The First Egalitarian Enrichment

American Economic History from 1865 to 1910

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Usual Story

- Rapid Economic Growth *on average* during the (long) gilded age (1870-1910)

Table 1: Annual Rates of Improvements in Living Standards, 1870 to 1913

	(1) GDP per capita	(2) GDP per capita adjusted	(3) GNP + Nonmarket production	(4) GDP per capita
1870 to 1900	2.10%	2.10%	1.98%	-
1870 to 1907	2.03%	2.03%	1.90%	-
1870 to 1913	1.76%	1.75%	1.83%	1.79%
	(5) TFP	**(6) Worker Compensation**	**(7) Wages (Farm Workers)**	**(8) Wages (Unskilled)**
1870 to 1900	1.95%	2.00%	0.53%	1.28%
1870 to 1907	1.63%	1.89%	0.82%	1.16%
1870 to 1913	1.53%	1.80%	0.84%	1.04%
	(9) Wages (Unskilled)	**(10) Farmers Income**		
1870 to 1900	1.42%	1.3% to 1.8%		
1870 to 1919	1.75%	-		

Usual Story

- Growth was concentrated at the very top of the income ladder

Table 2: Different Estimates of Inequality, 1870 to 1929 (columns 1 and 3 are best)

	(1) Top 1%	(2) Top 1%	(3) Top 10%	(4) Top 10%	(5) Top 10%	(6) Gini	(7) Gini
1870	9.76	9.76	39.30	39.30	34.41	52.23	-
1910	15.80	17.77	35.54	40.58	36.21	45.80	-
1917	15.64	17.32	35.19	39.55	36.03	44.13	-
1918	14.44	15.58	36.02	39.16	36.88	39.26	-
1919	14.29	16.04	34.81	39.41	35.64	36.52	35.90
1920	13.68	14.50	34.93	38.14	35.77	34.08	33.50
1921	14.45	15.27	39.45	42.17	40.39	44.58	43.82
1922	14.16	16.68	37.18	42.75	38.07	42.71	41.98
1923	12.84	15.29	35.27	40.54	36.11	45.28	44.51
1924	14.19	17.05	37.92	43.45	38.83	42.92	42.19
1925	-	19.86	-	45.48	39.63	43.65	42.91
1926	16.36	19.51	39.49	44.80	40.43	46.12	45.34
1927	17.11	20.62	40.37	45.78	41.34	44.83	44.07
1928	19.47	23.55	42.47	48.48	43.49	43.99	43.24
1929	18.09	21.97	41.04	45.90	42.02	49.11	48.28

Usual Story

- It is only after 1910 that America started to level inequalities by turning to a more expansive welfare state

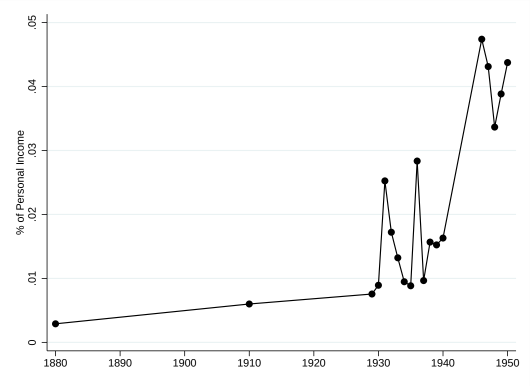


Figure 1: Social and Education Spending as Share of GDP

The Great Egalitarian Enrichment

- All of this is largely incorrect
  - Growth was egalitarian from 1870 to 1910 – the poor enjoyed more growth than the top 10% and as much as the top 1%.
  - America had the largest increase of all countries in living standards of the bottom 90%. It also reached the highest level of living standards ever observed.
  - All other countries probably saw an increase in inequality
  - Never before was growth this fast for the poor
  - America was a late joiner to the welfare state trend because its market economy was doing what the welfare state was meant to address.

