Broad occupation categories
 - Only males can be studied
 - Selection in terms of which males can be linked
 - Small sample sizes due to the linking process
- Let's look at a couple of papers that relax a couple of these limitations
- First, we'll look at Tan (2019) to relax the sample size issue
- Then we'll look at the Olivetti and Paserman article which offers a solution for gender with an approach of *pseudo-linking*

Another View of Declining American Mobility

- How is Tan going to relax the sample size issue?
- Computing power and the evolution of data
- With automated linking techniques and direct access to complete count census data, Tan (and Feigenbaum) can link far more people than past studies could
- Just how many more?
 - Ferrie and Long: $\sim 2,000$ father-son pairs
 - Tan: $\sim 3,000,000$ father-son pairs
- So what can you do with 3,000,000 observations?

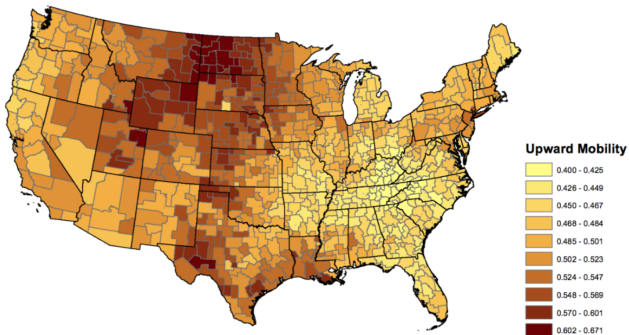
Another View of Declining American Mobility

B. Historical, 1910-1940 Sample



Another View of Declining American Mobility

A. Contemporary, Chetty et al. (2018)



Another View of Declining American Mobility

- With all the extra data, Tan can get at the historical geography of mobility
- This gives us a nice historical counterpoint to the Chetty work we looked at earlier
- Note that we're switching mobility measures slightly
- Tan's mobility definition:

Intergenerational (upward) mobility is measured as the average occupation income rank of sons with fathers from the bottom half of the national occupation income distribution.

- How does this compare to our other measures?

Another View of Declining American Mobility

- Nice maps aren't the only advantage of big data
- Large sample sizes give Tan some hope of getting at mechanisms in a way you simply can't with only 2,000 observations
- Tan is going to focus on the changing role of place
- Why do some commuting zones exhibit more mobility and others less?
- Is it about the impact of childhood environment? Or is it about labor markets for adults?
- How do we disentangle these?

[illegible]

Another View of Declining American Mobility

58	5246	12 A 50	Randy, Gordon	Head	M	W	57	M	7	Texas	Same place	100	
59			— Isabel B	Wife	F	W	57	M	10	Texas	Same place	100	
60	5246	12 A 50	Plant, S.E.	Head	M	W	48	M	7	Indiana	Same place	100	
61			— Eva M. O	Wife	F	W	49	M	7	Indiana	Same place	100	
62			— Marion Janet	Daughter	F	W	23	S	70	Indiana	Same place	100	
63	5246	12 R 50	Conford, Liza	Head	F	W	57	S	70	Michigan	Same place	100	
64			Koke, Mary	Daughter	F	W	57	S	70	Ohio	Same place	100	
65	5246	12 R 2850	Nichols, Albert H.	Head	M	W	24	M	70	New Jersey	Same place	100	
66			— Emma O	Wife	F	W	19	M	70	Texas	Same place	100	
67			— Albert S. O	Son	M	W	26	S	70	Texas	—	100	
68	5246	12 R 2850	Rehman, Max	Head	F	W	48	D	70	Oklahoma	Los Angeles, Los Angeles Calif.	100	
69			— Josephine	Daughter	F	W	23	S	70	Oklahoma	Los Angeles, Los Angeles Calif.	100	
70	5246	12 R 3750	O'Connell, T. P.	Head	M	W	84	M	70	Texas	Same place	100	
71			— Olga O	Wife	F	W	37	M	70	Texas	Same place	100	
72	5246	12 O 5750	Welf, Al O	Head	M	W	43	M	70	Texas	Same place	100	
73			— Mary	Wife	F	W	32	M	70	Texas	Same place	100	
74			— Charles	Son	M	W	16	S	70	Texas	Same place	100	
75	5122	12 O 6850	Stouls, Wayne B.	Head	M	W	35	M	70	Ohio	Alma	Michigan	100
76			— Blanche O	Wife	F	W	36	M	70	Ohio	Alma	Michigan	100
77			— Patricia Ann	Daughter	F	W	15	S	70	Ohio	Alma	Michigan	100
78			— Jack L.	Son	M	W	6	S	70	Ohio	Alma	Michigan	100
79	5113	12 B 30	Seago, W. L.	Head	M	W	23	M	7	Michigan	Same place	100	
80			— Nelson O	Wife	F	W	22	M	70	Texas	Same place	100	
SUPPLEMENTARY													
QUESTIONS													
FOR PERSONS OF ALL AGES													
FOR PERSONS 14 YEARS OLD AND OVER													

SUPPLEMENTARY
QUESTIONS

FOR PERSONS OF ALL AGES

(MOVED THENCE OR BIRTH)

FOR PERSONS 14 YEARS OLD AND

Another View of Declining American Mobility

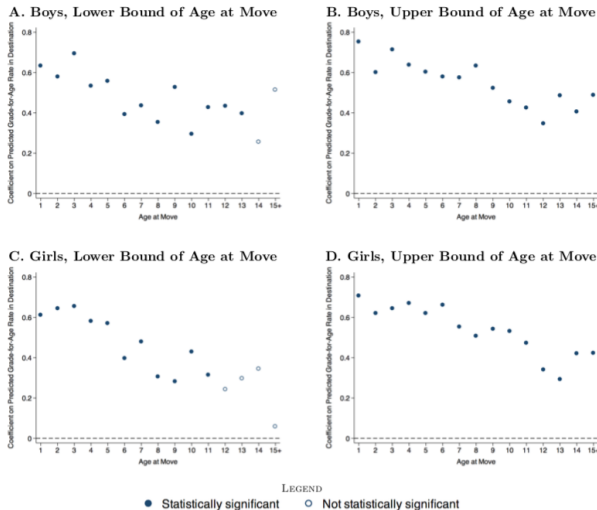
TABLE 4.
AGE-AT-MOVE DISTRIBUTION

Age at move	1940 Boys		1940 Girls		Linked Samples	
	Lower (1)	Upper (2)	Lower (3)	Upper (4)	Lower (5)	Upper (6)
1	62,320	18,912	59,149	18,064	50,386	15,174
2	4,429	11,788	4,282	11,223	3,896	10,473
3	9,754	11,685	9,427	11,172	11,759	11,181
4	6,379	10,304	6,001	9,655	8,006	10,522
5	4,955	8,794	4,588	8,324	6,943	9,887
6	3,534	7,459	3,216	7,057	5,597	9,119
7	2,540	6,162	2,344	5,915	4,418	8,631
8	1,840	5,143	1,808	4,770	3,306	7,015
9	1,502	4,459	1,394	4,260	2,376	5,492
10	1,235	3,932	1,103	3,612	1,645	4,402
11	1,040	3,535	898	3,242	1,130	3,224
12	751	3,129	674	2,915	716	2,289
13	488	2,679	439	2,598	455	1,643
14	252	1,787	228	1,631	255	1,093
15+	129	1,380	119	1,232	150	893
N	101,148	101,148	95,670	95,670	101,038	101,038

Notes: Columns (1) to (4): Data are from the 1940 complete counts. The population refers to native-born white sons and daughters aged 14-17 who come from households that moved across state borders once after they were born. Columns (5) and (6): Data are from the 1900-1920, 1910-1930, and 1920-1940 linked samples pooled together. The population in each base year refers to native-born white sons aged 8-17 who come from households that moved across state borders once after they were born. All columns: Each cell shows the number of persons who moved at a particular age. The “15+” category comprises those who moved at ages 15-17. The lower bound of an individual’s age at move is used in the odd columns, while the upper bound is used in the even columns.

