



When did inequality rise in Britain and America?

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Abstract

New information and new perspectives reveal three long periods in which the two most-studied economies had a widening in income and wealth gaps. First, income inequality rose in both Britain and America between 1977 and 1995. In America, it regained the old pre-1929 levels, contrary to the official figures. Second, wealth and earnings gaps widened sometime in America between 1774 and 1913. Third, inequality rose in Britain from 1740 to 1810, earlier than others have suspected. This early widening reflects the role of severe relative price movements, which have been missed by the usual measures of (nominal) income inequality. © 2000 Elsevier Science Inc. All rights reserved.

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Three intellectual traditions have imagined that incomes might have become increasingly unequal before the twentieth century. The first follows Malthus and Ricardo in inferring that income gaps were destined to grow wider as a rising population pressed against land, pushing workers down to subsistence while landowners prospered. The second, Marxian, tradition implied that the industrial forces would cause the same widening. The third and youngest tradition, Simon Kuznets' inverted-U curve, is more inductive and more eclectic in its theories, often seeing an early rise in inequality and suggesting possible causes. Were any of these three traditions right about the inequality trend? We must still ask after all these years, because the issue of an early-modern or Industrial Revolution rise in income inequality has

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not yielded to measurement as easily as the issue of a later decline in inequality in the data-abundant twentieth century.

This article will advance these six arguments:

- The study of early modern inequality movements will benefit from shifting away from the Kuznets' curve focus on very long trends and dealing with episodes shorter than a century, for better linkage with political and social history.
- That our focus should be on episodes, not simple long-run trends, is especially obvious since the early 1980s, given the rise of inequality in the U.S. and Britain.
- Yes, there was a long rise of inequality in America, for reasons that are more characteristic of frontier nations than of long-settled nations.
- The search for an era of rising British inequality is more difficult than usually imagined. Some indicators point to the 1740–1810 era for which Malthus and Ricardo imagined that inequality was rising, while others support the hunches of Marx and Kuznets about the first half of the nineteenth century.
- We should incline toward the Malthusian–Ricardian suspicions about rising inequality in the earlier 1740–1810 period, for reasons that they did not articulate. A closer look at England's earlier history reveals a major component that has gone unnoticed: The movements in *real* income inequality were quite different from the movements in nominal inequality. The gaps in real income widened more than the nominal income gaps in 1740–1810, because relative prices changed dramatically and the relationship of staple food prices and rents to the overall cost of living differed sharply across classes. Britain's experience in that era has no recent parallel in the OECD countries.
- The early British episode in which relative price movements produced movements in real inequality that departed from nominal inequality movements illustrates the importance of shifting the study of inequality from conventional income concepts to inequality of *well-being*, a broader concept that incorporates many determinants of utility that elude nominal income measures.

1. Seeking a friendly divorce

To prepare the way for a richer understanding of early modern inequality movements, we must first divorce ourselves from the Kuznets curve, both because it is too restrictive and because Kuznets would have wanted us to abandon it, given what we now know.

We have great reason to want the new freedom. The problem is not that the Kuznets' curve has been refuted. The verdict is in fact mixed: Some countries, like Britain and America, seem to pass through a rise-and-fall pattern of inequality as they develop, but others do not. The problem is that simply asking whether or not a country follows the famous inverted-U slows us down, by delaying our search for the more interesting interplay of underlying forces that give us a rich history of episodic movements, not just a long up-and-down trend. Given the opportunity to explore the changing effects of government policies, laws, wars, demography, technology and other forces on inequality movements from one episode to another, why settle for a debate over a single curve?

Kuznets himself (1955) was eager to get on with the exploration of underlying forces as quickly as he could, and suggested the rise-and-fall pattern only as a useful way to enhance our interest in searching for demographic and other causes of inequality movements. Of particular importance for this article, he did not feel the same about the rise as he did about the fall of inequality. That inequality tended to decline at some advanced stage of development, he seemed quite confident. Indeed, his own work had established the decline for the U.S. between 1929 and 1946. He barely asserted, rather, wondered about, the possibility of an earlier rise during industrialization:

[As a] conjectural conclusion. . . . I would place the early phase in which income inequality might have been widening, from about 1780 to 1850 in England; from about 1840 to 1890, and particularly from 1870 on in the U.S.; and, from the 1840's to the 1890's in Germany. (Kuznets, 1955, p. 19)

Given the richness of the history we seek to explore, and Kuznets' own caution in imagining when inequality "might have been widening," it is efficient to set the Kuznets' curve aside and hunt for early modern rises wherever we may find them, whether or not they come during industrialization, and whether or not they are followed by a later decline in inequality.