The Great Egalitarian Enrichment

- I make a series of adjustments to income estimates. These adjustments are based on well-established historical facts that modern economists recognize as sources of estimation challenges, but which historians and economic historians have struggled to fully incorporate.
- None of them are based on controversies. They have simply have not being used to improvement measurement

The Great Egalitarian Enrichment

1. Cost of Living Egalitarian Trends
2. The Missing Poor
3. The Lifespan Gap and Lifetime Earnings
4. Immigration and Composition Bias
5. Tax Evasion Used to be the Poor Man's Business

Cost of Living Egalitarianism

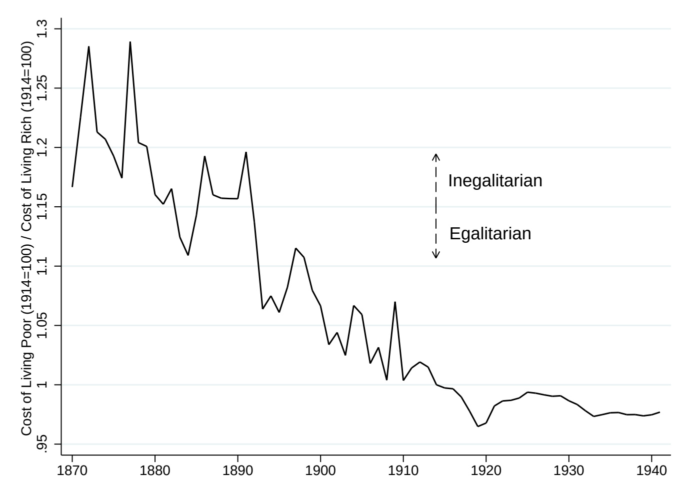


Figure 2: Cost of Living Egalitarianism

Cost of Living Egalitarianism

- Falling food prices due to mass expansion of transportation network, branded firms with large economies of scale, technological innovation in food processing (with improvements in quality that are not well measured)
- Expansion of manufacturing and standardization of goods reduce the price of goods that used to be out of reach for the poor (assuming non-homothetic Engels-Curves)
- Rising manufacturing productivity pushed wages up for unskilled workers. This meant higher wages for services contracted by richer households.

Cost of Living Egalitarianism

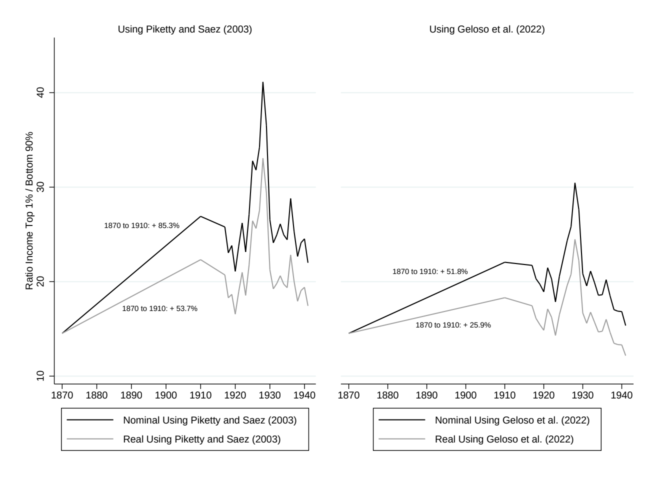


Figure 3: Household Income Inequality (ratio of top 1% average income to bottom 90% average income)

Cost of Living Egalitarianism

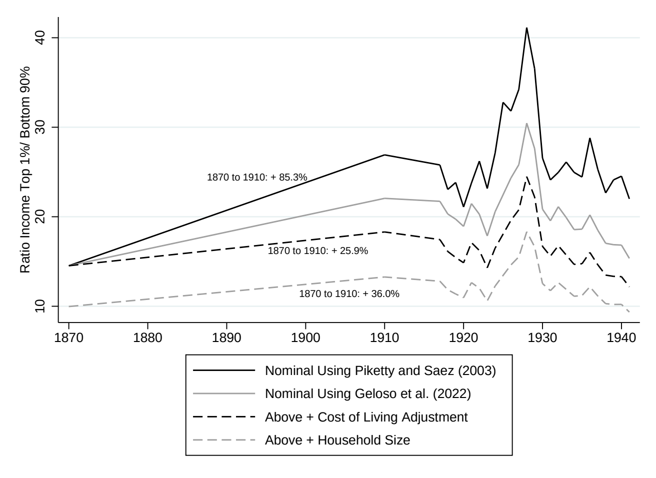


Figure 4: Household Income Inequality (ratio of top 1% average income to bottom 90% average income)