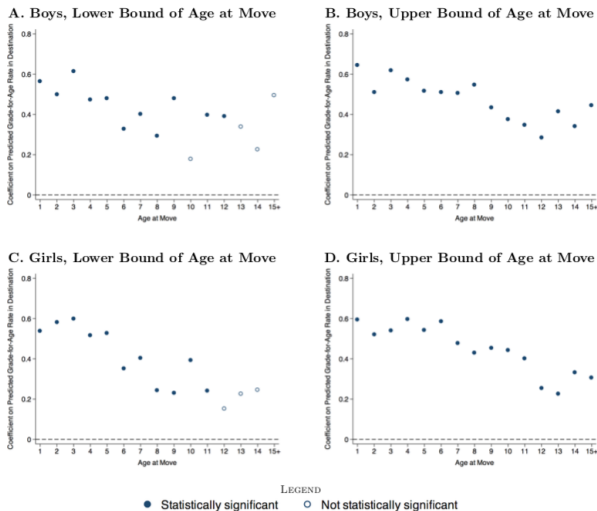
Another View of Declining American Mobility

FIGURE 6.
CHILDHOOD EXPOSURE EFFECTS ON GRADE-FOR-AGE STATUS DURING THE EARLY 20TH CENTURY
(NEIGHBORHOOD = CZ)



Another View of Declining American Mobility

FIGURE 7.
CONTROLLING FOR HOUSEHOLD ATTRIBUTES DOES NOT ELIMINATE CHILDHOOD EXPOSURE EFFECTS
(NEIGHBORHOOD = CZ)



Announcements

1 / 30

https://jparman.people.wm.edu/du-bois-website/slideshow.html

City and Rural African American Population 2017

City 100K+ Suburbs
City 10K-100K Suburbs
City 10K-100K Exurbs
Country & Villages

CITY AND RURAL POPULATION. 1890.

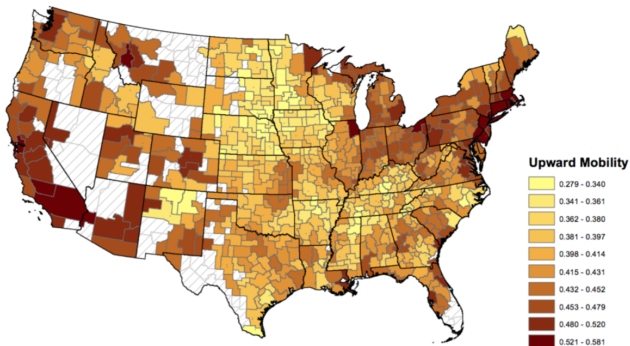
Students of Econ 449, Spring 2019 (left) and W.E.B. Du Bois, 1900 (right)

Another View of Declining American Mobility

- There are a variety of limitations to the Long and Ferrie approach
 - Broad occupation categories
 - Only males can be studied
 - Selection in terms of which males can be linked
 - Small sample sizes due to the linking process
- Let's look at a couple of papers that relax a couple of these limitations
- First, we'll look at Tan (2019) to relax the sample size issue
- Then we'll look at the Olivetti and Paserman article which offers a solution for gender with an approach of *pseudo-linking*

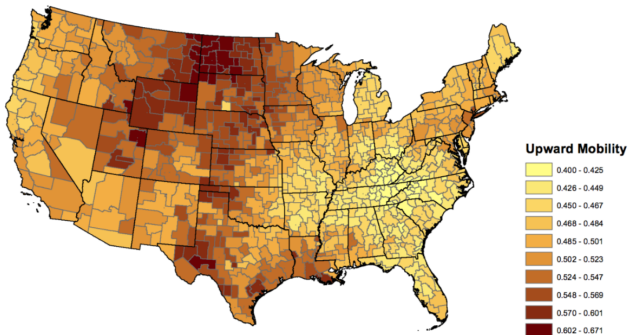
Another View of Declining American Mobility

B. Historical, 1910-1940 Sample



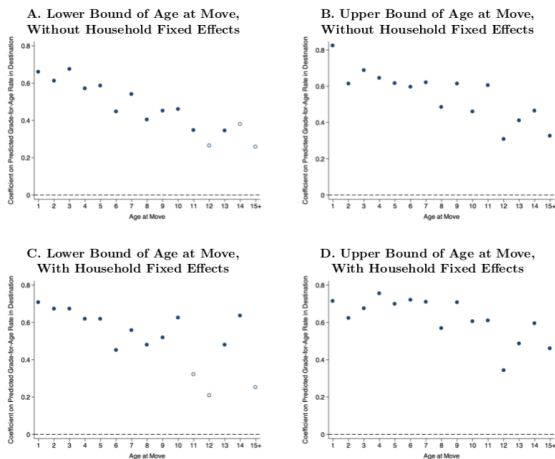
Another View of Declining American Mobility

A. Contemporary, Chetty et al. (2018)



Another View of Declining American Mobility

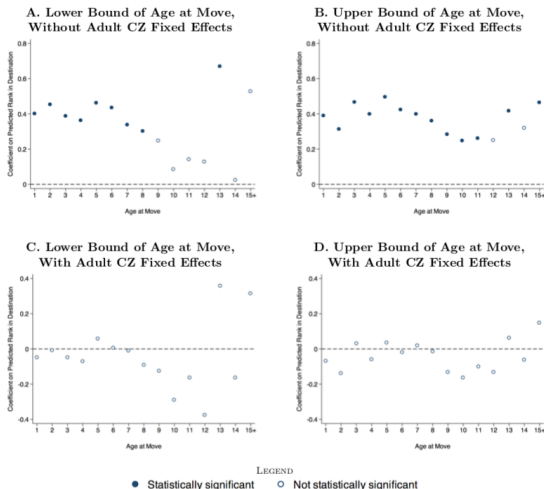
FIGURE 8.
HOUSEHOLD FIXED EFFECTS DO NOT COMPLETELY ELIMINATE CHILDHOOD EXPOSURE EFFECTS
(NEIGHBORHOOD = CZ)



LEGEND
● Statistically significant ○ Not statistically significant

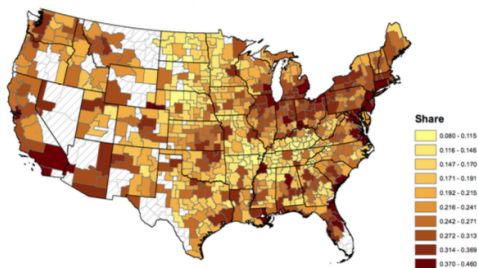
Another View of Declining American Mobility

FIGURE 10.
HISTORICAL EVIDENCE FOR CHILDHOOD EXPOSURE EFFECTS ON INCOME RANKS IS NOT ROBUST
(NEIGHBORHOOD = CZ)



Another View of Declining American Mobility

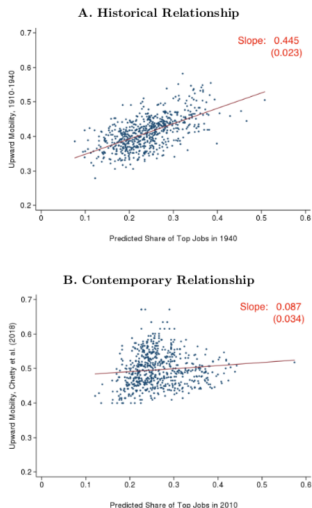
FIGURE 17.
THE HISTORICAL GEOGRAPHY OF TOP JOBS



Notes: Data are from the 1940 complete counts. The population refers to white men aged 25-54, who live in households, and who report an occupation. The share of these men in top jobs is displayed for each CZ. Top jobs are defined as the top tercile of occupations based on income scores. The sample is restricted to the 629 CZs that overlap with those in Figure 1B.

