

CHAPTER 1

Persistent Debate, a New Approach, More Data, Rich Findings

HOW AND WHEN DID AMERICANS become so prosperous and so unequal? Generations of Americans have debated competing visions of what was happening to national income and how it was divided. Yet they lacked the solid evidence needed to choose between the competing visions. We still know little about the growth and (especially) the inequality of American incomes before the twentieth century. We also need to understand what has caused the dramatic movements in inequality over the last century, and its future prospects.

When did America grow fast enough to make it a world leader in average living standards? There is little disagreement about how American incomes have grown since the early twentieth century and even as far back as 1870, thanks to the pioneering work of Simon Kuznets and many others. But income estimates are weak for the years before 1870—weaker than in some western European countries.

To be sure, others before us have struggled admirably to reduce uncertainties about the pre-1870 history of national income.¹ Yet the debate continues about income levels and growth before and during the Civil War. And even those estimates that most people agree on probably give the wrong impression about how American incomes compared with those of other countries. Our history textbooks imply that the road to prosperity was paved by the institutional wisdom of the country's founding fathers and those who refined that wisdom over the two centuries that followed. While those institutions were well chosen and

¹ For the current state of knowledge about the history of US gross domestic product (GDP) and national income, see Richard Sutch's encyclopedic coverage in volume 3 of *Historical Statistics of the United States* (Carter et al. 2006, vol. 3, chap. Ca) and the sources cited there.

largely well borrowed, this book will show that America had reached world leadership in living standards long before the country's founding fathers constructed their new republic. We will also find that the road to prosperity was far bumpier than the standard, benign tale of American economic progress implies.

How unequally was income distributed between the rich, middle, and poor, and why? The steep rise in inequality since the 1970s is now unmistakable. New measures of inequality avoid the faulty official numbers that hid most of the true movements in the incomes of the richest. Since the 1960s, the official US Census Bureau estimates have badly understated top incomes and (unintentionally) hidden much of the rise in the share going to the richest 1 percent.² Fortunately, an international research team led by Anthony Atkinson, Thomas Piketty, and Emmanuel Saez solved that twentieth-century problem. Starting from income tax returns, this team has charted the dramatic twentieth-century fall and rise of top incomes in countries around the world. Their evidence, however, is only available for the twentieth century. Since the US income tax was only introduced in 1913, there is still no history of American top income inequality for the centuries before, though economic historians have certainly offered many plausible guesses.³

Why does all this new twentieth-century American evidence matter, and why do we think it's necessary to use new methods to mine the thinner evidence documenting the three centuries before? The answer is that two fundamental questions important for policy debate have

² The main shortcoming, though not the only one, of the official Census Bureau estimates based on its Current Population Survey (CPS) is known as the "top-coding" problem. The Census Bureau knew it would be sensitive and difficult to ask top income people about the exact magnitude of their incomes. The official response to this difficulty has been a top-coding solution that seriously understates top incomes. As others have pointed out in Congress and the media back in the 1990s, the census values all top household incomes at the *floor* of that top income class. That floor was only \$50,000 for 1967–1976, then \$100,000 for 1977–1984, \$300,000 for 1985–1992, and \$1 million after 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 at over \$36 billion in 1997 (*Newsweek*, August 4, 1997, 49–50). Worse yet, the published official CPS figures display even lower top-class cutoffs, frustrating any attempt to view what has happened within the top 5 percent of households.

³ For a summary of what is now known about American inequality in the twentieth century, see Atkinson, Piketty, and Saez 2011. Rough numbers on American inequality before the twentieth century were summarized more than three decades ago by the two of us (Williamson and Lindert 1980b, chaps. 2–4), with updates by Lindert (2000).

been left unanswered by American history. First, does modern economic growth inevitably drive up inequality? And second, does inequality favor or disfavor growth? This book speaks to those two questions by exploring American incomes since the 1600s.

A DIFFERENT APPROACH WITH NEW DATA

New Evidence, Helped Greatly by Four Scholars

Information about the distant past keeps growing, thanks to advances in archival recovery technology. The leading estimates of nineteenth-century American gross domestic product (GDP) date from pioneering research in a great quantification wave from the 1960s through the late 1980s. Nineteenth-century evidence on inequality and growth did not advance so quickly, but the same quantification wave did give us new impressions about colonial American inequality. Those impressions were still limited by incomplete evidence on the distribution of wealth, property income, labor earnings, and thus total income.