2. Present trends invite a new search for rising-inequality episodes

The last 20 years offer another reason to start looking for a richer history of episodes, rather than a single inverted-U curve. In the U.S. and Britain, income inequality has clearly been rising since about 1977, reversing a large part of the income leveling achieved earlier in this century. In fact, the recent rise in inequality may have been even greater than the official data have revealed.

The usual data suggest that the recent rise of inequality has been more pronounced in Britain than in America. For the half-century since 1947, we have trusted U.S. Census estimates of the shares of money income received by top households or families. We have combined these with 1913–1948 estimates by Kuznets and by Selma Goldsmith to paint the inequality picture reproduced in Fig. 1. The usual wisdom is that inequality is still lower than in 1929, despite a rise since about 1977, as shown by Fig. 1's top-group income shares.

However, the U.S. Census data have understated both the level and the recent rise of inequality, because they understate top incomes drastically and they omit capital gains. At the top of the income distribution, there is a severe "top coding" problem in the U.S. Census data. As others have begun to point out (U.S. Congress, 1992; Ryscavage, 1995; Mishel et al., 1997, pp. 417–421), the Census estimates value all household incomes in the top class at the *floor* of that top class. That floor was only \$50,000 for 1967–1976, then \$100,000 for 1977–1984, \$300,000 for 1985–1992, and \$1 million since 1993. The official CPS estimates imply that between 1980 and 1997, Bill Gates of Microsoft earned less than \$8 million from which he somehow accumulated a personal net worth valued over \$36 billion in 1997 (*Newsweek*, Aug. 4, 1997, pp. 49–50). Worse yet, the published official CPS figures display even lower

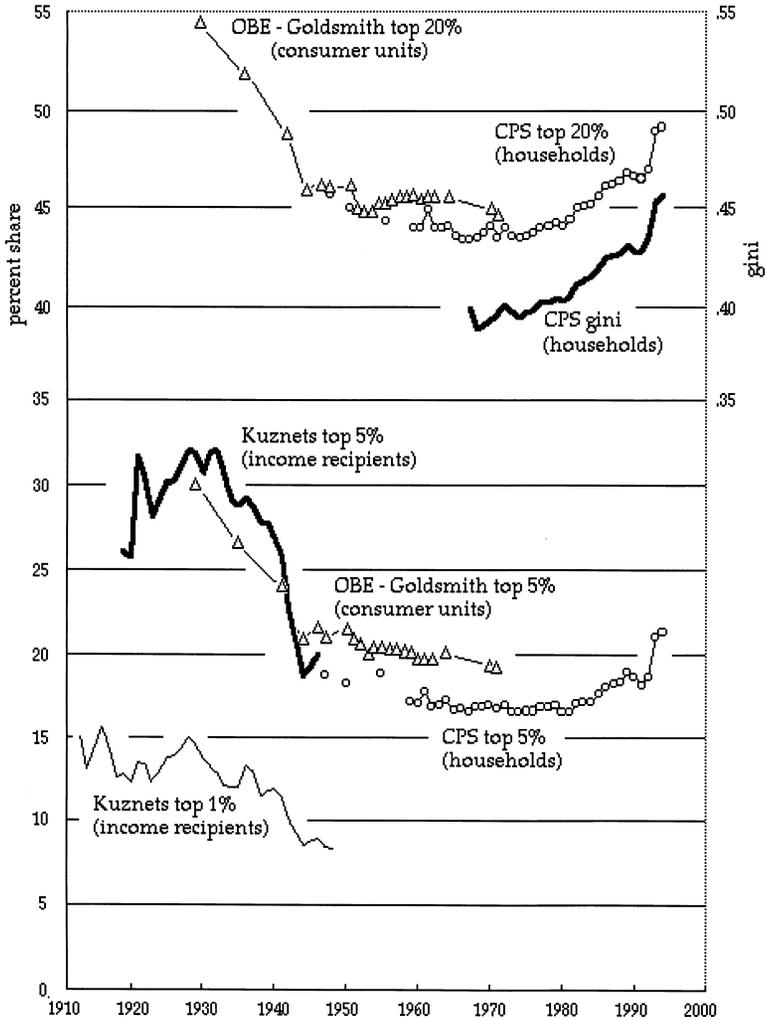


Fig. 1. Income inequality trends in the U.S. since 1913.

top-class cutoffs, frustrating any attempt to view what has happened within the top 5 percent of households.