Cost of Living Egalitarianism

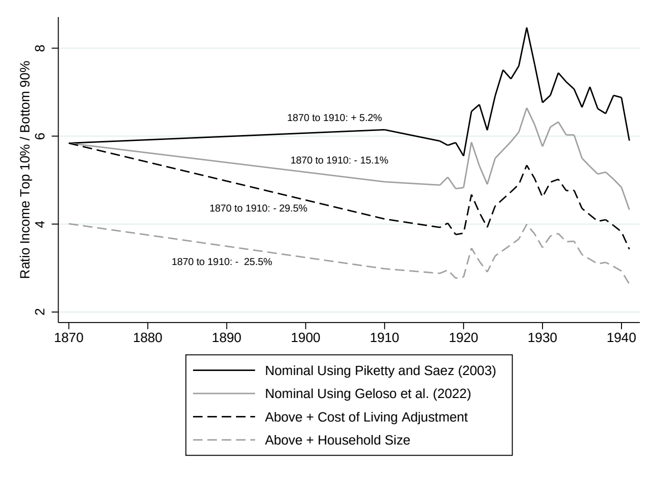


Figure 5: Household Income Inequality (ratio of top 10% average income to bottom 90% average income)

Missing Poor

- During the year, people die and census-takers miss them.
  - This is an issue for levels of inequality if there are differential mortality rates by income groups. This is an issue for trends of inequality if the differentials collapse (or increase over time)
- Census underenumeration (enumerators missing key groups)
  - This is an issue for levels of inequality if there are differential rates of under-enumeration
  - This is an issue for trends of inequality if the rate of under-enumeration falls over time.
  - This applies differently to census data and for 1870 because 1870 is the year that we estimate inequality from census (using social tables approach).
  - The other years are tax data for top income numerator and NIPA for total income denominator. In that case, the sum of errors to denominator and numerator differ such that inequality in 1910 is *overestimated* instead (i.e., under-enumeration affect denominator only)

