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The Political Economy of Inequality: U.S. and Global Dimensions

Sisay Asefa, Editor
Western Michigan University

Wei-Chiao Huang, Editor
Western Michigan University

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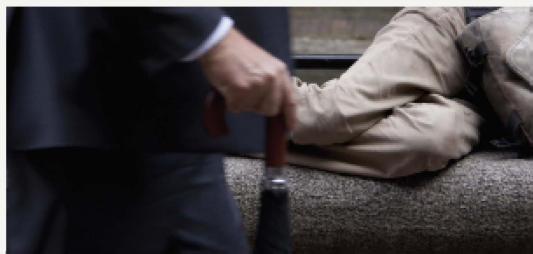
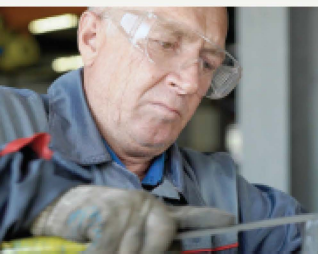
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The
**POLITICAL
ECONOMY**
of
INEQUALITY

U.S. AND GLOBAL DIMENSIONS

Sisay Asefa and Wei-Chiao Huang, Editors



The Political Economy of Inequality

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of Inequality**
U.S. and Global Dimensions

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Wei-Chiao Huang
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2020

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—Sisay Asefa and Wei-Chiao Huang

1

The Political Economy of Inequality

Introduction

Sisay Asefa
Wei-Chiao Huang
Western Michigan University

The only true and sustainable prosperity is shared prosperity.

—Joseph Stiglitz

Inequalities in our society abound, across space, over time, and in numerous other dimensions. While income inequality attracts considerable attention in academic and policy arenas, there are many other aspects of social inequality that also deserve to be studied and addressed, such as wealth (assets), ability to borrow, education, employment, health care, political representation, and legal matters. In a sense, all of these can be generally characterized as inequalities of access or of opportunities. And all of them, if not resolved or mitigated, bear potentially serious consequences of economic instability and political and social unrest. Many of these inequalities are also interrelated, making them vexing and difficult to combat.

But for policymakers to do so, they must understand the extent of these inequalities, their trends, and, more precisely, how they correlate. What are the underlying root causes of these inequalities? What are plausible policies that could mitigate their impacts? These questions were recently addressed by six eminent scholars who were invited to provide insights and views from their respective areas of expertise through Western Michigan University's 54th Werner Sichel Lecture Series, which took place during the 2017–2018 academic year. These experts' presentations form the basis of this volume and cover the challenges of different inequalities in several countries, including the United States, member nations of the Organisation for Economic Co-

operation and Development, and developing countries in Africa and Latin America.

We briefly summarize each of the six chapters in this introduction.

Chapter 2, “The New Inequality: The Distribution of Retirement and Older Working Time in OECD Countries,” by Teresa Ghilarducci, the Bernard L. and Irene Schwartz Professor of Economics and Policy Analysis at the New School for Social Research, indicates that income and wealth inequality has been on the rise for years in rich nations. The chapter by Ghilarducci addresses inequality’s economic harms: inequality skews production toward what the rich want and away from public spending on education and health. Ghilarducci also notes that inequality skews political power to the rich, who use that power to create and preserve economic rents, also known as monopoly rents. An economic rent is any payment to a factor of production that is more than what is needed to induce that factor to engage in production. Ghilarducci’s chapter addresses a third kind of inequality—paid retirement time—and its potential damage to workers’ retirement. Retirement is the period after a lifetime of work and before death when people can exercise greater control over the pace and content of their time and construct a personal narrative about the meaning of their lives.

As nations grew richer, Ghilarducci says, voters and workers expanded paid time off, including retirement, widely across socioeconomic classes. But in the late twentieth century, OECD policy shifted to emphasize austerity and finance-based retirement income, leading some in the elderly population to work more hours and longer years. More work at older ages is associated with higher poverty rates and greater retirement-time inequalities among the elderly. The first part of the chapter defines retirement time and explores the lopsided distribution of American retirement time. The second section describes changes in retirement time in the rest of the OECD countries. The third section discusses how rich nations changed their pension designs toward less social insurance and more financialization. The fourth section shows how pension financialization is correlated with increases in older people’s labor-force participation and how nations with higher elderly labor-force participation also have higher rates of old-age poverty. The fifth and final section offers a conclusion.

In Chapter 3, “The Economics and Politics of the Fall and Rise of Income Inequality in the United States,” Charles L. Ballard, professor

of economics at Michigan State University, explores the issue of how income inequality in the United States has increased dramatically since the 1970s. Ballard notes that the U.S. economy actually experienced an equally dramatic *equalization* in the 1930s and 1940s. He argues that, consequently, if we are to develop a complete understanding of the evolution of the U.S. income distribution, we must analyze the earlier “Great Compression” or “Great Convergence,” as well as the more recent “Great Divergence.” In this chapter, Ballard begins with a review of the facts of the changes in income inequality over the past century in the United States. He then discusses and evaluates the economic explanations for those trends. However, the economic trends cannot be understood fully without reference to political factors. He argues that both the Great Compression and the Great Divergence are primarily the result of deliberate political choices made by the party in power. Furthermore, he points out that race is the most important of the many factors leading to the political shifts that have, in turn, contributed to the Great Divergence of the past 40 years. Many whites, especially in the South, reacted to the Civil Rights movement by switching their allegiance from the Democratic to the Republican Party, and this has contributed substantially to the adoption of more antiegalitarian economic policies. The best starting point for a discussion of long-term trends in U.S. income inequality, he says, is the journal article “Income Inequality in the United States, 1913–1998,” by Piketty and Saez (2003). Their original paper contains data through 1998, as the title indicates, but they have updated the data annually so that we now have a complete series covering a full century, from 1913 to 2015.

Piketty and Saez (2003) use tax-return data, and this allows them to produce extremely detailed estimates for the income shares of the very top income strata. The data reveal that the shares of the top groups fell from the late 1920s to the early 1970s, and especially sharply in the early 1940s. Specifically, the share of the top 1 percent plummeted from 15.7 percent of total income in 1940 to 10.5 percent in 1944 because of various public policies implemented, which are detailed in Ballard’s chapter. But then, following a decline through the early ’70s, the top income shares surged upward in the 1980s, almost as dramatically as they had fallen in the early 1940s. And over the past 10 years, the share of the top 1 percent has hovered around 18 percent of total income, which is higher than the average was in the first 15 years of the twen-

tieth century. Thus, by some measures, the income distribution in the United States today is more unequal than it was a century ago. Furthermore, the disequalization since the 1970s has been extremely top-heavy. A majority of the gains in the share for the top 5 percent went to the top 1 percent. In turn, a majority of the gains in share for the top 1 percent accrued to the top one-tenth of 1 percent. Finally, about half the gains in share for the top one-tenth of 1 percent accrued to the top one-hundredth of 1 percent. While Piketty and Saez's paper focuses exclusively on the top 10 percent, Ballard notes that there have also been changes in the income distribution below the top 10 percent. Census data analysis shows that, since the 1970s, the income of the typical household at the 90th percentile rose by substantially more than the income of the household at the 80th percentile.

Chapter 4 is titled "America's Unequal Playing Field: The Gaps between Poor and Rich Children's Resources." In it, Mary E. Corcoran, professor emerita of public policy, political science, and women's studies at the Gerald R. Ford School of Public Policy, University of Michigan, explores the phenomenon that growing up wealthy in the United States commands wide and profound advantages over growing up poor, and these advantages do not just involve the extra discretionary money that rich parents possess to spend on their children. Corcoran notes that, on average, children of the rich are more likely to avoid the disruption and trauma, both emotional and economic, from absent fathers due to out-of-wedlock births, divorce, and paternal incarceration. The rich children's home environments are more likely to be educationally enriching. These children are more likely to have parents who are college graduates and less likely to have parents who are high school dropouts. They are more likely to be raised in safe neighborhoods with good schools. Rich parents have more money, time, and social capital to invest in their children.

As a result, it is hardly surprising that rich children fare better economically as adults than do middle-income and low-income children. Corcoran refers to two recent books, *Whither Opportunity?* and *Dream Hoarders*, and warns that the economic and noneconomic advantages of being raised by wealthy parents are increasingly bundled together and are growing rapidly in ways that could imperil the American ideal of fair opportunity (Duncan and Murnane 2011; Reeves 2017). Since the 1980s, changes to the economic and demographic landscape and

to the criminal justice system have widened the gaps between the economic resources and social capital of affluent parents and those of middle-income and low-income families. Corcoran further notes that over the same period, a college degree has become increasingly important to children's adult economic success. And at the same time that investing in children's education has become more important for their economic mobility, gaps have widened between affluent parents and the middle- and low-income parents in their financial capabilities to make such an investment. The recent academic admissions scandal is indeed a perfect case in point. "This," Corcoran says, "leads to a very real worry: is the cherished U.S. norm of a level playing field—i.e., that a child's economic origins do not determine his or her economic future—at risk?" Corcoran's paper is organized as follows: she begins by presenting a stylized picture of the associations between family income and children's adult incomes, followed by a comparison of the rates of intergenerational economic mobility in the United States to those in other Western industrialized countries. It is evident that the United States comes off poorly in these comparisons. Corcoran then delineates how economic trends, demographic trends, and changes in the criminal justice system since the 1980s have altered the distribution of resources and social capital available to children in low-income, middle-income, and high-income families in the United States. She also documents how returns to a college degree have increased since 1980 in the United States.

Corcoran next reviews studies showing that parental income more strongly predicts students' achievement-test scores, college attendance, and college graduation today than it did in the past. She concludes by speculating on how the trends and evidence reviewed in this chapter might affect equal opportunity in the United States. She further elaborates on how the background advantages of children from affluent families vis-à-vis children from middle-income and low-income families have risen significantly. And she notes that college education affects a child's adult economic attainments more strongly now than in the past, and that a child's chance of acquiring a college degree is more tied to parental income now than in the past. She concludes by posing the following questions: Does this inevitably mean that the United States will become more stratified by income? What policy strategies might weaken the link between parental income and children's adult success?

In Chapter 5, “Why Has Income Inequality Increased while Education Inequality Has Decreased in Many Developing Countries?,” David Lam, professor of economics at the University of Michigan, points out that there is a great deal of concern about trends in income inequality around the world. On the domestic front, rising wage inequality in the United States has been a focus of attention for the past two decades. In addition, trends in income inequality in developing countries and in the world as a whole have been analyzed by the World Bank and a large number of researchers. However, less focus has been given to inequality in schooling. Lam’s chapter argues that inequality in schooling is a vital area of research, given the importance of education in affecting a wide variety of outcomes. Inequality in schooling is also important because it is integrally connected to income inequality. Several studies rely on the detailed data that are available on the distribution of schooling for a good number of low-income and middle-income countries. Comprehensive analysis of these data demonstrates that the distribution of schooling demographically changes in fairly regular patterns as the mean level of schooling increases. The standard deviation in years of schooling, which is shown theoretically to be an important driver of earnings inequality, tends to increase with mean schooling at low levels of schooling, eventually reaching a peak and then falling as mean schooling reaches higher levels. This has important implications for trends in earnings inequality. The coefficient of variation in schooling, a standard mean-invariant measure of schooling inequality, tends to fall steadily as mean schooling increases, a result of the “compression” in schooling that occurs with the rising mean. Given the strong relationship between schooling and earnings, this compression in the schooling distribution should be expected to reduce income inequality. However, data from several countries reveal a rather puzzling phenomenon: a number of African and Asian countries have seen increases in income inequality while at the same time experiencing significant declines in schooling inequality.

In this chapter, Lam explores several reasons for this disconnect between falling schooling inequality and rising income inequality in those developing countries. One important factor is the convex relationship between schooling and earnings, as implied in the standard Mincer (1974) earnings equation, in which log earnings are a nonlinear function of schooling. Another important factor is rising returns to

schooling, especially at the top of the schooling distribution. Lam's paper reviews the evidence on trends in income inequality and poverty for a variety of countries. The paper then looks at the theoretical relationship between schooling and earnings. Data from a large number of countries from the Demographic and Health Surveys (DHS) program are then used to look at how the schooling distribution changes as mean schooling increases. These data show a consistent tendency for schooling inequality to decline as mean schooling increases. Lam concludes his chapter with a detailed analysis of schooling inequality and earnings inequality in Brazil and South Africa, the two countries with extreme earnings inequality and high-quality labor-market survey data that can be used to look at schooling inequality, returns to schooling, and earning inequality over several decades.

In Chapter 6, "Institutions, Structures, and Policy Paradigms: Toward Understanding Inequality in Africa," Howard Stein, professor of Afroamerican and African studies and of epidemiology at the University of Michigan, states that the trajectory of development in sub-Saharan Africa remains puzzling to mainstream economists. Poverty stays stubbornly high, growth has been uneven, and life expectancy has continued to lag relative to other regions despite governments' adopting active policies inspired by neoclassical economists. Economists have offered a host of extraneous explanations for "Africa's tragedy," including ethnicity, geography, colonial history, slave trade, poor governance, and poorly developed social capital. Stein notes that the number of variables purportedly correlated with growth grew dramatically over time in the literature and reached, by one count, a rather implausible 86 regressors by the year 2000. His chapter deals with new concerns about income inequality, and how orthodox economists have tried unconvincingly to explain the pattern of income distribution in Africa.

Contrary to Kuznets's hypothesis that regions with low industrialization and a high reliance on agriculture should have more equitable distribution of income, sub-Saharan Africa has had high income inequality, which has been worsening in recent decades, despite evidence of deindustrialization and most of its population living in rural areas. As argued by Stein, part of the problem with relying on Kuznets's formulation is its reliance on the faux naturalism which is embedded in the neoclassical theory of distribution, in which factors of production in a competitive market are supposed to be paid according to their mar-

ginal contribution to production. The belief in a Kuznets curve follows the erroneous assumption that peasants received income commensurate with their land and labor in economies dominated by rural production. With industrialization, the divide between urban-based wage income and rural income will grow, and income inequality will worsen.

The neoclassical paradigm thus argues that only by shrinking the rural sector will equality be restored. But when this pattern is not observed, instead of questioning the underlying assumptions, neoclassical economists tend to search for extraneous factors in an attempt to explain why the paradigm does not seem to hold true. Stein argues that to understand income inequality, we need to transcend the faux naturalism of neoclassical economics so as to take into account the evolution of the institutions, related economic structures, and the way Africa has been integrated into the global economy—factors that really underlie the current and historical patterns of income distribution. Stein suggests that the core of explanation lies in the shifting structures of power which underlie the generation of disparities in material awards. Stein reviews the trends in income distribution in sub-Saharan Africa using Gini coefficients to measure inequality. His paper provides a critical alternative view to the mainstream view of distribution and its applications to understanding inequality in Africa, including its impact on policy formation, which has contributed to the exacerbation of distribution. The paper discusses the institutional approach to income distribution, which challenges the standard neoclassical economics approach and claims to offer a better understanding of the income distribution patterns that we have observed in sub-Saharan Africa.

Stein presents detailed evidence to make a strong case for the institutional theory of distribution. According to Stein, factors of production are integrated, and their ability to affect production is contingent and interactive. Resources, whether human or inanimate, derive their utility through their integration into a process dependent on many sub-processes. The power of production is found in systems, not in land, capital, and labor. Stein further argues that neoclassical economic constructs have been institutionalized and created the dangerous notion that people are paid according to the natural laws of the market and receive what is deemed worthy of their contribution. They are not a product of human agency but of forces beyond human control. In contrast, the institutional theory of distribution points to the need to understand

power and its relationship to the contesting of interests at the heart of the determination of the allocation of the shares of material rewards. Stein stresses that understanding the forces that select working rules and that shape and reshape the relative power of the parties involved in transactions should be at the core of an institutional understanding of the distribution of income in any society. Transactions are not simply among domestic players but involve international participants, and the rules of those transactions are affected by international institutions. So how does this explain the pattern of income distribution in Africa? The key, according to Stein, is in understanding the forces that shaped and altered the conditions and rules that affected the comparative power of direct producers in transactions over time. Stein provides comprehensive evidence to support the institutional perspective of inequality using his field studies in Tanzania, Kenya, Malawi, and Uganda.

In Chapter 7, “Income Inequality, Progressive Taxation, and Tax Expenditures,” the final chapter, James R. Hines Jr., Richard A. Musgrave Collegiate Professor of Economics at the University of Michigan, discusses the effect of progressive taxes and tax expenditures on inequality, alluding to the following four facts:

- 1) Income and wealth are unequally distributed in the United States, and annual incomes appear to have become significantly less equal over the past 40 years.
- 2) The United States has a progressive income tax system that imposes burdens based on ability to pay, with rates that rise sharply with income.
- 3) The primary function of the tax system is to raise revenue to finance the government, but in the process, the tax system also redistributes wealth.
- 4) The tax system can do quite a bit more on redistribution and should, but perhaps paradoxically this is possible only by maintaining and adding to tax expenditures (“tax loopholes”) for the affluent. In explaining the effect of progressive taxes, which can reduce inequality, Hines asserts that the prevailing tax system includes certain preferences, such as deductions for mortgage interest, charitable contributions, and state and local taxes that mitigate tax burdens. These are known as “tax expenditures.”

Like so much else in the tax system these days, there is partisan bickering over these “tax expenditures.” Liberals are highly critical that tax expenditures have been going mostly to the rich—which they do. Only 30 percent of taxpayers itemize their deductions, and affluent taxpayers are more apt to claim itemized deductions than are the less affluent. Affluent taxpayers have bigger mortgages and more state and local taxes from which to claim deductions. On the other hand, conservatives feel that tax expenditures smack of social engineering by government and prefer lower tax rates instead. Thus, neither political side likes tax expenditures. Yet, as we will see, they are essential aspects of a progressive tax system. Hines explains who benefits from tax benefits in various ways. Tax reductions from income tax expenditures go mostly to high-income taxpayers: 13.6 percent of the total goes to the bottom income quintile, 61.6 percent of the total goes to the top income quintile, and 27.5 percent goes to the top 1 percent of income. But of course it is also true that, of the total amount of revenue brought in by taxes, most comes from high-income taxpayers. Only 0.8 percent of taxes is paid by the bottom-income quintile, whereas 68.9 percent is paid by the top income quintile. In fact, 27.9 percent of tax revenue is paid by the top 1 percent. Tax expenditures roughly track total tax liabilities.

In discussing the equality issues of the U.S. tax system, Hines uses the example of one tax measure: the child tax credit. This credit reduces the tax burdens of families with children as compared to otherwise-similar families without children. Is that a good thing to do? The political system has decided that it is. It is certainly true that a family with two children and an income of \$50,000 is less well off than a family without children and an income of \$50,000. But Hines points out that, after all, those couples chose to have children, so should we permit them to have a tax reduction on this basis? Reasonable minds might differ on answering this question, but the majority think that the answer is yes.

Hines also addresses a few issues associated with the effect of eliminating or significantly reducing taxes. He speculates that such a reduction would have mixed effects. As a case in point, he takes the flat tax, whose advocates offer a coherent, three-step plan:

- 1) Eliminate all deductions, credits, and exclusions.
- 2) Impose a flat tax at 19 percent, 23 percent, or some other figure.
- 3) Permit a zero-bracket amount so that the first \$30,000 or so is untaxed.

While the flat-tax objectors argue that it is not a very progressive tax system—in fact it is regressive—it can also be argued that the cost of tax progressivity is that it creates greater distortions by subjecting some levels of income to high tax rates. And the more progressive an income tax system is, the more important it is to be smart about designing the system efficiently. Hines indicates that this alternative to the flat-tax system requires lots of special deductions and credits, many of which are targeted at high-income taxpayers. Advocates will decry these special tax breaks as antiprogressive, whereas exactly the opposite is the case.

Hines makes it clear that what most voters want are these two things:

- 1) tax simplicity, to make the system easier to understand and prevent others from getting unwarranted tax breaks
- 2) lower tax rates

But with that said, still, many specific tax breaks have considerable political appeal. (In the United States, these would include owner-occupied housing, charitable contributions, employer-provided health care and pensions, and deductions for state and local taxes, among other things.) The reality is that governments need revenue, and it is never going to be popular to get that revenue through taxation. But our history suggests that governments are aware of the need for tax policies that are sensitive to individual situations and economic conditions.

Hines makes the following three important and provocative points:

- 1) There is no principle of efficiency or equity that implies that the best tax system taxes a very broad definition of income at relatively low rates.
- 2) Far from it: the prevailing theory is that taxation should be highly differentiated and individualized.
- 3) In fact, the most efficient and equitable system has a relatively narrow tax base with relatively high tax rates. Proposals (and there are some) to cap all tax deductions or reduce all tax deductions by a fixed fraction (say, by letting people claim only 80 percent) look odd through this lens. Hines concludes that good policy is messy and that we have no choice but to rely on governments to make it for us. That they have done so with many tax credits, deductions, and exemptions may not be

a bad thing, and we may need more of them. These governments may have much clearer appreciation of the nature of the tax problem than that with which we often credit them.

Social inequality is multifaceted and very complicated. The chapters in this volume can cover only a limited portion of these complexities. Nonetheless, they contain insightful analyses and viewpoints that are critical for illuminating different types of inequality and providing context for policies to address them. We invite readers to explore these insights and inform their own conclusions.

Note

<https://inequality.org/> is an online portal to data, analysis, and commentary on income and wealth inequality. There readers can find information and insights that can help them better understand our deeply unequal world and how we can work to change it through the efforts of a think tank called the Institute for Policy Studies, in Washington, D.C.

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2

The New Inequality

The Distribution of Retirement and Older Working Time in OECD Countries

Teresa Ghilarducci
New School for Social Research

Income inequality and wealth inequality have been on the rise for years in rich nations (OECD 2015a; World Bank 2015a). Chapters in this volume address inequality's economic harms: inequality skews production toward what the rich want and away from public spending on education and health (Sctivosky 1976; World Bank 2015b). It also skews political power to the rich, who use that power to create and preserve economic rents (also known as *monopoly rents*, which encompass any payment to a factor of production that is more than what is needed to induce that factor to engage in production (Stiglitz 2012).

This chapter addresses another kind of inequality and the potential damage it could inflict on workers' retirement. Retirement is the period after a lifetime of work and before death when people can exercise greater control over the pace and content of their time and construct a personal narrative about the meaning of their lives (Blackburn 2009). As nations grew richer, workers, through the ballot and their representatives in Congress, expanded paid time off—including pension-funded retirement through their employers—widely across socioeconomic classes. But in the late twentieth century, policy at the Organisation for Economic Co-operation and Development (OECD) emphasized austerity and retirement income based on the financial markets, leading some elderly workers to work more hours per week and years longer. More work at older ages is associated with higher elderly poverty rates and retirement time inequalities.

The next section in this chapter defines retirement time and explores the lopsided distribution of American retirement time. The section fol-

lowing that describes changes in retirement time in the rest of the countries belonging to the OECD. The subsequent section discusses how rich nations changed their pension designs toward less social insurance and more financialization. The penultimate section shows how pension financialization is correlated with increases in older people's labor force participation and how nations with higher elderly labor-force participation also have higher rates of old-age poverty. The last section offers conclusions.

THE EQUALITY WE FORGET TO CELEBRATE: THE DISTRIBUTION OF RETIREMENT TIME

Rich and poor workers' ability to choose to retire or work in old age is a modern development. Before World War II, most men died during the time they were still working (Costa 1998), and only the well-off could choose whether to work or retire. One of the most underappreciated accomplishments of U.S. social policy was the equalization of the distribution of retirement time across socioeconomic groups after WWII (Bonen and Ghilarducci 2014). However, since the 1980s, gains in retirement wealth, longevity, and morbidity have gone mostly to the highest-income workers, white men, and educated women.

Ghilarducci (2008) was the first scholar to measure the distribution of retirement time, finding the distribution of retirement time was strikingly equal for people who died between the ages of 50 and 65. (The data set was limited, and only people under 65 could be analyzed.)

Retired men under the age of 65 in the top 20 percent of the retirement asset distribution accounted for 22 percent of the total amount of retirement time, while men in the bottom 20 percent accounted for 18 percent. Although the top quintile had 85 percent of all wealth and the poorest 20 percent were in debt, the distribution of retirement time before age 65 was almost equal. The distribution of pre-65 retirement time for women was similarly equal: the top and bottom fifths of women accounted for virtually the same share of retirement time—22.6 percent for the top and 22.7 percent for the bottom (Ghilarducci 2008, p. 145).

Retirement time equity was the result of public policy decisions about pension design. Between the 1950s and the mid-1980s, Social

Security, defined benefit (DB) pension plans, and disability insurance allowed pension income to be paid before age 62. That meant people with shorter life spans could start collecting a pension long before their mid-60s. More workers from the middle and lower socioeconomic classes were able to retire when social security old-age benefits and disability programs expanded significantly from the 1950s to the 1970s. Medicare, established in 1965, provided universal health insurance for those over age 65, which significantly improved the health and longevity of the aged of all classes. Broad-based retirement health and pensions gave workers in all socioeconomic groups the ability to control some of their own leisure time before they died.

Furthermore, the design of workplace pensions and Social Security made retirement income and wealth more equally distributed than preretirement income in the same time period (Wolff 2015). Unionized workers—many with physically taxing jobs—were more likely to be covered by DB pension plans, which enabled earlier retirement to compensate for lower-than-average longevity. DB plan participants retire about two years earlier than similar workers covered by defined contribution (DC) plans or otherwise similar uncovered workers. The earlier retirement of workers in DB plans reflects the design of DB plans, which do not increase pensions after a certain age. This provides an incentive for workers to retire earlier than they would otherwise (Friedberg and Webb 2005). Since the retirement income of DC participants depends partially on returns from financial markets, workers likely adapt to their considerable financial market risk by working longer.¹

But pension designs changed when the increased costs of population aging coincided with austerity movements. Governments cut social insurance, and employers in the United States and Britain moved away from defined benefit plans in favor of voluntary, self-directed 401(k) plans.² In the United States, Social Security benefits for mid-to-late baby boomers were reduced by Congress because the age at which people could collect full benefits was increased from 65 to 67. The increase was phased in over 25 years, starting in 1984. For all workers born after 1960, the normal retirement age is 67. Thus, Social Security was placed further into a worker's future. Many OECD nations also reduced benefits from social insurance by raising the normal retirement age.

Over the same time period—1984 to the present—that Social Security and DB pension benefits were falling, longevity and health gains

disproportionately went to those at the top of the income distribution (Auerbach et al. 2017; Buckles et al. 2016; Case and Deaton 2017). Blacks, independent of socioeconomic status, on average become sick and die sooner than whites (Geruso 2012). In addition, minorities and lower-income individuals are less likely to have adequate retirement resources (Even and Macpherson 2007). So the two growing inequalities—longevity and secure retirement income—mean that people dying sooner cannot retire earlier, and retirement time becomes more unequal.

Using a new and enlarged sample of HRS and AHEAD respondents, Ghilarducci, Papadopoulos, and Webb (2017) identified a growing gap in retirement time: the people with the lowest incomes and lowest education average 14.5 years of retirement, whereas those with higher levels of education enjoy, on average, 17 years of retirement. The class difference in retirement time is strongest for women, and having a DB pension is the most significant factor in explaining the difference in retirement time for American men: men with DB pensions live longer and retire earlier, especially compared to men without any workplace retirement plan.