Since then, several new sources have become available that this book exploits—new evidence supplemented by some old sources that have been underutilized in the past. The new evidence did not appear by some official release of long-locked archives. Rather, it came from the previous efforts of several others. We are delighted to acknowledge their labors before describing our own method of extracting a new income history from the mass of information they have patiently extracted. Our American incomes history has benefited especially from the contributions of four scholars. The landmark study of American wealth around 1774 by Alice Hanson Jones had already appeared by 1980 and launches our new income history in chapter 2.⁴ Jackson Turner Main scoured the colonial archives and delivered much of what we know about rates of pay on the eve of the revolution.⁵ As far as we know, we are the first to mine systematically the numbers in his *Social Structure of Revolutionary America*. Gloria Lund Main, first with her late husband and then on her own, wrote widely on colonial American wealth inequality. Central

⁴ Jones 1977, 1980.

⁵ J. Main 1965.

to our chapter 3, she has just made available—in machine-readable form—their rich sample of New England probates from 1631 to 1776. Finally, Steven Ruggles, director of the University of Minnesota Population Center, leads the continuing development of the Integrated Public Use Microdata Series (IPUMS), which has revolutionized the use of past censuses. One of its many accomplishments is the set of 1 percent samples of the US population censuses from 1850 onward. Our new history of American incomes reported in chapters 5 and 6 would have taken vastly longer to research without the 1850, 1860, and 1870 IPUMS samples of individual wealth, occupation, location, and other attributes.

Building Social Tables on the Income Side

Armed with new evidence, this book applies a different approach to the historical estimation of what Americans have produced, earned, and consumed. National income and product accounting reminds us that we should end up with the same number for GDP by assembling its value from any of three sides—the production side, the expenditure side, or the income side. All previous American estimates for the years before 1929 have proceeded from either the production side or the expenditure side. Taking the production route, others have assembled real GDP by applying fixed base-period weights to time series of such physical output indicators as bushels of grain harvested, pigs slaughtered, yards of cloth woven, bricks used to build houses, and service workers employed.⁶ These weighted output trends are then applied to some benchmark year, where the evidence is thick enough—like an early census—to build what are hoped to be solid estimates for that year. Here the leading historical extension has been the pioneering work of Robert Gallman, who provided annual estimates back to 1834.⁷ Paul David used his “controlled conjectures” to push aggregate output back to 1800, and more recently, Thomas Weiss and his collaborators have

⁶ Production-side estimates of GDP or gross national product (GNP) before 1929 include the following series in *Historical Statistics of the United States* (Carter et al. 2006, hereafter *HSUS*): the Millennial Edition series Ca9–17 back to 1790, by Richard Sutch and others; the Balke and Gordon as well as Romer series Ca208–18 for 1869–1929, which can be traced back via Kuznets to William Howard Shaw’s (1947) commodity output series by sector.

⁷ See the Gallman estimates for 1834–1909 in *HSUS* series Ca192–207, Ca219–32.

used the same method to push the aggregates back into the colonial era.⁸ The second leading approach to GDP estimation before 1929 has taken the expenditure side, adding up estimates of household consumption, capital formation, government expenditures, and the difference between exports and imports. The production and expenditure approaches have helped support each other by using much the same data from federal censuses.

We work instead on the income side, constructing nominal (current price) GDP from free-labor earnings, property incomes, and (up to 1860) slaves' retained earnings (that is, slave maintenance or actual consumption).⁹ What are called "social tables" are built up to income aggregates from occupation and location (described at greater length in chapter 2) in the "political arithmetic" tradition spawned by such Englishmen as Sir William Petty and Gregory King in the seventeenth century.¹⁰ Development economists will recognize a similarity between our social tables and their social accounting matrices. We have built five social tables for the benchmark years 1774, 1800, 1850, 1860, and 1870—years where the data are most plentiful. No such income estimates were available for any year before 1929 until now.

Our different approach leads to rewards not attainable by sticking to the production or expenditure side. One reward is the chance to confront and challenge the production-side estimates using very different data, sources, and methods. The production side and the income side should add up to the same GDP total, once one either multiplies the

⁸ David 1967, 2005; Weiss 1993a, 1994; Mancall and Weiss 1999; Mancall, Rosenbloom, and Weiss 2003; Rosenbloom and Weiss 2014.