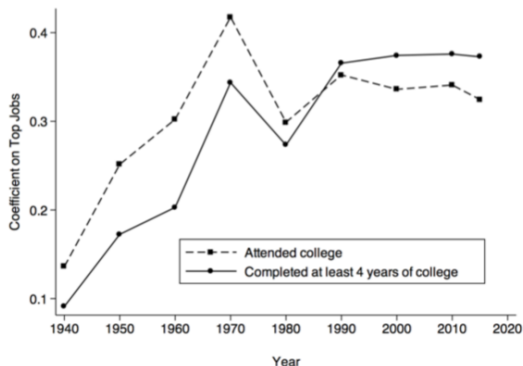
Another View of Declining American Mobility

FIGURE 19.
THE RELATIONSHIP BETWEEN TOP JOBS AND UPWARD MOBILITY WAS STRONGER HISTORICALLY



Another View of Declining American Mobility

FIGURE 21.
ACCESS TO TOP JOBS IS INCREASINGLY DEPENDENT ON HUMAN CAPITAL



The Socioeconomic Content of Names

- Now let's switch over to the very different *pseudo-linking* approach of Olivetti and Paserman
- The basic idea behind pseudo-linking is that we can use something observable for adults to tell us about the socioeconomic status of their parents
- In Olivetti and Paserman's case, they are going to claim that the first names parents choose for their children varies with socioeconomic status
- So your first name is a (very noisy) proxy for your parents' income when they named you

Announcements

- Don't forget about your first referee report due **5pm** on **February 22**
- Send them to by email as a pdf attachment
- Late policy: one point deduction (out of 20) increasing by one point every 24 hours
- Roughly three pages double-spaced, about half summary, half critique
- Longer is OK but make certain you are writing efficiently
- Grades will be up for the Du Bois project as soon as the fog lifts

The Socioeconomic Content of Names

- Let's get back to the very different *pseudo-linking* approach of Olivetti and Paserman
- The basic idea behind pseudo-linking is that we can use something observable for adults to tell us about the socioeconomic status of their parents
- In Olivetti and Paserman's case, they are going to claim that the first names parents choose for their children varies with socioeconomic status
- So your first name is a (very noisy) proxy for your parents' income when they named you

The Socioeconomic Content of Names

- To see just how much names can tell us, let's turn to some real world data in Stata
- I've prepared an extract from IPUMS of the 1870 federal census that contains demographic data, wealth and occupation data, and first and last names
- The dataset is available on Blackboard
- The annotated Stata output is available [here](#)

Using Names for Pseudo-linking

- With first names being correlated with parents' occupation scores, they offer a way to pseudo-link generations
- The basic idea is to run something like an intergenerational income elasticity regression:

$$\ln(y_{i,c}) = \beta_0 + \beta_1 \ln(y_{i,p}) + \varepsilon_i$$

- However, we don't actually observe $y_{i,c}$ and $y_{i,p}$ in the same dataset
- In one dataset, we have $y_{i,c}$ and first names, in another dataset we have $y_{i,p}$ and first names

Using Names for Pseudo-linking

- With first names in both datasets, we can take a two-sample, two-stage least squares approach
- First, we're going to predict $y_{i,p}$ using a dataset with children living in their parents' household:

$$\ln(y_{i,p}) = \sum_{j=1}^N \theta_j \text{Name}_{i,c}^j + \nu_i$$

- Then we can run an intergenerational elasticity regression with data from when the child is an adult using the predicted value of $\ln(y_{i,p})$ based on the child's name:

$$\ln(y_{i,c}) = \tilde{\beta}_0 + \tilde{\beta}_1 \widehat{\ln(y_{i,p})} + \tilde{\varepsilon}_i$$

Using Names for Pseudo-linking

TABLE 1—SUMMARY STATISTICS FOR CHILDREN'S NAMES, 1850–1920

Year	Number of children ages 0–15 (1)	Number of distinct names (2)	Mean number of observations per name (3)	Percent of names that are singletons (4)	Percent of children with unique names (5)	Percent of children with names linked 20 years later (6)	Share with top-50 name (7)	Share of total variation in log earnings explained by between name variation (8)
<i>Males</i>								
1850	35,597	3,524	10.1	71.9	7.1	92.6	0.692	0.134
1860	48,114	4,083	11.8	70.5	6.0	93.7	0.695	0.111
1870	58,039	4,582	12.7	69.4	5.5	—	0.698	0.105
1880	75,004	6,589	11.4	69.4	6.1	92.9	0.653	0.112
1900	103,817	9,696	10.7	71.0	6.6	92.8	0.564	0.126
1910	117,612	9,818	12.0	69.5	5.8	94.1	0.534	0.126
1920	139,109	12,272	11.3	71.4	6.3	92.5	0.519	0.136
<i>Females</i>								
1850	34,272	3,442	10.0	71.9	7.2	92.4	0.698	0.136
1860	46,874	4,488	10.4	70.7	6.8	92.8	0.657	0.132
1870	55,739	5,206	10.7	71.1	6.6	—	0.619	0.136
1880	72,160	7,161	10.1	69.0	6.8	92.0	0.548	0.133
1900	101,516	10,081	10.1	70.9	7.0	92.3	0.474	0.153
1910	114,074	10,103	11.3	69.3	6.1	93.5	0.473	0.154
1920	134,418	12,895	10.4	71.1	6.8	89.9	0.466	0.166

Notes: Column 7 shows the share of children that have 1 of the 50 most popular names, by gender. Column 8 shows the R^2 from a regression of father's log occupational income on a full set of name dummies. Unless noted otherwise, the source for this and all following tables are the 1850–1920 Integrated Public Use Micro Samples of the US decennial population censuses (Ruggles et al. 2010).

Using Names for Pseudo-linking

TABLE 2—COMMON NAMES GIVEN TO CHILDREN,
RANKED BY MEAN FATHER'S OCCUPATIONAL INCOME, 1850–1920

	1850	1860	1870	1880	1900	1910	1920
Males							
Rank: <i>Most prestigious</i>							
1	Edward	Walter	Harry	Paul	Donald	Abraham	Jerome
2	Frederick	Frank	Walter	Harry	Kenneth	Max	Irving
3	Edwin	Willie	Herbert	Frederick	Harold	Nathan	Jack
4	Charles	Louis	Theodore	Ralph	Morris	Vincent	Nathan
5	Franklin	Fred	Edward	Philip	Max	Edmund	Abraham
<i>Least prestigious</i>							
1	Jesse	Levi	Jesse	Luther	Luther	Jessie	Willie
2	Hiram	Isaac	Franklin	Ira	Dewey	Otis	Loyd
3	Isaac	Benjamin	Isaac	Isaac	Perry	Luther	Luther
4	Daniel	Andrew	Hiram	Willis	Virgil	Eddie	Jessie
5	David	Jacob	Martin	Charley	Ira	Charley	Otis

Using Names for Pseudo-linking

Females							
Rank:	<i>Most prestigious</i>						
1	Emma	Ada	Bertha	Bessie	Dorothy	Eleanor	Betty
2	Alice	Kate	Jessie	Mabel	Marion	Marian	Jean
3	Anna	Lizzie	Grace	Helen	Helen	Dorothy	Jane
4	Isabella	Clara	Carrie	Ethel	Louise	Marion	Kathryn
5	Josephine	Fanny	Helen	Blanche	Marie	Virginia	Muriel
<i>Least prestigious</i>							
1	Sally	Amanda	Nancy	Nancy	Nancy	Sallie	Lela
2	Nancy	Nancy	Lucinda	Viola	Ollie	Addie	Maggie
3	Lucinda	Rachel	Rebecca	Martha	Nannie	Ollie	Ollie
4	Martha	Lucinda	Amanda	Rachel	Sallie	Mattie	Effie
5	Lydia	Martha	Martha	Amanda	Alta	Iva	Eula

Exact name, nickname or alternative spelling appears more than once (most prestigious).
 Exact name, nickname or alternative spelling appears more than once (least prestigious).

Notes: Entries in the table represent the five children's names with the highest and lowest average father occupational score, by gender, and census year. Only names that appear at least 100 times are considered for the ranking.

Change in Intergenerational Mobility Over Time

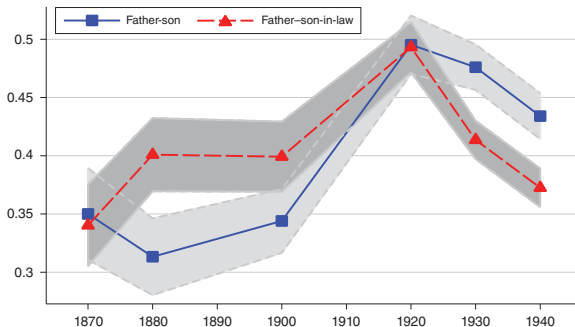
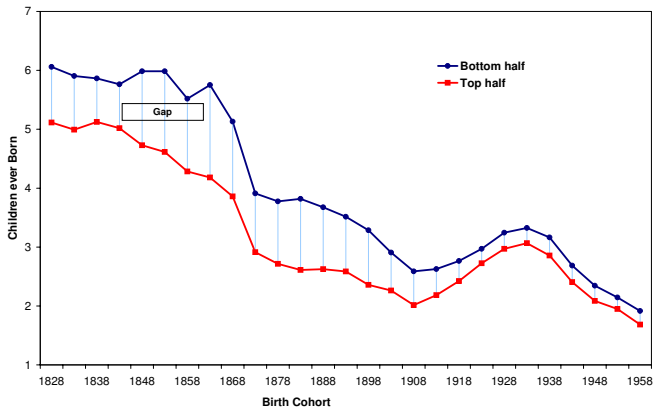