Better clues about the true postwar movements in U.S. income inequality are afforded by abandoning the top-income shares and gini's in favor of inter-quantile income ratios that only dare measure incomes up to the 95th percentile, just below that top 5 percent darkness. Fig. 2 does this, showing a quite different view of the net change in inequality since 1929. At face value, it appears that households at the 95th and 80th percentile positions in 1995 could be as far above the median household, in ratio terms, as their counterparts back in 1929, thus, erasing *all* the leveling of the 1929–1953 era. While changes on the basis of measurement pose dangers for such long-run comparisons, there is a case for re-examining the whole basis of the income inequality measurements to see what share of the earlier income equalization has now been reversed.

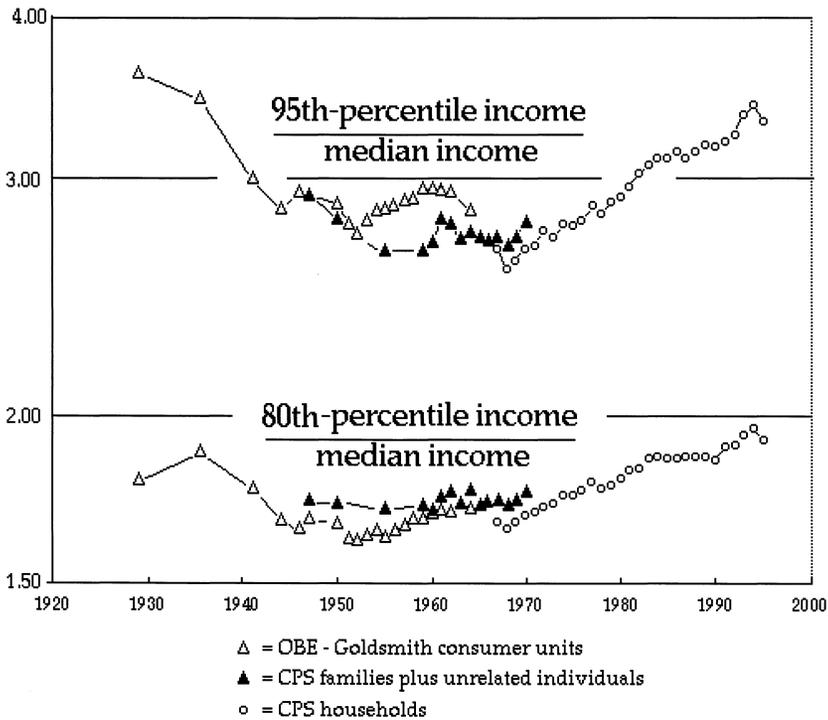


Fig. 2. An alternative view of U.S. inequality since 1929: High-percentile incomes versus the median income.

Given that we are now in a new episode Kuznets never imagined, it is clearly time to explore episodic inequality movements, not just a single long-run rise and fall.

3. When did the Americans first become so unequal?

Here, the debate continues. There is even a debate over whether American inequality ever rose.

3.1. The “no-rise” view

What we can call the “no-rise” view says that Americans were just as unequal in 1774, at the end of the colonial period, as they were in 1929, and that the meager data do not reveal any clear rise–fall or fall–rise pattern in between these two dates. This clashes with the natural imagery of the non-slave American colonies as an egalitarian frontier, and with De Tocqueville’s early guesses about a trend toward inequality in America. It also clashes with the conclusions of Williamson and Lindert (1981).

The no-rise view has taken several forms. Lee Soltow, a pioneer in the history of inequality in many countries, has come to the conclusion that there was no rise in American inequality since 1798, though he conjectures that the revolutionary interlude may have made free

Americans more unequal sometime between 1774 and 1798 (Soltow, 1971, 1984, 1989, 1992). Carole Shammass (1993) has argued that colonial inequality has been underestimated because almost all studies have ignored the colonial wealth of wealthy British residents. Lars Osberg and Fazley Siddiq (1988) have argued that the fact of slavery should be given very heavy weight in judging American inequality, even heavier than just counting slaves both as people with zero property and as somebody else's wealth. Their calculations therefore make colonial America as unequal as any experience since then. Finally, Martin Shanahan and Margaret Corell (1998) voice doubts about possible statistical biases in the early probate and assessment data used by Williamson–Lindert et al. Most of these criticisms have been addressed elsewhere (Lindert, 2000).¹