⁹ We use the terms GDP, gross national income (GNI), and household income interchangeably in this book. This rhetorical convenience violates some accounting conventions, but it seems harmless given that the different national income and product aggregates are so close in magnitude and concept. For a discussion of why these different measures come out nearly equal today and almost exactly equal before the twentieth century, see appendix A.

¹⁰ For previous uses of this approach, see Lindert and Williamson 1982, 1983a; Milanovic, Lindert, and Williamson 2011. We are preceded by at least two early Americans who imitated Petty and King with their own calculations of what their region was worth—presumably to estimate its ability to pay taxes and fight wars. Colonial governor James Glen of South Carolina made an imaginative social table for his colony in 1751 (cited in McCusker 2006), and Samuel Blodget (1964, 99) made another social table a half century later for the United States as a whole. Both Glen and Blodget started with occupations and/or social classes in building their social tables, and in so doing, appear to have been readers of the English political arithmeticians, whose writings multiplied with the growing need to finance wars. On the rise of the quantification culture in late eighteenth-century England, see Hoppit 1996.

production side's real GDP estimate by a price index or divides the income side's nominal GDP by the same price index. As we will see, some instructive tensions arise between the two kinds of estimates, exposing the need to rethink the index-number alignment of real GDP and its price deflator.

An even bigger reward from using the income approach is that it exposes how income was distributed by socio-occupational class, race, and gender as well as by region and urban-rural location. Furthermore, our income approach allows us to travel deeper into the past than just 1790, 1834, or 1870. Our estimated social tables capture the distribution of national income going back to the colonial era. In addition, we can break that distribution down into component parts—skill premiums, urban-rural wage and income gaps, regional inequality, earnings inequality, property income shares, and property income distribution—thus better to understand the determinants of aggregate income inequality and its change over time.

Why Not Wealth or Capital?

We elect to chart a new history of American incomes rather than revisit the history of American wealth. Our choice of income, as opposed to wealth or capital, may seem surprising given that it comes in the wake of Piketty's best-selling book *Capital in the Twenty-First Century* and his article with Gabriel Zucman proclaiming that "capital is back." Piketty dwells at great length on wealth inequality and the ratio of wealth to GDP. We have explored the history of American wealth before, so why not return to it with new data to address the debate that Piketty has reignited?¹¹ The answer is that wealth is an incomplete measure of one's lifetime resources. It only includes nonhuman assets, missing the investments people make to augment their earnings capacity—formal education, on-the-job training, health, and migration.

At this point, we need to emphasize that the inequality we should really care about is the distribution of *lifetime* resources, as shared within a household. It can be measured either as an inflow, by lifetime earnings

¹¹ See Piketty 2014; Piketty and Zucman 2015. For our earlier history of American wealth inequality, see Williamson and Lindert 1980a, chap. 3.

plus inheritance, or an outflow, by lifetime consumption plus bequest. For most people, any calculation of their lifetime income reveals the quantitative dominance of labor earnings or consumption flows, not wealth. Earnings from accumulated skills, ability, and effort account for more than half of lifetime incomes, and wealth misses this.¹² More important, the modern distribution debate has failed to note the fact that inequality of lifetime income must have been reduced dramatically by rising life expectancy, as we have pointed out some years ago.¹³ Since the nineteenth century, the spectacular decline in infant and child mortality—and that of young mothers in childbirth—has not only improved average life expectancy but also caused a spectacular convergence in those rates across income classes. This point is never introduced into inequality debates. While we do not fully approve of the narrower focus on current income, we follow the convention in this book so that our new evidence can be compared with that of others.

Granted, studying wealth does have some practical benefits. First, the study of wealth inequality is a useful prelude to the study of inheritance—an issue worth public debate. In addition, data on household wealth offer clues about income inequality in earlier centuries, when direct income measures are sparse. Yet because we have found a way to trace the long history of income levels and income inequality, we can afford to set aside a separate, and narrower, discussion of the distribution of wealth.

Three Things Left Out

This book omits three things that matter. It excludes Native Americans—a big part of the colonial population—since information on their living conditions is simply too limited.¹⁴ Second, our seventeenth- and eighteenth-century analysis only covers the thirteen mainland British colonies, ignoring the West Indies, Canada, and all other North American settlements. Third, and most important, we see no way to

¹² While a few authors have tried to estimate lifetime income inequality (e.g., Lillard 1977), it is much too large a task for this book. We must be content with a short-term proxy for life-span inequality—current income.