FIGURE 1. FATHER-SON AND FATHER-SON-IN-LAW ELASTICITIES IN OCCUPATIONAL INCOME, 1870–1940

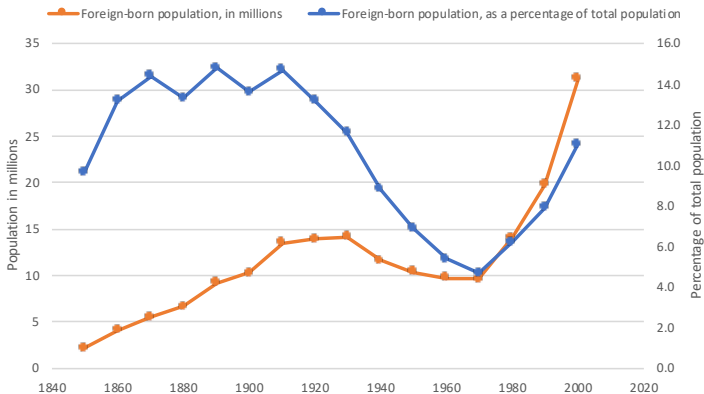
Notes: The figure presents point estimates and 90 percent confidence intervals for the father-son and father-son-in-law intergenerational elasticities. The values on the horizontal axes represent the year from which the son's (son-in-law's) sample are drawn. The elasticities are obtained from a regression of son (son-in-law) log occupational income on imputed father's (father-in-law's) log occupational income. See text for details of the imputation procedure. Occupational income is based on average earnings in the occupation in 1950.

Explaining the Change - Fertility Declines?

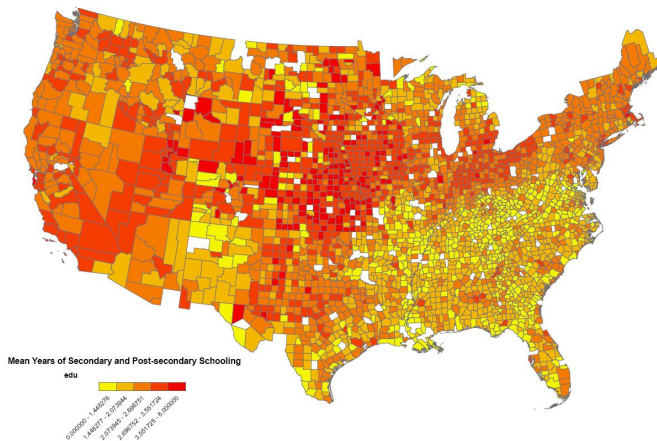
Figure 7: CEB by Top and Bottom Half of the Income Distribution



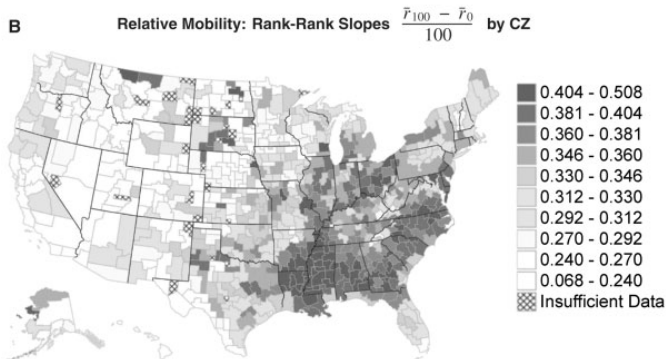
Explaining the Change - Immigration?



Explaining the Change - Human Capital?



Explaining the Change - Human Capital?



A Problem with First Names

TABLE A1—FIRST NAMES USED IN EXPERIMENT

White female			African-American female		
Name	L(W)/L(B)	Perception White	Name	L(B)/L(W)	Perception Black
Allison	∞	0.926	Aisha	209	0.97
Anne	∞	0.962	Ebony	∞	0.9
Carrie	∞	0.923	Keisha	116	0.93
Emily	∞	0.925	Kenya	∞	0.967
Jill	∞	0.889	Lakisha	∞	0.967
Laurie	∞	0.963	Latonya	∞	1
Kristen	∞	0.963	Latoya	∞	1
Meredith	∞	0.926	Tamika	284	1
Sarah	∞	0.852	Tanisha	∞	1
Fraction of all births:			Fraction of all births:		
3.8 percent			7.1 percent		

White male			African-American male		
Name	L(W)/L(B)	Perception White	Name	L(B)/L(W)	Perception Black
Brad	∞	1	Darnell	∞	0.967
Brendan	∞	0.667	Hakim	∞	0.933
Geoffrey	∞	0.731	Jamal	257	0.967
Greg	∞	1	Jermaine	90.5	1
Brett	∞	0.923	Kareem	∞	0.967
Jay	∞	0.926	Leroy	44.5	0.933
Matthew	∞	0.888	Rasheed	∞	0.931
Neil	∞	0.654	Tremayne	∞	0.897
Todd	∞	0.926	Tyrone	62.5	0.900
Fraction of all births:			Fraction of all births:		
1.7 percent			3.1 percent		

Notes: This table tabulates the different first names used in the experiment and their identifiability. The first column reports the likelihood that a baby born with that name (in Massachusetts between 1974 and 1979) is White (or African-American) relative to the likelihood that it is African-American (White). The second column reports the probability that the name was picked as White (or African-American) in an independent field survey of people. The last row for each group of names shows the proportion of all births in that race group that these names account for.

Bertrand and Mullainathan (2004)

A Problem with First Names

TABLE 1—MEAN CALLBACK RATES BY RACIAL SOUNDINGNESS OF NAMES

	Percent callback for White names	Percent callback for African-American names	Ratio	Percent difference (<i>p</i> -value)
Sample:				
All sent resumes	9.65 [2,435]	6.45 [2,435]	1.50	3.20 (0.0000)
Chicago	8.06 [1,352]	5.40 [1,352]	1.49	2.66 (0.0057)
Boston	11.63 [1,083]	7.76 [1,083]	1.50	4.05 (0.0023)
Females	9.89 [1,860]	6.63 [1,886]	1.49	3.26 (0.0003)
Females in administrative jobs	10.46 [1,358]	6.55 [1,359]	1.60	3.91 (0.0003)
Females in sales jobs	8.37 [502]	6.83 [527]	1.22	1.54 (0.3523)
Males	8.87 [575]	5.83 [549]	1.52	3.04 (0.0513)

Notes: The table reports, for the entire sample and different subsamples of sent resumes, the callback rates for applicants with a White-sounding name (column 1) an African-American-sounding name (column 2), as well as the ratio (column 3) and difference (column 4) of these callback rates. In brackets in each cell is the number of resumes sent in that cell. Column 4 also reports the *p*-value for a test of proportion testing the null hypothesis that the callback rates are equal across racial groups.

Bertrand and Mullainathan (2004)

A Problem with First Names

Dear Professor [Surname of Professor Inserted Here],

I am writing you because I am a prospective doctoral student with considerable interest in your research. My plan is to apply to doctoral programs this coming fall, and I am eager to learn as much as I can about research opportunities in the meantime.

I will be on campus today/[next Monday], and although I know it is short notice, I was wondering if you might have 10 minutes when you would be willing to meet with me to briefly talk about your work and any possible opportunities for me to get involved in your research. Any time that would be convenient for you would be fine with me, as meeting with you is my first priority during this campus visit.

Thank you in advance for your consideration.