Depending on 401(k) plans and individual retirement accounts (IRAs) and having no workplace retirement plan leads older people (especially middle- and lower-income older workers) to delay retirement. High earners are more likely to be able to afford retirement regardless of the type of plan they have. The individually directed and voluntary nature of 401(k)s and IRAs means that they form a system that works best for higher-income workers. Higher-income workers buy assets at the right time—when asset prices are low—because they are more likely to be employed in down markets. Higher earners also earn higher returns (because their portfolios are more diversified), pay lower fees, and have more favorable tax deductions.

In sum, Social Security cuts, the decline of unions and DB plans, and the rise of financial-based retirement plans will cause the share of retirement income coming from insurance-based sources (Social Security and DB plans) to fall for American middle-class retirees. Those born between 1946 and 1955 received 47 percent of their retirement income from insurance-based sources in 2010; people born between 1966 and 1975 will receive 40 percent of their income from such sources (Butrica, Smith, and Iams 2012). And the inequality of income among the retired population is expected to grow (Gist and Hatch 2014). The financializa-

tion of pension systems means more households are expected to bear more financial risks, which will affect the distribution of wealth income and security in old age (Clark, Strauss, and Knox-Hayes 2012). The lopsided distribution of secure retirement income and longevity gains means that those who die sooner will work longer, making the form of equity that often goes unnoticed—equity in retirement time—more unequal.

As other nations cut social insurance and adopt American-type financialized retirement systems, some older people will work longer—perhaps those with the least resources and shorter life spans—or they will retire with lower incomes, leading to an increase in poverty and higher rates of labor force participation. Some older people will have to find and keep jobs in old age to make up for their lower incomes, leading to higher rates of labor force participation among certain groups.

RETIREMENT TIME TRENDS IN THE OECD: TIME HAS INCREASED, BUT GAINS MAY SLOW OR REVERSE

Over the past 60 years, people in OECD countries are living longer and retiring for longer periods of time. Simple math computes that if the average age of retirement is stable and average longevity is growing, then average retirement years will increase. On the other hand, if elderly labor force participation outpaces longevity improvements, average retirement time could shrink. It's projected that from 1958 to 2020, 27 out of 29 OECD nations will have experienced an increase in retirement time for men, and in all but one nation, women will have had more retirement time than men. Most of the increase in retirement time has come from increases in life expectancy outpacing the general increase in elderly work years.

In 30 OECD nations, the labor force participation of older men and women has grown significantly since 1993. But the increase in elderly labor force participation is not explained by increased prosperity, as measured by the changes in gross domestic product (GDP). More people working more when the economy grows is expected as pay and working conditions improve, but preliminary evidence does not support the claim. The Pearson correlation between GDP growth and

elderly labor force participation is low, just 10 percent (Ghilarducci and Novello 2017).³ Falling pension income would, in theory, cause older people to work more, as the drop in nonearned income would lower their reservation wage. (The reservation wage is the lowest wage rate a worker would accept to move from not working and collecting, say, a pension, to looking for work.) Evidence suggests a link between falling pensions and older people working. For all OECD nations, when the retirement income replacement rate decreases by 1 percentage point, from, say, 30 percent to 29 percent, the elderly labor force increases by 21 percent (author's calculations in Ghilarducci and Novello).

The OECD does not measure retirement time from microdata, as the American study did, but estimates retirement time using the difference between the age a person could retire based on the rules of the state pension plan and the average estimated age of death for a fifty-year-old. The average growth in retirement time for 30 OECD nations between 1958 and 2010 (some countries only had data from 1971) was only slightly different for men and women: women's retirement time increased by 23 percent and men's increased by a little less, 20 percent. However, the American pattern was quite different: between 1958 and 2010, the difference between women's effective retirement age and life expectancy increased by only 15 percent, while American men's increased by much more, by 27 percent (Table 2.1).⁴

Retirement Time Improvements

What causes the variation in retirement time between nations? Longevity explains most of the variation in changes in retirement time between nations, but not all of it. The link between changes in male retirement time and male longevity at age 50 is 51 percent; for women,

Table 2.1 Increase in Retirement Time (%)

	Women	Men
OECD countries, 1958–2010	23	20
United States, 1958–2010	15	27

NOTE: Age 50 life expectancy minus effective pension eligibility age, 1958–2010, for OECD and U.S. by sex.

SOURCE: OECD (2015a).

the Pearson correlation is a little less, 32 percent. Some of the variation is explained by women shrinking their retirement time by working more. The increase in the labor force participation rate of elderly men is correlated by only 6 percent with a decrease in retirement time. Elderly women's work effort and changes in retirement time are correlated by a negative 25 percent.

PENSION FINANCIALIZATION IS ASSOCIATED WITH HIGHER ELDERLY LABOR FORCE PARTICIPATION RATES AND OLD-AGE POVERTY

The link between shrinking retirement time and elderly people working longer is smaller than the impact of longevity changes on retirement time changes, but as pension income shrinks and becomes more uncertain, I expect more retirement time to be lost because of an increase in elderly labor force participation. There is evidence for this view in the simple correlation between the financialization of pensions—the percentage of income coming from capital—and increases in elderly work effort: 33 percent for men and 40 percent for women. A multivariate analysis would of course control for the demand for older workers, including the wage rate, but nations where older workers are still working are not high-wage nations in general.

Gruber and Wise (1998) argue that across the OECD member countries, the older the age at which workers can collect full pension benefits (called normal retirement age), the greater the increases in their participation in the labor force. This conclusion makes sense given that people who do not have access to income without working are more likely to work.

Gruber and Wise (1998) infer that nations intentionally seek to encourage older people to withdraw from working or looking for work because they see a correlation between nations making social security benefits more generous—as in the 1950s, '60s, and '70s—and drops in elderly labor force participation. They call for nations to reverse the decline in elderly labor force participation by decreasing the amount of early retirement benefits and lowering the tax rates for older workers. Gruber and Wise's (1998) paper was published at the same time that aus-

terity programs were being implemented (Huber and Stephens 2001). Old-age programs that are funded by pay-as-you-go funding mechanisms—current workers’ pay for retired workers’ benefits—become more expensive if a large cohort is followed by a small one. These were projected to rise in cost (expressed as payroll tax rates) and so became an obvious target for austerity policies. However, pay-as-you-go systems never add to the budget deficit because they are closed systems. If the revenue doesn’t match the liabilities, the revenue is increased or the benefits are cut.

Gruber and Wise’s (1998) analysis provides a path to obtain social and economic benefits without obvious costs. Having older people work more serves to grow economies and increase household income with no extra effort from state programs—a classic “win-win.” All that was needed to obtain the gains was for states to change their pension design to induce older workers to work.

The effect of the OECD pension design changes after 1990 is consistent with Gruber and Wise’s recommendations that nations cut pensions to induce more work among the elderly. Between 1990 and 2011, more than half of the OECD nations cut pension benefits by raising the normal retirement age (NRA). Nineteen raised the NRA for women, and 16 raised the NRA for men (OECD 2011). Raising the NRA—the age at which people can collect full benefits—effectively cuts benefits for everyone collecting at any age.

Financializing retirement income shifts various risks to individuals, making retirement income less secure, so older people work more as they face higher risks of old-age poverty stemming from social insurance cuts. Gruber and Wise (1998) recommend that nations cut social insurance to increase the labor force participation of men and women.

When nations get richer, their inhabitants consume more of what are called *normal goods*, including paid time off. Holidays, paid vacations, and nonworking weekends become norms. Retirement is also a normal good; the demand for retirement time increases as nations get richer.⁵ However, as Gruber and Wise (1998) and Gruber, Milligan, and Wise (2009) argue, more retirement could cause a reversal in that affluence if pension expenses increase too much.

The OECD’s “age of effective retirement” is computed based on the average age at which people withdraw from the labor force in a given period. In most nations, people retire at younger ages than the age at

which they can collect full retirement benefits under their nation's state pension rules. For instance, in the United States, covered workers can collect a much-reduced Social Security pension benefit at age 62 or wait to receive a benefit that is worth more at age 70. Each person decides his or her time preference and makes an estimate of their longevity and morbidity in order to choose the age at which to collect reduced or full benefits. On average, people retire much sooner than the age required to collect full benefits. This is notable because it means the state systems are less generous than they would otherwise be.

In the United States, the penalty for collecting at age 62, four years before the normal retirement age of 66 (for people born after 1960), is 30 percent, and the delayed retirement credit for collecting at age 70 is 32 percent. That means that for every \$1,000 of benefit owed at 66, a worker could collect \$700 per month at 62 for life, or \$1,320 per month at 70 for life. More than 40 percent collect at age 62. Retirees in Japan and Korea are notable exceptions to this tendency. In those countries, the effective age of retirement, the age at which half of the people actually retire, is close to 70 for men despite a normal retirement age of 60. The demand for labor could be quite high, so that the wage offered to older workers is high, thus encouraging them to work; or the retirement benefits could be low, so that in order to meet a target income, these men need to work.

Men, on average, are still in the workforce at age 65 in Denmark, Iceland, Ireland, Portugal, and Switzerland, but have left the labor force by age 60 in Austria, Belgium, France, Hungary, Luxembourg, and the Slovak Republic. Women, in general, retire around one to two years earlier than men do, on average, in the 30–32 OECD nations examined in this chapter (OECD 2015a).

Overall, the labor force participation rates of elderly men and women increased in most OECD nations between 1995 and 2011. However, in 10 out of the 30 nations, women's age of retirement is decreasing, and in 15 nations, men's age of retirement is decreasing. Women are working less and men more in New Zealand, Australia, and Russia, whereas in Greece, women are working longer and men are retiring at younger ages. The conclusions we draw from the international experience is that there is a general tendency for a national policy that cuts retirement benefits to lead to increases in retirement ages, but there is a great deal of variation in that relationship.

Financialization of pension systems/retirement is defined as having an increasing share of old-age income originating from financial assets, rather than from social insurance programs. The degree of financialization varies by country; the elderly in some nations obtain relatively more income from capital than others (Table 2.2, showing 27 nations).

Table 2.2 Source of Retirement Income from Capital, by Nation

Country	Share of income from capital, for household heads over age 65
Slovak Republic	0.7
Poland	1.0
Czech Republic	1.5
Hungary	2.5
Greece	4.3
Austria	4.7
Belgium	5.8
Ireland	6.3
Netherlands	6.6
Portugal	7.1
Italy	7.7
Norway	8.6
Finland	8.8
Germany	10.8
Iceland	11.2
Switzerland	11.2
Luxembourg	11.3
Sweden	11.9
Spain	12.4
Mexico	12.8
United States	12.9
Australia	17.0
Denmark	18.7
France	19.7
Turkey	19.8
New Zealand	24.4
Canada	40.6

SOURCE: OECD (2015a,b).

For instance, Canadian elders get 40 percent of their average income from stocks and bonds, and Slovakian elders less than 1 percent.

The boost in elderly work caused by shrinking and uncertain retirement income is welcomed by governments that are engaged in austerity policies. At one extreme is the United States, where the Social Security system has stagnated and job-related defined benefit pensions have been replaced by voluntary, individually directed, commercially defined contribution 401(k) plans, where fees vary considerably and payouts are almost always made in a lump sum.

At the other extreme is Switzerland, where contributions to occupational plans are mandatory, the contribution rates vary with age of worker, and the government sets the minimum rate of return that the plan must pay and a mandatory annuity rate at which the accumulation is converted into a flow of pension payments.

Austerity and financialization affect people in lower socioeconomic classes differently from those at the top. Those who depend most on social security and have little pension wealth will likely be more induced to work or look for work than others.

And the negative and unintended effect of inducing more work from the elderly by eroding pension security, rather than luring more people into the workforce with better wages and working conditions, is that the people with the lowest levels of productivity will be forced to stay in the labor force longer, which causes average productivity to fall (Burtless 2013). This “forced to work” hypothesis is consistent with the evidence that increases in labor force participation rates among the elderly are not correlated directly with GDP growth.⁶

Since some increases in labor force participation of older workers are linked to financialization and austerity policies, it is not unanticipated that nations with high rates of labor force participation also show higher rates of elder poverty.

But just how is pension financialization linked to higher poverty rates? First, policies that lead nations to shift away from defined contribution-type retirement systems are often a part of larger austerity measures, in which nations reduce unemployment benefits, increase the normal pensionable age, and reduce social spending. In addition, income from personal assets is less secure and is subject to market fluctuations and income shocks such as job loss, divorce, and health crises. It may be that nations that encourage work to supplement pension and

social insurance income are nations that tolerate more hardship among their elderly. There is some evidence for this proposition. Unfortunately, working longer signals poverty; the Pearson correlation between the labor force participation of older people and elderly poverty rates is 38 percent (Figure 2.1).

In countries where older people have a relatively high share of their income coming from capital, such as Mexico and the United States, we also see some of the highest rates of elderly poverty. In countries such as France, Belgium, and Luxembourg, where income comes mostly from sources other than capital (e.g., social insurance), we also see some of the lowest rates of elderly poverty (Figure 2.1). Nations that tolerate high levels of elderly poverty are more likely to accept riskier pensions.

CONCLUSION

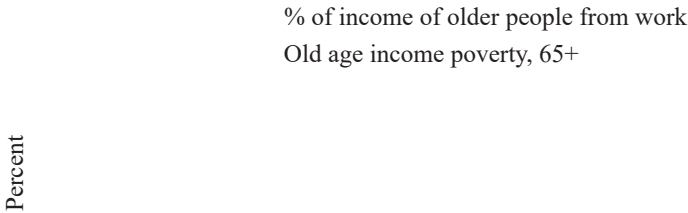
As many nations in the OECD shrink their social insurance programs, more elders will obtain their retirement income from individually saved or invested assets. The shift away from PAYGo (“pay as you go”) financing (which is a direct transfer from current workers to pensioners) toward prefunded pensions that provide for future income is occurring in some OECD countries, but the financialization of pensions has taken place at different rates, intensities, and pacing.

Retirement time will be reduced across income classes, but in particular for those who are unlucky in their finances, have high fees on their financial transactions, and suffer life shocks that prevented sufficient accumulation of assets.

Higher-income workers are most likely to have economic lives that are compatible with a financialized retirement system. The highest earners have better and more stable jobs, have larger and more sophisticated employers, pay lower account fees, have more access to financial information networks, and benefit disproportionately from tax deductions for retirement fund earnings and contributions.

Many nations in the OECD have adopted some aspects of the U.S. retirement system so that more elders will obtain their retirement income from individually saved or invested assets. The privatization

Figure 2.1 Relationship between Working More at Older Ages and Poverty Rates at Older Ages, Various European Countries and Mexico ($r = 0.38$)



SOURCE: OECD (2011, 2015a,b).

of risk—and the provision against risk—has been the most dramatic change in the form of pension provision in the OECD countries.

In sum, there are two potential consequences of pension financialization. First, raising the age of eligibility for full social security benefits may increase elders' labor force participation without making their retirement times shorter. Second, uncertain incomes and the non-redistributive characteristic of financial assets could leave low-income and less-educated people more at risk of poverty rates in old age. In other words, retirement time may stay the same, but poverty will likely increase.

Bottom line: The shift from social insurance to the relative insecurity of financial-based retirement accounts will likely have the intended effect of increasing elderly labor force participation rates and the *unintended* effects of shrinking retirement time or not improving retirement time and increasing old-age poverty in the time of life when time is more precious.

Notes

1. Employers can sponsor defined benefit (DB) or 401(k) or other DC retirement plans. DB entitlements are computed using a formula that considers salary and length of employment. In contrast, DC plans pay a lump sum equal to employee and employer contributions plus net return on investments. DB plans are associated with greater retirement security than 401(k) or other DC plans, because DB plans pay a lifetime annuity, do not allow people to withdraw money before retirement, earn higher returns, have lower fees, and do not allow nonparticipation by eligible employees. DB plan participants retire about two years earlier than otherwise similar workers covered by DC plans or uncovered workers, reflecting wealth accrual patterns that incent early retirement.
2. Thus, DB plans, which used to pay a stream of income for the rest of a person's life (an annuity), were switched to policies encouraging payments from an individually owned retirement account.
3. The Pearson correlation is a measure of the linear correlation between two variables. I have no good reason to imagine that the relationship between GDP growth and elderly labor force participation is not linear, though further thought and research should consider other specifications. The measure takes on values between +1 and -1, where 1 is total positive linear correlation, 0 is no linear correlation, and -1 is total negative linear correlation. The size of the correlation indicates the intensity of the relationship.
4. Retirement time has increased, but the rate of increase has slowed. On average, we found that the estimated average retirement time for people in the 30 OECD nations since 1958 (some countries had data only from 1971 on) had increased by more than 20 percent between 1958 and 1992, with a 29 percent improvement for women and a 23 percent improvement for men. However, the rate of improvements slowed to 8 percent improvement for women and 13 percent for men in the second period, from 1993 to 2010.
5. As nations get richer, more resources are devoted to increasing longevity through public health campaigns, clean water, antismoking campaigns, clean air and water regulations, access to health care, and technologies for the treatment of heart disease, cancer, and other diseases. Simple two-way correlations between the GDP growth rate in each OECD nation and the growth of life expectancy for people over age 65 is 50 percent for men and women together and 64 percent for women (Ghilarducci and Novello 2017).
6. Because employer health-care costs increase with the age of the employer's labor force, the relationship of pay to productivity is distorted: older workers' total compensation increases as their productivity falls. Though older people are healthier than older people were in the past, there is evidence that the speed of technology has made for quicker rates of skill obsolescence, so productivity declines after age 60. The argument that eroding pension security leads to declines in productivity is important to note because it feeds into one of the perennial policy concerns about the total productivity of a labor force and its relationship to overall economic

growth. We are not commenting on the strength of this argument, since other factors have important impacts on productivity, including, in particular, capital investment.

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3

The Economics and Politics of the Fall and Rise of Income Inequality in the United States

Charles L. Ballard
Michigan State University

Income inequality in the United States has increased dramatically since the 1970s. However, the U.S. economy also experienced an equally dramatic *equalization* in the 1930s and 1940s. Consequently, if we are to develop a complete understanding of the evolution of the U.S. income distribution, we must analyze the earlier “Great Compression” or “Great Convergence,” as well as the more recent “Great Divergence.”

I begin with a review of the facts of the changes in income inequality over the past century in the United States. I will then discuss and evaluate the economic explanations for those trends. However, the *economic* trends cannot be understood fully without reference to *political* factors. I argue that both the Great Compression and the Great Divergence are primarily the result of deliberate political choices. Furthermore, I argue that race is the most important of the many factors leading to the political shifts that have, in turn, contributed to the Great Divergence of the past 40 years: Many whites, especially in the South, reacted to the Civil Rights movement by switching their allegiance to the Republican Party, and this has contributed substantially to the adoption of more antiegalitarian economic policies.

TRENDS IN INCOME INEQUALITY IN THE UNITED STATES

The best starting point for a discussion of long-term trends in U.S. income inequality is the paper by Piketty and Saez (2003). Their origi-

nal paper contains data through 1998, but they have updated the data annually, so that we now have a complete series covering a full century, from 1913 to 2017.¹ Piketty and Saez use tax-return data, which allow them to produce extremely detailed estimates for the income shares of the very top income strata.

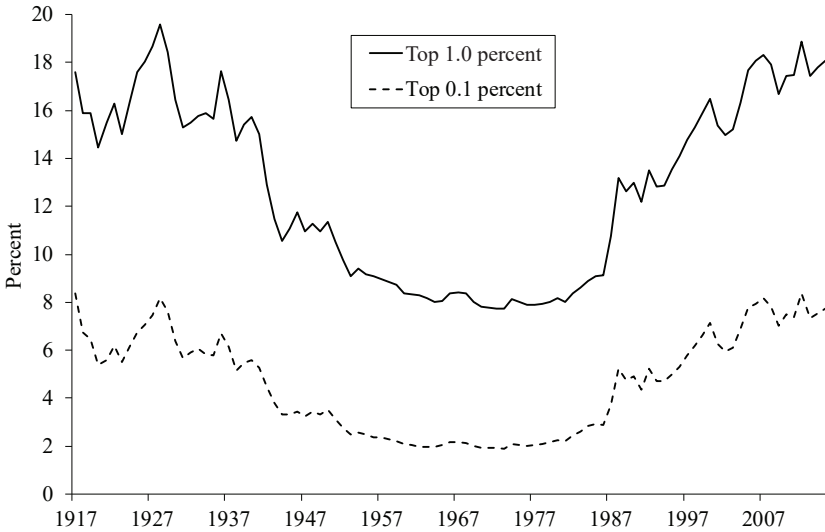
Some of the trends in income shares derived by Piketty and Saez are shown in Figure 3.1.

The data depicted in Figure 3.1 reveal that the shares of the top groups fell from the late 1920s to the early 1970s, and especially sharply in the early 1940s. The share of the top 1 percent plummeted from 15.7 percent of total income in 1940 to 10.5 percent in 1944. Top income shares surged upward in the 1980s, almost as dramatically as they had fallen in the early 1940s. In the most recent 10 years, the share of the top 1 percent has been around 18 percent of total income, which is higher than the average in the first 15 years, as shown in Figure 3.1. Thus, by some measures, the income distribution in the United States today is more unequal than it was a century ago.

The disequalization since the 1970s has been extremely top-heavy. A majority of the gains in share for the top 5 percent went to the top 1 percent, a majority of the gains in share for the top 1 percent accrued to the top one-tenth of 1 percent, and about half of the gains in share for the top one-tenth of 1 percent accrued to the top one-hundredth of 1 percent.

Piketty and Saez (2003) focus exclusively on the top 10 percent, but there have also been changes in the income distribution below the top 10 percent. Census data from Semega, Fontenot, and Kollar (2017) show that, since the 1970s, the income of the typical household at the 90th percentile rose by substantially more than the income of the household at the 80th percentile, which rose faster than the income of the household at the 60th percentile, which rose faster than the income of the median household. However, the incomes of the households at the 40th and 20th percentiles grew only slightly more slowly than the income of the median household. Thus, during the Great Divergence, those at the very, very top of the income distribution pulled away from those merely at the very top, those at the very top pulled away from those at the top, and those at the top pulled away from those in the middle. On the other hand, those in the middle of the income distribution have gained only slightly when compared with those at the bottom.

Figure 3.1 Percentage of Income in the United States Received by the Highest-Income Households, 1917–2015



SOURCE: Piketty and Saez (2003), with data updated to 2017 from <http://eml.berkeley.edu/~saez/>.

ECONOMIC EXPLANATIONS FOR THE GREAT CONVERGENCE OF THE EARLY AND MIDDLE TWENTIETH CENTURY

Each explanation described here is a phenomenon that could *potentially* push the overall degree of income inequality in a particular direction, but each could possibly be offset by any of several other factors. The story told here is definitely *not* one of historical determinism or inevitability.

Increased educational attainment. An increase in education will increase the supply of more highly skilled workers. All else being equal, this will tend to reduce wage differentials.

Educational attainment in the United States increased with stunning speed for the first three-quarters of the twentieth century, and the

evidence suggests that this contributed substantially to the Great Compression. The high school graduation rate increased from about 9 percent in 1910 to about 70 percent in 1960. The rapid rise in attainment of a high school diploma was the result of a nationwide movement at the grassroots level. Compulsory attendance laws helped, but Goldin (1999) argues that an even more important source of change was the adoption of “free tuition laws,” under which school districts were compelled to provide funds for secondary schools. As a result, by the 1930s and 1940s, the number of Americans who had acquired enough skills to compete for jobs above the rank of laborer had skyrocketed. The GI Bill of 1944 then provided the impetus for a surge in the college-educated population.

Wage-setting institutions. The National Labor Relations Act of 1935 made it much easier for labor unions to organize successfully. In 1935, about 13 percent of U.S. workers were members of a labor union. By 1945, the rate of union membership had risen to about 35 percent. The rapid rise in union membership contributed to the Great Compression, as labor unions helped boost the incomes of Americans in the lower and middle strata of the income distribution. The Fair Labor Standards Act of 1938 established, among other things, a federal minimum wage of 25 cents per hour. The minimum wage also contributed somewhat to the Great Compression.

Goldin and Margo (1992) document the crucial role played by the National War Labor Board during the Second World War. As part of the effort to control the inflationary pressures stemming from the war, the Board was given the power to approve or deny requests for wage increases. The Board was much more likely to approve wage increases for low-wage workers, and this contributed substantially to the Great Compression.

Social norms. Even after the wartime wage controls were dismantled, the income distribution remained much more equal than it had been a decade before. This was partly due to the continuing trends of rising educational attainment, stronger unions, and substantial increases in the minimum wage, as well as to other factors that we will discuss below. But it was probably also due, at least in part, to a change in social norms. It appears that the reduced wage differentials came to be

widely accepted as fair, and that they remained widely accepted for a generation.

Regulation of financial services. The first century and a half of U.S. history is littered with financial crises. The largest financial crisis of all contributed to the Great Depression in the 1930s, and this led the 73rd Congress to establish a strong regulatory regime for the financial services sector. These regulations led to the only time in history that the United States went for a half-century without a financial crisis, and the regulations also reduced the incomes of financiers. Since those who work at Wall Street firms and big banks are very prominent in the extreme top of the income distribution, the reduction in their incomes was an important force for equalization.

Progressive taxation. Until the twentieth century, the revenue system of the United States relied primarily on customs duties and excise taxes, which tend to be regressive. However, during the Progressive Era, concern about the unequal distribution of income and wealth led to political pressure for enactment of more progressive revenue sources. In 1913, with the Sixteenth Amendment to the Constitution, the United States established a progressive income tax. The marginal tax rate faced by the highest-income Americans was increased dramatically during the Democratic administration of Franklin Roosevelt, reaching 94 percent in 1944, and it stayed at 91 percent throughout the Republican administration of Dwight Eisenhower.

Corporate-source income is disproportionately received by those with high incomes. Thus, the corporation income tax, established in 1909, also increased the progressivity of the tax system. During the Second World War, the top marginal rate in the corporation tax reached 53 percent, and the top rate stayed above 50 percent for two decades after the war. The third key element of the trend toward more progressive taxation was the estate tax—levied, as the name implies, on the estates of wealthy decedents, and established in 1916. The top marginal rate in the estate tax reached 77 percent in 1941, and it stayed there until 1976.

Restricted immigration. From 1890 to 1910, the rates of immigration into the United States reached all-time highs. The flood of

immigrants in the early twentieth century put downward pressure on the wages of low-skilled native-born workers in the United States. In reaction against this, Congress passed laws in the 1920s that severely restricted immigration.

The reduced supply of immigrants led to an increase in wage rates for low-skilled workers through the ordinary interaction of supply and demand. Equally important, many of the immigrants who arrived in the late nineteenth and early twentieth centuries eventually became citizens and were able to vote. This, combined with the decrease in the number of new arrivals, greatly reduced the size of the low-wage population that had no political voice.

ECONOMIC EXPLANATIONS OF THE GREAT DIVERGENCE

I will consider the various explanations for the Great Divergence in what I consider to be their order of importance. However, I readily acknowledge that any judgment about the relative importance of these factors must necessarily be somewhat subjective.