Missing Poor

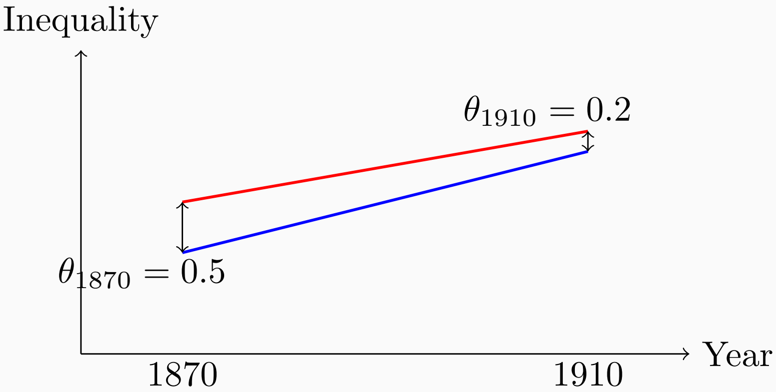


Figure 6: Visualizing the Missing Poor Effect

Missing Poor

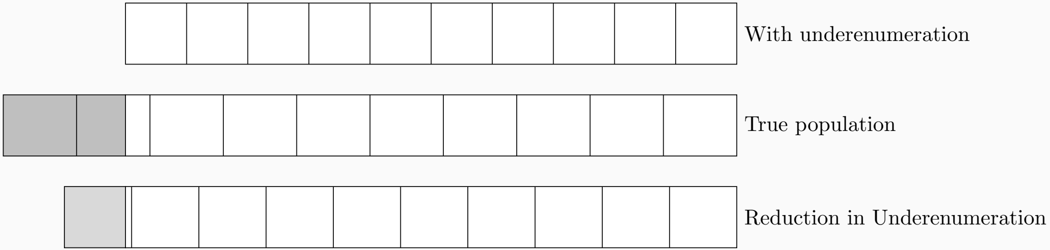


Figure 7: Census Underenumeraiton Problem

Missing Poor

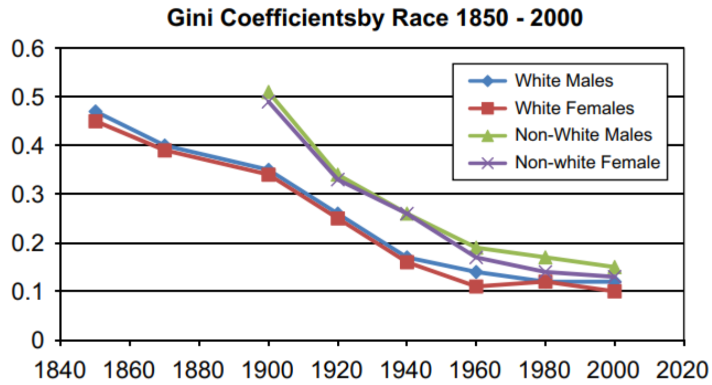


Fig. 2. Gini coefficients by race 1850–2000. *Source*: computations based on Haines (1998).

Figure 8: Lifespan Inequality

Missing Poor

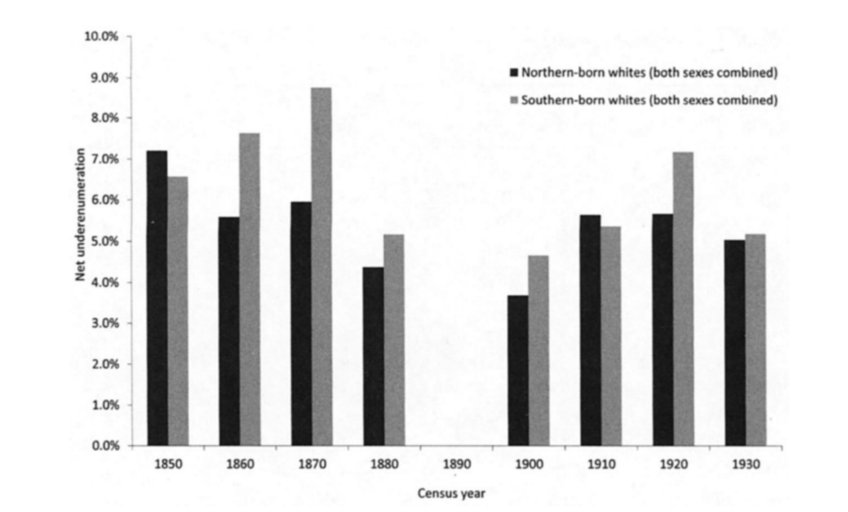


Figure 9: Underenumeration Rate, 1850 to 1930

Missing Poor (Dead People Missing)

	Top 10 / Bottom 90	Top 1 / Bottom 90
As Reported (Piketty and Saez)	5.2%	85.3%
Geloso et al.	-15.1%	51.8%
Above + Household Size	-10.2%	60.4%
Above + Cost of Living Inequality	-25.5%	33.1%
Above + ...		
... Under-enumeration (1870) = 5% and post-1910 under-enumeration	-30.6%	23.2%
... Under-enumeration (1870) = 10% and post-1910 under-enumeration	-31.8%	21.4%
Above + ... + Missing Poor (low)		
... Under-enumeration (1870) = 5% and	-32.3%	20.2%
... Under-enumeration (1870) = 10% and	-33.5%	18.4%
Above + ... + Missing Poor (high)		
... Under-enumeration (1870) = 5% and	-33.0%	19.1%
... Under-enumeration (1870) = 10% and	-34.1%	17.3%

Table 3: Changes in inequality 1870 to 1910 (ratio of top 10% or 1% incomes over bottom 90%) under different adjustments.

Lifetime Earnings

- The same lifespan/health levelling discussed above also implies that the poor lived longer lives relative to the rich.