Sincerely,
[Student's Full Name Inserted Here]

Milkman, Akinola and Chugh (2012)

A Problem with First Names

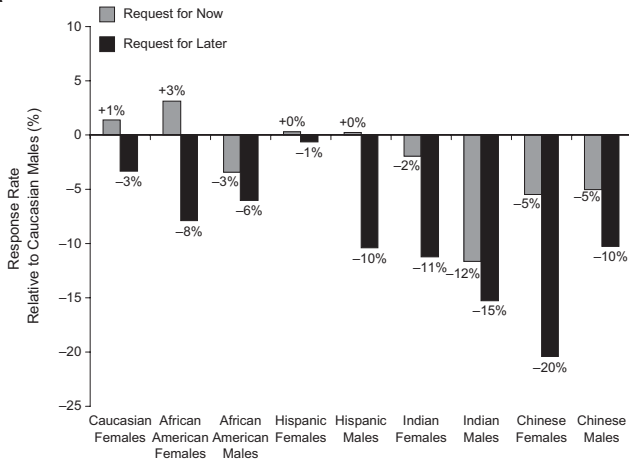
Table S1. Race and gender recognition survey results for selected names. Reported significance levels indicate the results of a two-tailed, one sample test of proportions to test the null hypothesis that the observed recognition rate is equal to that expected by chance (16.7% for race and 50% for gender). *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Race	Gender	Name	Rate of Race Recognition	Rate of Gender Recognition
Caucasian	Male	Brad Anderson	100%***	100%***
		Steven Smith	100%***	100%***
	Female	Meredith Roberts	100%***	100%***
		Claire Smith	100%***	100%***
Black	Male	Lamar Washington	100%***	100%***
		Terrell Jones	100%***	94%***
	Female	Keisha Thomas	100%***	100%***
		Latoya Brown	100%***	100%***
Hispanic	Male	Carlos Lopez	100%***	100%***
		Juan Gonzalez	100%***	100%***
	Female	Gabriella Rodriguez	100%***	100%***
		Juanita Martinez	100%***	100%***
Indian	Male	Raj Singh	90%*** (10% Other)	100%***
		Deepak Patel	85%*** (15% Other)	100%***
	Female	Sonali Desai	85%*** (15% Other)	100%***
		Indira Shah	85%*** (10% Other; 5% Hispanic)	94%***
Chinese	Male	Chang Huang	100%***	94%***
		Dong Lin	100%***	94%***
	Female	Mei Chen	100%***	94%***
		Ling Wong	100%***	78%*

Milkman, Akinola and Chugh (2012)

A Problem with First Names

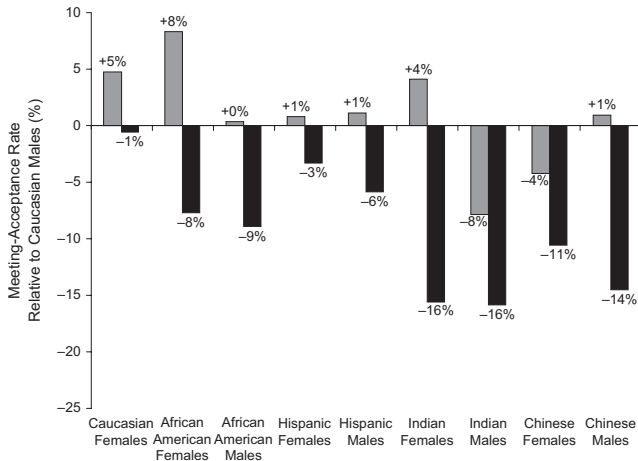
a



Milkman, Akinola and Chugh (2012)

A Problem with First Names

b



Milkman, Akinola and Chugh (2012)

Announcements

- Don't forget about your first referee report due **today** at **5pm**
- Send them to by email as a pdf attachment
- Next week we are going to start on immigration's role in inequality and mobility
- You should read Abramitzky, Boustan and Eriksson (2012) "Europe's tired, poor, huddled masses: Self-selection and economic outcomes in the Age of Mass Migration" American Economic Review
- No class on the Friday before Spring Break

Using Names for Pseudo-linking

TABLE 2—COMMON NAMES GIVEN TO CHILDREN,
RANKED BY MEAN FATHER'S OCCUPATIONAL INCOME, 1850–1920

	1850	1860	1870	1880	1900	1910	1920
Males							
Rank: <i>Most prestigious</i>							
1	Edward	Walter	Harry	Paul	Donald	Abraham	Jerome
2	Frederick	Frank	Walter	Harry	Kenneth	Max	Irving
3	Edwin	Willie	Herbert	Frederick	Harold	Nathan	Jack
4	Charles	Louis	Theodore	Ralph	Morris	Vincent	Nathan
5	Franklin	Fred	Edward	Philip	Max	Edmund	Abraham
<i>Least prestigious</i>							
1	Jesse	Levi	Jesse	Luther	Luther	Jessie	Willie
2	Hiram	Isaac	Franklin	Ira	Dewey	Otis	Loyd
3	Isaac	Benjamin	Isaac	Isaac	Perry	Luther	Luther
4	Daniel	Andrew	Hiram	Willis	Virgil	Eddie	Jessie
5	David	Jacob	Martin	Charley	Ira	Charley	Otis

Using Names for Pseudo-linking

Females							
Rank:	<i>Most prestigious</i>						
1	Emma	Ada	Bertha	Bessie	Dorothy	Eleanor	Betty
2	Alice	Kate	Jessie	Mabel	Marion	Marian	Jean
3	Anna	Lizzie	Grace	Helen	Helen	Dorothy	Jane
4	Isabella	Clara	Carrie	Ethel	Louise	Marion	Kathryn
5	Josephine	Fanny	Helen	Blanche	Marie	Virginia	Muriel
<i>Least prestigious</i>							
1	Sally	Amanda	Nancy	Nancy	Nancy	Sallie	Lela
2	Nancy	Nancy	Lucinda	Viola	Ollie	Addie	Maggie
3	Lucinda	Rachel	Rebecca	Martha	Nannie	Ollie	Ollie
4	Martha	Lucinda	Amanda	Rachel	Sallie	Mattie	Effie
5	Lydia	Martha	Martha	Amanda	Alta	Iva	Eula

	Exact name, nickname or alternative spelling appears more than once (most prestigious).
	Exact name, nickname or alternative spelling appears more than once (least prestigious).

Notes: Entries in the table represent the five children's names with the highest and lowest average father occupational score, by gender, and census year. Only names that appear at least 100 times are considered for the ranking.

Change in Intergenerational Mobility Over Time

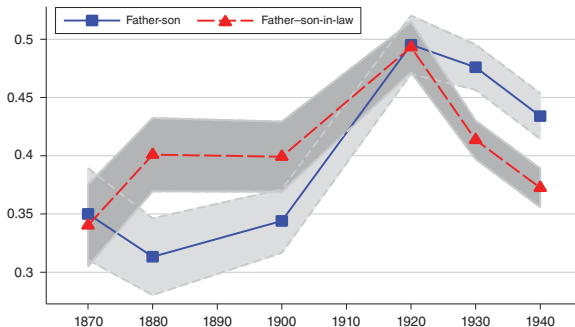


FIGURE 1. FATHER-SON AND FATHER-SON-IN-LAW ELASTICITIES IN OCCUPATIONAL INCOME, 1870–1940

Notes: The figure presents point estimates and 90 percent confidence intervals for the father-son and father-son-in-law intergenerational elasticities. The values on the horizontal axes represent the year from which the son's (son-in-law's) sample are drawn. The elasticities are obtained from a regression of son (son-in-law) log occupational income on imputed father's (father-in-law's) log occupational income. See text for details of the imputation procedure. Occupational income is based on average earnings in the occupation in 1950.

Using Names to Go Even Further Back

- This approach of exploiting the socioeconomic content of names also lies at the heart of Clark and Cummins' work
- Rather than first names, they focus on last names
- The basic idea is to identify surnames that are mostly held by rich individuals at one point in time and surnames that are mostly held by poor people at that same point in time
- Then you can see how those names diffuse through the income or wealth distribution over the course of subsequent generations

Using Names to Go Even Further Back

Anderson	John	1844-March	24	None given	None given	Being a rogue and a vagabond
Andrews	Benjamin	1848-June	27	Collier	Uttering a counterfeit coin	None given
Andrews	Benjamin	1848-October	27	None given	None given	Misdemeanour
Andrews	Charles	1842-January	22	Labourer	Assaulting a peace officer (See also George Hautin)	None given
Andrews	Eliza	1849-June	Not given	None given	Alleged theft from (victim)	None given
Andrews	George	1849-December	35	Waterman	Stealing trousers etc	None given
Andrews	George	1849-December	35	Waterman	Stealing ash poles	None given
Andrews	George	1850-April	35	None given	None given	Felony
Andrews	Henry	1845-March	22	Labourer	None given	Trespass in search of game
Andrews	Henry	1847-April	Not given	None given	Attempted defraud of (victim)	None given
Andrews	Henry	1849-July	Not given	None given	Alleged deception of (victim)	None given
Andrews	Jacob	1849-January	27	Labourer	Stealing wheat	None given
Andrews	Jacob	1849-April	27	None given	None given	Felony
Andrews	James	1842-October	22	Shoemaker	Stealing a basket and potatoes	None given
Andrews	James	1841-Summer	23	None given	None given	Larceny
Andrews	James	1842-February	38	Cordwainer	Stealing several trees	None given
Andrews	Jane	1844-December	28	None given	None given	Uttering counterfeit coin
Andrews	Mary	1845-October	20	Single woman	Obtaining mutton by false pretences	None given
Andrews	Sophia	1847-April	Not given	None given	Attempted defraud of (victim)	None given
Andrews	William	1840-October	56	Waterman	Stealing hops	None given
Andrews	William	1847-January	19	Labourer	Stealing a gun barrel etc	None given
Ankrett	Henry	1849-October	Not given	None given	Alleged theft from (victim)	None given