Changes in technology. If technological changes increase the demand for highly skilled workers and decrease the demand for less-skilled workers, the technological changes will tend to increase wage differentials.

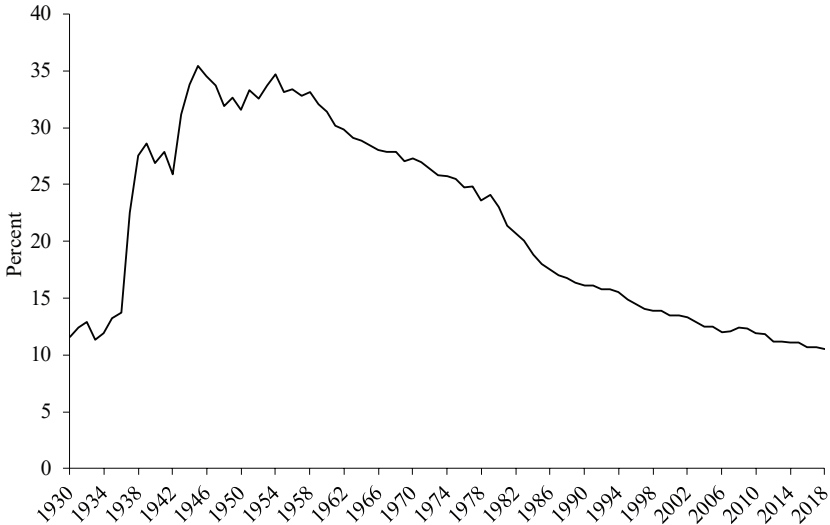
In the final third of the twentieth century, the growth rate of highly skilled labor slowed as the high school graduation rate leveled off and the rate of increase of college completion slowed. At the same time, it appears that the demand for highly skilled workers rose rapidly. Many jobs that involved simple, repetitive tasks were replaced by automated processes.

Predictably, this led to a widening earnings gap between college graduates and those with only a high school diploma. Not only that, but, as documented by Lemieux (2006), the earnings gap between those with education beyond a bachelor's degree and those with only a bachelor's degree has also widened.

Unions lose strength. As mentioned earlier, union membership soared in the decade following enactment of the National Labor Relations Act in 1935. Figure 3.2 shows that increase, as well as the subsequent erosion of the relative strength of unions, which has now continued fairly steadily for 60 years. As unions weakened, they lost some of their ability to secure more favorable wages and benefits. Blackburn, Bloom, and Freeman (1990) estimate that deunionization can explain 20 percent of the increase in wage inequality for U.S. men. Also, unions have long been a bastion of support for the Democratic Party, which has been more egalitarian (or at least less antiegalitarian) than the Republican Party during the period studied here.

Deregulation of financial services. We have seen that regulation of the financial-services sector was greatly strengthened in the 1930s. Not surprisingly, however, Wall Street fought back. Beginning in the 1970s, the financial regulations were slowly but steadily stripped away. As a

Figure 3.2 Union Members as Percentage of U.S. Workers, 1930–2018



SOURCE: For years 1930–1978: BLS (1980). For years 1979–2018: Unionstats.com, a union membership and coverage database from the Current Population Survey, constructed by Barry Hirsch and David Macpherson.

result, the incomes of financiers skyrocketed, and in the late 2000s, the financial system experienced its worst crisis since 1933.

Philippon and Reshef (2012) show that the increased regulation of the 1930s led to a society in which the earnings of financial workers were only slightly higher than the earnings of comparably skilled workers in other sectors. When the regulations were removed, it once again became possible for financial-service workers to earn a very substantial premium over comparable workers in the rest of the economy. Philippon and Reshef estimate that finance accounts for 15–25 percent of the overall increase in income inequality since 1980.

Changes in family structure. Increases in the prevalence of single-parent families are likely to exacerbate inequality. In 1950, 7.4 percent of families with children were headed by a single parent. By 2016, that fraction had grown to 31.6 percent. Haskins and Sawhill (2016) estimate that these changes in family structure are responsible for at least 15 percent of the increase in inequality, and possibly much more.

A substantial part of the change in family structure is probably due to changing attitudes toward marriage and divorce. However, mass incarceration has undoubtedly had an effect on family structure as well. The rate of incarceration in state and federal prisons was more than *five times* as high in the mid-2000s as it had been in 1972. Mass incarceration surely contributed to the breakdown of families, which, as we have seen, was a major force contributing to the Great Divergence. In addition to this indirect effect, mass incarceration has probably also played a direct role in the Great Divergence, since convicts often suffer permanent damage to their earnings prospects, even after they are released from prison. Finally, mass incarceration disenfranchises a part of the population that is disproportionately poor.

At the same time that the breakdown of the family was increasing income inequality by increasing the number of single-parent families, another change in family structure was increasing income inequality by increasing the incomes of many relatively more affluent families. Assortative mating is the practice whereby men and women with similar levels of education are more likely to form families than are men and women with different levels of education. The evidence suggests that assortative mating has increased in the past few decades. When we combine increased assortative mating with increased female labor-

force participation, we have yet another factor that contributes to the Great Divergence. Greenwood et al. (2014) find that assortative mating made essentially no difference in 1960, but that it contributed very substantially to inequality in 2005.

Less progressive taxation. We have seen that U.S. tax rates on those with high incomes and large amounts of wealth were quite high in the middle of the twentieth century. However, the top marginal tax rate in the federal individual income tax was reduced to 70 percent in 1964 and to 50 percent in 1981. In 2017, President Donald Trump signed a reduction in the top rate to 37 percent, once again providing large benefits to the most affluent households.

The time pattern of top marginal tax rates in the federal individual income tax, shown in Figure 3.3, is roughly inverse-U-shaped. The pattern of top marginal tax rates is somewhat similar to the pattern of unionization, shown in Figure 3.2. The pattern for each of these is roughly the reverse of the U-shaped pattern for top income shares, shown in Figure

Figure 3.3 Highest Marginal Tax Rate in the U.S. Federal Individual Income Tax, 1913–2019



SOURCE: Tax Policy Center.

3.1. These data suggest that a wide variety of political and economic phenomena went in one direction in the early and middle decades of the twentieth century and then reversed course in the 1970s and 1980s.

The corporate tax rate stayed at 52 percent from 1952 to 1963. In 2017, it was reduced to 21 percent for domestic-source corporate income, and to zero for foreign-source corporate income. In 1945, the corporate tax raised 35 percent of the total revenues of the federal government. This proportion shrank to 22 percent in 1965 and to 10.6 percent in 2015.

The estate tax is a relatively small part of the revenue system, but it is strongly progressive, since it applies only to *very* wealthy decedents. The top rate in the federal estate tax was decreased to 70 percent in 1977 and to 50 percent in 1982. The top rate in the estate tax is now 40 percent, and the fraction of estates that is subject to tax has been reduced dramatically.

Finally, in addition to cutting the top marginal tax rate generally, the tax cuts signed into law by George W. Bush in 2001 and 2003 reduced the tax rates on dividends and capital gains. Each of these types of income is disproportionately received by high-income households.

International trade. Until the 1970s, international trade played a fairly small role in the U.S. economy. Thus, it does not appear that international trade had any substantial role in the Great Compression. However, the catastrophic effects of the Great Depression and the Second World War led the United States to take the lead in building a more integrated global economy in the postwar period. The relative importance of international trade increased significantly in the 1970s, and it has continued to increase since then.

Burtless (1995) suggests that import competition contributed to rising income inequality, and he was writing at a time when imports from China were relatively small. After China joined the World Trade Organization in 2001, the pressure on American manufacturing from Chinese imports intensified. Acemoglu et al. (2016) calculate that the increase in imports from China may have been responsible for the direct loss of more than 800,000 American manufacturing jobs between 1991 and 2011.

If we desire to slow down or reverse the increase of income inequality, many policies are available. For example, since the slowdown in educational attainment has contributed to the Great Divergence, the

obvious policy prescription is to increase investments in education. Since deregulation of the financial-services sector has contributed to the Great Divergence, the obvious policy prescription is to strengthen the regulation of financial firms. And since the decrease in the progressivity of the tax system has also contributed to the Great Divergence, the obvious policy prescription would be to reverse the trend by making the tax system more progressive. Based on my values, which include a desire for a less unequal distribution of income, all three of the prescriptions described in this paragraph would be sound policies. However, when we consider the fact that import competition has contributed to the Great Divergence, the obvious policy prescriptions of tariffs and import quotas are associated with great risks. A cycle of retaliatory tariffs (such as that which followed the imposition of the Smoot-Hawley tariffs in 1930) could do profound damage to the export sector. Also, although tariffs can help domestic *producers*, they are unquestionably harmful for domestic *consumers*, since they bring fewer choices and higher prices. Although some may contend that tariffs and quotas are a “cure” for the “disease” of import competition, I believe that the cure could be much worse than the disease.

Immigration. After immigration restrictions were relaxed in 1965, the rate of immigration rose substantially. It appears that this increase in immigration has contributed to the Great Divergence, just as the earlier decrease in immigration contributed to the Great Compression. As before, the immigration increases of recent years have had both political and economic effects.

The size of the economic effect is a subject of controversy. Blau and Mackie (2017) have performed an extraordinarily comprehensive review of the literature. They find that “when measured over a period of 10 years or more, the impact of immigration on the wages of natives overall is very small. However, estimates for subgroups span a comparatively wider range” (p. 204). McCarty, Poole, and Rosenthal (2016) emphasize the political effect: there has been a large increase in the number of low-income Americans who are not eligible to vote.

The political economy of immigration stands in contrast to the political economy of the other issues discussed here. The antiegalitarian policy reversals in the 1970s and 1980s were pushed by conservative, antiegalitarian forces. However, the relaxation of immigration

laws in 1965 was supported by those who were otherwise egalitarian. Ironically, a clampdown on immigration could have mild *equalizing* effects, despite the fact that today's most ardent advocates of reduced immigration are those who advocate *antiegaltarian* policies in other policy areas.

The minimum wage. The inflation-adjusted federal minimum wage rose substantially in the 1950s and 1960s and reached its peak in 1968. Since then, however, the minimum wage has failed to keep up with inflation. Autor, Manning, and Smith (2016) find that the reduction in the real value of the minimum wage increased inequality in the 1980s, especially for women. I conclude that minimum wage laws contributed somewhat to the equalization of the 1940s, 1950s, and 1960s, and that the falling real value of the minimum wage also contributed somewhat to the widening income gap of the 1980s.

Executive compensation. Davis and Mishel (2014) calculate the average ratio of compensation of chief executive officers (CEOs) to the compensation of the average worker in their firms, for a sample of 350 large U.S. companies. In the 1960s and early 1970s, this ratio was in the low 20s. The ratio then began to rise rapidly, reaching 383 in 2000, before falling back to “only” 296 in 2013. Bebchuk and Fried (2004) discuss the explosion of executive compensation in detail. It is possible that some of the rise in CEO compensation may be a response to improved productivity on the part of executives. However, it is difficult to escape the conclusion that the phenomenal increases in executive compensation are largely due to a change in social norms. Skyrocketing CEO compensation since the 1970s is consistent with a change in social norms, under which executives and their boards of directors lost the “outrage constraint” that might previously have prevented them from pushing CEO compensation to stratospheric heights.

POLITICAL EXPLANATIONS

How could the Great Divergence take place in a country like the United States, in which many important policy decisions are made by

elected leaders? The policies of the last 40 years have been extraordinarily beneficial for a relatively small number of affluent Americans, but these beneficiaries are greatly outnumbered by those whose economic interests have been harmed by the changes. Thus, the question is why so many congressional and presidential elections have been won by those who espouse and carry out antiegalitarian economic policies.

Social issues. Very often, candidates for public office who espouse conservative, antiegalitarian views on economic issues also have conservative views on social issues, such as abortion and gay rights. Thus, when a voter casts her vote primarily on the basis of opposition to abortion or gay rights, she will usually be voting for a candidate who also has antiegalitarian views on economic issues. Unless this voter is fairly affluent, she will thereby be voting against her economic interests.

Frank (2004) argues that conservatives have skillfully used social issues to drive a wedge between many voters and their economic interests. My view is that, although social issues are only a part of the picture, they cannot be dismissed. Elections are often won by small margins. If even a relatively small number of voters are persuaded to vote against their economic interests by social and cultural appeals, the effects on policy can be large.

Political organization and voter turnout. Edsall (1984) describes a business community that developed a sense of class consciousness and class solidarity. Along with increasingly energetic conservative ideologues, the business community provided increasingly unified support, and plenty of money, to conservative, antiegalitarian candidates for public office.

Edsall also identifies a series of changes that unmoored the Democratic Party from its long tradition of strong connections with working-class voters. In the 1960s and 1970s, antiwar activists, environmentalists, and women's-rights advocates joined the Democratic Party in increasing numbers. These groups were not necessarily hostile to organized labor and working-class Democrats, but workers' issues and income inequality were not at the top of their agendas. Thus, the Democratic Party has been less effective than it might otherwise have been at resisting the antiegalitarian trend. The Reagan tax cuts of 1981 were passed by a Congress with a Democratic majority in the House of Rep-

representatives. Also, much of the deregulation of the financial services sector took place during the Democratic administration of Bill Clinton.

Edsall also emphasizes that lower-income voters tend to have lower rates of turnout than those with higher incomes. If turnout in American elections were anywhere near 100 percent, the Great Divergence might have been much smaller than it has been.

Electoral institutions. Proportional voting schemes are used in parliamentary elections in many European countries. These electoral systems stand in contrast to the “first-past-the-post” system used in elections for the U.S. Congress. Alesina and Glaeser (2004) argue that proportional voting schemes contribute to the adoption of egalitarian policies. The first-past-the-post system rewards political parties whose supporters are not geographically concentrated, such as the Republican Party in the United States today.

The first-past-the-post system is also subject to gerrymandering. Although gerrymandering has benefited Democratic candidates on some occasions in the past, it tends to benefit Republican candidates today, since so many state legislatures are controlled by Republicans. To the extent that the first-past-the-post system has come to favor Republicans, it has contributed to the Great Divergence. I believe that this is a relatively important effect.

In the United States, presidents are chosen according to the Electoral College, an eighteenth-century institution that was deliberately designed to reduce the influence of the broad public. In 2000, the Republican George W. Bush was elected, despite losing the popular vote to the Democrat Al Gore by more than 500,000 votes. The Republican Donald Trump was elected in 2016, despite losing the popular vote to the Democrat Hillary Clinton by more than 2.8 million votes. Of course, there is no guarantee that the Electoral College will only go against the popular vote in a way that favors the antiegalitarian candidate. Nevertheless, in 2000 and 2016, what actually happened was that antiegalitarian Republicans won the Electoral College while losing the popular vote.

Small effects can accumulate and reinforce themselves over time. An important example of this is that Supreme Court justices in the United States are nominated by presidents who win the Electoral College, regardless of whether those presidents won the popular vote.

Thus, the second-place vote getter in the 2000 presidential election, George W. Bush, was able to nominate two conservative justices (John Roberts and Samuel Alito) to the Supreme Court. It is quite likely that Gore nominees would have voted differently from Roberts and Alito in two very important cases. The first of these is the 2010 decision in *Citizens United v. Federal Election Commission*, in which the conservative majority voted to reduce substantially the restrictions on political expenditures. The second is the 2013 decision in *Shelby County v. Holder*, in which the conservative majority voted to eviscerate key provisions of the Voting Rights Act of 1965. If presidential elections were always won by the top vote getter, it is likely that the decisions in *Citizens United* and *Shelby County* would have gone the other way.

Voter ignorance. Bartels (2005, 2008) emphasizes voter misunderstanding of a variety of policies. For example, although surveys indicate that a majority of Americans favor a progressive tax structure, many do not seem to have comprehended the highly regressive nature of the 2001 tax cuts. However, there is no evidence that voter ignorance is a new phenomenon. It strains credulity to think that voters were well informed until the 1970s and then suddenly became ignorant 40 years ago.

An even more telling piece of evidence against placing too much weight on the ignorance hypothesis is that the shift toward voting against one's economic interests was confined almost exclusively to white voters. African American voters, who are disproportionately represented on the lower rungs of the income scale, tended to vote for candidates espousing relatively egalitarian policies in the early and middle part of the twentieth century (when they *were* allowed to vote). Black voters have continued to vote in overwhelming majorities for the Democratic Party, which is clearly the more egalitarian (or at least the less antiegalitarian) of the two major parties. Thus, in order to place a lot of weight on the ignorance hypothesis, it is necessary for us to believe that nearly all black voters avoided ignorance throughout the period studied here and thus retained their ability to vote in accordance with their economic interests, while substantial numbers of white voters suddenly became more ignorant and thus lost the ability to vote their economic interests. A related possibility is that large numbers of white voters were susceptible to being misled by disinformation coming from certain parts of the

news media. This leads me to the conclusion that racial issues provide more fertile ground for understanding the Great Divergence.

Race. In my view, race explains more of the Great Divergence than any other single influence. This does *not* mean that I believe that the other explanations discussed above are invalid. In fact, I believe that all of them can explain some of what has happened. I cannot overemphasize the fact that many elections are won by margins of 52 percent to 48 percent, rather than, say, 93 percent to 7 percent. Thus, each of a number of factors can turn out to be critically important.

My emphasis on the importance of race also does *not* suggest that no real progress has been made on racial issues in the United States. African Americans have made very significant strides in education, earnings, and income. In addition, as a result of the dismantling of Jim Crow laws, most African Americans do not have to endure as many daily humiliations as they once were forced to endure. In 2008 and 2012, an African American, Barack Obama, won the presidential election (with victories both in the Electoral College and in the popular vote), which would have been unimaginable for almost all of American history.

My assertion about the importance of race also does *not* mean that the attitudes of a substantial portion of the white population have not changed for the better. Also, I am *not* saying that anyone whose policy preferences differ from mine is a racist. Nevertheless, I cannot avoid the conclusion that race has played a very important role in generating the Great Divergence, and that the role of race is more important than the roles of the other influences discussed above.

From 1900 to 1944, Democratic candidates for president averaged 68 percent of the popular vote in the 11 states of the former Confederacy. From 1948 to 2016, this average was 44 percent, a decrease of 24 percentage points.² Thus the South, and especially the Deep South, transformed in a generation from solidly supporting the relatively more egalitarian Democratic Party to instead supporting the relatively antiegalitarian Republican Party.

It is possible that the switch of political parties among white Southerners was due, at least in part, to something other than race. Perhaps white Southerners voted for Barry Goldwater in 1964 because of his lack of enthusiasm for Social Security, or his support for a strong mili-

tary. However, the racial history of the South leads me to believe that race was the dominant factor.

The white backlash against the Civil Rights movement has been stronger in the South than elsewhere. But this does not mean that racial issues are unimportant in the rest of the country. Race is clearly very important in Michigan, a state whose largest metropolitan area, Detroit and its suburbs, is more heavily segregated by race than any other area in the country.

The racial fears and hatreds of whites have also helped stimulate the antigovernment sentiments that have become widespread in recent decades. For most of American history, governments were openly and actively hostile to the interests of African Americans. Thus, the Civil Rights Act, and especially affirmative action programs, represented a dramatic reversal. This was enough to turn some whites against “government” generally. A watershed moment was the assertion in 1981 by Republican President Ronald Reagan, in his first inaugural address, that “government *is* the problem.” Of course, Reagan was really referring only to *some* governmental actions. In the same speech, he called for a more active policy to confront the Soviet Union. This policy was to be carried out by a large increase in spending by the Department of Defense, which is indeed a part of the federal government. Thus, anti-government rhetoric came to be used as code for opposition to some activities of government but not others. (Antigovernment rhetoric has been used most prominently by Republicans, but it has also been used by Democrats such as President Clinton, who famously said in 1996 that “the era of big government is over.”)

Egalitarian government policies were essential to the Great Compression. In my view, although the antigovernment rhetoric of the past 40 years has sometimes had a libertarian element, its main effects have been to promote antiegalitarian policies, which have contributed to the Great Divergence.³

If the assertions that I have made here are correct, they represent a remarkable irony. White voters of modest economic circumstances supported the egalitarian policies that led to the Great Compression, and this advanced their economic interests. Economic inequality was reduced dramatically, and the standard of living of low- and middle-income whites skyrocketed. However, when the federal government moved to reduce *racial* inequality, the support for political candidates

espousing egalitarian *economic* policies among low- and middle-income white voters fell dramatically. This reduction in support was enough to usher in the antiegalitarian tide of the past 40 years, to the detriment of many of those same white voters.

WHAT DOES THE FUTURE HOLD?

Acemoglu and Robinson (2012) describe “critical junctures”—moments in history that disturb the established system. They show that small differences in initial conditions can lead to large differences in the response to a critical juncture. Is the abrupt policy reversal of the 1970s and 1980s a critical juncture, and if so, where will it lead?

On the one hand, there is plenty of reason to believe that the Great Divergence will continue, and that income inequality in the United States will remain very high. Wall Street firms have fought strenuously to water down the implementation of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. The strength of labor unions continues to erode. In 2017, a Republican Congress and president passed a set of tax cuts that were very favorable to those with high incomes, especially those who owned large amounts of corporate stock. Wealthy antiegalitarians, such as Charles Koch and his brother, the late David Koch, continue to provide strong financial support for antiegalitarian causes and candidates. The flood of money into the political system was further encouraged by the Citizens United decision (*Citizens United v. Federal Election Commission*), and enforcement of the Voting Rights Act was weakened by the Shelby County decision (*Shelby County v. Holder*).

On the other hand, many of the egalitarian victories of American history are still intact. We still have universal elementary and secondary education. Despite huge reductions in public funding, we still have the strongest system of higher education in the world. No one is seriously suggesting that we should repeal the Thirteenth, Fifteenth, or Nineteenth Amendments to the U.S. Constitution. Despite the fact that it is not in long-run balance, the Social Security system continues to provide income support for tens of millions of elderly Americans. We still have an income tax. Moreover, income inequality is probably getting more

attention than ever before, and some candidates for public office are campaigning on egalitarian platforms.

Thus, I believe it is impossible to know for certain the future direction of income inequality in the United States. There is a growing clamor in the press and among Democratic challengers on the campaign trail, who contend that the majority of Americans would prefer to see a substantial reduction in inequality, and I believe that American democracy is still sufficiently vital that it is possible this will occur.

Notes

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1. The updated series can be found at <http://eml.berkeley.edu/~saez/>. Because of data limitations, some of the authors’ series begin in 1917.
2. Note that few blacks were able to vote in these Southern states in the first six decades of the twentieth century. Thus, the decrease in the overall fraction of the southern vote going to Democrats is an understatement of the extent to which white southerners switched parties.
3. The wave of antigovernment rhetoric has sometimes generated remarkable ironies and paradoxes, such as when a South Carolina woman in 2009 shouted to a member of Congress that he should “keep your government hands off my Medicare.” Appelbaum and Gebeloff (2012) report on the tendency for conservative critics of the social safety net to rely on the social safety net, apparently without noticing the irony.

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4

America's Unequal Playing Field

The Gaps between Poor and Rich Children's Resources

Mary E. Corcoran

National Bureau of Economic Research

Growing up wealthy in the United States confers advantages over growing up poor, and not just the extra discretionary money that rich parents have to spend on children. On average, children of the rich are more likely to avoid the disruption and trauma, both emotional and economic, from absent fathers due to out-of-wedlock births, divorce, and paternal incarceration. Their home environments are more likely to be educationally enriching. They are more likely to have parents who are college graduates and less likely to have parents who are high school dropouts. They are more likely to be raised in safe neighborhoods with good schools. Rich parents have more money, time, and social capital to invest in children. Given this, it is hardly surprising that rich children fare better economically as adults than do middle-income and low-income children.

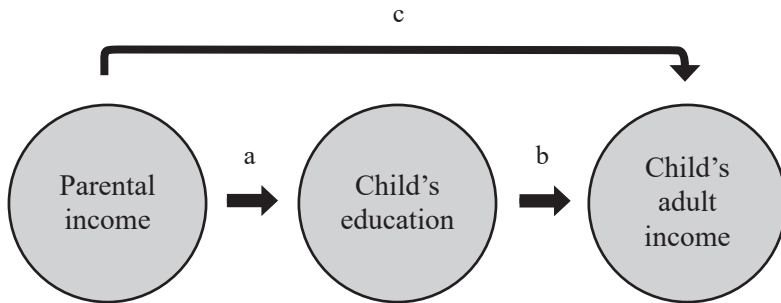
The authors of two recent books, *Whither Opportunity?* and *Dream Hoarders*, warn that the economic and noneconomic advantages of being raised by wealthy parents are increasingly bundled together and are growing rapidly in ways that could imperil the American ideal of fair opportunity (Duncan and Murnane 2011b; Reeves 2017). Since the 1980s, economic changes, demographic changes, and changes in the criminal justice system have widened the gaps between the economic resources and social capital of affluent parents and those of middle-income and low-income families. Over the same period, a college degree has become increasingly important to children's adult economic success. Investing in children's education has become more important for their economic mobility at the same time that gaps were widen-

ing between the resources of affluent parents and those of middle- and low-income parents. Duncan and Murnane (2011b) write that this leads to a very real worry: “Is the cherished U.S. norm of a level playing field—i.e., that a child’s economic origins do not determine his or her economic future—at risk?”

This chapter is organized as follows. I begin by presenting a stylized picture of the associations between family income and children’s adult incomes. This is followed by a comparison of the rates of intergenerational economic mobility in the United States to those in other Western industrialized countries. The United States comes off poorly in these comparisons. I then delineate how economic trends, demographic trends, and changes in the criminal justice system since the 1980s have altered the distribution of resources and social capital available to children in low-income, middle-income, and high-income families in the United States, and I document how returns to a college degree have increased since 1980 in the United States. I next review studies showing that parental income more strongly predicts students’ achievement test scores, college attendance, and college graduation today than it did in the past. I conclude by speculating on how the trends and evidence reviewed in this paper might affect equal opportunity in the United States. The background advantages of children from affluent families vis-à-vis the advantages of children from middle-income and low-income families have risen. College education affects a child’s adult economic attainments more strongly now than in the past; and a child’s chance of acquiring a college degree is more tied to parental income now than in the past. Does this inevitably mean that the United States will become more stratified by income? What policy strategies might weaken the link between parental income and children’s adult success?

Figure 4.1 presents a stylized picture of the relationships between family income during childhood, a child’s education, and a child’s adult income. Family income is depicted as influencing a child’s adult income through two distinct paths.

The first path is through education. Parental income is positively associated with children’s education. Higher education, in turn, leads to higher adult income. In Figure 4.1, “a” depicts the association of family income with child education and “b” depicts the association of child education with child adult income. Mechanisms by which high-income parents may improve children’s educational outcomes include buying

Figure 4.1 Intergenerational Income Equality

NOTE: The correlation between parents' income and children's incomes equals $ab + c$, where ab is the indirect effect of parental income on child income through child education and c is the effect of parental income on child income that is independent of child education.

homes in affluent communities with good schools, providing a stimulating environment, tutoring, SAT prep classes, hiring coaches to help students with the college admissions process, and legacy admissions. Parental income is also correlated with other family resources, such as parental education or growing up in a stable home, that are associated with children's educational attainment.