Perhaps, the easiest way to see that inequality must have risen greatly in America before 1929, however, is to step back and view the implications of the no-rise view from a critical distance. It implies that the income inequality of the American colonies in, say, Alice Jones' (1977, 1980) famous 1774 benchmark date was as great as America in 1929, which *would nearly match the income inequality of England and Wales in the eighteenth century*. That the U.S. Lorenz curve for 1929 mapped almost as much inequality as that of England and Wales before American independence is suggested by these comparisons for estimated top-quantile shares (Lindert, 2000, Tables 1–4):

Inequality of pre-fisc income		Top 5 percent share (%)	Top 20 percent share (%)
U.S. consumer units	1929	30.0	54.4
England–Wales households	1688	35.6	58.1
	1759	35.4	57.5
Inequality of wealth (net worth)		Top 1 percent share (%)	
U.S. households	1929	44.2	
England–Wales households	1700	39.3	
	1740	43.6	

If American inequality did not change from 1774 to 1929, then Americans in 1774 must have been almost as unequal, it seems, as the stratified British society from which they were about to demand independence.

¹ The recent doubts by Shanahan and Corell about the early rise in American wealth inequality have come in two forms. Their earlier article (1997) was rather free-ranging in its conjectures about possibly correlated errors in the many wealth series analyzed by Williamson and Lindert. As noted in Lindert (2000), the Williamson–Lindert time-series inequality comparisons stuck more faithfully to individual types of data series than their 1997 article implied (Williamson & Lindert, 1981). Second, their joint hypothesis that all the dozens of data comparisons are subject to the same strong trend bias seems too strong to be plausible, even though they raise legitimate doubts about the confidence intervals surrounding any specific comparison of inequality at two dates. The Shanahan–Corell article in this issue, however, presents a new comparison of 1774 and 1860 which avoids such a rebuttal and gives a more plausible accounting of the roles of measurement change and true change in wealth inequality between those two dates.

There is one part of America for which the inequality was indeed as great as in Britain: The slave states. The best way to handle the ownership of other humans in judging inequality is to recognize its effects on both kinds of households. Studies of wealth inequality should count slave adults as persons forced to have essentially zero wealth, and should count the market value of slaves as part of the owners' wealth.²

While the early data are much weaker than we would wish, they are strong enough to reject this equation between early American and British inequality. Consider the following indirect, but powerful, clues.

1. In a world where landed property accounted for much of national income, and where it was concentrated among higher-income families in Britain (Lindert 1986, 1987), similar inequality between America and Britain should have gone hand in hand with broadly similar ratios of the prices of farm land to farm wage rates, which measure the amount of time it would take a farm hand to buy an acre of the land that, in Britain at least, was such a large share of top incomes. But the ratios were not even close. Around 1790, it took an American farm hand 1 *week* of full-time farm labor to buy an acre of farm land, versus one full-time *year* for the English farm worker (Christensen, 1981, p. 313). Starting from this stark contrast, the ratio moved over time in a way that again suggests a large increase in the absolute and relative difficulty of a laborer's gaining real estate in America: The land-value/wage ratio, and the rent/wage ratio, rose strongly all the way from the seventeenth century to the late nineteenth, whereas it fell in England after 1850 (Lindert, 1983, 1988; Clark, 1991; O'Rourke et al., 1996).
2. Land ownership was clearly more concentrated, and land tenancy clearly more prevalent, in England than in early America (Lindert 1986, 1987).
3. The continuing migration of free and indentured laborers and artisans from England to America, where they could not have been initially in the upper third of the income ranks—and could not receive much poor relief—suggests that the real earning power or labor and crafts must have been greater in the American colonies, even though product per capita probably was not.
4. The free American colonists are generally believed to have had a lower income per capita than Britain, perhaps 27 percent lower, to cite a rough comparison for 1820 (Maddison, 1995, p. 196). How could inequality in the less affluent colonies have matched England's (or Britain's) if their middle, or even below-middle, free households had a standard of consumption that was high enough to attract large numbers of immigrants from England (Britain)? It is technically possible, but not easy, to reconcile

² Similarly, if it were possible to study the early American income distribution, slaves' income would equal only their consumption and the profits from slave ownership should be added to white incomes. An income distribution should also value the loss of slaves' freedom over the allocation of their own time, the value of which was stressed by Ransom and Sutch (1977). While the subjective value of freedom is open to interpretation, the economic value of this loss of control over time seems arbitrarily overstated by Osberg and Siddiq's argument that the lack of freedom denied the slaves all their wealth *plus* a capitalized value equal to the average wealth of free Americans.

all these clues with high colonial inequality. It is especially difficult when one recalls that the Americans, with lower mean income, were more literate and lived as long. Basic overall averages, in other words, support the conclusion we have drawn from the detailed wealth studies, namely, that colonial inequality was much lower than the inequality reached in the U.S. by 1929.