Table 4: Mean lifespans for individuals above age 10 in both the 1870 and 1910 cohorts

	1870	1910	Δ
Mean Lifespan Below the 90th Percentile	51.6	57.9	6.3
Mean Lifespan Above the 90th Percentile	77.0	80.0	3.0

- Using life tables, I can simulate the gain in life expectancy at age 10 of people in 1870. From this, I can simulate their lifetime earnings using historical labor surveys (I am using the high-quality one from the Maine Labor Bureau for 1892) to create an age-earnings profiles and assuming a person moves along the curve as he ages but also that the curves shifts with the overall productivity of the economy.

Lifetime Earnings

- A poor 10-year-old in 1870 expects to live until 1912 (i.e., 52) but improvements extend life to 1918.
- An angel offers a choice: live to 58 or receive an annuity for the extra years but die at 52.
- The annuity is what I can add to annual income in 1910 – The annuity ranges from \$29.49 to \$35.13, representing 6.47% to 7.72% of the average income (\$455) from the Maine worker survey.
- And this approach is conservative because I am not including any effect of social mobility.

Lifetime Earnings

	Top 10% to Bottom 90%	Top 1% to Bottom 90%
Piketty and Saez	5.2%	85.3%
Geloso et al.	-15.1%	51.8%
Above + Lifespan Gains	-21.0%	41.2%
Above + Cost of Living	-34.5%	17.1%
Above + Under-enumeration	[-38.9% to -40.0%]	[6.9% to 8.5%]
Above + Household Size	[-35.5% to -36.6%]	[12.9% to 14.6%]
Above + Missing Poor	[-37.1% to -38.7%]	[9.1% to 11.8%]

Table 5: All Adjustments of Income Inequality (Ratio of Top 1% or 10% Average Income to Bottom 90% Average Income), 1870 to 1910

Composition Bias and Immigration

- Immigration affects inequality via composition bias, as the growing unskilled labor segment distorts measurements.
- Immigrant income distribution differing from natives mechanically raises inequality.
- Historical claims of "lesser quality" immigrants reflect differences in human capital, not cultural incompatibility. Using 1909 data, immigrants earned 88.7% of native wages in 1910, compared to 94.38% in 1870, indicating a composition bias.
- However, there is no evidence of growing difference between groups (e.g., Irish v. White Americans; Germans vs White Americans). It is thus only a composition bias (from high-wage/high human capital capital countries like Germany and UK to those with low-wage/low human capital like eastern Europe)

Composition Bias and Immigration

	Top 1% to Bottom 90%
Piketty and Saez	85.3%
Geloso et al.	51.8%
Above + Lifespan Gains	41.2%
Above + Cost of Living	17.1%
Above + Composition Effect	13.7%
Above + Under-Enumeration	[3.7% to 5.2%]
Above + Household Size	[10.0% to 11.7%]
Above + Missing Poor	[6.3% to 8.9%]

Table 6: All Adjustments of Income Inequality (Ratio of Top 1% Average Income to Bottom 90% Average Income) and Increase in Inequality, 1870 to 1910

Tax Evasion

- Before 1943, IRS enforced had little resources to enforce (no withholding). Only 3 hours per auditor per tax return. Less than 1 hour in the late 1920s.
- It ignored the ”small people” and ”small peoples” and simply accepted all tax returns below $5,000 as is, no question asked. This was 90% + of all tax returns.
- Poor people lied (when they reported) and they simply rarely reported. They had multiple mechanisms to hide income and avoid detection.
- Prohibition also involved a great deal of low-income workers (underground economy).
- However, enforcement was strict at the top. Very aggressive enforcement on top 1%.
- Tax evasion was the poor man’s business!