In the second path, family income can affect a child's adult income independently of education. Examples of influences include professional connections, social networks, and income transfers. In Figure 4.1, "c" indicates the association of family income with a child's adult income that is independent of the child's education.

IS THE UNITED STATES MORE ECONOMICALLY MOBILE THAN OTHER COUNTRIES?

Despite the popular notion that the United States is an open and mobile society, it is no more mobile—and, in most cases, is actually less mobile—than comparable Western nations. Jantii (2009) compiled estimates of father-son intergenerational income elasticities for 11 Western

industrialized nations. The sons in these studies were typically born in the 1960s, and their incomes were typically measured over several years between the ages of 30 and 40. So these elasticities provide estimates of intergenerational inequality for men born and raised prior to 1980. Jantii (2009, p. 190) describes intergenerational elasticity as “a measure of the number of percentage points by which a son’s income will increase if a father’s income increases by 1 percent.” The U.S. elasticity of 0.45 is the highest of the 11 countries and is much higher than the father-son elasticities in the Nordic countries, which range from 0.12 in Denmark to 0.28 in Finland.

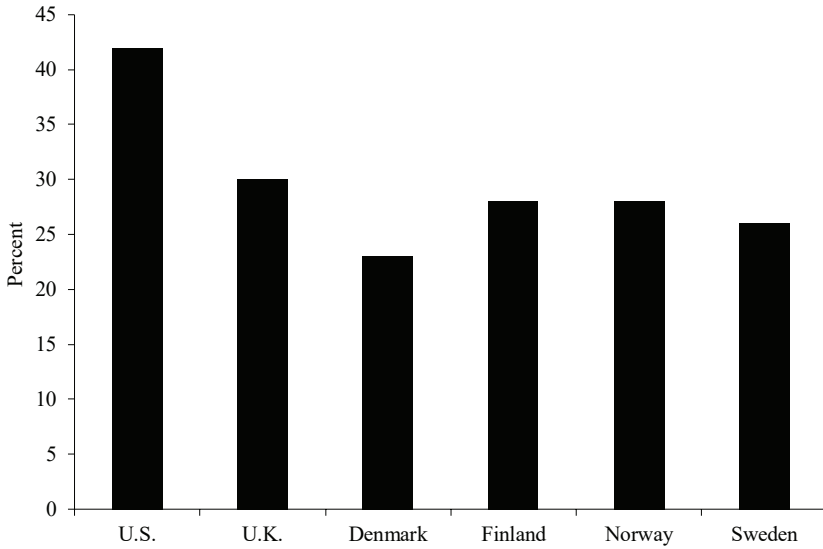
Elasticities tell us about overall rates of intergenerational mobility across countries but do not tell us the extent to which children who grow up in poor families remain poor as adults or the extent to which children who grow up in rich families remain rich as adults. Nor can elasticities tell how likely it is that a poor child grows up to be a rich adult—that is, that the child goes from “rags to riches.”

Jantii et al. (2006) address these questions by estimating mobility matrices for sons’ adult earnings quintiles by fathers’ earning quintiles for six countries. If a society were completely mobile, then a son’s earnings quintile as an adult should be unrelated to that of his father. In this discussion, low earners are men in the bottom earnings quintile, and high earners are men in the top income quintile. Thus, 20 percent of the sons of low earners should be low earners as adults; 20 percent should be high earners; and 60 percent should have earnings that fall in the middle three quintiles. The same should hold true for sons of high earners. In contrast, if a society were completely immobile, then a son should have a 100 percent chance of being in the same earnings quintile as his father.

The bar graph in Figure 4.2 depicts the chances of going from “rags to rags” in six countries—that is, the percentage of sons of low-earning fathers who themselves become low earners as adults. The bar graph in Figure 4.3 depicts the chances of going from “rags to riches”—the percentage of sons of low earners who grow up to be high-earning adults. Figure 4.4 depicts the chances of going from “riches to riches”—the percentage of sons of high-earning fathers who also have high earnings as adults.

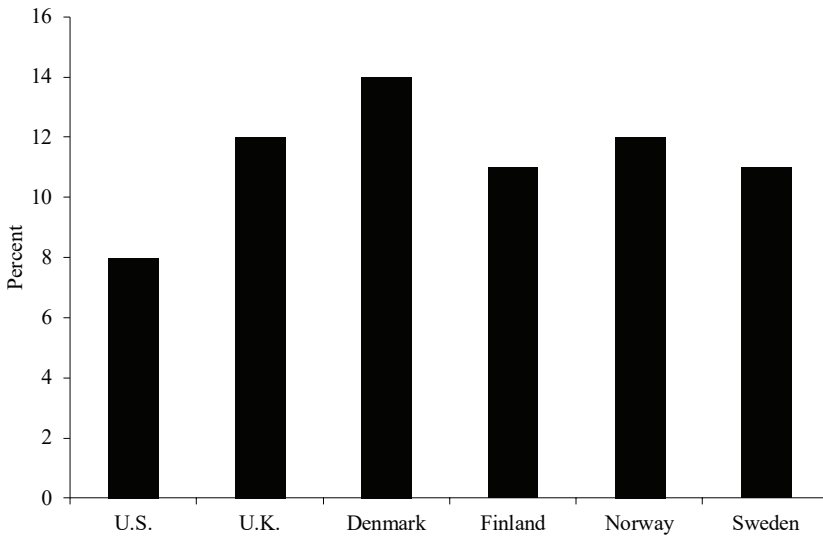
Of these three possibilities, the chances of going from “rags to rags” are highest in the United States, and the chances of going from “rags to

Figure 4.2 Rags to Rags: Percentage of Sons of Low-Earner Fathers Who Are Low Earners as Adults



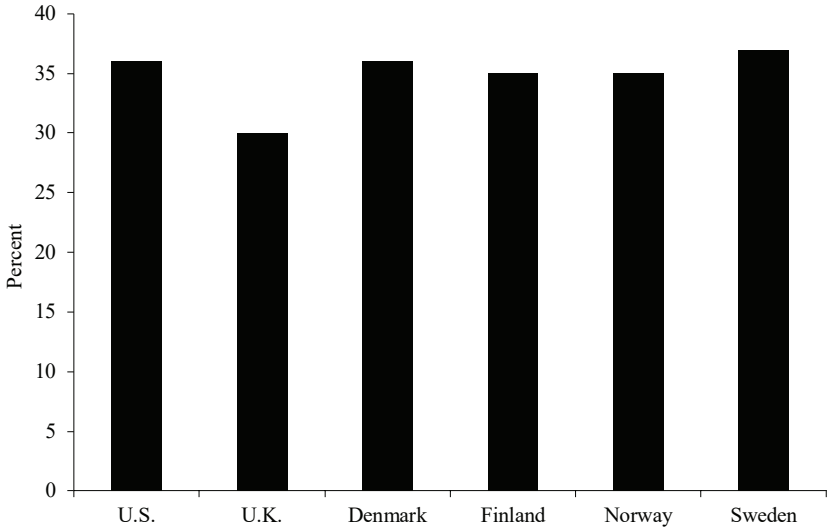
SOURCE: Jantii et al. (2006).

Figure 4.3 Rags to Riches: Percentage of Sons of Low-Earner Fathers Who Are High Earners as Adults



SOURCE: Jantii et al. (2006).

Figure 4.4 Riches to Riches: Percentage of Sons of High Earners Who Are High Earners as Adults



SOURCE: Jantii et al. (2006).

riches” are lowest. The probability that the son of a low-earning father grew up to also be a low earner was 42 percent in the United States, 30 percent in the United Kingdom, and about 25–28 percent in Denmark, Finland, Norway, and Sweden. The probability that the son of a low earner grew up to be a high earner was 8 percent in the United States, 14 percent in Denmark, and 11–12 percent in the other countries. Going from “riches to riches,” on the other hand, was similar across all of these countries: from 30 to 37 percent of sons of high earners grew up to also be high earners as adults.

The Increase in Top Income Shares

Since 1980, income in the United States has become concentrated among the richest households. In 1980, the richest 1 percent of households held 10 percent of all income, and the richest 10 percent of households held about 35 percent of all income (Saez 2016). By 2015, these income shares had increased to 20 percent for the richest 1 percent and

to almost 50 percent for the richest 10 percent of households (Saez 2016).

One result of this increased concentration is that the gaps between the incomes of high-income families and the incomes of low- and middle-income families similarly widened since 1980. Table 4.1 reports on mean income (in 2016 dollars) of families in the top, middle, and bottom income quintiles in 1980 and in 2016. (Families are defined as households that include two or more related individuals.) The mean income of families in the bottom quintile increased by a mere \$300 (1.6 percent) between 1980 and 2016, from \$17,900 in 1980 to \$18,200 in 2016. The mean income of families in the middle income quintile rose by \$11,600 (12 percent), from \$61,400 in 1980 to \$73,000 in 2016. In contrast, the mean income of families in the top quintile rose by \$101,700 (73 percent) over the same period, from \$137,800 in 1980 to \$239,500 in 2016. As a consequence, the dollar gap between the mean incomes of high-income (top quintile) and low-income (bottom quintile) families almost doubled, from about \$120,000 in 1980 to about \$221,000 by 2016. The dollar gap in the mean incomes of middle-income families and high-income families also almost doubled, rising from about \$76,000 in 1980 to about \$147,000 by 2016.

Wealth Inequality

Wealth inequality is far greater than income inequality. In 2013, the households in the top wealth quintile controlled 89 percent of all wealth, and households in the top income quintile controlled 67 percent of all income (Wolff 2014). In a review of recent research on wealth inequality in the United States, Pfeffer and Schoeni (2016) identify

Table 4.1 Mean Family Income (2016 dollars) by Quintile, 2016 and 1980

	Bottom income quintile	Middle income quintile	Top income quintile
2016 (\$)	18,200	73,000	239,500
1980 (\$)	17,900	61,400	137,800
Change (\$)	300	11,600	101,700
Change (%)	< 2	12	73

NOTE: "Family" is defined as a household with two or more related individuals.

SOURCE: Table was computed by author from Census Bureau Table F-3, "Mean Income Received by Each Fifth and Top 5 Percent of Families."

two avenues by which parental wealth improves children’s economic futures: 1) by increasing chances of college graduation and 2) through direct cash or in-kind transfers.

Wealth inequality, like income inequality, has risen over time (Pfeffer and Schoeni 2016; Wolff 2014). Pfeffer and Gross (2018) examine the distribution of wealth among households with children under the age of 18 between 1989 and 2013. Over those 25 years, the percentage of all wealth held by the wealthiest quintile of such households rose from 80.2 percent in 1989 to 90.3 percent in 2013, while the wealth share of the bottom 50 percent dropped from 2.3 percent to 0.2 percent.

Table 4.2 reports dollar changes (in 2013 dollars) in net worth between 1989 and 2013 for households with children at the 90th, 50th, and 10th percentiles. The net worth of families at the 90th percentile rose by \$295,000 (from \$529,600 to \$824,600) over those 25 years. In contrast, the net worth of the median family dropped by \$24,700, from \$67,700 to \$43,000, and the net worth of families at the 10th percentile dropped from zero to a negative \$6,300, meaning they went into debt.

Trends in Income-Based Residential Segregation

One way in which high-income, wealthy parents can promote children’s economic futures is by buying homes in high-income, safe communities with good schools and good public services. At the same time that gaps in families’ incomes and wealth were getting bigger, neighborhoods were becoming more segregated by family income. Fry and Taylor (2012) computed the proportion of census tracts that were majority low income and majority high income.¹ The percentage of high-income households who “lived mainly among themselves” (p. 1) doubled from 9 percent in 1980 to 18 percent in 2010. The percentage

Table 4.2 Net Worth (in 2013 dollars) of Families with Children at the 10th, 50th, and 90th Wealth Percentiles in 1989 and 2013

	10th	50th	90th
2013	-6,300	43,000	824,600
1989	0	67,700	529,600
Change (\$)	-6,300	-24,700	295,000

SOURCE: Pfeffer and Gross (2018).

of low-income households who lived mainly with other low-income households rose from 23 percent in 1980 to 28 percent in 2010.

Richard Reeves (2017) points out that income-based residential segregation can inhibit intergenerational mobility in two ways. First, richer communities have bigger tax bases and can allocate more money to public schools. Second, “economic sorting at the neighborhood level leads to social activity in terms of schools, churches, and community groups. This means fewer interactions and social ties across social classes” (Reeves 2017, p. 106). That is, children who reside in predominantly low- and moderate-income neighborhoods will have less access to mobility-enhancing social and job networks.

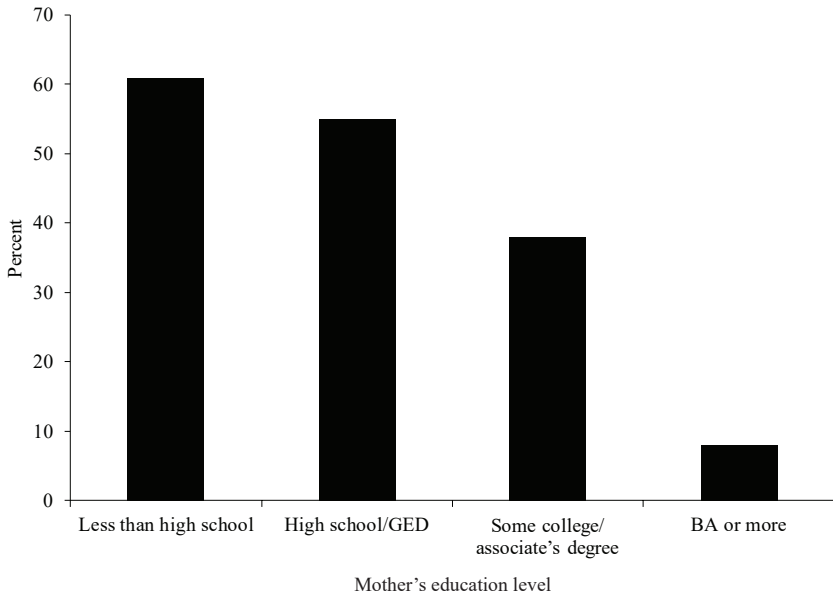
The College Wage Premium

The college wage premium (the ratio of median earnings of a college graduate to the median earnings of those with only a high school diploma or GED) rose steadily from 1.4 in 1980 to 1.84 in 2011 (James 2012). As a result, two parental advantages, 1) parental income and 2) parental education, have become more correlated over time. The correlation between parental income and parental education rose from about 0.5 for parents whose children were born in 1960 to almost 0.8 for parents whose children were born in 2001 (Reardon 2011).

The Decoupling of Marriage and Fertility for Women without a College Degree

McLanahan (2004) claims that in the United States, economic trajectories have diverged for children whose mothers are college graduates versus children of women with less schooling, in large part because marriage and fertility have become increasingly decoupled for women without a college degree in recent decades (see also Edin and Kefalas [2005]). Out-of-wedlock births have risen sharply since the 1960s for women without a college degree. In 2009, more than half of all births to women with a high school diploma or less, and 38 percent of births to women with some college, occurred out of wedlock; in contrast, only 8 percent of births to women with a four-year college degree occurred outside of marriage (see Figure 4.5).

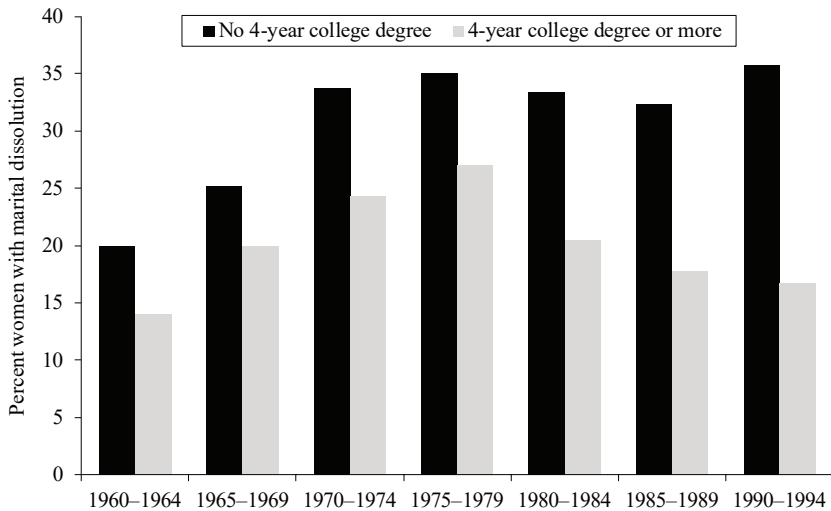
Figure 4.5 Percentage of Births Occurring outside of Marriage (to Women 18 and Older) by Women’s Education in 2009



SOURCE: Stanford Center on Poverty and Inequality, “Teaching Slides on Inequality,” from 2012.

Women college graduates also have more stable marriages than women with less schooling, and this advantage has widened in recent decades (McLanahan 2004). Figure 4.6 reports trends in divorce rates within the first 10 years of a first marriage, by year of marriage, for wives with and without four-year college degrees. For marriages contracted in the 1960s and 1970s, divorce rates grew both for wives with and without college degrees. Divorce rates then stabilized for wives without a bachelor of arts degree (BA) and dropped for wives with a bachelor of arts degree who married in the 1980s to mid-1990s (Martin 2006).

The decoupling of marriage and fertility among mothers without college degrees, and the increase in marital stability among wives with college degrees, means that children of college graduates are now much more likely to grow up in an intact home with both biological parents than are children of mothers with less schooling. This has implica-

Figure 4.6 Divorce and Educational Attainment

NOTE: Rates reflect marital dissolution within 10 years of a first marriage.

SOURCE: Martin (2006).

tions for the amount of time and money parents can devote to children. Because two-parent families have two potential earners, they typically have higher incomes than do single-parent families. Moreover, the income advantage of being raised in a two-parent household has grown since the 1980s. Increases in the labor-force participation of mothers with BAs and increases in assortative mating are two reasons for this growth.

Harsher Sentencing Policies

Analysts only recently began to analyze the impacts of parental incarceration on children's emotional, intellectual, and financial well-being, perhaps because parental incarceration was considered relatively unusual before the 1980s. This is no longer true. Sizable minorities of men with only a high school diploma and of male high school dropouts will spend some time in prison or jail between age 18 and their early thirties. Many of these young men are fathers at the time they

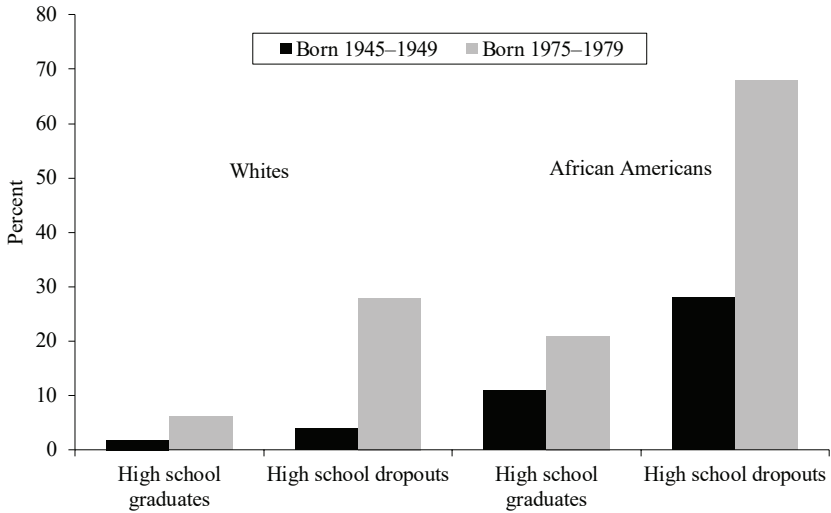
enter incarceration. Prison disrupts these young men's lives just at the point when they should be investing in education, gaining a foothold in the labor market, acquiring career-enhancing labor market experience, and taking on family obligations. It is well documented that incarceration has long-term negative repercussions for ex-prisoners' economic futures, making it hard for them to maintain steady employment, earn a living wage, and support a family (Western 2006).

Having a father go to jail or prison disrupts children's lives. One impact is financial: fathers cannot provide financial support while in prison, and imprisonment severely reduces fathers' earnings prospects after prison. Paternal incarceration disrupts children's lives in noneconomic ways as well. When a father is imprisoned, a child may suffer emotional trauma. Parental relationships are likely to be strained, and parental conflicts may cause children to lose contact with their fathers. Ex-prisoners may not be the best role models for family, work, and responsibility.

Incarceration rates of noncollege men have more than tripled in the United States since 1980. In 2008, 12 percent of young (20 to 34) white male high school dropouts and 37 percent of young African American male high school dropouts were in prison or jail (Western and Pettit 2010).

The above figures only give annual rates of incarceration. A man's chance of being incarcerated at some point between the ages of 18 and 30–34 is much higher. Figure 4.7 compares noncollege men's cumulative risks of imprisonment by ages 30–34 for two birth cohorts: 1945–1949 and 1975–1979. Men born between 1945 and 1949 grew up in the 1950s and 1960s, prior to the rise in incarceration, and turned 30 by 1980. White men in this birth cohort were unlikely to have been imprisoned by ages 30–34. The cumulative risks of imprisonment were higher for African American men born between 1945 and 1949: 11 percent of high school graduates and 28 percent of high school dropouts had been incarcerated by ages 30–34. The cumulative risks of imprisonment were strikingly higher for both white and African American men who were born 20 years later, between 1975 and 1979, and who grew up in the 1980s and 1990s, after the rise in incarceration rates. Among men born between 1975 and 1979, the cumulative risks of imprisonment by ages 30–34 were 6 percent for white high school graduates and 21 percent for African American high school graduates. Cumulative risks

Figure 4.7 Men's Cumulative Risk of Incarceration by Ages 30–34, by Birth Cohort



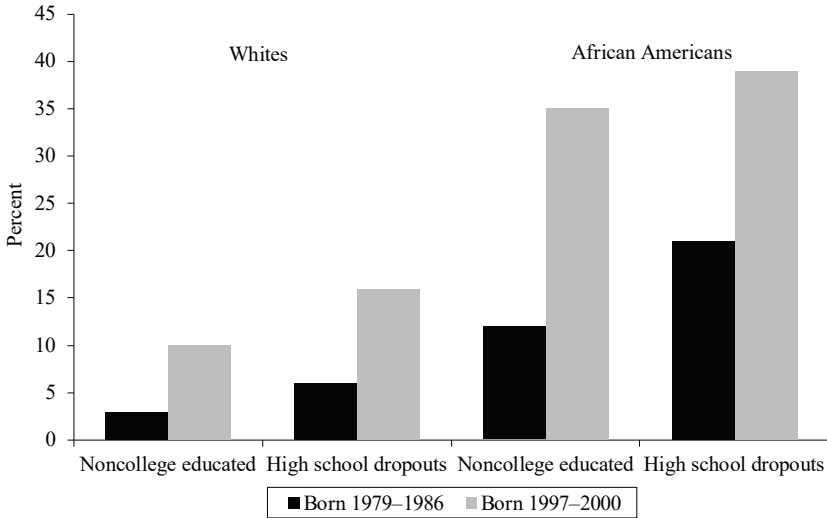
SOURCE: Western and Pettit (2010).

were even higher for high school dropouts: 28 percent for whites and 68 percent for African Americans.

One consequence of rising incarceration rates is that a sizable minority of children of less-educated men have a parent who has been in prison or jail. Wildeman (2009) computes the cumulative risk of paternal imprisonment by the time a child turns age 5 for two birth cohorts of children: 1979–1986 and 1997–2000 (see Figure 4.8). Cumulative risks were higher for children born from 1997 to 2000. For this cohort, the cumulative risks of paternal imprisonment for children of men with a high school diploma or less education were 10 percent for whites and 35 percent for African Americans. Cumulative risks of paternal imprisonment for children of male high school dropouts were 16 percent for whites and 39 percent for African Americans.

These high percentages are a worry. In a review of research on how paternal incarceration affects child outcomes, Murphey and Cooper (2015) compare the incidence of adverse childhood experiences for children who ever had a residential parent incarcerated to that for chil-

Figure 4.8 Cumulative Risk of Paternal Incarceration by Age Five for African American and White Children, by Paternal Education and Birth Cohort



SOURCE: Analyses by Wildeman (2009, p. 275, Table 6) using NLSY79 and NLSY97 data sets.

dren who never had a residential parent incarcerated (see Table 4.3). Fully half (50 percent) of children with an incarcerated parent had experienced a family breakup, 1 in 10 (10 percent) had experienced the death of a parent, 3 in 8 (37 percent) had witnessed or been a victim of domestic abuse, 1 in 3 (33 percent) had witnessed or been a victim of neighborhood violence, more than 1 in 4 (28 percent) had resided in a household with someone who had a substance abuse problem, and more than half (55 percent) had resided in a household with a mentally ill or suicidal person. Each of these adverse childhood experiences was relatively rare for children who never had an incarcerated parent. Haskins (2016b) notes that “paternal incarceration has been found to increase aggression, depression, anxiety, attention problems, and delinquency in young boys and adolescent men.” Haskins (2016a) shows that paternal incarceration is negatively associated with boys’ cognitive development in middle childhood.

Table 4.3 Children with Incarcerated Parents Suffer More Adverse Childhood Experiences (%)

	Incarcerated parent	No incarcerated parent
Divorce/separation	57	17
Parental death	10	3
Domestic abuse	37	5
Witnessed/experienced neighborhood violence	33	7
Substance abuse of household member	28	7
Mentally ill/suicidal household member	55	7

SOURCE: Murphey and Cooper (2015, p. 7, Figure 2).

Gaps in Parental Investments in Children by Parental Income

To recap briefly, the gaps in the spending power, income, and wealth of affluent families versus other families have gotten bigger since 1980. Families at the top of the income distribution control much larger shares of income and wealth relative to families at the middle and bottom of the income distribution. And family advantages are more bundled together now than in the past. Communities are more segregated by income. Parental income, parental wealth, and parental education are more correlated. The majority of children whose mothers have a college degree will grow up in intact families with both biological parents. The majority of children whose mothers do not have a college degree will spend some time in a single-mother home. The cumulative risk of paternal incarceration by the time a child is five years old for children whose fathers have at most a high school education is considerably higher for black children than for white children.

At the very same time that parental advantages have become more bundled together at the top of the income distribution and parental disadvantages have become more bundled together at the bottom of the income distribution, the payoff to a college degree has doubled. It has become increasingly necessary for parents to invest in their children's education. Economic success depends more on a college degree today than it did in 1980.

Unfortunately, as Reardon (2013) points out, although all parents have incentives to invest in improving their children's cognitive skills, changes in income and wealth concentration have put high-income

parents in a better position to afford such spending increases. Reardon notes that while parents at every income level have increased their investments in time and money on cognitively enriching activities for children over the past three to four decades, “middle-class and poor families . . . are not doing so as quickly or as deeply as the rich.”