3.2. If American inequality rose, then when?

If colonial life outside the South was much more egalitarian than life in the early twentieth century, we have a nineteenth century American puzzle: When did the Americans become so unequal? Did it happen before, during, or after the Civil War?

This puzzle remains largely unresolved. The wealth-inequality estimates from probate and tax data show rising inequality over the entire period 1774–1929, with temporary reversals leading to troughs in the 1810s–1820s, the 1860s, and World War I. Jeffrey Williamson and I (1980) tried to supplement this wealth evidence with time-series on wage gaps. The data available to us suggested that the strongest sustained widening of the gap between skilled and unskilled wage rates came in the 1820–1860 period. New data series by Margo et al. disagree, however (Williamson & Lindert, 1980; Margo & Villaflor, 1987; Goldin & Margo, 1992; Margo, 1992; James & Thomas, 1998). It is hard to say just when the skilled/unskilled wage ratio widened. While the inequality of regional incomes has a clearer timing—the Civil War opened up wider income gaps between the South and the rest of the country—in general, we still cannot say when it was that American inequality advanced the fastest between 1774 and 1913.

4. When did inequality rise in Britain?

4.1. The estimates disagree

When was it that income inequality actually rose in Britain? Scholars seeking numbers have had to be content with five kinds of trend measures:

1. the inequality of housing consumption, from house-tax data;
2. the inequality of labor earnings;
3. wealth inequality, an indirect measure of the inequality of property incomes;
4. direct estimates of income inequality, derived from early tax returns and from those social tables of Gregory King et al.; and
5. crude movements in land rents versus wage rates.

The five measures do not tell the same story. Measures (1) through (3) point to a rise across the early and mid-nineteenth century, whereas (4) and (5) point to a rise from about mid-eighteenth century to about 1810, an era that influenced Malthus and Ricardo. Both sets of clues are eclectic, and need to be weighed carefully.

The clues in favor of a rise across the early and mid-nineteenth century refer to different benchmark dates. Inequality in the consumption of housing, measure (1) on the list, seems to have risen a bit from 1830 to 1871, even after Charles Feinstein (1988) has revised Jeffrey Williamson's (1985) estimates. This is a potentially valid clue to movements in income inequality, since it is generally agreed that housing consumption should be tied to permanent income. Yet the net change is sensitive to the assumption of a fixed income elasticity of demand for housing, as both Williamson and Feinstein point out.

Earnings inequality rose over the first half of the nineteenth century, from 1801 to an 1851–1881 plateau, according to Jeffrey Williamson (1980, 1985, Chap. 3). R.V. Jackson (1987) and Charles Feinstein (1988) both raise a host of doubts about the underlying measures. It is not clear that earnings inequality rose within the non-farm sector, and the remaining rise in overall earnings inequality seems dependent entirely on the apparent rise in the non-farm/farm wage ratio.

The third kind of clue suggesting a rise in inequality across the early and middle nineteenth century is my own (1986) estimate of the inequality of non-human wealth among English and Welsh households, which showed a rise in the wealth share of the top 1 percent of households at the expense of the next 4 percent between 1810 and 1875. Here again, however, the confidence intervals had to be set so wide that one cannot reject the hypothesis that wealth inequality did not change at all between these two dates.

So far, three kinds of fragile evidence all agree that there was a slight rise in inequality from the early nineteenth century (1801 or 1810 or 1830) to the middle of the nineteenth century (1851–1871). All three point in the same direction, but all three are weak.

The direct estimates of the overall income distribution from Gregory King and other authors of the early social tables do not paint the same picture. Instead, they leave us clues that the main rise in income inequality may have come earlier. Revising the social tables and converting them to a common household-income basis (Lindert & Williamson, 1982, 1983; Lindert, 2000) finds one particular rise in inequality, between the 1759 and 1801/1803 benchmark dates.