Using Names to Go Even Further Back

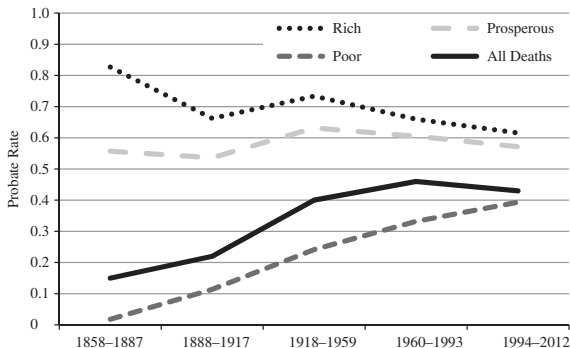


Fig. 3. *Probate Rates of Surname Types, by Generation*

Notes. The probate rate in a given generation is the number of people recorded in the probate registry divided by the number of people dying.

Source. Principal Probate Registry and GRO.

Using Names to Go Even Further Back

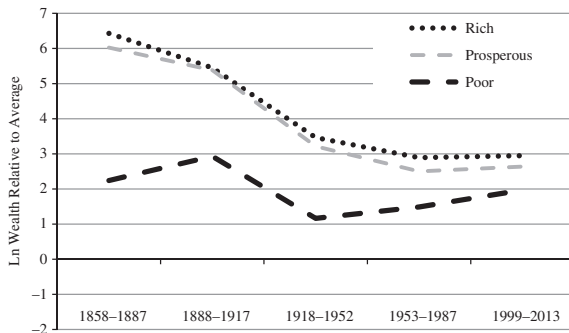


Fig. 4. Average *ln Probate Wealth, Those Probated, by Generation*

Notes. *ln probate wealth by surname* is measured as average *ln wealth by surname* minus the estimated overall average *ln probate wealth* (from the *Brown* surname).

Using Names to Go Even Further Back

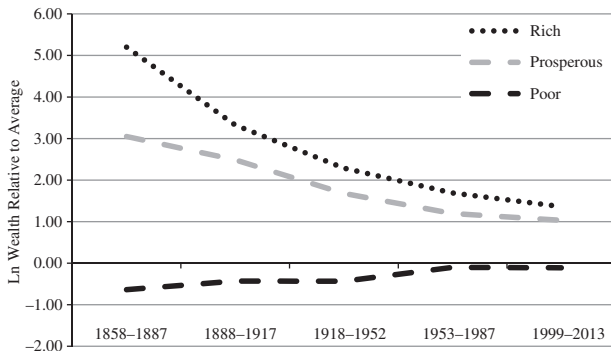


Fig. 5. *Average Log Probate Value, Including Those Not Probated, by Generation*
Source. Table 5.

A Bit on the Econometrics of Mobility

- It is worth thinking a little bit about the theoretical model posed by Clark and Cummins
- They suggest that measured wealth at death is the sum of two components:

$$w_{i,t} = x_{i,t} + u_{i,t}$$

- In this equation, $x_{i,t}$ is the underlying social status of a person and $u_{i,t}$ is a random component linking wealth to underlying status
- They assume that $x_{i,t}$ follows an AR1 process:

$$x_{i,t+1} = bx_{i,t} + e_{i,t}$$

A Bit on the Econometrics of Mobility

- If these equations do describe the evolution of wealth, the regression of son's wealth on father's wealth should give the following coefficient on wealth:

$$E(\hat{\beta}) = b \frac{1}{1 + \left(\frac{\sigma_u^2}{\sigma_x^2} \right)}$$

- So our estimated coefficient is in effect underestimating the strength of the link between father's and son's in terms of social status
- Notice how the attenuation depends on σ_u^2 and σ_x^2

A Bit on the Econometrics of Mobility

- This gets more interesting if we think about more generations
- Suppose that we estimate the following relationship:

$$w_{i,t+n} = \beta_n w_{i,t} + \nu_{i,t}$$

- Given the model, the expected value of the coefficient on $w_{i,t}$ would be:

$$E(\hat{\beta}_n) = b^n \frac{1}{1 + \left(\frac{\sigma_u^2}{\sigma_x^2}\right)}$$

- Notice how this is not equal to $\left(E(\hat{\beta})\right)^n$

A Bit on the Econometrics of Mobility

- Why does this matter?
- It forces a pretty big reinterpretation of our intergenerational income/wealth elasticities
- The one-generation elasticities that most studies focus on may give an accurate sense of the correlation between parents and children in terms of outcomes
- But they will lead people to severely underestimate how long that correlation persists across several generations

Thinking about many Generations

- The Clark and Cummins approach gives us some insight into mobility across several generations
- But even their approach is constrained by the time periods for which they can access a sufficient number of probated estates
- What if we want to go even further back?
- Clark has a potential approach, one that once again relies on the socioeconomic content of surnames
- The idea is that there are different *types* of surnames
- What are these types?

*Smith, Baker, Clark, Cook, Carter, Wright,
Shepherd, Stewart, Chamberlain, Butler,
Carpenter, Mason, Thatcher, Plumber, Sawyer,
Slater, Tyler, Miller, Brewer, ...*

Names linked to home villages in Normandy:

*Mandeville, Montgomery, Baskerville, Percy,
Neville, Beaumont ...*

Names linked to indigenous English propertied class:

*Berkeley, Hilton, Pakenham, Barton, Bradley,
Greenwood, Newton, Walton ...*

Thinking about Many Generations

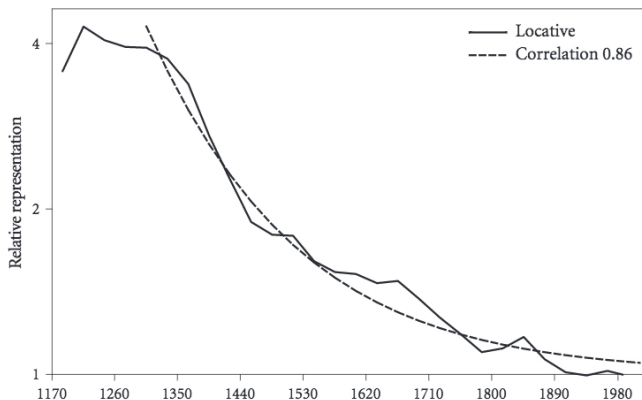


FIGURE 4.4. Locative surnames at Oxford and Cambridge, 1170–2012.

Thinking about Many Generations



FIGURE 4.1. Percentage of artisan surnames among English elites, 1170–2012.

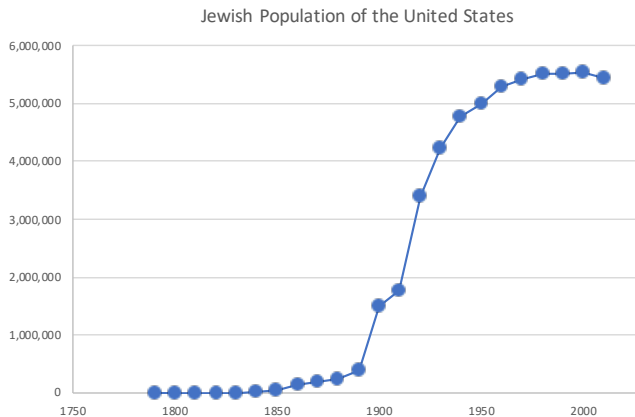
Last Names in the US Context

- In his book, Clark also applies the last name approach to the US context
- Switching to the US presents some different challenges
- First, the sources of names will need to be a bit different
- Second, there are some new conceptual issues
- Does looking over many generations in the US make the same sense as it does for Britain?