Duncan and Murnane (2011a) compare the annual spending of high-income and low-income parents on children’s enrichment activities from 1972 to 2006. They note that such enrichment goods and services include books, computers, private-school tuition, music lessons, travel, and summer camps. Spending by high-income parents rose 150 percent, from \$3,928 in 1972 to \$9,856 in 2006, while spending by low-income parents rose by only 57 percent, from \$927 in 1972 to \$1,460 in 2006.² The dollar gap between the spending of high-income parents and the spending of low-income parents rose from about \$3,000 in 1972 to \$8,400 in 2006. Duncan and Murnane warn that the American ideal of a level playing field is in jeopardy. We have seen how education, particularly a college degree, strongly predicts children’s future economic attainments. If the correlations between parental income and children’s educational attainments are increasing, then this could potentially lead to increases in the correlation between parental incomes and children’s later adult incomes.

Associations of Parental Income with Children’s Educational Attainments

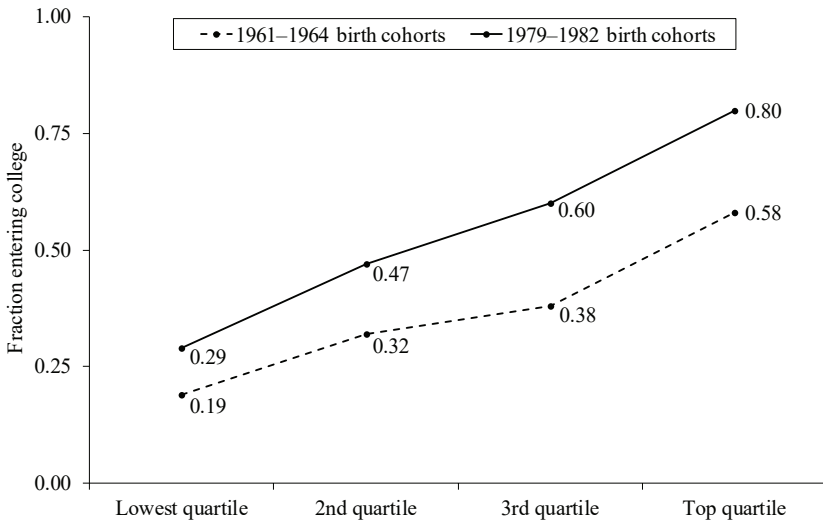
Several recent studies find that parental income became more strongly tied to children’s achievement test scores, college attendance, and college graduation over the past three decades (Avery and Hoxby 2013; Bailey and Dynarski 2011; Reardon 2011, 2013).

Reardon (2011) tracks the standardized reading and math achievement test scores for public school students from families at the 90th, 50th, and 10th percentiles for children born from 1943 to 2001. Students from high-income (90th percentile) families had higher standardized test scores than did students from low-income (10th percentile) families. Students from high-income families also had higher test scores than students from middle-income (50th percentile) families. These gaps in test scores are large, positive, and stable across the 1950–1970 birth cohorts. Then the test-score gaps between high-income

and low-income children (90/10 gap) and between high-income and middle-income children (90/50) rose substantially for children across the 1971–2001 birth cohorts. In contrast, the test-score gap between children from middle- and low-income families (50/10) was relatively constant across the 1971–2001 birth cohorts.

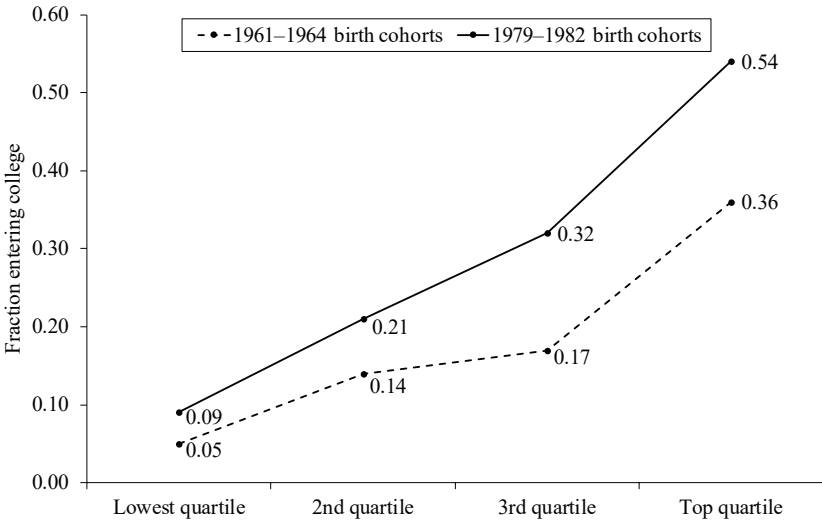
Bailey and Dynarski (2011) compare college attendance and college completion rates by income quartile for students born 1961–1964 to those of students born 18 years later, 1979–1982 (Figures 4.9 and 4.10). As expected, given the big increase in the college wage premium, college attendance rates and college completion rates of students within each quartile increased across cohorts. But absolute percentage-point gains were small for students in the bottom income quartile and large for students in the top income quartile. As a result, gaps in the college attendance and college completion rates of high-income and low-income students grew across cohorts. In the 1961–1964 birth cohort, 5 percent of low-income and 36 percent of high-income students completed college—a gap of 31 percentage points. In the 1979–1982 birth cohort

Figure 4.9 Fraction of Students Entering College, by Income Quartile and Birth Year



SOURCE: Bailey and Dynarski (2011).

Figure 4.10 Fraction of Students Completing College, by Income Quartile and Year of Birth



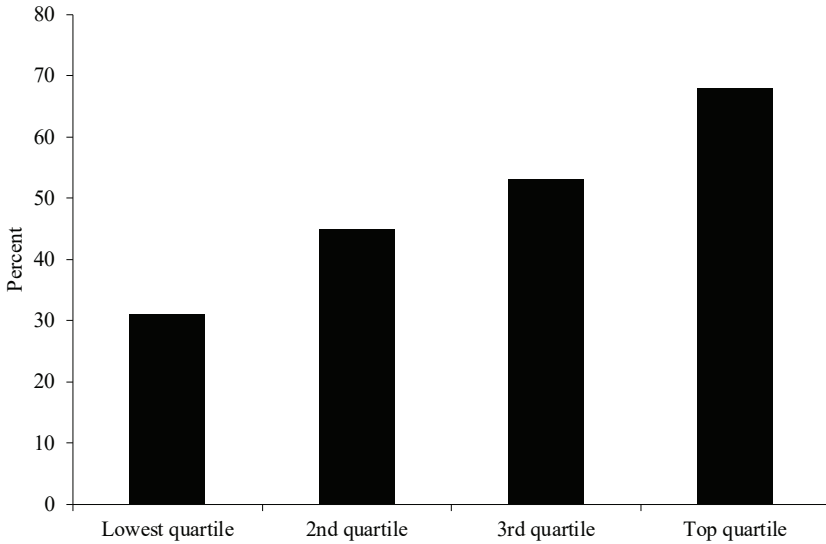
SOURCE: Bailey and Dynarski (2011).

cohort, 9 percent of low-income and 54 percent of high-income students completed college—a gap of 45 percentage points.

A particularly worrying statistic is that in both cohorts, the majority of college entrants from families in the bottom two income quartiles do not complete college, while the majority of college entrants from the upper quartile do complete college (see Figure 4.11). For example, in the latter cohort, two out of three college entrants from the top income quartile completed college. In contrast, less than half of entrants from the second income quartile and less than one out of three college entrants from the bottom quartile graduated from college.

A college degree is important for economic success, but not all colleges confer equal wage advantages. Colleges vary in selectivity, and selectivity matters for future income (Hoekstra 2009; Long 2008). Reardon, Baker, and Klasik (2012) report the family incomes of students who entered selective colleges in 1982, 1992, and 2004. They report that students from the top income quintile were overrepresented in selective colleges in 1982 and that this overrepresentation appears

Figure 4.11 Graduation Rates of College Entrants by Income Quartile (1979–1989 Birth Cohort)



SOURCE: Author's calculations from Bailey and Dynarski (2011), Figures 6.2 and 6.3.

to have grown from 1982 to 2004. In 2004, 58 percent of students in highly selective colleges came from the top income quintile, and only 6 percent of students came from the bottom income quintile (Reardon, Baker, and Klasik 2012). Avery and Hoxby (2013) report that even when one looks only at high-achieving students—students with high grades and high test scores—children from low-income families are much less likely than children from higher-income families to apply to and attend very selective schools.

Will These Trends Increase Intergenerational Income Inequality?

Most published assessments of intergenerational economic mobility are computed for individuals born in the 1960s and 1970s and raised in the 1960s, 1970s, and 1980s.³ But, as I document in this paper, children born and raised after 2000 are in a very different position from children born in the 1960s and 1970s. The evidence reviewed about

economic, demographic, and policy changes supports the following four conclusions:

- 1) The divides in parental advantages between rich and poor children and between rich and middle-income children have grown substantially since 1980.
- 2) Parental income has become a stronger predictor of parental spending on child enrichment activities since the 1970s.
- 3) The gap between the achievement test scores of high-income children and those of middle- and low-income children has widened since 1980. The percentage-point differences in college attendance rates and college graduation rates between high-income students and low-income students widened as well.
- 4) Returns to a college degree more than doubled since 1980.

The accumulation of parental advantages for children at the top of the income distribution suggests that high-income children born and raised after 1980 may find it easier to maintain that same high level of income as adults—to go from “riches to riches.” The dollar gaps in the income and wealth of high-income families versus low- and middle-income families are larger. High-income families now have even more discretionary income and more wealth than in the past. Parental advantages are now more bundled together. This could lead to tighter preservation of advantage across generations.

The same logic applies to children from low- and moderate-income families. The gaps in parental resources (income, wealth, chances of being raised by both biological parents, college-educated parents, a father without a criminal record), as well as increases in income-based residential segregation, gaps in parental spending on child enrichment activities, and gaps in college enrollment rates and graduation rates all widened between children of high-income families and children of low-income and moderate-income families. Children born after 2000 may be more likely than those born in the 1960s to go from “rags to rags” and less likely to go from “rags to riches.” These changes are not good news either for children raised in low- and moderate-income families or for advocates of equal opportunity.

What's Next?

Three changes could increase the extent to which children's economic fortunes are tied to their parents' economic fortunes. These are

- 1) the growing gaps in background advantages of high-income families vis-à-vis low-income and middle-income families,
- 2) the increases in the associations between parental income and children's educational outcomes, and
- 3) the growing returns to a college degree.

Poor children could become even less able to escape poverty as adults and even less able to achieve the American ideal of rising from the bottom-most quintile. Conversely, high-income parents could become even more likely to pass their advantages onto their children or to "hoard opportunities," as Reeves (2017) warns in his book *Dream Hoarders*.

One way to change the above scenario is to focus on cushioning the impacts of these three changes on children's economic prospects. Let's begin with the increases in the resources of rich children relative to those of poor children. Most rich children do not have a father who has been in prison. A significant minority of children of less-educated fathers do have a father who spent time in prison because of the rapid increase in male incarceration rates since the late 1970s. Prison sentencing reforms could reduce the incidence of imprisonment among low-skilled men, and prisoner reentry programs might better reintegrate ex-prisoners into work and family life. In their recent book, *When Parents Are Incarcerated: Interdisciplinary Research and Interventions to Support Children*, Wildeman, Haskins, and Poehlmann-Tynan (2018) review evidence on interventions to support children of incarcerated parents.

Reardon (2013) writes that the widening gap in family incomes means that low-income and middle-income parents cannot invest "as quickly or as deeply" as rich parents can in cognitive-enhancing activities for children. He further notes that 90 percent of the inequality in children's achievement test scores by family income is present at the time children enter kindergarten.⁴ According to the OECD (2012), the United States ranks "26th in the percentage of 4-year-olds enrolled in early childhood education." Increasing the availability of public pre-school programs that are free or offered on a sliding scale might pro-

vide low-income and middle-income children a wider range of enrichment activities. Other services, such as health screening and health care, might be included in preschool programs.

Autor and Dorn (2013) and Goldin and Katz (2010) argue that the college wage premium is so high in the United States because the growth in the supply of college graduates is not keeping up with the demand for highly educated workers. These authors maintain that we need to increase the rates of college attendance and graduation in the United States. There is certainly room for improving the college enrollment and graduation rates among high school students whose families are in the bottom half of the income distribution in the United States: only 9 percent of children from low-income families graduate from college. Moreover, college graduation rates are rising more slowly in the United States than in other nations. According to *OECD: Education at a Glance: 2012*, “Between 2000 and 2010 [higher education] attainment levels increased by an average of 1.3 percentage points annually in the U.S., while its OECD counterparts boasted a 3.7 percentage-point change per year.”

Bailey and Dynarski’s (2011) findings suggest that increasing college enrollment rates of children from families in the bottom half of the income distribution is only a first step. The majority of students from these families who enroll in a four-year college never obtain a degree. It is equally important to increase retention and graduation rates. See Holzer and Baum (2017) for a cogent overview of programs designed to improve low-income students’ retention and graduation rates.

I end on a note of optimism by describing two promising local higher education initiatives—the Kalamazoo Promise and the brand-new University of Michigan Go Blue Guarantee. The Kalamazoo Promise was launched in 2005. It covers up to 100 percent of tuition and fees for four years at any public or private postsecondary institution in Michigan. The Kalamazoo Promise was the first place-based scholarship in the United States. It is open to all students who reside in Kalamazoo and who attended public high school there from ninth grade on. Since 2005, about 100 such place-based programs have been launched (Bartik, Hershbein, and Lachowska 2016).

Bartik, Hershbein, and Lachowska (2017) evaluated the effects of the Kalamazoo Promise in its initial years. They report, “We estimate that the Promise increased the chance of students enrolling in any col-

lege within six months of high school graduation by 14 percent and the chances of enrolling in a four-year college by 23 percent As of six years after high school graduation, the Promise increased the percentage of students earning any postsecondary credential by 10 percentage points, from a pre-Promise baseline of 36 percent to 46 percent About three-fourths of this boost . . . is due to more students receiving a four-year bachelor's degree" (pp. 5–6). Furthermore, they report that the college completion results are not different for students from lower-income families.

The University of Michigan's Go Blue Guarantee program was launched in January 2018. This program provides free tuition for up to four years for in-state students at the University of Michigan who come from families with incomes of less than \$65,000. Since the average family income in Michigan is about \$64,000, this covers students from the bottom half of the income distribution.

One strength of the Kalamazoo Promise and the Go Blue Guarantee is that both cover four years of tuition. This reduces pressure on students to find funding while in college, and it should improve retention and graduation rates as well as enrollment. A second strength is that both programs' eligibility criteria provide few conditions and are easy to understand. This should increase incentives for both parents and students to begin planning for college early in students' educational trajectories.

Notes

I thank Eric VanDeventer for his efficient and careful preparation of this manuscript and Howard Erman for comments and edits. Neither of these individuals is responsible for the information or opinions in this chapter.

1. Fry and Taylor (2012) define low-income households as those with incomes of less than two-thirds of median income (\$34,000 in 2010), middle-income households as those with two-thirds to twice the median income (\$34,000 to \$104,000 in 2010), and high-income households as those with more than twice the median income (over \$104,000 in 2010).
2. Duncan and Murnane (2011a) reported their expenditures in 2008 dollars. I have converted their numbers to 2016 dollars.
3. The reason for this is that precise measures of intergenerational income elasticities require several years of data on children's incomes after age 30.
4. Reardon (2013) writes, "Children from rich and poor families score very differ-

ently on school reading scores when they enter kindergarten and this gap grows by less than 10 percent between kindergarten and high school. Evaluation studies find that high quality intensive interventions between ages 0–5 years positively affect children’s later educational and work outcomes” (Heckman 2011; Currie 2006; Knudsen et al. 2006; Waldfogel 2006).

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5

Why Has Income Inequality Increased while Education Inequality Has Decreased in Many Developing Countries?

David Lam
University of Michigan

There is a great deal of interest in trends in income inequality around the world. Rising wage inequality in the United States has been a focus of attention for the past two decades (Bound and Johnson 1992; Juhn, Murphy, and Pierce 1993). Trends in income inequality in developing countries and the world as a whole have been analyzed by the World Bank and many researchers (Beegle et al. 2016; Milanovic 2012; Ravallion 2014; World Bank 2011). Less focus has been given to inequality in schooling. This chapter will argue that inequality in schooling is a vital area for research. Inequality in schooling is interesting and important in its own right, given the critical role education plays in a wide variety of outcomes. But inequality in schooling is also important because it is integrally connected to income inequality (Knight and Sabot 1983; Lam and Levison 1992; Ram 1990).

As will be seen below, there are good data available on the distribution of schooling for a broad range of low-income and middle-income countries. Analysis of these data demonstrates that the distribution of schooling changes in fairly regular patterns as the mean level of schooling increases. The standard deviation in years of schooling, which is shown theoretically to be an important driver of earnings inequality, tends to increase with mean schooling at low levels of schooling, eventually reaching a peak, and then falling as mean schooling reaches higher levels. This has important implications for trends in earnings inequality. The coefficient of variation, a standard mean-invariant

measure of schooling inequality, tends to fall steadily as mean schooling increases, a result of the “compression” in schooling that occurs with the rising mean. Given the strong relationship between schooling and earnings, this compression in the schooling distribution should be expected to reduce income inequality. Data from a wide range of countries, however, show that a number of countries in Africa and Asia have experienced increases in income inequality at the same time that schooling inequality has declined. The chapter discusses the theoretical reasons for this disconnect between falling schooling inequality and rising income inequality in many countries. One important factor is the convex relationship between schooling and earnings, as implied in the standard Mincer (1974) earnings equation, in which log earnings are a linear function of schooling. Another important factor is rising returns to schooling, especially at the top of the schooling distribution.

The chapter begins by looking at evidence on trends in income inequality and poverty for a variety of countries. The chapter then examines the theoretical relationship between schooling and earnings. Data from a large number of Demographic and Health Surveys (DHS) are used to look at how inequality in schooling changes as average schooling increases. These data show a strong tendency for schooling inequality to decline as the mean level of schooling increases.

The chapter concludes with a detailed analysis of schooling inequality and earnings inequality in Brazil and South Africa, two countries with extreme earnings inequality and high-quality labor-market survey data that can be used to look at schooling inequality, returns to schooling, and earnings inequality over several decades. As shown in Lam, Finn, and Leibbrandt (2015), rising returns to postsecondary schooling in South Africa help explain why South Africa has had no improvement in earnings inequality in spite of large declines in schooling inequality, a contrast with the declines in earnings inequality that have occurred in recent decades in Brazil. This suggests that rising returns to schooling, an important factor in U.S. inequality, may be playing an important role in many developing countries as well, offsetting what would otherwise be the equalizing effects of falling inequality in schooling.

EVIDENCE ON TRENDS IN INCOME INEQUALITY

It is useful to begin by looking at evidence on recent trends in income inequality around the world. Before looking at the data, there are a number of important issues of definition and measurement that should be considered. One of the most basic is whether to use income, consumption, labor-market earnings, or some other concept as the focus of analysis. This chapter is mainly interested in inequality in labor market earnings at the individual level. Most research on income inequality in developing countries uses measures of consumption at the household level, however—usually a measure of per-person household consumption. This is often motivated by an argument that consumption is the best measure of welfare, with the household being an appropriate unit of analysis since the household plays a key role in distributing resources across household members (Deaton 1997). It may also be the case that consumption is simpler to measure than income, especially in predominantly rural countries with a high proportion of subsistence agriculture.

Another important consideration is whether inequality is measured before or after redistributive programs such as taxes and social transfer programs. A measure of consumption takes into account all such transfers, which may be best for measuring inequality in welfare but will be less informative about trends in inequality in before-tax labor market earnings. The results presented in this section include studies using both income and consumption, and the term *income* will often be used to represent both. Unfortunately, there is much less data available on trends in inequality in labor market earnings, the main focus of this chapter. Since inequality in income and consumption will tend to move in the same direction as inequality in earnings, the evidence on trends in income inequality will be taken as informative about trends in earnings inequality, though it must be recognized that they need not move in the same direction, especially when there are large social transfer programs. This chapter does not look at inequality in wealth (assets), which tends to be much more unequally distributed than income and is both a cause and effect of income inequality.

Ravallion (2014) shows that the population-weighted average of within-country income inequality (using the mean log deviation measure of inequality) rose between 1980 and 2010 for the developing world

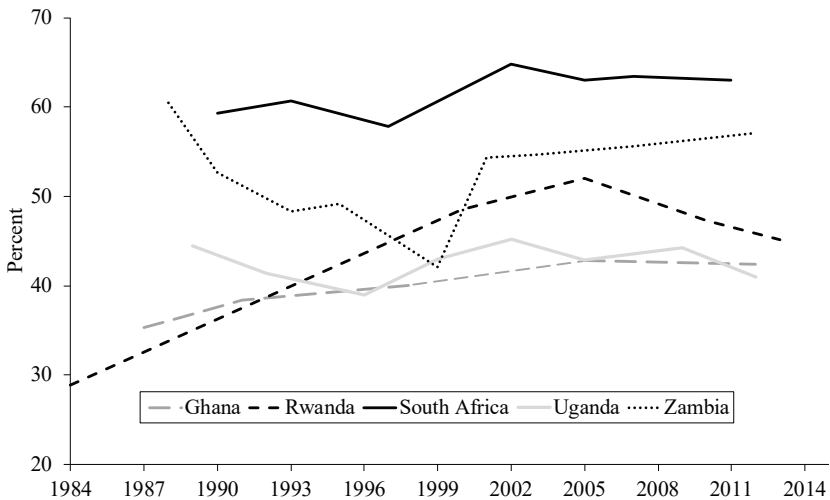
as a whole, although it has been falling slightly since around 2000. This overall trend masks considerable regional variation, however. Ravallion shows a generally rising trend in within-country inequality in East Asia. Latin America, on the other hand, had increasing inequality until around 1995, followed by substantial declines in inequality since then (Lustig, Lopez-Calva, and Ortiz-Juarez 2013; World Bank 2011).

Trends in sub-Saharan Africa, like trends in other regions, are mixed. A recent World Bank study of poverty and inequality across Africa found that inequality fell in about half of African countries, while it increased in the other half, comparing the two most recent surveys in each country that have data on inequality in household level income or consumption (Beegle et al. 2016).

The figures below are based on data on income inequality from the World Bank's PovCalNet online database (World Bank 2018). The figures show the Gini coefficient, a widely used measure of inequality in which 0 indicates that all individuals have the same income (perfect equality) and 100 is maximum inequality (as scaled in these data).

Figure 5.1 shows income inequality in several African countries that appear to have fairly reliable data over a range of years. South Africa

Figure 5.1 Inequality in Income/Consumption for Selected African Countries

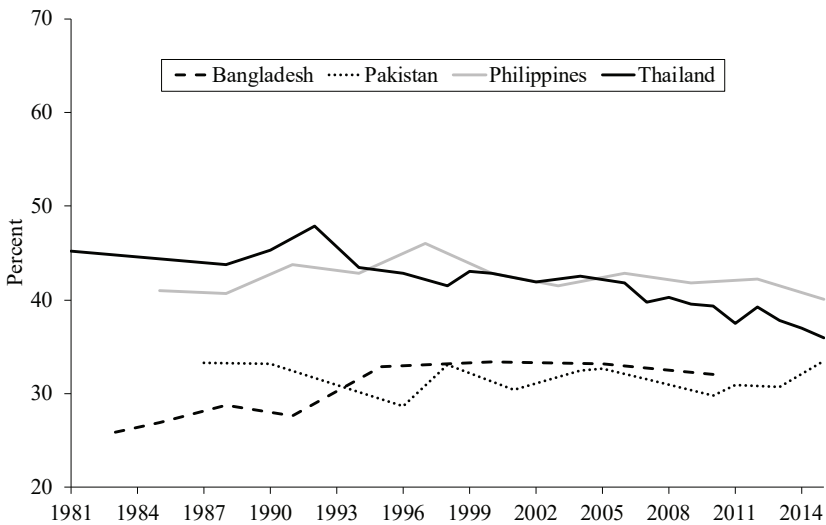


SOURCE: PovNet data from World Bank (2018).

has the highest level of inequality in this group, and indeed it has one of the highest levels of income inequality in the world (Lam, Finn, and Leibbrandt 2015). Beginning from a Gini coefficient of more than 60 at the end of apartheid in 1994, the level has increased over time. Ghana, which has had relatively high economic growth in recent years, has also experienced a general trend of rising inequality. Rwanda, too, experienced rising inequality, although after 2005 there appears to have been a decline, according to these data. Uganda's Gini coefficient has fluctuated, with no strong tendency to increase or decrease over time. These patterns are consistent with the conclusions of Beegle et al. (2016) that inequality has been rising in some countries and falling in others.

Figure 5.2 shows inequality for a set of Asian countries. It should be noted that the Gini coefficient in these countries is generally on the low side by international standards. The evidence is, once again, mixed. The Philippines and Pakistan have relatively constant inequality (at quite different levels), Bangladesh has had a fairly substantial decline in inequality, and Thailand appears to have rising inequality.

Figure 5.2 Inequality in Income/Consumption for Selected Asian Countries



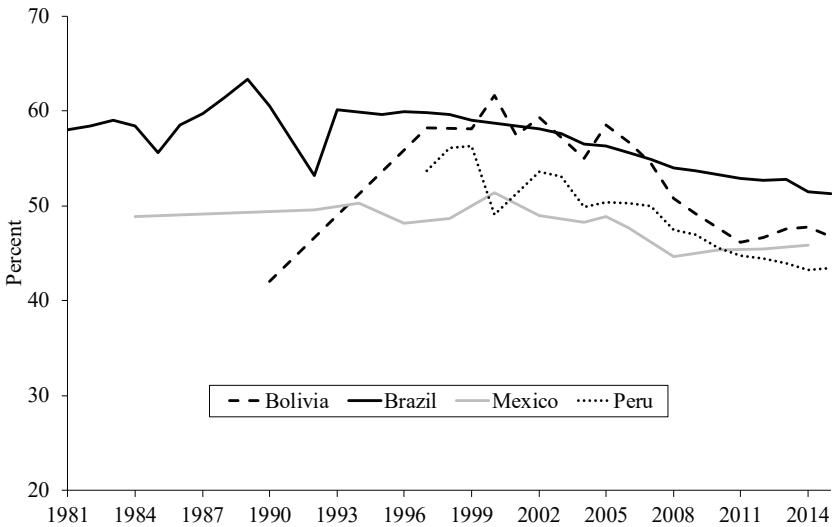
SOURCE: PovNet data from World Bank (2018).

Figure 5.3 shows a group of Latin American countries. All demonstrate the typical Latin American pattern of relatively high inequality, and all have had fairly substantial declines in inequality in recent decades. This is consistent with the pattern of recent declines in inequality in Latin America as documented in research from the World Bank (2011) and Lustig, Lopez-Calva, and Ortiz-Juarez (2013).