The late eighteenth century is also featured by crude rent/wage ratios and real wage movements. The ratio of England's farmland rents to common-labor wage rates seemed to have risen most in (roughly) 1740–1810.³ In a country where land rents were received disproportionately by the top ten percent of the income ranks (Lindert, 1985, 1986), a rising rent/wage ratio can suggest a rise in overall inequality. The real wage was also declining in this same period, though average income per capita was not. This has been noticed not only for England but also for other countries in Western Europe, with various dates of decline (e.g., 1730s–1790s).

So, in which period did British incomes really become more unequal—across the late eighteenth century or across the early and mid-nineteenth century? Both? Neither?

³ The movement of rents relative to wages is evident in various rent estimates. Lindert (1983) noted it using eclectic rent estimates from Mingay et al. and the late eighteenth century rise is also implicit in Gregory Clark's new rent series (1991) and in Allen's (1992, p. 172) book. Throughout this article "1740–1810" serves as a convenient shorthand for a long period stretching from sometime in the 1730–1750 era to the later French War era (1800–1815). The best choice of starting and finishing dates awaits further research.

4.2. A missing element: Relative prices and real inequality

The widespread evidence of a real wage decline contains more valuable clues to overall inequality movements than have been apparent in the literature to date.

The first thing to notice about the cost-of-living deflators in real wage studies of Europe before the mid-nineteenth century is that they are practically price indices for *staple grain foods*, typically featuring the prices of bread and raw grain. They give cereal foods a much greater weight than their share of national consumption expenditure, both for England and for Continental countries. This bias arises from two sources: (1) Bread and grain data are easier to get than other price data; and (2) past household budget surveys, such as those of Davies and Eden in the late eighteenth century, have been legitimately pre-occupied with the very poor. Research on Continental countries has often been forced to imply that workers lived by bread alone, or raw grain alone, for want of better data. Even the more detailed English “cost-of-living” is the cost of a bundle that is 70 percent food, and almost half staple cereals alone, even though total food consumption should have been below half the value of national consumption. If we knew the budget shares of the non-poor, including even skilled workers, they would contain much lower shares for staple foods and for all foods. Panel A in Table 1 sketches how the contrast across income classes might have looked, using middle- and upper-class budget shares for 1688 suggested by Gregory King (Laslett, 1973; Stone, 1988), with modifications for housing rent.

The bias toward staple prices matters a great deal for Europe before, say, 1850, both because staples’ budget shares differ more between classes in poor and unequal societies, and because the early swings in the relative price of staples were much wider than is typical today. For OECD countries in the twentieth century, income class differences in how the cost of living moves, while still important, are typically small and reversing, as they have been for most of American history (Williamson & Lindert, 1980, Chap. 5). However, it matters much more for Europe before 1850.

Beyond staples-versus-luxuries, there is another component of the cost of living that could have been quite different across income classes: housing rent. The fact that higher-income persons own their own homes can make a difference. Our measure of an individual’s (or a household’s) real income is usually what the international trade literature used to call the “income terms of trade,” which equals the individual’s price times quantity of exports (labor and property earnings) divided by a price index of the goods and services the individual *imports* from others (the cost-of-living bundle). Goods and services sold by the individual to himself/herself are conventionally excluded from both numerator and denominator. In the budgets that are used in most cost-of-living indices, the cost of owner-occupied housing consists only of the interest payments, taxes, and upkeep (and depreciation) that are effectively imported from others. Over decades and centuries, these outlays should resemble the market rent on equivalent lodging, as individuals slowly adjust toward the equilibrium between the cost of owning and the cost of renting. However, many who own their homes have measurable outlays that are below the market rent. As their home equity rises, more of the implicit cost of housing becomes a hidden opportunity cost not measured in most data on housing expenses or on personal income.

There is some legitimacy in measuring homeowner costs from outlays alone, as long as the real-income measures also follow the usual practice of excluding the value of owner-occupied housing from nominal income. It is likely, anyway, that the share of housing “costs” (outlays) in the cost-of-living bundle would have been lower for an upper-class homeowner. In England, more than in most countries, home ownership was concentrated in the higher income ranks (Lindert, 1985, 1987). To cover this possibility, Table 1’s measures of the upper-class cost of living supplement the with-rent measures, with no-rent measures showing the other extreme possibility.