¹³ Lindert and Williamson 1985, 347.

¹⁴ See, however, the conjectured incomes per capita for Native Americans in the lower South, 1720–1800, in Mancall, Rosenbloom, and Weiss 2003, table 4.

place any monetary value on the freedom that slaves were denied. Nor can their inhumane treatment be quantified. Only slave consumption is measured here—a much narrower concept than their well-being. The last of these qualifications deserves particular emphasis since so much of this book will deal with income inequality. While we will stress that the distribution of American incomes was strikingly “equal” or “egalitarian” before 1790 or 1800 and the start of modern economic growth, this evidence should be understood to mean “equal in income” or “income egalitarian.” A society with slavery should not be viewed as egalitarian in any broader sense.

Though we use a different income-building approach than have others, our estimates should be viewed as part of a research tradition that David so aptly described as “new evidence and controlled conjectures.” Our estimates use new evidence that was not available when others were writing on this topic, and we offer them only as controlled conjectures, since they are laden with explicit assumptions about information that is still lacking from the historical record. Far from claiming closure, we present the implications of currently available evidence, awaiting revision as more and better evidence accumulates.

NEW FINDINGS

Our new approach and new data yield a rich harvest of new findings. They are:

- **American world leadership in income per person has waxed and waned for centuries.**

Before the twentieth century, the period in which Americans most clearly led Britain and all of western Europe in purchasing power per capita was during colonial times—that is, when North Americans were still British. They were already ahead by the late seventeenth century. America lost that lead in the Revolutionary War and the Articles of Confederation years, gained it back by 1860, lost most of it again in the Civil War decade, gained it back once more by 1900, and briefly lost it again in the Great Depression of the 1930s. Angus Maddison’s

claim that American income per capita did not catch up to that of Britain until the start of the twentieth century seems to be off the mark by at least two centuries.

Over the whole span of over 360 years since the mid-seventeenth century, America's income advantage over Britain has not increased and may have decreased slightly. The only historical moment in which the United States soared far ahead of the rest of the world in average income came at the end of World War II. Since then, western Europe and Japan have been growing faster than the United States in terms of incomes per person.

- **Demography mattered from the start.**

American colonists probably had the highest fertility rates in the world, and their children probably had the highest survival rates in the world. Thus, the American colonies had much higher child dependency rates and family sizes than did Europe, and even higher than does the Third World today.¹⁵ What was true of the colonies was also true of the young republic. It follows that America's early lead in income per capita was exceeded by its early lead in income per household or per worker.

- **The colonial era saw little growth per capita, because extensive growth in the poorer hinterland offset intensive growth on the richer coast.**

Our evidence supports the slow- or no-growth side of the colonial growth debate. This is not a "pessimist" result, however, since it is consistent with more than a century of relative prosperity based on a growing colonial supply of primary products to Atlantic markets and the rapid expansion of an interior poorly integrated with those markets. It was a dualistic economy, with the richer coastal strip producing high-value exports and undergoing intensive growth, and with an interior producing a high level of subsistence (or what colonial historians have called "subsistence-plus") and undergoing extensive development. The interior won the colonial population race, bringing de-urbanization over the century up to independence.

¹⁵ We are talking about free whites here, but we suspect the same was true of the mainland slave population, especially inland from the southern coast, and especially by the mid-eighteenth century.

- **The southern reversal of fortune started early.**

The South's relative income per capita fell for at least two hundred years between 1670 and 1870, starting from its being clearly the richest part of the thirteen colonies—even when slaves are counted as low-income residents.¹⁶ The South's relative decline had multiple causes, but prominent among them were diminishing returns to land as the frontier pushed inland, Revolutionary War losses, declining export prices after independence, Civil War losses, and its failure in the nineteenth century to provide public education, even for free whites.

- **Independence was costly.**

The Revolutionary War and the dysfunctional confederation years were costly. The large American colonial per capita income lead over Britain was lost by 1800. The causes seem clear: war damage, mortality and morbidity among young adult males, the destruction of loyalist social networks, a collapse of foreign markets for American commodity exports, hyperinflation, a dysfunctional financial system, and much more. The per capita income loss up to 1790 may have been as large as 30 percent.