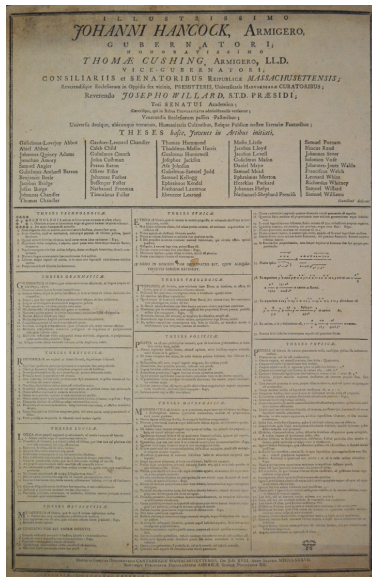
Last Names in the US Context

- Clark's sources for elite groups will be:
 - Descendants of Ashkenazi and Sephardic Jews
 - Descendants of wealthy individuals in 1923-24 with rare surnames
 - Descendants of individuals with rare surnames graduating from Ivy League schools in and before 1850
- Note how much more limited the time range needs to be

Last Names in the US Context



23 / 33



Last Names in the US Context

- Clark's sources for underclass groups will be:
 - Native Americans
 - Black Americans whose ancestors came to the United States before the Civil War
 - Descendants of the French settlers who came to the colonies between 1604 and 1759
- Think about how these groups differ from those used by Clark for Britain

Last Names in the US Context

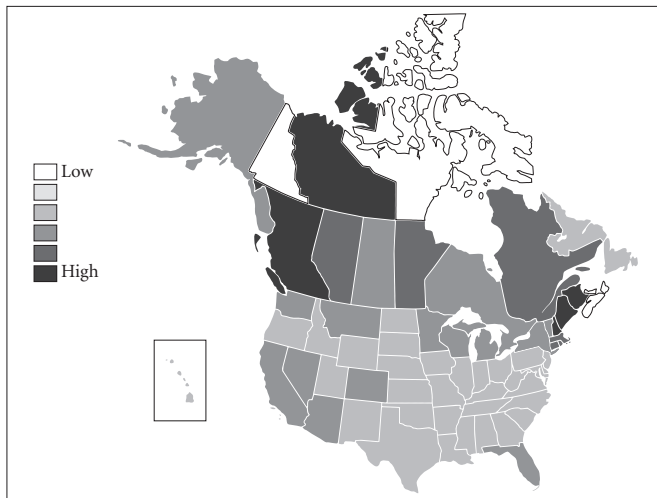


FIGURE 3.2. Map of the distribution in North America of the surname *Gagnon*, 2012.

Announcements

- Grades and comments on your Du Bois figures are up on Blackboard
- Grades for the first referee report will be up before Spring Break, email me if you did not get a confirmation
- Remember that the second referee report is due March 15th on Miller (2008) “Women’s Suffrage, Political Responsiveness, and Child Survival in American History”
- Also think about making progress on your data projects
- No class on the Friday before Spring Break

Last Names in the US Context

- For the Clark and Cummins paper, check out the Stata and Excel examples on Blackboard for more on the issue of underlying social capital
- Now back to Clark's approach to the US
- Clark's sources for elite groups will be:
 - Descendants of Ashkenazi and Sephardic Jews
 - Descendants of wealthy individuals in 1923-24 with rare surnames
 - Descendants of individuals with rare surnames graduating from Ivy League schools in and before 1850
- Note how much more limited the time range needs to be

Last Names in the US Context

- Clark's sources for underclass groups will be:
 - Native Americans
 - Black Americans whose ancestors came to the United States before the Civil War
 - Descendants of the French settlers who came to the colonies between 1604 and 1759
- Think about how these groups differ from those used by Clark for Britain

Last Names in the US Context

- Measuring outcomes requires a different approach as well for the US
- Probate records are not as easily accessible (you would have to do a lot of work requesting one record at a time from many different locations)
- Instead, Clark is going to take an approach similar to looking at Cambridge and Oxford graduates
- He'll take advantage of the public directories of doctors and lawyers

Abbeville

ALABAMA

Attalla

PHYSICIANS OF ALABAMA

Capitals signify membership in County and State Societies; * membership in American Medical Association; H, homeopath; E, eclectic; P-M, physio-medic; * information regarding graduation not obtained; (Y. of P.) in practice before passage of present law or licensed by virtue of a certain number of years of practice; I. S., United States Indian Service; M.R.C., United States Medical Reserve Corps; figures in parentheses refer to dates of birth and state license; (I f) licensed but date not obtained. The following abbreviations signify specialties practiced: S, surgeon; Oc., oculist; ALR, aurist, laryngologist and rhinologist; D., dermatologist; Pk., pediatrician; G., gynecologist; N., neurologist; Or., orthopedic surgeon. College positions held are indicated by the abbreviated title of the chair, followed by the key number of the school in which the position is held. For key to colleges see inside front cover page.

ALABAMA.

Abbeville, 1,500, Henry.
Ballard, Ira U.—Md.3,'04; (1905).
Blackledge, John Richard—Ala.2,'89; (1891).
FLOYD, THOMAS J.—La.1,'07; (1907).
HENDRICK, LOWNDES—Ala.2,'90; (1890).
Long, James B.—Ky.4,'81; (1883).
NICHOLS, LUCIUS SHERMAN—Ala.2,'97; (1897).
STEGALL, ALBERT SIDNEY—Ala.2,'88; (1888).
VANN, JAMES ROBT. (b 1871)—Ala.2,'99; (1900); R.F.D. No. 1.
VICKERS, WM. CHAS. (b 1882)—La.1,'08; (1906); Kelly St.; office, Stokes.
Abercrombie, 22, Bibb (R.F.D., Centerville).
Moseley, David O.—Mo.2,'72; (1875).
Abernath, 300, Tuscaloosa.
Jones, F. H.—* (I f).
Activity, 61, Monroe.
STACY, A. G.—Ala.2,'06; (1906).
Adamsville, 600, Jefferson.
MARTIN, WM. GRAYLEE (b 1859)⊕—Tenn.8,'93; (1893); 8-10.
Addison, 50, Winston.
HUMPHRIES, ROBT. D. (b 1830)—Ga.9,'92; (1896); (Vinefont, R.F.D. No. 3).
Orton, Allen Ervin (b 1889)—Ga.12,'08; (1908).
Akron, 88, Hale.

RADFORD, GEO. CLEMENTS—* (1887); R.F.D. No. 2.
REAGAN, ONSLOW—* (1882).
STREET, THOMAS HEZEKIAH (b 1876)⊕—Pa.2,'00; (1900); office, Rainey Bldg.
Alexandria, 63, Calhoun.
McHarg, R. L.—Ala.2,'06; (1906).
Alleeville, 350, Pickens.
Duncan, Wallace W.—Ala.4,'99; (1899).
Munsly, Joseph (b 1849)—Ky.1,'71; (1878).
Murphy, Chas. M.—Ala.4,* (I f).
Snoddy, Ephraim A.—Ala.2,'97; (1897).
Alton, 210, Wilcox.
Lee, John F.—Tenn.1,'89; (1883).
Alpine, 121, Talladega.
HARGROVE, ROBT. HARRIS—Tenn.5,'67; (1887).
REEVES, THOMAS EDWIN—Tenn.11,'06; (1906).
SMITH, FRANK C. (b 1879)—Ala.4,'03; (1903).
Alston, 65, Barbour (R.F.D., Blue Springs).
BUSH, DAVID—Ala.2,'07; (1907).
Alton, —, Jefferson.
HUEY, J. F.—Md.3,'96; (I f).
Altoona, 1,000, Etowah.
ELLISON, JOHN HENRY—Tenn.5,'88; (1899).
America, 100, Walker.
Jones, Giles Wilson (b 1874)—Tenn.9,'00; (I f).