As it happens, the period from the middle of the eighteenth century into the French wars—call it “1740–1810”—was one in which the relative prices of staple foods and rents rose much more than other prices, much as Malthus and Ricardo perceived. Was this not a major force in raising inequality, given that the poor consumed staples and housing in greater shares than the rich?

One can agree or disagree with the importance of measuring movements in “real” inequality that are driven by changes in relative prices. To decide, consider this test question:

Exam question:

Suppose that there are two classes of equal size and unequal income. Having different incomes, they purchase staples (bread) and luxuries (diamonds) in very different proportions. Between 1740 and 1810 the following happens:

	<u>In 1740</u>	<u>In 1810</u>
Income of the rich half	600	600
Income of the poor half	100	100
Price of bread	1	2
Price of a diamond	20	10

Did inequality change between 1740 and 1810? Inequality of what? Explain your answer.

The welfare economics of this issue allows for different answers. One can say that inequality did not change at all: in either year the rich had exactly six times as a great a power to buy *any* bundle of goods, staples-heavy or luxury-heavy, if all faced the same prices. In fact, that is the answer given by all the usual measures. The usual measures apply the Lorenz’ curve approach to the division of *nominal* income—as if we only wanted to know about people’s relative ability to consume the same bundle of goods and services.

However, the opposite answer is urged here, to link what we know about the period with a common sense that we care about the movements of real purchasing power for persons whose consumption patterns are driven largely by their income levels. In measuring the real incomes of income classes, as in measuring the real incomes of nations and regions, it is more natural to be concerned about the separate movements of their abilities to buy the bundles that they preferred at their different income levels. This is the approach recently recommended by Dale Jorgenson et al., and it needs to be considered by historians of the Industrial Revolution era, in which the relative price of staples versus luxuries moved dramatically.

Table 1’s Panels B and C do this in a crude way, applying different deflator movements to the top-income groups from the median-income deflators used for national income as a

Table 1
Real price movements, the cost of living, and real inequality in England/Britain 1750–1910

A. Expenditure-shares weights for alternative price indices									
	Bread	Other grain	Meat, fish, etc.	Milk, butter, cheese	Drink and sugar	All food and drink	Fuel, etc.	Textiles, clothing	Rent
Feinstein (1998) for 1790	0.1380	0.3105	0.0897	0.0828	0.1690	0.7900	0.0500	0.0600	0.1000
Households in the bottom 20 percent	0.1420	0.3526	0.1269	0.0497	0.0497	0.7209	0.0730	0.0640	0.1420
Median-income household	0.0610	0.1513	0.1662	0.0877	0.0877	0.5536	0.0580	0.2462	0.1420
If high-income homeowners pay full rent									
Households in the top 20 percent	0.0241	0.0600	0.1718	0.0544	0.1077	0.4180	0.1903	0.2497	0.1420
Households in the top 5 percent	0.0120	0.0299	0.1575	0.0453	0.0909	0.3356	0.2730	0.2494	0.1420
If high-income homeowners pay no rent									
Households in the top 20 percent	0.0241	0.0600	0.1718	0.0544	0.1077	0.4180	0.2729	0.2497	0.0594
Households in the top 5 percent	0.0120	0.0299	0.1575	0.0453	0.0909	0.3356	0.3947	0.2494	0.0203
B. Alternative cost-of-living indices (1780 = 100)									
Cost of living index for households at these income ranks									
	PBH ^a	Feinstein (1998)	Bottom fifth	Median income	Assuming that high-income homeowners pay				
					Full rent		No rent		
					Top 20 percent	Top 5 percent	Top 20 percent	Top 5 percent	
1750	80.8		81.3	85.7	87.0	87.2	87.2	87.6	
1760	88.1		84.8	88.8	91.3	91.8	92.3	93.4	
1770	97.8	100.0	100.2	97.9	96.1	95.2	96.2	95.3	
1780 ^b	105.4	104.2	106.7	103.6	102.4	101.8	102.6	102.1	
1790	119.1	106.3	117.7	113.9	111.2	109.0	109.4	106.4	
1795	142.0	126.0	141.5	133.5	129.2	126.5	125.3	120.9	
1800	187.3	161.5	178.4	161.0	152.9	147.7	147.9	140.6	
1802	198.4	166.0	182.9	167.0	159.9	154.7	154.9	147.7	
1810	225.3	192.7	218.1	202.0	191.7	185.4	179.6	168.5	
1815	215.3	189.6	205.9	204.6	198.3	192.8	181.7	169.6	
1820	180.7	159.4	171.9	176.8	198.3	192.8	181.7	169.6	
1823	161.9	145.7	156.0	160.9	155.5	150.5	137.8	125.9	