TRENDS IN POVERTY

While this chapter is mainly interested in inequality, it is important to note that the mixed evidence regarding trends in inequality in developing countries should not be taken to mean that there has been no progress in poverty alleviation. There is strong evidence that the proportion of the population in poverty has been declining in most developing countries in recent decades, including those in which income inequality

Figure 5.3 Inequality in Income/Consumption for Selected Latin American Countries



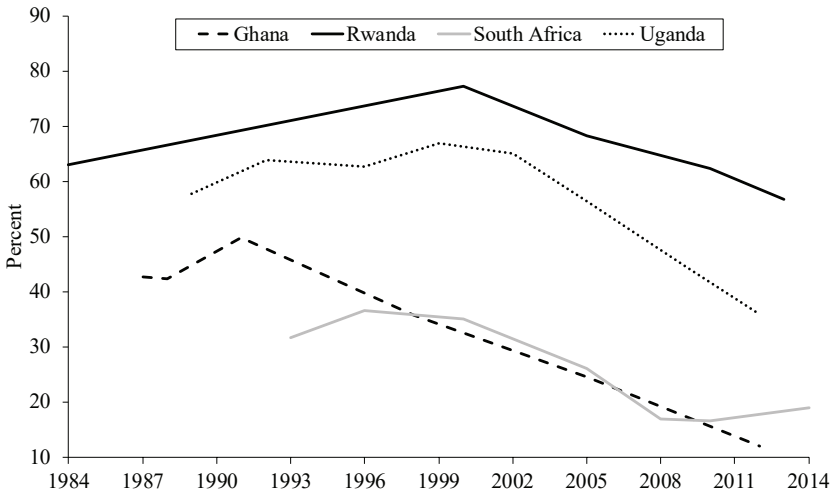
SOURCE: PovNet data from World Bank (2018).

has been rising. Even in sub-Saharan Africa, which has generally had the slowest declines in poverty, World Bank estimates indicate that the proportion of the population in poverty fell from 57 percent to 43 percent between 1990 and 2012.

Figures 5.4 through 5.6 show trends in poverty based on the same World Bank PovNet data used to analyze inequality in Figures 5.1 through 5.3 (World Bank 2018). The poverty measure used here is the World Bank’s “extreme poverty” measure, the proportion of the population with less than US\$1.90 a day in per capita household consumption based on Purchasing Power Parity adjustments of local currency (an update of the World Bank’s earlier \$1.00 a day measure).

Figure 5.4 shows trends in extreme poverty for the same set of African countries used to plot inequality trends in Figure 5.1. There is a clear pattern of falling inequality, although Rwanda has rising poverty between 1984 and 2000, a period that included the devastating period of genocide in 1994. Uganda shows an impressive decline in extreme poverty, from 87 percent in 1989 to 35 percent in 2012, even though,

Figure 5.4 Trends in Poverty Rate for Selected African Countries
 (% households with less than \$1.90 per day consumption per person)



SOURCE: PovNet data from World Bank (2018).

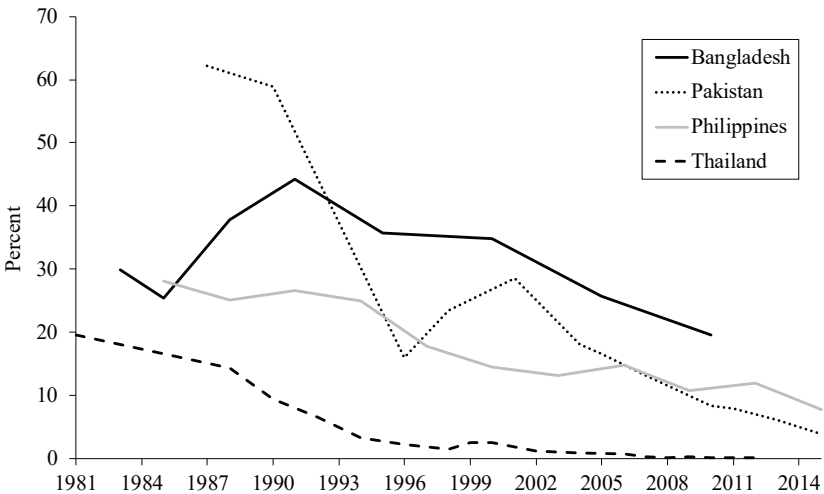
as shown in Figure 5.1, inequality was relatively flat over this period. South Africa and Ghana also show substantial declines in poverty, even though inequality has been rising in both countries.

Figure 5.5 depicts falling rates of extreme poverty in the four Asian countries that were used to analyze inequality trends in Figure 5.2. The biggest drop is in Pakistan, which shows a decline in the poverty rate from 62 percent in 1987 to 6 percent in 2013, even though we saw fairly flat inequality over this period.

Figure 5.6 tracks poverty rates in four Latin American countries. Extreme poverty was already fairly low in Latin America in the 1980s, and there were some increases in poverty in some countries in the 1990s. However, the trend since 2000 has been for falling poverty in all four countries shown, a pattern consistent with the evidence for the region as a whole.

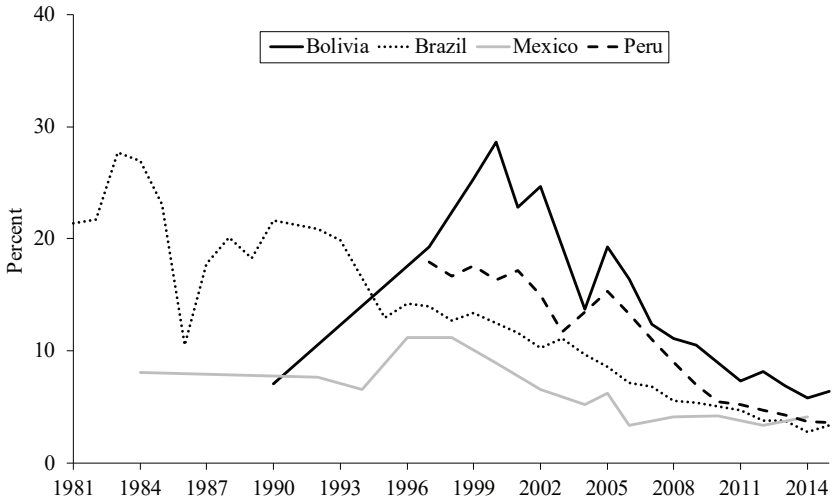
The overall pattern shown in Figures 5.1 through 5.6 is a combination of falling poverty rates and a mixed set of trends for inequality.

Figure 5.5 Trends in Poverty Rate for Selected Asian Countries
(% households with less than \$1.90 per day consumption per person)



SOURCE: PovNet data from World Bank (2018).

Figure 5.6 Trends in Poverty Rate for Selected Latin American Countries (% households with less than \$1.90 per day consumption per person)



SOURCE: PovNet data from World Bank (2018).

The falling poverty in countries with rising inequality is evidence of a fairly common pattern in which incomes have been rising in all parts of the income distribution but rising faster at the higher income levels. Rising income inequality, while not a universal pattern in developing countries, is a fairly common pattern. I will argue below that one reason this pattern is surprising is that there has been an almost universal trend toward declines in schooling inequality in these countries. Given a strong positive relationship between schooling and earnings, we might expect that falling inequality in schooling should be pushing toward falling inequality in earnings. The next section will explore this relationship theoretically, followed by an empirical analysis of trends in schooling inequality.

LINKS BETWEEN SCHOOLING INEQUALITY AND EARNINGS INEQUALITY

As shown in Lam and Levison (1992) and further developed in Lam, Finn, and Leibbrandt (2015), some key theoretical points can be seen using a simplified version of the standard human capital earnings equation. Using the standard theoretical approach developed by Mincer (1974), and leaving experience and other determinants of earnings aside, the logarithm of the i th worker's earnings can be expressed as

$$(5.1) \quad \log Y_i = \alpha + \beta S_i + u_i,$$

where Y_i is earnings, S_i is years of schooling, and u_i is a residual uncorrelated with schooling. Using Equation (5.1), it is easy to see that the variance of log earnings, a standard mean-invariant measure of wage inequality, is given by

$$(5.2) \quad V(\log Y) = \beta^2 V(S) + V(u),$$

where V denotes variance. This simple result demonstrates an important point about the link between schooling inequality and earnings inequality. If the relationship between schooling and earnings is log-linear as in Equation (5.1), then earnings inequality (as measured by the variance of log earnings) is a simple linear function of the variance in schooling. There are several direct implications related to the links between schooling inequality and earnings inequality. Suppose, for example, that we doubled the schooling of every worker while holding returns to schooling constant. This would quadruple the variance in years of schooling and thus quadruple the “explained” component of earnings inequality. If we measure inequality in schooling by some standard mean-invariant measure of inequality, this doubling of schooling would imply no change in schooling inequality. Alternatively, giving each worker one additional year of schooling would unambiguously reduce schooling inequality, but it would have no effect on earnings inequality. The bottom line of Equation (5.2) is that decreases in schooling inequality need not translate into decreases in earnings inequality, even if returns to schooling are constant across schooling levels and constant

over time, given the convex relationship between schooling and earnings. This was shown by Lam and Levison (1992) to be an important explanation of why declines in schooling inequality had not translated into declines in earnings inequality in Brazil in the 1980s, and why they are likely to be an important factor in many other countries. The finding suggests that it will be useful to look at both the standard deviation of schooling and at the coefficient of variation in schooling. This approach will be taken in the empirical analysis in the next section.

EVIDENCE ON TRENDS IN SCHOOLING INEQUALITY

If we want to analyze schooling inequality in a manner similar to the analysis of income inequality, we need data on single years of completed schooling. One convenient source of such data for many low-income countries is the Demographic and Health Surveys (DHS), a rich set of surveys designed primarily to collect data on fertility and contraceptive use, but also providing data on other key variables such as education (Demographic and Health Surveys 2018).

It is instructive to begin by looking at how the distribution of schooling changes over time in some fairly typical developing countries. Panels A and B of Figure 5.7 show the distribution of single years of completed schooling (i.e., the highest grade completed) for three cohorts born 20 years apart in Bangladesh. Bangladesh is an interesting case since, as shown above, it has experienced a combination of rising income inequality and falling rates of poverty, a pattern often seen in countries that have experienced economic growth in recent decades. Looking at the distribution of schooling for the 1950 Bangladesh birth cohort in Panel A, about 38 percent of men had no schooling, a figure that drops to 11 percent for the 1990 birth cohort. Comparing this to the distribution for females in Panel B, we see that 69 percent of women in the 1950 cohort had zero schooling, with a substantial decline to 12 percent in the 1990 cohort. The percentage completing grade 12 rises dramatically for both men and women—from 4 percent to 16 percent for men, and from under 1 percent to 9 percent for women between the 1950 and 1990 birth cohorts.

Figure 5.7 Distribution of Years of Schooling for 1950, 1970, and 1990 Birth Cohorts, Males and Females, Bangladesh

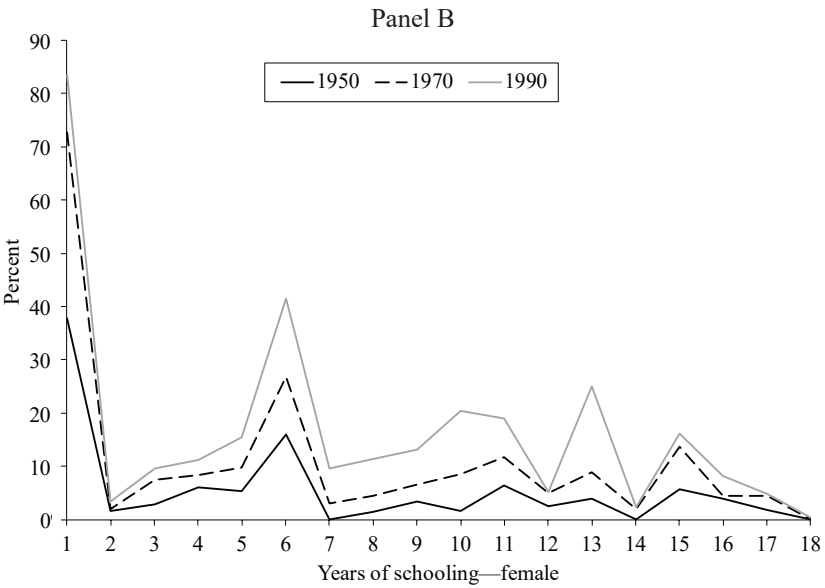
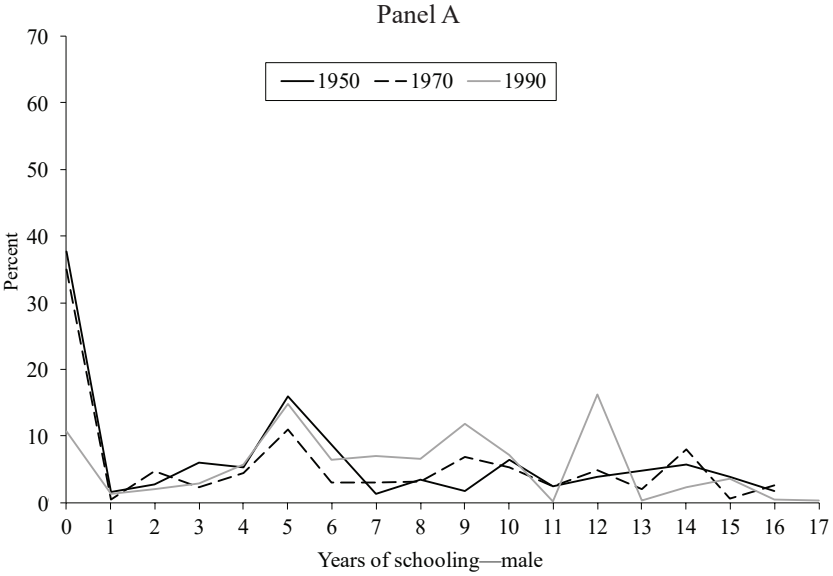
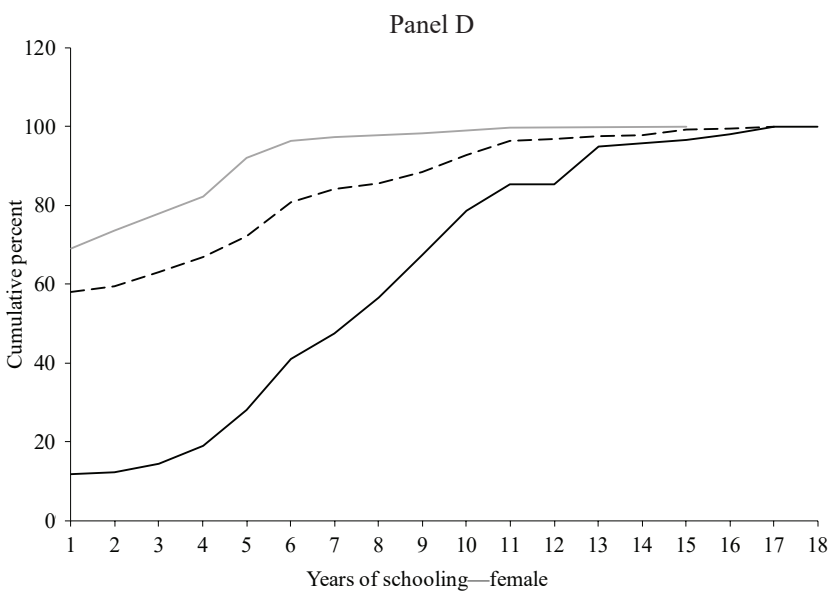
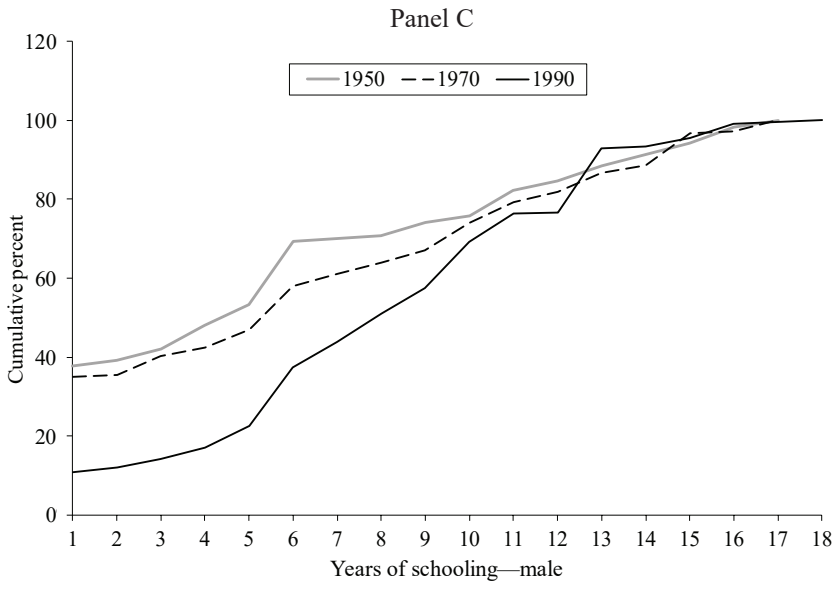


Figure 5.7 (continued)



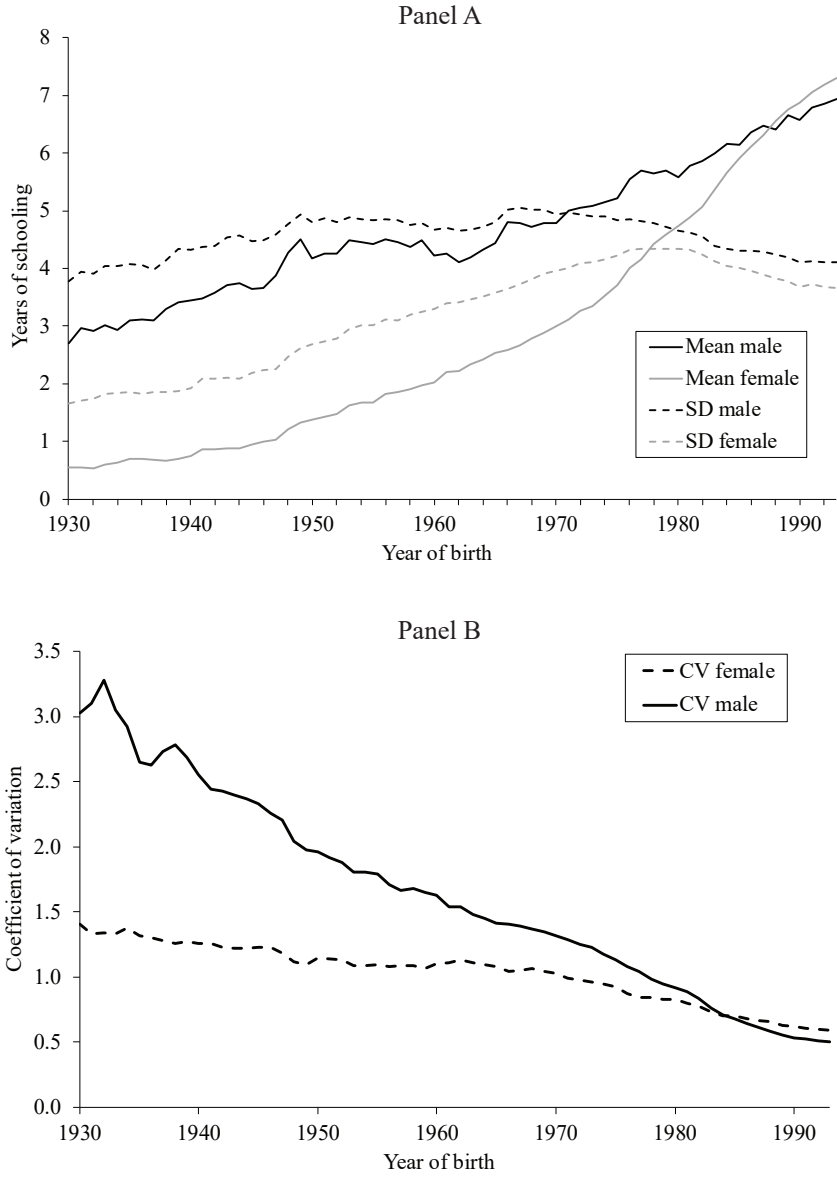
SOURCE: Author's calculations from Demographic and Health Surveys (2018) data.

Understanding improvements in schooling from densities like those shown in Panel A of Figure 5.7 is difficult, since improvements are indicated both by decreases in the proportion with low levels of schooling and increases in the proportion with higher levels of schooling. A clearer picture comes from looking at cumulative distribution functions (CDFs), shown in Panels C and D of Figure 5.7. A point on the CDF can be interpreted as the proportion of the population that has a given level of schooling or less. Looking at the distributions for the 1950 birth cohort, for example, 69 percent of men and 96 percent of women had five years of schooling or less. This fell to 37 percent of men and 41 percent of women in the 1990 cohort. Shifts downward in the CDF show improvements in the distribution. Panels C and D in Figure 5.7 clearly show the steady improvements in the distribution of schooling in Bangladesh in a way that is difficult to see in the densities in Panels A and B. Especially clear is the improvement in the proportion advancing to secondary school, although there is only slight improvement in the proportions going beyond grade 12. Also clear from Panels C and D of Figure 5.7 is the enormous decline in the gender gap in schooling, with the proportions reaching a given level of schooling only slightly less for women than for men in the 1990 birth cohort.

Figure 5.8 shows key summary statistics for the distribution of schooling in Bangladesh from the 1930 birth cohort to the 1995 birth cohort. The top panel shows the mean and standard deviation for males and females. Mean years of completed schooling have risen substantially for both men and women, with the mean for women actually overtaking the mean for men around the 1990 birth cohort. The standard deviation, which was shown theoretically above to be a driving factor in income inequality (as measured by the variance of log earnings), shows an inverted U-shape for both men and women. For men the peak in the standard deviation occurs around the 1970 birth cohort, while the peak for women occurs around the 1980 birth cohort. This inverted U-shape for the standard deviation in years of schooling is the same result that was observed by Lam and Levison (1992) for Brazil, a pattern they argued was important in understanding why income inequality had not fallen in Brazil in spite of declining inequality in schooling.

The standard deviation is not typically used as a measure of inequality, since it is not invariant to changes in the mean. A doubling of everyone's schooling, for example, will double the standard deviation, even

Figure 5.8 Mean, Standard Deviation, and Coefficient of Variation of Schooling by Year of Birth, Males and Females, Bangladesh



SOURCE: Author's calculations from Demographic and Health Surveys (2018) data.

though mean-adjusted inequality, as conventionally measured, will not change (the Lorenz curve, for example, will be unchanged by a doubling of schooling). A more appropriate measure of schooling inequality is the coefficient of variation (the standard deviation divided by the mean), which is invariant to the overall level of schooling. The bottom panel of Figure 5.8 plots the coefficient of variation (CV) for males and females in Bangladesh, using the standard deviation and mean in the top panel. The overall pattern is of steady declines in schooling inequality by this measure. This results from the fact that the standard deviation rises at a slower rate than the mean during the period in which the standard deviation is rising. This is a simple indicator of the “compression” in schooling that tends to occur in most populations as the overall level of schooling increases. Since there is essentially an upper bound on years of completed schooling, increases in mean schooling tend to take the form of the CDFs (such as those in Figure 5.7) being shifted down and to the right, a change that tends to reduce schooling inequality. The decline in schooling inequality in Bangladesh that is demonstrated by the coefficient of variation in Figure 5.8 is also found using other measures of inequality, such as the Gini coefficient, and in Lorenz curves, the most general representation of inequality.

Figures 5.9 and 5.10 show the same information for eight countries representing a range of levels of economic development in Africa, Asia, and Latin America. All are plotted using the same scales in order to demonstrate the wide range of experiences in means, standard deviations, and coefficients of variation in schooling. Figure 5.9 shows four African countries: Egypt, Kenya, Nigeria, and Ghana. Note that some of the figures, notably those for Nigeria and Ghana, show erratic movements in the variables. These are likely to be the result of age misreporting that varies systematically with level of education, and so they are unlikely to reflect actual jumps in schooling, even using the three-year moving averages that are used for these plots.