Tax Evasion

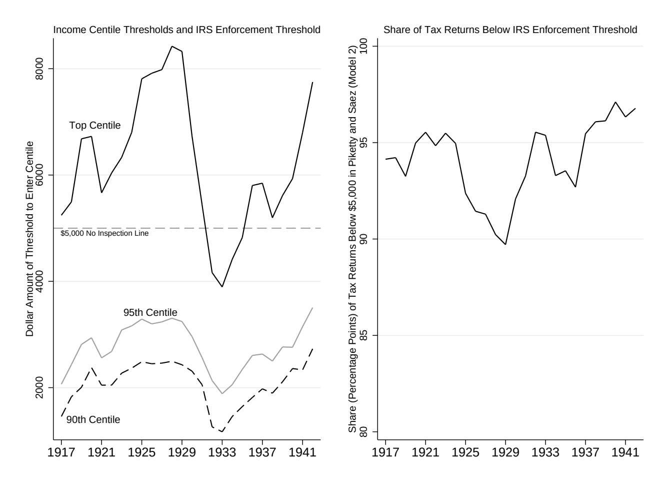


Figure 10: IRS Enforcement Focus and the Income Distribution

Tax Evasion

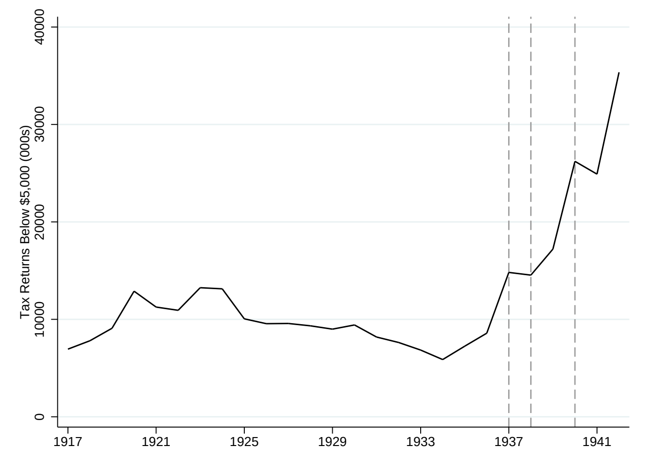


Figure 11: Tax Returns Below the $5,000 Enforcement Threshold, 1917 to 1942 with Ramp Ups in Enforcement (Dashed Gray Line).

Tax Evasion

- Solution is to look at state income taxes in states that enforced aggressively their own income taxes. Compare the data for these states with the IRS data to see who cheats and how much. Best states are Wisconsin, Delaware, Minnesota, Utah and North Carolina. Delaware is the most awesome of them.

Income Class	Ratio
Less than $2,000	20.7
$2,000 to $5,000	1.5
$5,000 to $10,000	0.8
$10,000 to $25,000	0.9
$25,000 to $50,000	0.9
$50,000 to $100,000	0.9
$100,000 to $250,000	1.0
More than $250,000	1.0

Table 7: Ratio of Delaware State Income Tax Returns over IRS Income Tax Returns in Delaware by Income Class (Average from 1926 to 1938)

Tax Evasion

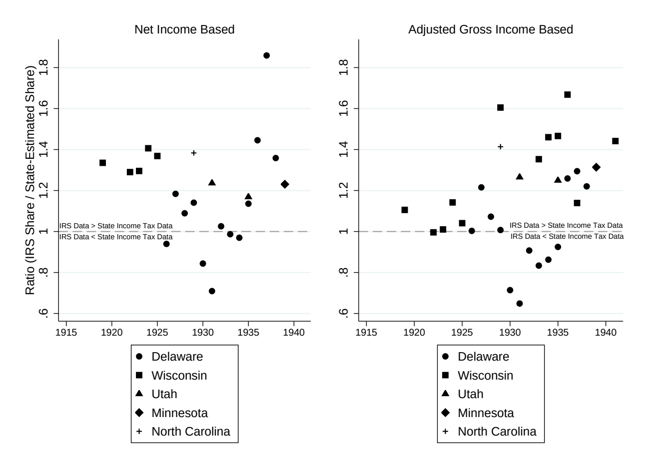


Figure 12: Ratio of IRS Data Results to State Income Tax–Data Results (Top 1% Only), 1919–1941

Tax Evasion

Category	Top 1%
Piketty and Saez	85.3%
Geloso et al.	51.8%
Above + Lifespan Gains	41.2%
Above + Cost of Living	17.1%
Above + Under-Enumeration	[3.7% to 5.2%]
Above + Tax Evasion	[-0.9% to 0.6%]
Above + Composition Effect	[-2.0% to -3.4%]
Above + Household Size	[2.1% to 3.6%]
Above + Missing Poor	[-1.4% to 1.0%]

Table 8: All Adjustments of Income Inequality (Ratio of Top 1% Average Income to Bottom 90% Average Income), 1870 to 1910 With Allowance for Tax Evasion