Warren, Wm. James—Ga.5,'89; (1889); not in practice.
White, Wm. Y.—Tenn.5,'87; (1887).
WHITESIDE, JOHN MCINTYRE (b 1862)⊕—Tenn.5,'94; (1894); Queenland Ave. and 7th St.; office, Scarborough Drug Co.
Wilke, Jesse Lane—Ga.1,'71; (1871); not in practice.
WILLIAMS, BENJ. DUDLEY (b 1854)—La.1,'81; (1887).
WILLIAMS, MARK JOHNSON⊕—Ala.4,'02; (1902).
WINN, LOCKE MINOR—La.1,'00; (1900).
Analee, 05, Pike.
BROACH, FRANCIS MARION (b 1835)—Ga.10,'00; (1890).
Dennis, S. H. (b 1853)—Ky.4,'58; (1878); R.F.D.
Arab, 300, Marshall.
Hinds, Montgomery L.—Tenn.5,'91; (1892).
Hinds, Wm.—Ala.2,* (I f).
Arlton, 250, Dale.
NORRIS, ROY HART—Ala.2,'97; (1897).
PATTON, JOHN HAMPTON—Md.3,'02; (1902).
Weed, Saml. Lafayette—Ala.2,'90; (1887).
Arkadelphia, 203, Cullman.
LEE, GENERAL ROBT.—Ala.4,'06; (1906).
PARKER, D. J.—Tenn.5,'01; (1901).
Arley, 75, Winston.
DENNIS, DAVID R. (b 1849)—* (1902).

Last Names in the US Context

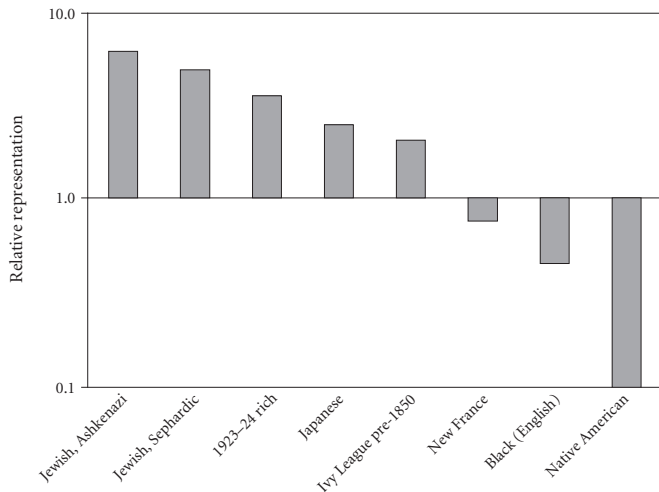


FIGURE 3.1. Relative representation of surname types among physicians.

Last Names in the US Context

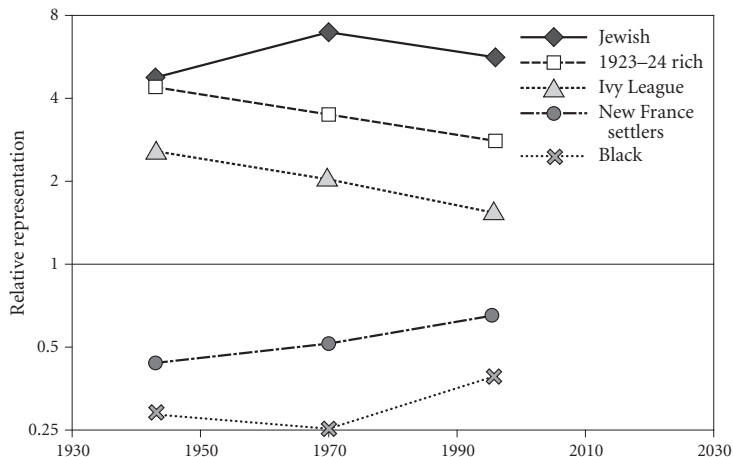


FIGURE 3.4. Relative representation of surname types among physicians, by generation.

Last Names in the US Context

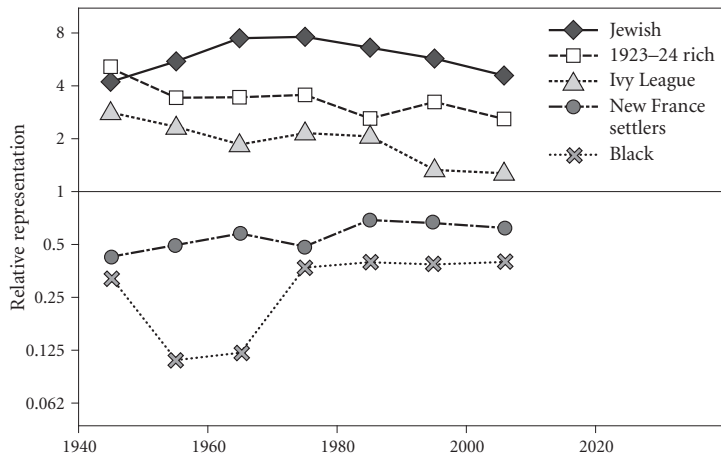


FIGURE 3.8. Relative representation of surname types among physicians, by decade.

Last Names in the US Context

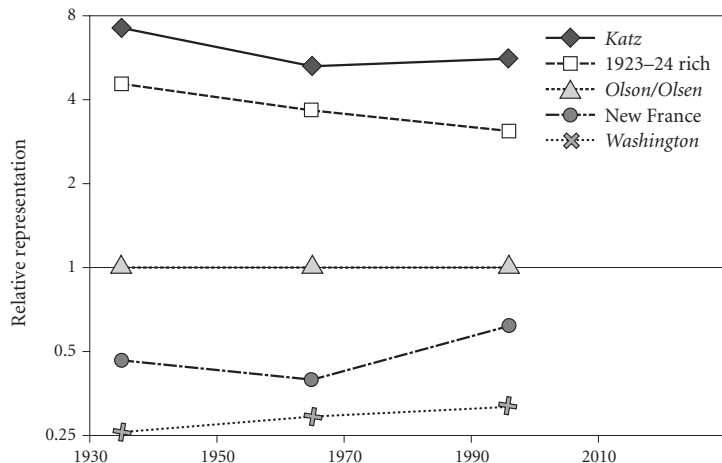


FIGURE 3.10. Relative representation of surname type among attorneys, by generation.

Last Names in the US Context

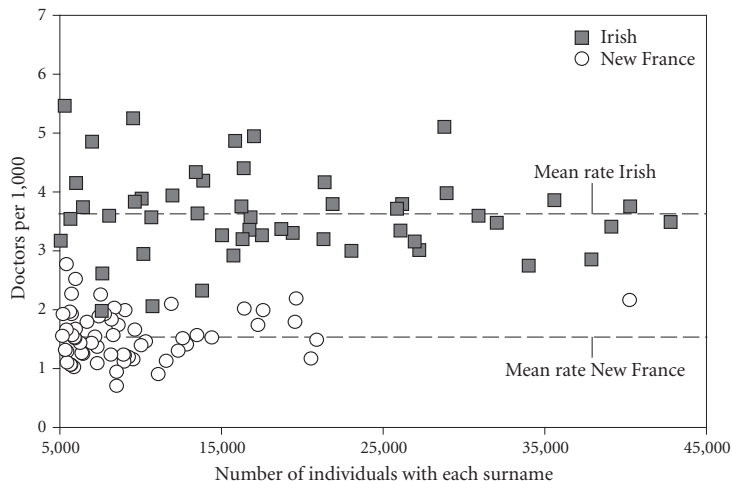


FIGURE 3.11. Physicians per thousand surname holders, most common Irish and New France surnames.

Last Names in the US Context

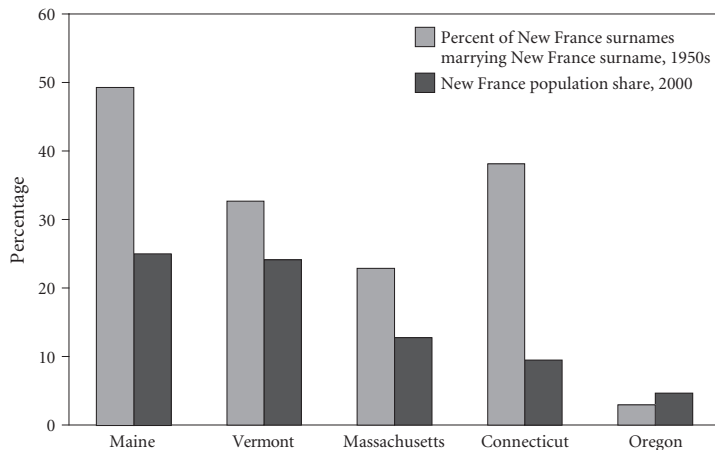


FIGURE 3.12. Marital endogamy among New France descendants, 1950s.