One notable feature in Figure 5.9 is rising mean schooling, with a convergence in schooling for men and women. Nigeria deviates somewhat from this pattern, with little improvement in mean schooling (and perhaps even a decline starting around the 1990 birth cohort) and little change in the gender gap. Another important feature is the inverted U-shape in the standard deviation of years of schooling, a pattern seen in all countries. Referring back to Equation (5.2), this implies that earn-

Figure 5.9 Mean, Standard Deviation, and Coefficient of Variation of Schooling by Year of Birth, Males and Females, Selected African Countries

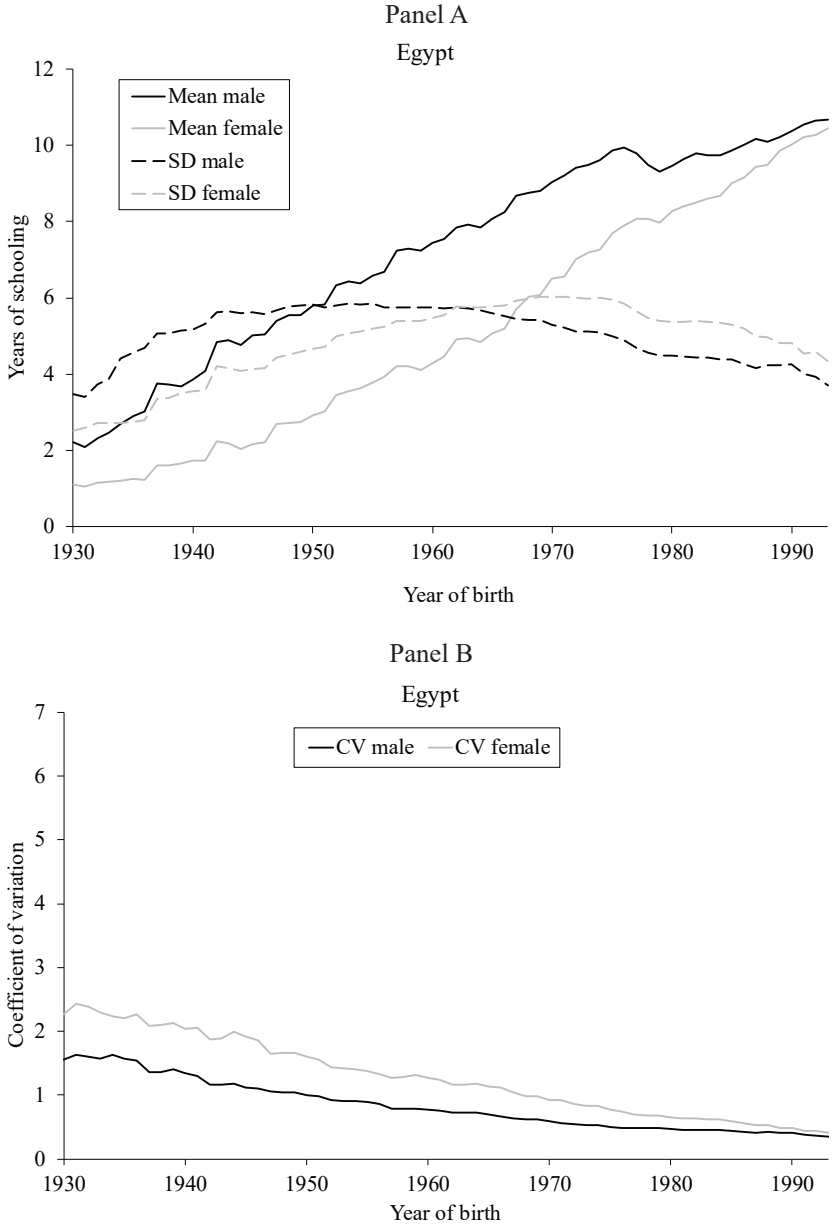


Figure 5.9 (continued)

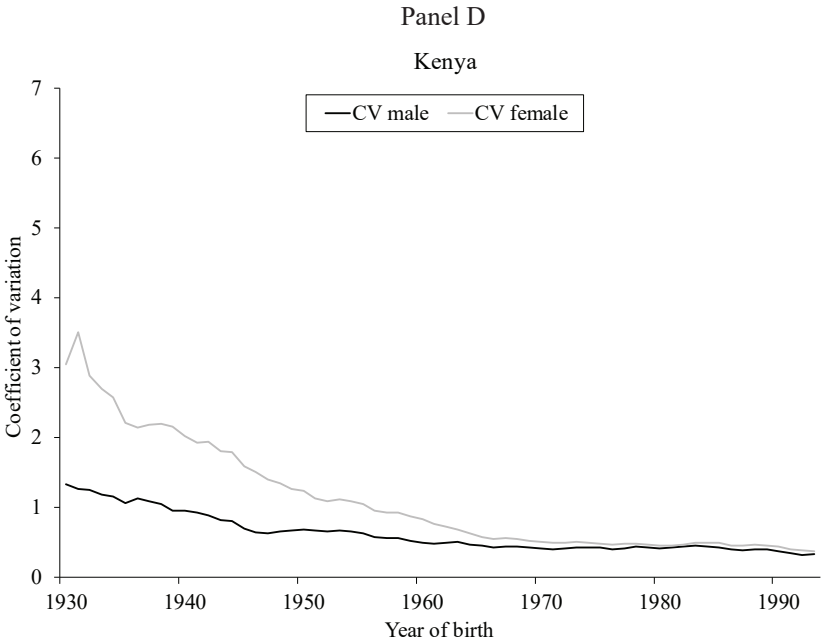
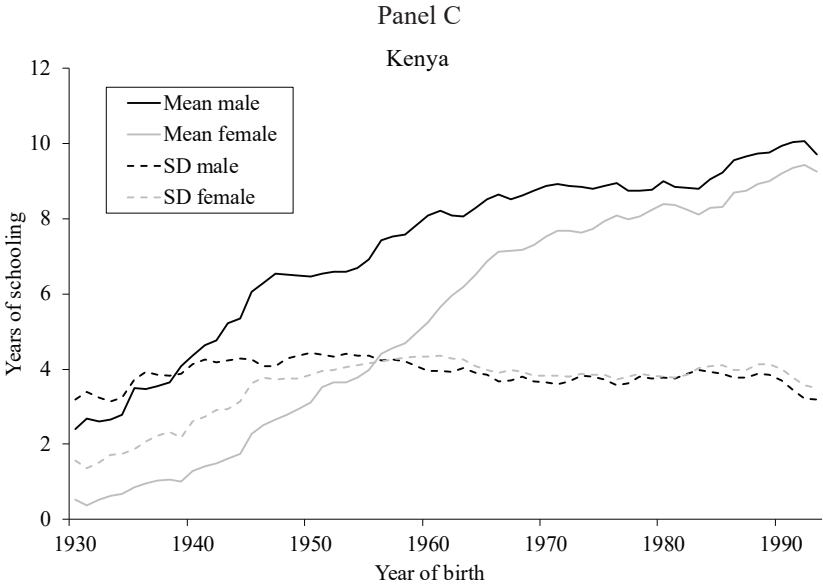


Figure 5.9 (continued)

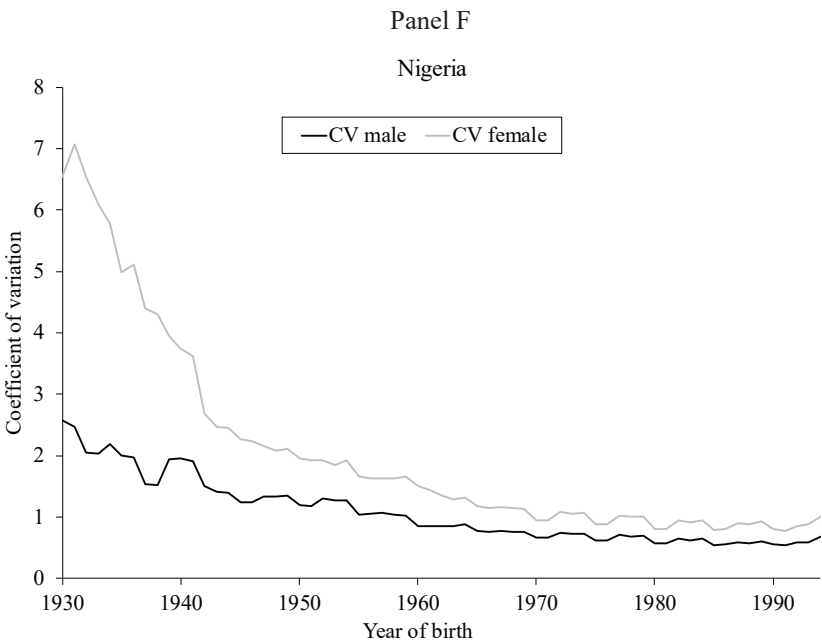
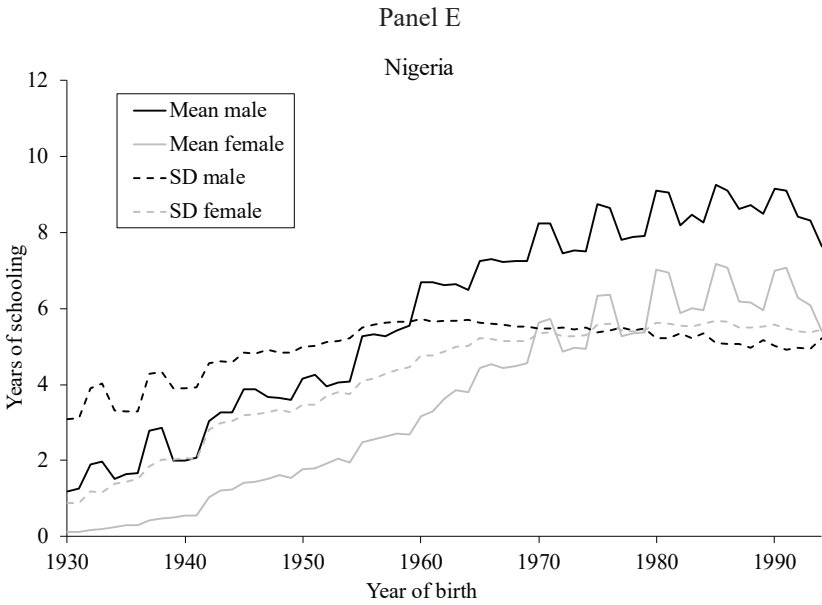
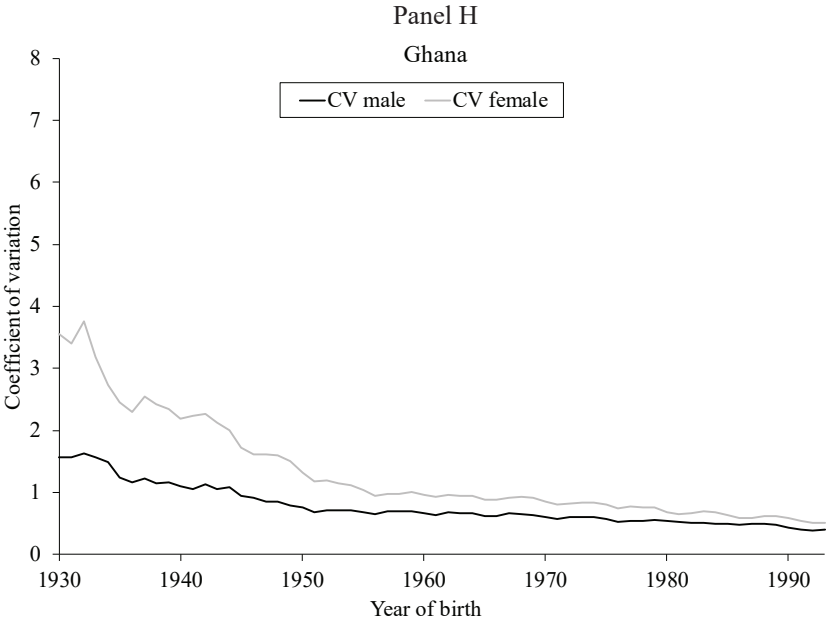
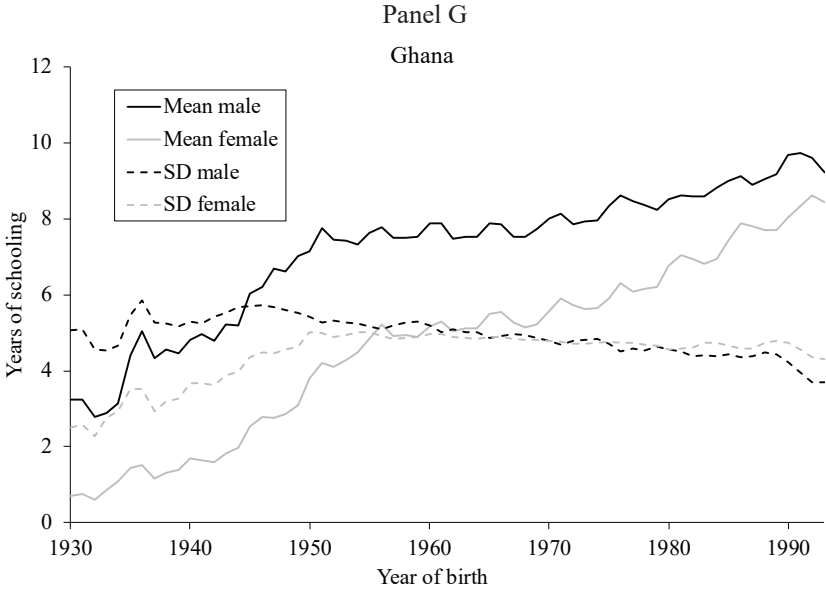


Figure 5.9 (continued)



SOURCE: Author's calculations from Demographic and Health Surveys (2018) data.

Figure 5.10 Mean, Standard Deviation, and Coefficient of Variation of Schooling by Year of Birth, Males and Females, Selected Latin American and Asian Countries

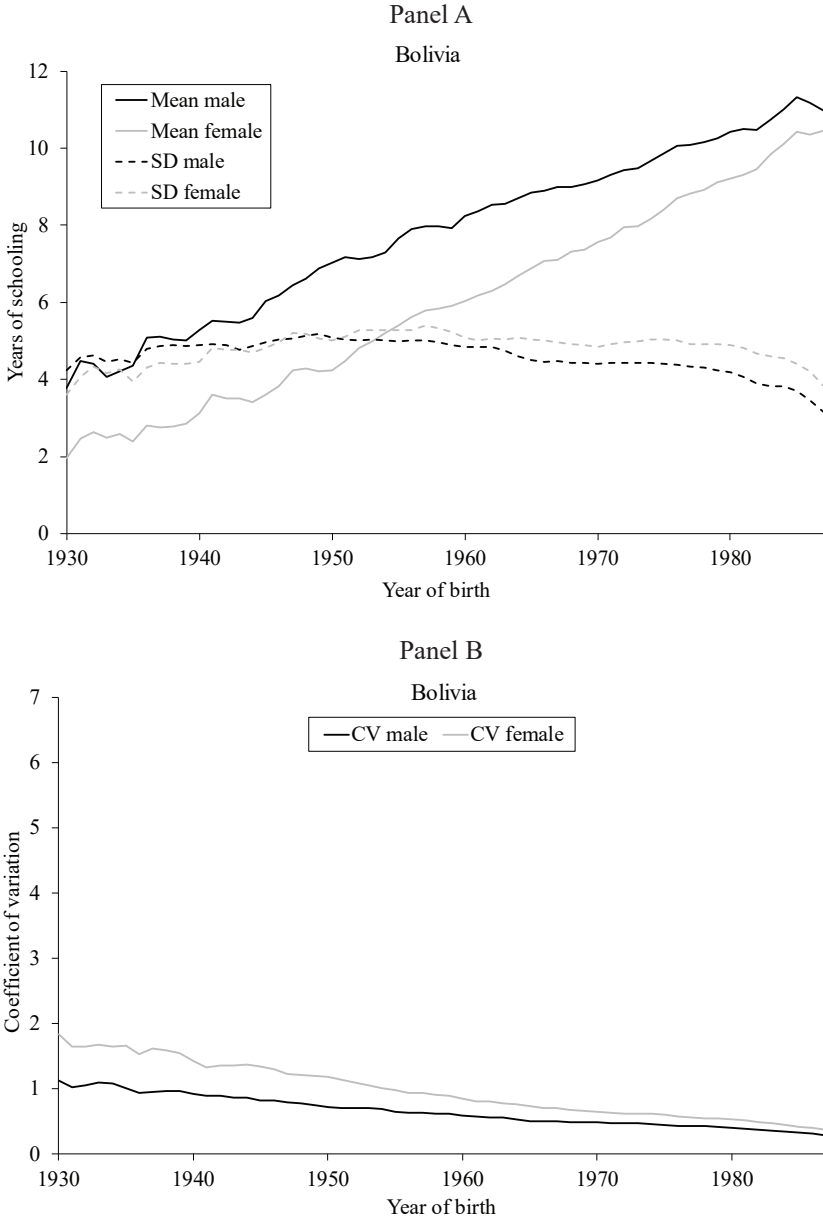


Figure 5.10 (continued)

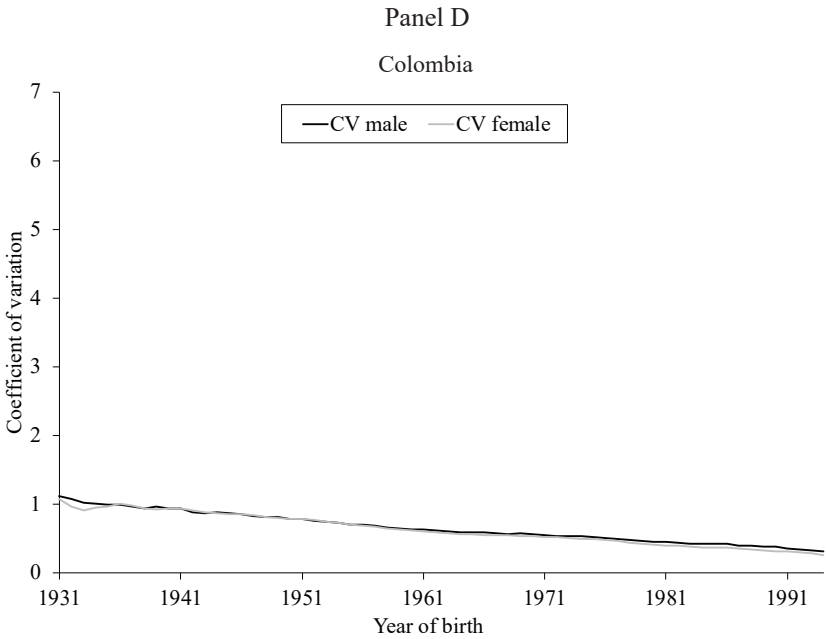
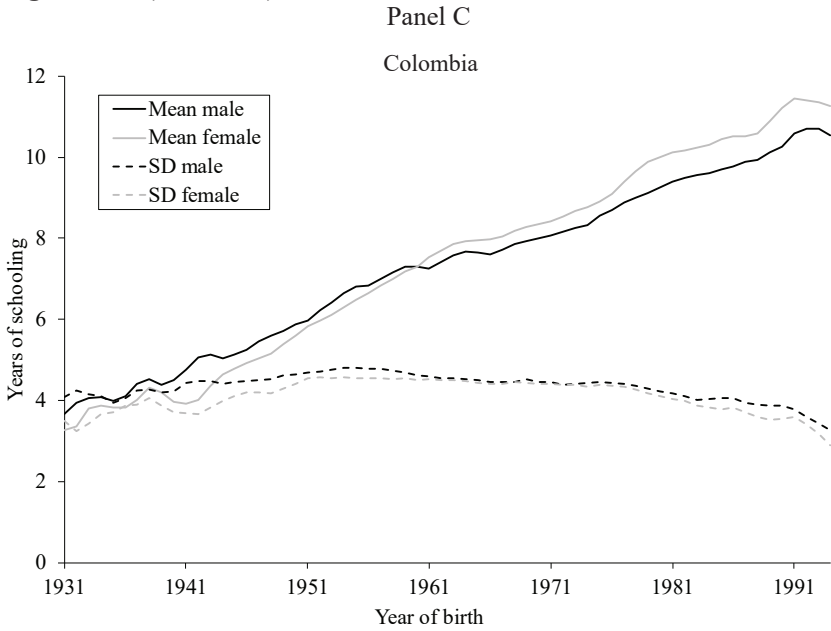


Figure 5.10 (continued)

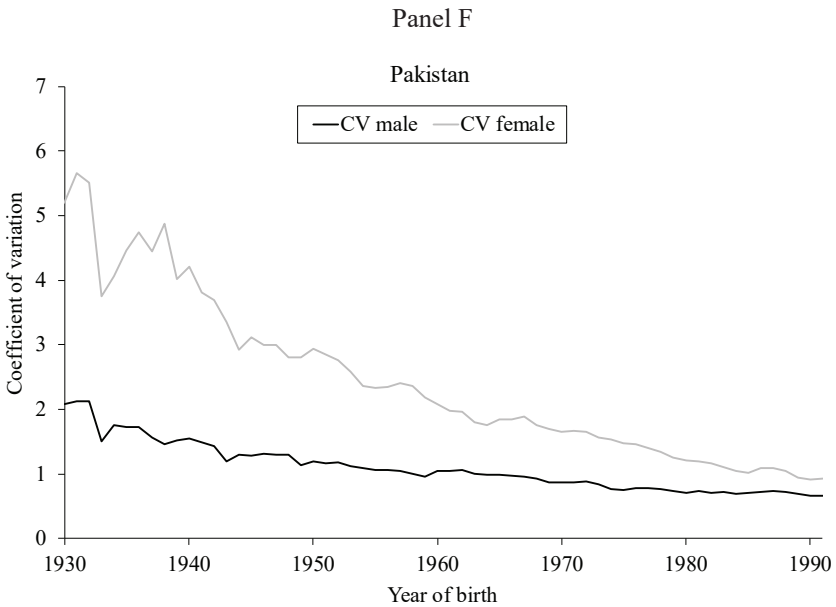
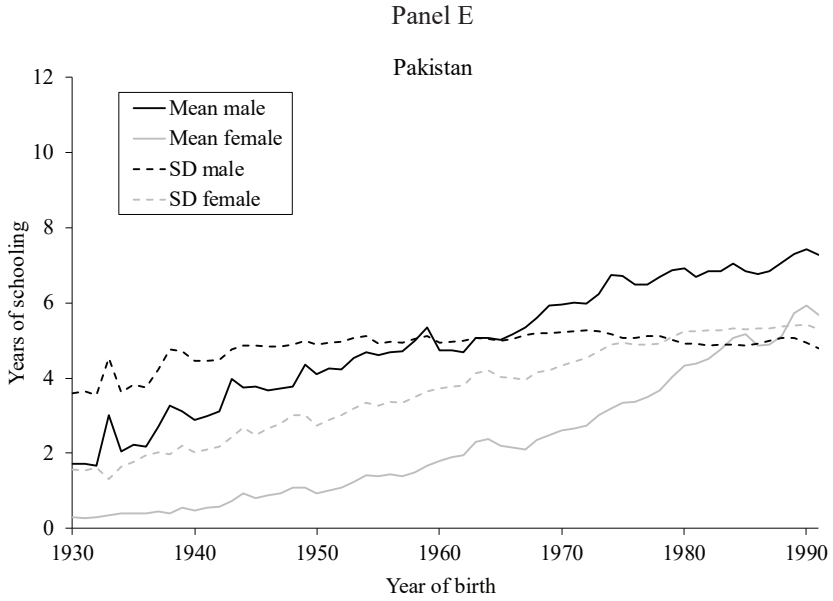
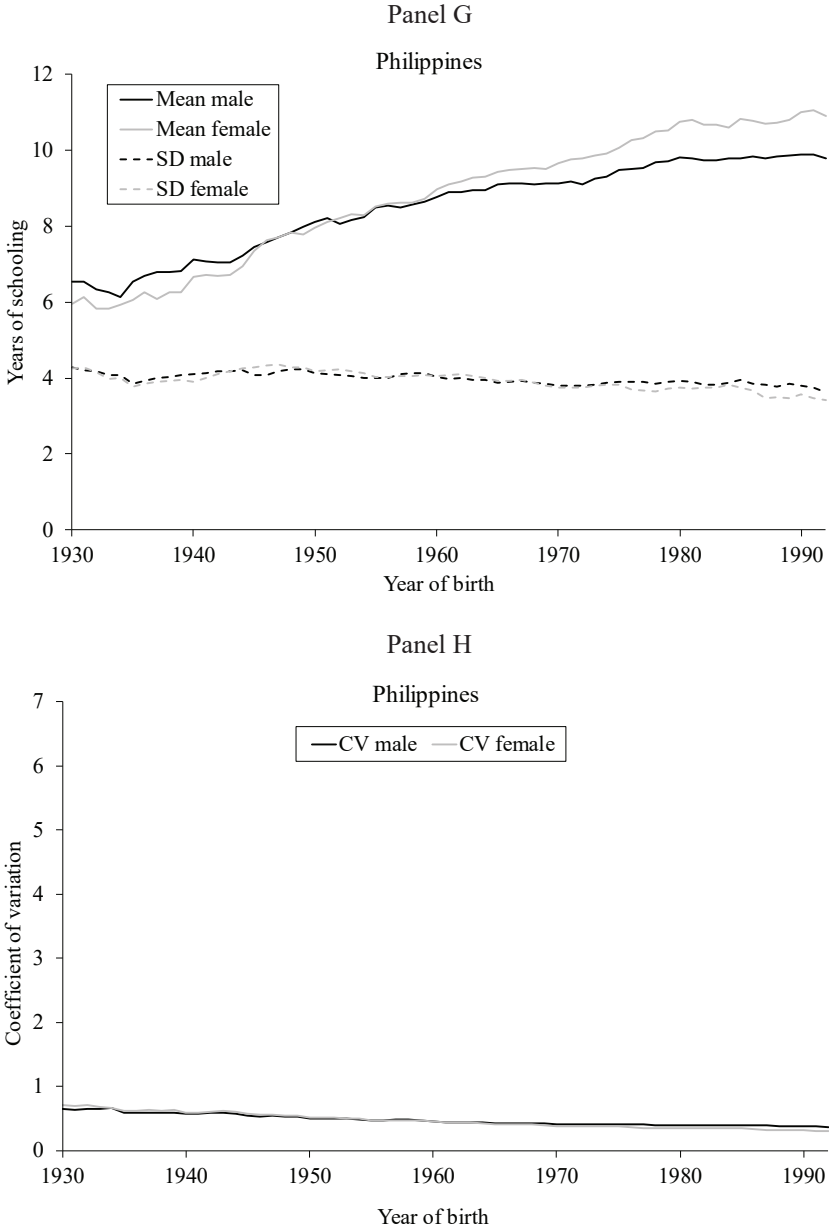


Figure 5.10 (continued)



SOURCE: Author's calculations from Demographic and Health Surveys (2018) data.

ings inequality would have increased and then decreased, following the pattern of the standard deviation if earnings were log-linear in schooling and the returns to schooling were constant.

Although the standard deviation in schooling rises for some period in every country, the coefficient of variation tends to steadily decline for both men and women. The coefficient of variation is higher for women in the early cohorts that have low mean schooling for women, with a strong convergence as the mean schooling converges. As was seen in Bangladesh, there is a strong tendency for schooling inequality, as measured by the coefficient of variation, to fall rapidly as mean schooling increases.

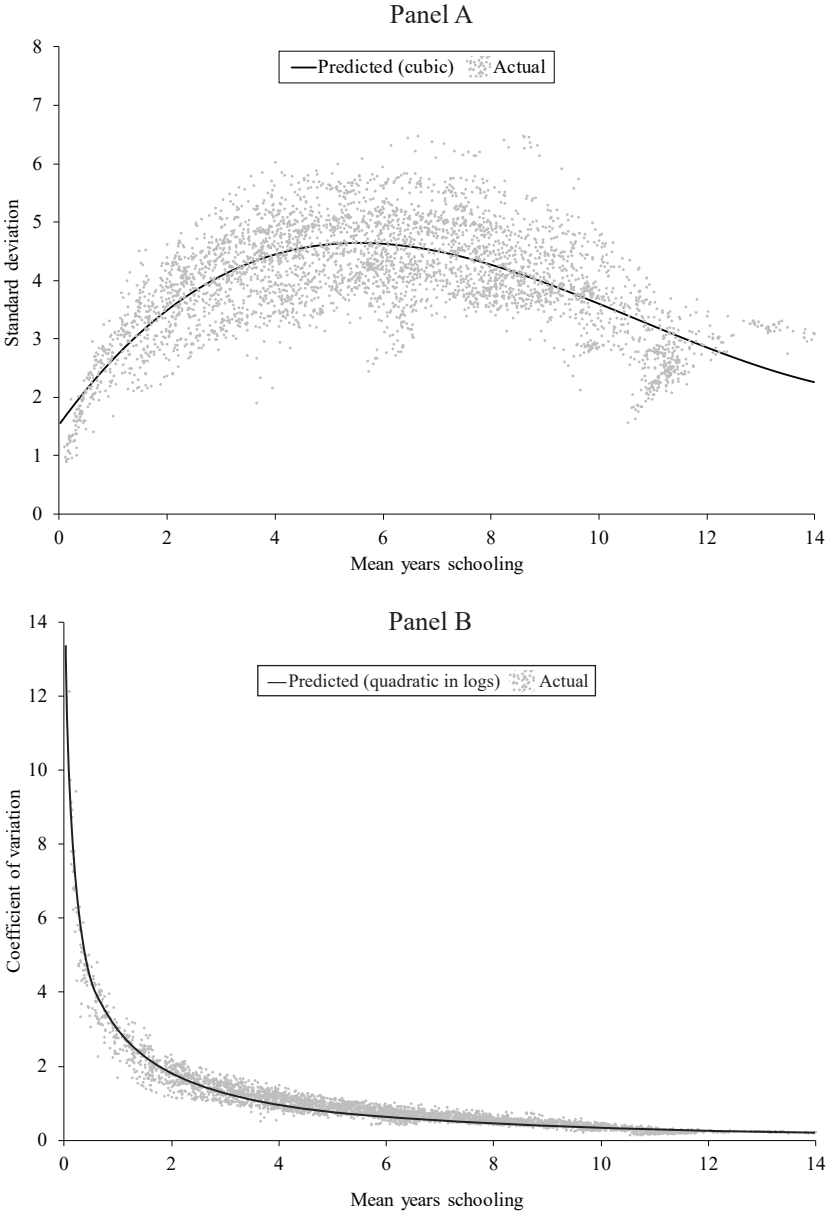
Figure 5.10 shows similar patterns for Bolivia, Colombia, Pakistan, and the Philippines. Mean schooling increases, the gender gap declines or even reverses (reversal is seen in Colombia, Pakistan, and the Philippines), the standard of deviation shows a U-shaped pattern over time, and the coefficient of variation falls steadily.