No Gilded Age

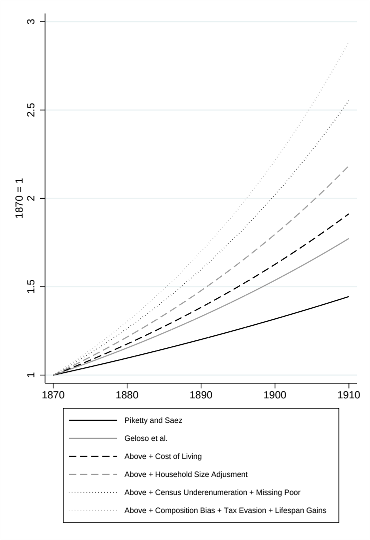


Figure 13: Living Standards (1870=1) of the Bottom 90% of the Income Distribution

No Gilded Age

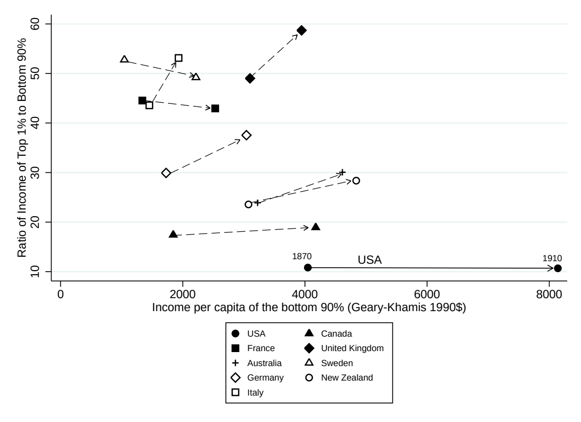


Figure 14: Evolution of the Income Share of the Top 1% and the Implied Average Income of the Bottom 90% for Multiple Countries, 1870 to 1910 (Lifetime Earnings, Immigration and Tax Evasion Effects Not Included)

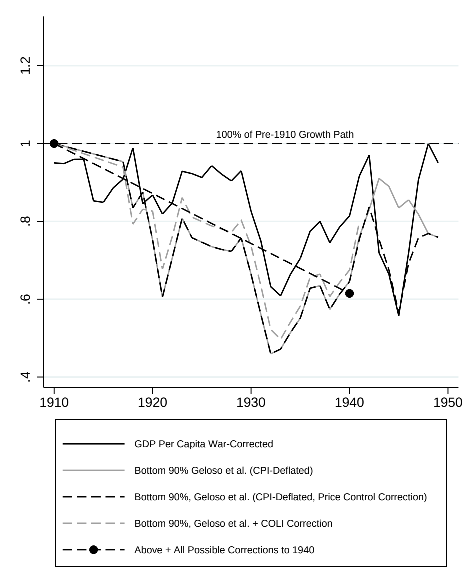
No Gilded Age

- Some of the corrections I show would apply to other countries as well. However ...
  - Only Australia and Canada had the egalitarian cost of living trend (France had anti-egalitarian and so did Sweden and UK) and the cost of living egalitarian correction was the largest of them all (and it was larger in USA than Australia or Canada).
  - Under-enumeration (missing poor) was a smaller problem in Europe than in the United States.
  - The composition bias works the other way in European countries. Those who left tended to the variance of income distribution. So, there could be more inequality in Europe than shown.

No Gilded Age

- Demand for the welfare state is driven by perceptions of income inequality and social mobility.
- People often misperceive inequality, especially in societies with rapid economic growth, leading to greater tolerance of disparities. Meritocratic beliefs, fueled by economic growth and income mobility, reduce concerns about inequality.
- In the U.S., myths of upward mobility and high growth reinforced the belief in meritocratic outcomes.
- America's relatively egalitarian income distribution, compared to global standards, limited demand for a welfare state.
- America didnt really need a welfare state, markets did the egalitarian trends pretty well!

The New Puzzle



Extra Materials

Figure 16: Comparison of Income per Tax Unit in the Bottom 90% with Various Measures of Wages, Compensation, and Income Across Sectors Corresponding to the Bottom 90% of the Income Distribution