(continued on next page)

Table 1 (continued)

	PBH ^a	Feinstein (1998)	Bottom fifth	Median income	Assuming that high-income home owners pay			
					Full rent		No rent	
					Top 20 percent	Top 5 percent	Top 20 percent	Top 5 percent
1830	163.4	143.8	156.3	156.0	155.5	150.5	137.8	125.9
1835	149.2	132.3	138.7	150.5	146.0	137.8	125.7	110.4
1840	168.2	147.9	159.4	159.9	145.7	136.5	125.8	109.9
1845	151.2	140.6	145.4	144.8	131.5	123.3	112.9	98.5
1850	127.6	128.1	127.8	134.2	124.4	117.4	105.6	92.3
1860	180.0	151.7	163.7	173.3	165.7	158.8	144.0	129.1
1867	184.4	165.3	184.3	191.5	177.2	167.6	151.2	132.6
1870	170.0	149.8	154.4	172.9	165.1	157.6	139.7	123.2
1880	160.8	144.0	148.7	162.7	148.4	138.2	121.2	102.5
1890	129.7		117.1	137.6	130.5	124.3	106.1	91.7
1900	136.2		115.1	135.4	132.6	128.7	109.0	96.4

C. Real versus nominal top-income group shares of total household income

		Nominal		Real (in 1910 prices, using weights in A above)			
		Top 20 percent	Top 5 percent	Full rent		No rent	
				Top 20 percent	Top 5 percent	Top 20 percent	Top 5 percent
England and Wales	1759	57.5	35.4	51.8	29.9	41.0	21.1
	1801/1803	63.2	39.2	61.2	36.9	50.5	27.9
	1867	57.3	41.2	57.4	41.1	53.8	37.4
UK	1867	57.7	41.1	57.8	41.0	54.2	37.3
	1911	55.2	38.7	55.2	38.7	55.2	38.7

The indices make use of some Phelps Brown–Hopkins series superceded by others, to turn attention to the effects of weight shifts since the PBH seven-century study, rather than to the effects of differences in price series. The indices are unlogged sums of the products of budget shares and log-changes in prices, thus, assuming unit elasticities of substitution.

Bread = London bread, from Beveridge.

Other grain = Phelps Brown–Hopkins (PBH) farinaceous products.

Meat and fish, butter and cheese, drink and sugar (malt, hops, sugar, tea), fuel, and textiles (blue cloth, woolen and worsted yarn, cotton cloth) are the corresponding indices from PBH (1981).

Rent = lodging rent series, spliced from Botham–Hunt, the Lindert–Williamson Trentham cottage rent series, and the Singer rent series.

The weights for the bottom 20 percent, based in part on the Davies–Eden studies of the poor in the late eighteenth century, are the Lindert and Williamson (1983) and Williamson (1985) southern rural weights.

The weights for the median-income, top 20 percent, and top 5 percent income groups' average consumption patterns start from Gregory King's notebooks (Laslett, 1973), with extensions by Stone (1988). They have been modified further here, first by adding London bread prices and then by adding rents. The "no-rent" series use the rent–price index only for those social classes who probably rented real estate from others in 1801/1803 (based on Lindert & Williamson, 1982 and Lindert, 1985), giving the rest of the 0.1420 full rent share to the fuels' category.

The nominal shares of income received by the top 5 percent and 20 percent of households are from Lindert (2000, Table 1), partly revising Lindert and Williamson (1983).

^a E.H. Phelps Brown and Sheila V. Hopkins (1981), pp. 32–59.

^b In Panel B, all figures 1780–1850 are centered 5-year averages.

whole. The “real” income shares of the top 5 percent or 20 percent of households clearly rose between the 1759 benchmark and the 1801/1803 benchmark. There is a hint that the real inequality had more of a rise-and-fall pattern across the nineteenth century than did nominal incomes, reinforcing the trends conjectured by Jeffrey Williamson, but these nineteenth-century results are still quite sensitive to the choice of a specific measure.

The suggestion, then, is that English inequality rose, in real terms, primarily in the earlier period that might be dated roughly as 1740–1810. Both for England and for other European countries before 1850, a promising research direction is to re-unite the study of inequality with the movement of the relative prices of staples versus luxuries. Before 1850, inequality history and price history were closely linked.

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