- **The young republic was a modern economic growth leader.**

From 1800 (and probably even from 1790) to 1860, American per capita incomes grew much faster than in western Europe, well above Kuznets's criterion for modern economic growth (more than 1 percent per annum over many decades). This was a period of catching up with and overtaking the average income of western Europe, including that of Britain. Fast per capita income growth and even faster population growth quickly made the American economy by 1860 one of the biggest in the Western world.¹⁷

- **America's first great rise in inequality was as big as the rise since 1970.**

There was a long steep rise in American inequality between 1800 and 1860, matching the widening of income gaps we have lived through

¹⁶ The South was probably not the richest of all the British American colonies in terms of free white incomes. What little we know about white wealth and indirectly about income suggests that white incomes in the British West Indies were higher than in any mainland colony. See McCusker and Menard 1985, 61, table 3.3; Higman 1996, 321–24; Burnhard 2001. But income per capita of all—white and black—was probably higher on the mainland since the percent slave was much lower than in the West Indies.

¹⁷ Maddison (2010) reports the 1860 GDP of the United Kingdom as the biggest in the West, with France at 86.3 percent and the United States at 84.8 percent of the leader. Our aggregate income revisions suggest that the US economy was probably the second largest by 1860.

since the 1970s. The earlier rise was *not* dominated by a surge in the property income share, however, as has been true since the 1970s. Rather, the first great rise in inequality was even more broadly based, with a widening of income gaps throughout the whole income spectrum—urban–rural income gaps, skill premiums, gaps between slave and free, North–South income gaps, earnings inequality, and even property income inequality.

- **The Civil War maintained income inequality overall, despite its equalizing incomes.**

Income inequality rose in the North during the 1860s, continuing the long upward march that started with the creation of the republic in 1789. But emancipation and defeat greatly reduced southern inequality. The widening within the North and the widening between the North and the South were sufficient to offset the massively egalitarian redistribution within the South, thus keeping income inequality from falling at the national level.

- **Emancipation raised black incomes by about 30 percent.**

The big rise in black incomes is apparent despite the predictable decline in black labor force participation. Emancipation meant that the freed slaves could now capture something close to their marginal product rather than the 40 to 50 percent of it that slavery permitted. As of 1870, African Americans of a given age and sex still worked more days per year than did their white counterparts, but many fewer than under slavery.

- **The Great Leveling between the 1910s and 1970s offered America a second chance to start with great equality.**

For almost all countries supplying the necessary data, the income share captured by the richest 1 percent fell dramatically between the 1910s and 1970s, and that of the bottom half rose, for several reasons. Wars and other macro-shocks destroyed private wealth (especially financial wealth) and shifted the political balance toward the Left. The labor force grew more slowly and automation was less rapid, improving wages for the less skilled. Rising trade barriers lowered the import of labor-intensive products and the export of skill-intensive products, favoring the less skilled in the lower-middle ranks and at the bottom. And in the United States, the financial crash of 1929–33 was followed by half a century of tight financial regulation, which held down the

incomes of those employed in the financial sector and the net returns reaped by rich investors.

- **The second great rise of American inequality after the 1970s was probably avoidable.**

The equality gained during the Great Leveling slipped away after the 1970s in North America, the United Kingdom, and Australia, while inequality hardly changed at all in continental western Europe. These countries' new income gaps were partly due to inegalitarian policy shifts. The United States lost its lead in the quantity and quality of mass education, and its gaps in educational achievement have widened relative to other leading countries. Financial deregulation has also worked poorly in the United States since 1980. In addition, a regressive pattern in tax cuts has allowed more wealth to be inherited rather than earned. All three of these shortfalls—in basic education, financial regulation, and the taxation of heritable wealth—are potentially reversible, without any clear loss in GDP.

- **A booming, unregulated financial sector contributes to inequality.**

Unregulated financial growth amplified the two great rises of American inequality: the longer, slower rise before 1910, and the shorter, faster one since 1970. The intervening Great Leveling era saw financial crises, stiff financial regulations, a fall in incomes of those employed in finance, and a drop in top income shares. The correlation between high finance and inequality is not spurious. Skilled individuals with financial knowledge have been well rewarded during the two booms and heavily penalized during the one slump.

- **There is no fundamental law driving the history of income inequality.**

Inequality movements are driven not by any fundamental law of capitalist development but instead by episodic shifts in six basic forces: politics, demography, education policy, trade competition, finance, and labor-saving technological change. These forces appear to be exogenous with respect to inequality. If they are indeed exogenous and hard to predict, then four centuries of American inequality can hardly have been driven by some capitalist law of motion.

Now then, how did we arrive at these conclusions?