Analysis of the differences across time and countries in Figures 5.9 and 5.10 suggests that countries and time periods characterized by low mean schooling are also characterized by a high coefficient of variation in schooling. There is also evidence that the inverted U-shaped pattern in the standard deviation of schooling over time is mapping out an inverted U-shaped pattern in the relationship between the standard deviation and the mean. In order to analyze this directly, Figures 5.11 and 5.12 show plots of the standard deviation and coefficient of variation against the mean years of schooling.

The top panel of Figure 5.11 shows a clear inverted U-shape in the relationship between the standard deviation and the mean for men. Each data point is a birth cohort in a specific country, so the figure combines variation over time in a given country with variation across countries. The inverted U-shape is very clear in the scatter plot, with a cubic polynomial function fitted to the scatter showing a peak in the standard deviation at a mean of about five to six years of schooling.

The bottom panel shows the relationship between the coefficient of the variation and the mean. There is a very strong negative concave relationship, almost the shape of a rectangular hyperbola. The figure shows that a quadratic in the log of the mean fits the shape of the scatter quite well.

Figure 5.11 Standard Deviation and Coefficient of Variation of Schooling by Mean Schooling, Males, All Cohorts in All DHS Samples



SOURCE: Author's calculations from Demographic and Health Surveys (2018) data.

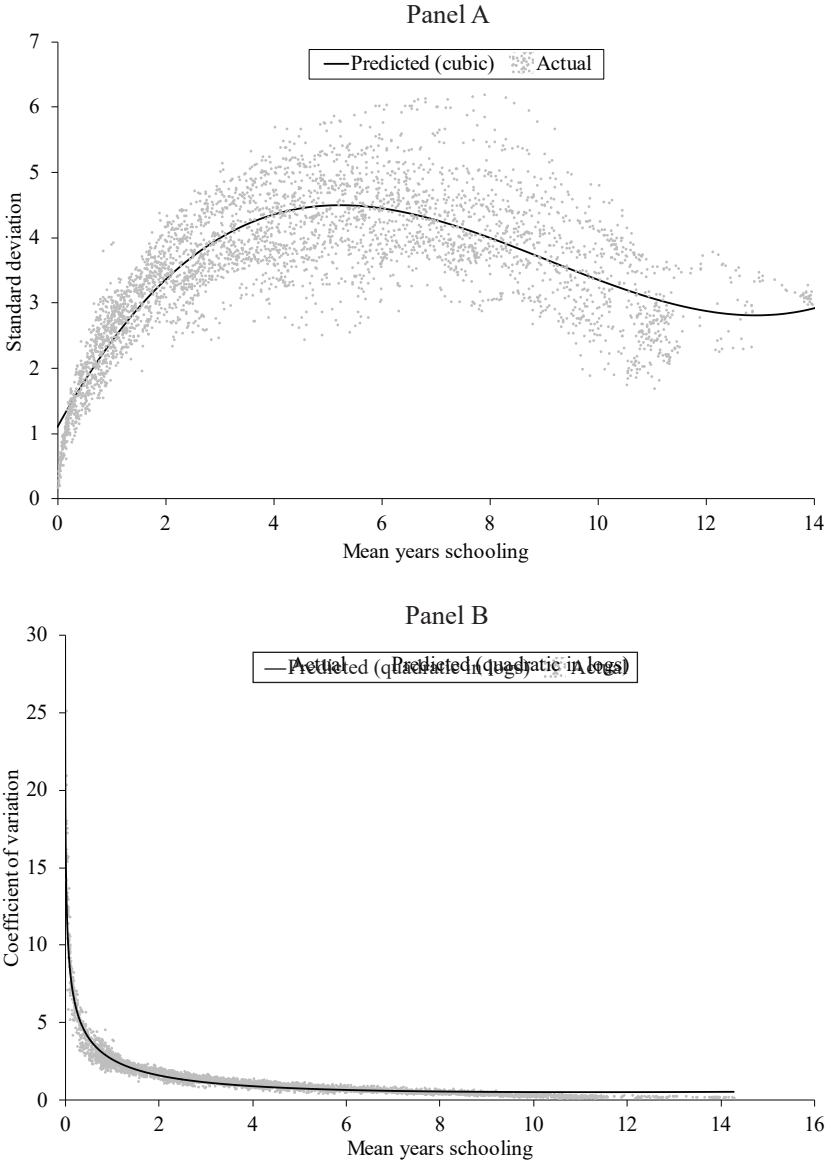
The two panels give a very clear indication of the compression that takes place in the schooling distribution as mean schooling increases. The standard deviation tends to rise more slowly than the mean as the mean increases, eventually reaching a peak and then falling. The coefficient of variation tends to fall steadily as the mean increases. A similar decline in schooling inequality as mean schooling increases would be seen for virtually all measures of schooling inequality, including Lorenz curves.

Figure 5.12 shows that these same patterns apply to female schooling. It should be noted for both male and female schooling that there is some evidence that the standard deviation levels off when the mean reaches around 12 years. It is important to keep in mind that only countries with DHS data are used here. This means the data are limited to low-income and middle-income countries, with relatively few cohort/country data points having mean schooling above 11 years of schooling. It is beyond the scope of this chapter to analyze schooling inequality at higher levels of schooling, but this is an interesting area for further analysis.

RETURNS TO SCHOOLING AND EARNINGS INEQUALITY IN BRAZIL AND SOUTH AFRICA

The evidence on schooling inequality documented in the previous section makes a compelling case that inequality in years of completed schooling tends to decline steadily and substantially as mean schooling increases in all parts of the world. Most countries have seen substantial increases in mean schooling, declines in schooling inequality, and a U-shaped pattern in the standard deviation that has been on the declining part of the curve in recent decades. If the relationship between schooling and earnings were remaining constant, these factors should have produced a decline in earnings inequality in most countries. But, as shown in the first part of the chapter, inequality in income and consumption has been rising in many countries and has been fairly flat in other countries. It is important to note that these measures of income and consumption inequality are not the same as earnings inequality. Labor earnings are just one component of income and consumption,

Figure 5.12 Standard Deviation and Coefficient of Variation of Schooling by Mean Schooling, Females, All Cohorts in All DHS Samples



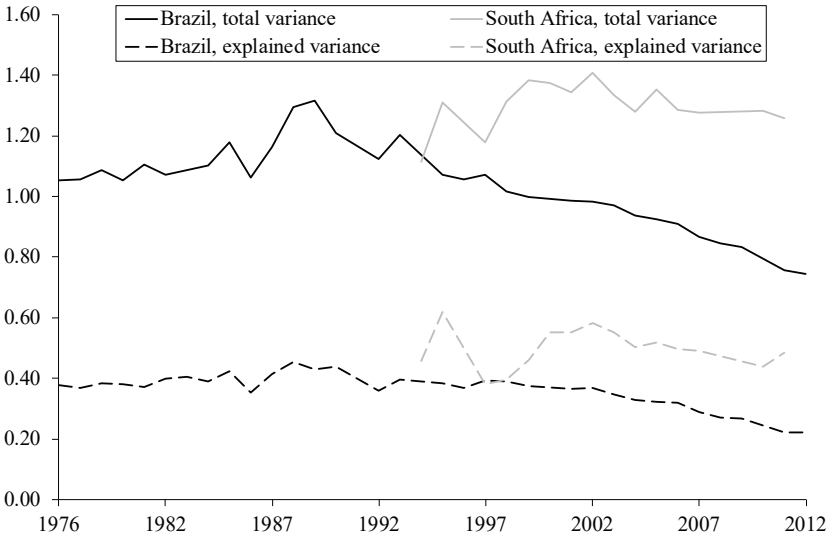
SOURCE: Author’s calculations from Demographic and Health Surveys (2018) data.

albeit a very important component in most countries. We unfortunately have good data on labor market earnings only for a much smaller set of countries, especially across multiple years and especially in Africa.

This section of the chapter will focus on Brazil and South Africa, two countries that have excellent data on labor market earnings in addition to education, drawing on results in Lam, Finn, and Leibbrandt (2015). Brazil and South Africa are particularly interesting cases because they historically have had two of the highest levels of income inequality in the world. The data are taken from nationally representative labor market surveys conducted by the national statistical agencies in each country. Brazilian data are from the Pesquisa Nacional por Amostra de Domicílios (PNAD) from 1976 to 2012, collected by the Instituto Brasileiro de Geografia e Estatística (IBGE, various years). The South African data are from the October Household Survey and the Labour Market Survey, collected by Statistics South Africa and integrated to increase consistency across years in the Post Apartheid Labour Market Series (PALMS, for years 1994 through 2011) (Kerr, Lam, and Wittenberg 2014). All earnings data are monthly and are reported in real terms, and all data are weighted so as to be nationally representative. The one major difference between the Brazilian and South African earnings data is that the former are reported before taxes, while the latter are reported net of taxes. Data after 2012 are not used for either country because changes in the labor market surveys create inconsistencies in the series.

Figure 5.13 shows the variance of log earnings for Brazil and South Africa for the sample of all workers, both males and females, with positive earnings, aged 25–60. The data for South Africa, which begin after the end of apartheid in 1994, can be compared to the series for South Africa in Figure 5.1, which shows the Gini coefficient for household income per capita. Both figures show an increase in inequality in South Africa since 1994, with relatively constant earnings inequality since about 2000. Comparing South Africa to Brazil, earnings inequality in Brazil was similar to earnings inequality in South Africa at the time apartheid ended, and it had been at fairly similar levels in previous decades. Earnings inequality began to decline in Brazil in the 1990s, however, falling substantially from 1994 to 2012. As shown in Lam, Finn, and Leibbrandt (2015), Gini coefficients for earnings show very similar patterns to the variance of log earnings.

Figure 5.13 Total Variance and Explained Variance of Log Earnings, Brazilian and South African Workers Aged 25–60 with Positive Earnings

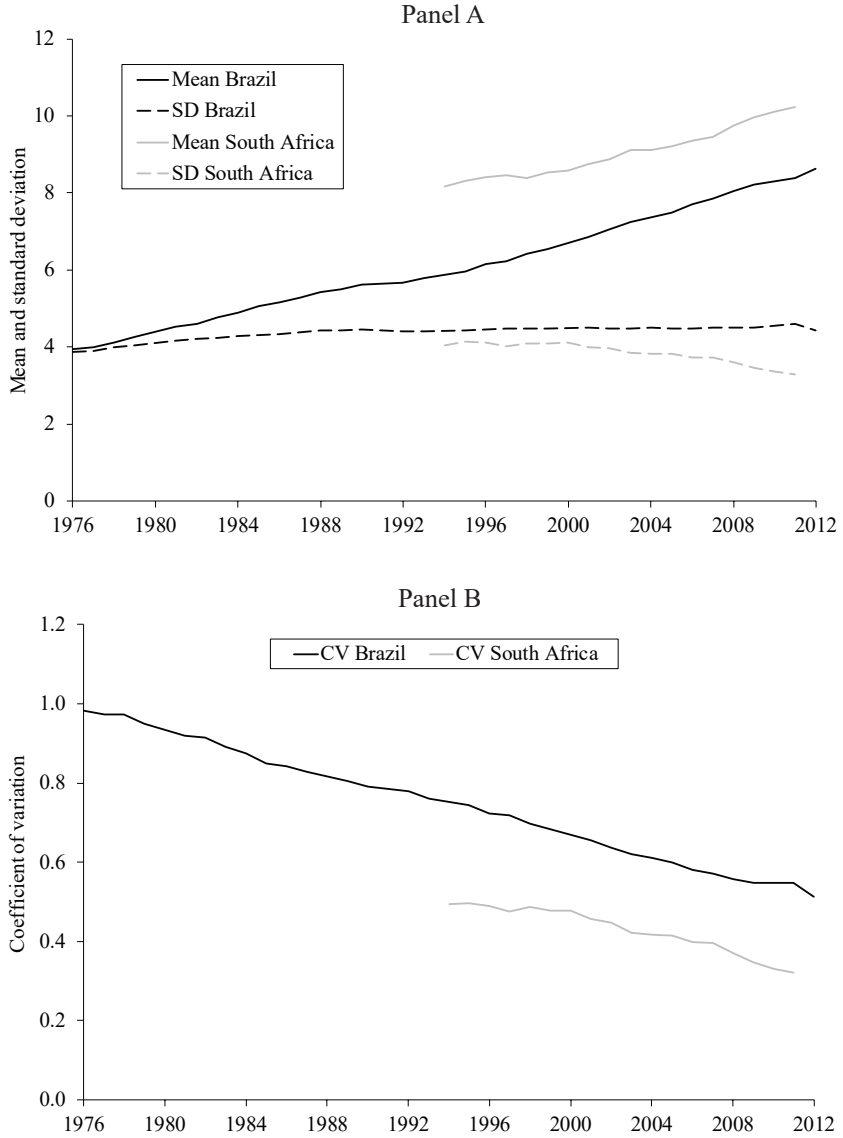


SOURCE: Explained variance is a component of variance explained by an earnings regression with schooling, age, race, and gender. Estimated from the national labor market survey described in the text.

Figure 5.13 also shows the “explained variance” component of the variance of log earnings. This is the variance of predicted log earnings based on a regression of log earnings on dummy variables for single years of schooling, along with controls for age and age squared. Explained variance follows very similar trends to overall variance, with Brazil showing a decline in explained variance starting around 1994 and South Africa having relatively constant explained variance. This is important, since it means that some combination of the change in the distribution of schooling and changes in returns to schooling help explain the divergent patterns in earnings inequality in the two countries.

Figure 5.14 shows trends in the mean, standard deviation, and coefficient of variation in years of completed schooling for both countries. As in the patterns shown for many other countries in Figures 5.8, 5.9, and 5.10, Brazil and South Africa both have increases in mean school-

Figure 5.14 Mean, Standard Deviation, and Coefficient of Variation of Years of Completed Schooling, Brazilian and South African Workers Aged 25–60 with Positive Earnings



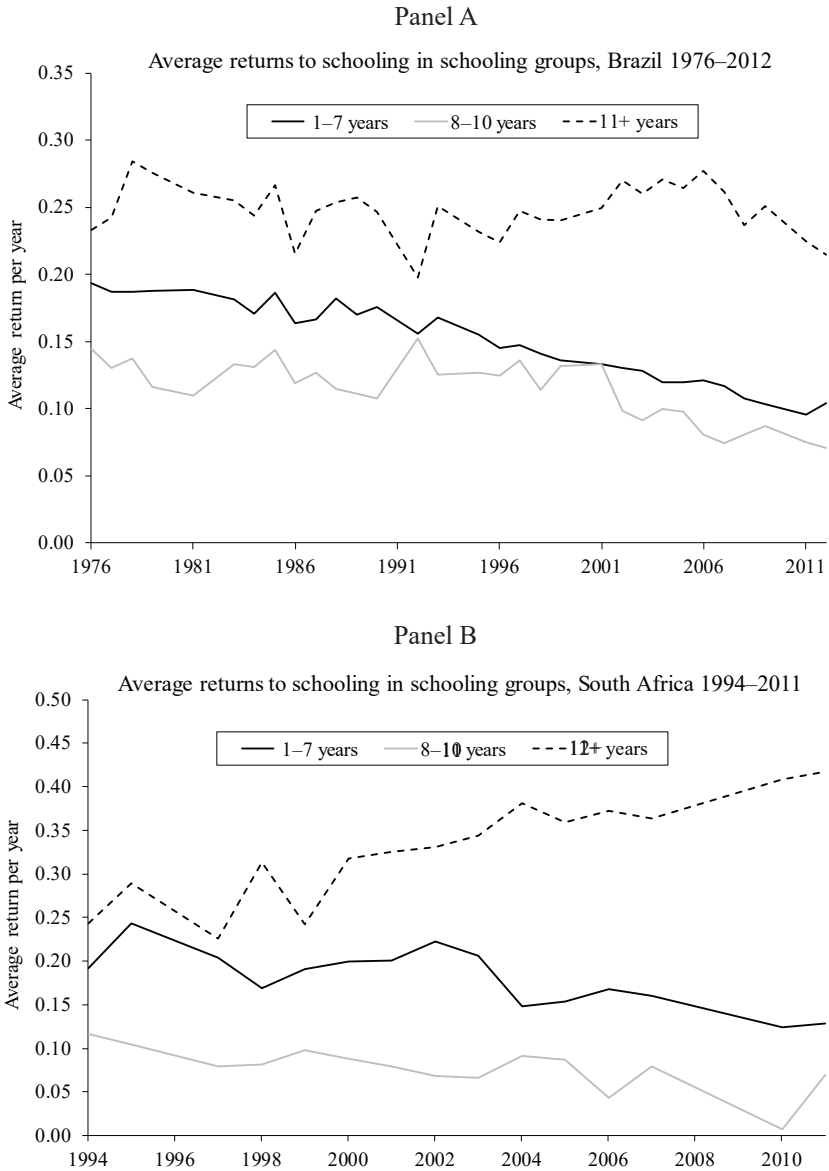
SOURCE: Author's calculations from national labor market survey described in text.

ing, some evidence of a U-shaped pattern in the standard deviation, and rapid declines in schooling inequality, as measured by the coefficient of variation. South Africa has higher mean schooling, a lower standard deviation in schooling, and a lower coefficient of variation, adding to the puzzle of why it has higher earnings inequality than Brazil and has had flat or rising earnings inequality during a period in which Brazil has had falling earnings inequality.

A major factor explaining this puzzle can be seen in Figure 5.15, which shows what has happened to the relationship between schooling and earnings in Brazil and South Africa over the periods shown. The two panels show the estimate of the average return to an additional year of schooling for three different schooling ranges that can roughly be considered *low schooling*, *medium schooling*, and *advanced schooling*, with natural breaks in each country's schooling system used for the breakdowns. The top panel shows the returns to schooling in the 1–7 year range, the 8–10 year range, and the 11+ range—11 years corresponding to completion of secondary school. Returns are estimated using standard Mincer earnings regressions that estimate a spline function that is linear within each of the three schooling levels. For example, the estimate of 0.15 for the 1–7 year schooling level in Brazil in 1976 means that one additional year of schooling was associated with a 15 percent increase in earnings over the range of schooling from 1 to 7 years. Returns to one additional year of schooling in the 8–10 year range were almost 20 percent in the 1970s, while returns to one additional year beyond grade 11 were about 25 percent, a very high rate of return. Note that these are conventional estimates of returns that do not attempt to deal with selection bias and should not be considered the causal impact of schooling on earnings. They also do not take into account the fairly high levels of grade repetition that take place in both Brazil and South Africa (Lam, Ardington, and Leibbrandt 2011). They are nonetheless useful in thinking about the relationship between schooling inequality and earnings inequality.

There are several striking features about the returns to schooling in Brazil in the top panel of Figure 5.15. Returns to schooling are significantly higher at higher levels of schooling, with the gap between returns at the postsecondary level and returns at the incomplete secondary level increasing over time. Returns to schooling in the bottom two levels fall substantially over time, with returns to a year of incomplete secondary

Figure 5.15 Estimated Returns to Schooling, Brazilian and South African Workers Aged 25–60 with Positive Earnings



SOURCE: Author's calculations from national labor market survey described in text.

school falling roughly in half, from about 20 percent to 10 percent, between 1976 and 2012. Returns to an additional year of postsecondary school stay relatively constant, with evidence of a decline starting around 2006.

The bottom panel shows similar estimates for South Africa. Returns to an additional year of schooling in 1994 are fairly similar to those in Brazil—about 10 percent in the 1–7 year range, about 20 percent in the 8–11 range, and about 25 percent in the 12+ range, with 12 years marking the end of secondary school in South Africa. As in Brazil, returns to the lower two levels of schooling fall over time. Returns to each year of postsecondary schooling dramatically increase over time, however, rising from 25 percent per year to about 40 percent per year between 1994 and 2011. This is an enormous increase in what were already very high returns to postsecondary schooling. It should be noted that these returns are estimated using only the sample of men and women with positive labor market earnings. In South Africa, there is also a strong relationship between schooling and the probability of being employed, with very high unemployment levels at lower levels of schooling. Incorporating employment into the picture would create an even larger economic advantage for those with higher levels of education, an additional source of income inequality.

The striking difference between the two panels in Figure 5.15 is the large increase in returns to each year of postsecondary education in South Africa compared to flat or falling returns to each year of postsecondary education in Brazil. As shown in Lam, Finn, and Leibbrandt (2015), this increase in returns to postsecondary schooling in South Africa is an important factor in explaining why the decline in schooling inequality in South Africa has not translated into a decline in earnings inequality. More surprisingly, Lam et al. also show that the decline in returns to schooling in the incomplete secondary range is also a contributing factor to rising inequality, since this group of workers is now a relatively lower-earning part of the income distribution. In Brazil, by contrast, the decline in schooling inequality has not been offset by increasing returns to schooling at the top. This follows a more general trend in Latin America in which a decline in the earnings gap between high-skilled and lower-skilled workers has worked in the direction of reducing earnings inequality in recent decades (World Bank 2011; Lustig, Lopez-Calva, and Ortiz-Juarez 2013). The South African pattern

is more consistent with the trend toward rising skill premiums, which has played an important role in explaining rising wage inequality in the United States (Bound and Johnson 1992; Juhn, Murphy, and Pierce 1993) and other high-income countries. Evidence for low-income and middle-income countries outside Latin America is much more limited, however, in part because of the challenges in estimating returns to schooling in predominantly agricultural economies, and also because few countries have high-quality labor market survey data that is collected consistently over time to allow comparable measures of returns to schooling for different time periods.

CONCLUSION

A major goal of this chapter has been to demonstrate that inequality in years of completed schooling has been declining in most developing countries in recent decades. Data from a wide distribution of countries in Africa, Asia, and Latin America demonstrate that increases in the mean level of schooling tend to be associated with a compression in the distribution of schooling. Unlike the growth trend that often happens with a family's earnings from one generation to the next, the children of highly educated individuals do not tend to get higher and higher levels of schooling across generations, given the upper bound on years of schooling. As a result, inequality in schooling, measured here by the coefficient of variation, tends to fall as mean schooling rises and the schooling distribution compresses.

Given the strong positive relationship between schooling and earnings, a compression in the distribution of schooling might be expected to reduce earnings inequality and, more broadly, inequality in household income. There is not, however, a general trend toward declining inequality in earnings and household income in developing countries, in spite of the substantial declines in schooling inequality. This chapter provides several explanations for this disconnect between trends in schooling inequality, which is declining almost everywhere in the developing world, and trends in income inequality, which is rising or fairly constant in a number of countries.

The first explanation for this disconnect is theoretical. When earnings are a log-linear (convex) function of schooling, as predicted by Mincer (1974) and as found in much empirical research, it is easy to construct examples in which expansions in schooling that reduce schooling inequality may also increase earnings inequality. Any increase in the standard deviation of schooling will increase the variance of log earnings, a standard measure of earnings inequality, even if there is a decrease in the coefficient of variation and all other mean-invariant measures of schooling inequality. Empirical evidence on changes in the distribution of schooling for a large number of low- and middle-income countries using Demographic and Health Surveys data shows that schooling expansions often follow this pattern. Initial increases in mean schooling are associated with an increase in the standard deviation of schooling but a decline in the coefficient of variation in schooling. This means that earnings inequality will tend to increase at the same time that schooling inequality is decreasing, even if the returns to schooling are constant and there are no other changes affecting earnings inequality. As mean schooling continues to increase, there is eventually a decline in both the standard deviation and the coefficient of variation, changes that would in and of themselves imply declines in both earnings inequality and schooling inequality.

Another factor often works in the direction of increasing earnings inequality, however, even when changes in the schooling distribution should lead to declining earnings inequality. This factor is returns to schooling—the relationship between years of schooling and earnings. Increases in the returns to schooling, especially at the highest levels of schooling, have played an important role in the increase in earnings inequality in the United States, and similar patterns are seen in a number of developing countries. This chapter documents this pattern for the case of South Africa, where earnings inequality continues to be one of the most extreme in the world in spite of declines in schooling inequality that would have otherwise led to falling earnings inequality. A large increase in returns to postsecondary schooling has had disequalizing effects that offset the equalizing effects of declining inequality in schooling. This contrasts with the case of Brazil, where there was not the same increase in returns to postsecondary schooling, with the result that declines in schooling inequality have produced declines in earnings inequality.

Unfortunately, we do not have high-quality labor-market survey data to analyze trends in returns to schooling in many low-income countries. It seems likely that in many of the countries that have experienced rising inequality in household income and consumption, there is an important contribution to be made by increases in returns to schooling, especially at the top of the schooling distribution. These changes are likely to offset what would otherwise be the equalizing effect of declines in inequality in schooling. Future research will hopefully provide a clearer picture of the extent to which other low-income and middle-income countries are experiencing the South African pattern, in which increasing returns to schooling are a key factor in the disconnect between falling inequality in schooling and rising inequality in income.

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6

Institutions, Structures, and Policy Paradigms

Toward Understanding Inequality in Africa

Howard Stein
University of Michigan

The trajectory of development in sub-Saharan Africa remains puzzling to mainstream economists. Poverty stays stubbornly high, growth has been uneven, and life expectancy has continued to lag relative to other regions, despite governments adopting policies inspired by neo-classical economics. Economists have used a host of extraneous explanations for what some have called “Africa’s tragedy,” including ethnicity, geography, colonial history, the legacy of the slave trade, poor governance, poorly developed social capital, and other things. The number of variables purportedly correlated with growth grew dramatically over time in the literature, reaching by one count a rather implausible 86 regressors by 2000 (Chitonge 2015).

More recently, in line with new concerns about income inequality, orthodox economics has turned to trying to explain the pattern of income distribution in Africa. Contrary to Kuznets’s prediction that regions with low industrialization and a high reliance on agriculture should have an equitable distribution of income, sub-Saharan Africa has had high and worsening income inequality in recent decades, despite evidence of deindustrialization and despite most of its population living in rural areas. As argued in this chapter, part of the problem with using Kuznets’s formulation is its reliance on the faux naturalism that is embedded in the neoclassical theory of distribution, in which factors of production in a competitive market are supposed to be paid according to their marginal contribution to production.¹

The belief in Kuznets’s curve follows this erroneous presumption—e.g., that peasants received income commensurate with their land and

labor, which is comparatively equitable in economies dominated by rural production. With industrialization, the divide between urban-based wage income and rural income will grow, and income inequality will worsen. Only with the shrinking of the rural sector will equality be restored. When this pattern is not being observed, instead of questioning the underlying assumption, neoclassicals tend to search for extraneous factors that can explain this exceptionalism. As we will argue in this chapter, the effort to understand income inequality needs to transcend the faux naturalism of neoclassical economics to focus on the evolution of the institutions, related economic structures, and the way Africa has been integrated into the global economy, all of which determine the current and historical patterns of income distribution. At the core of the explanation are the shifting structures of power which underlie the generation of disparities in material awards.

The chapter begins with a review of trends in income distribution in sub-Saharan Africa, focusing on Gini coefficients. The chapter then turns to a critical review of the mainstream economic view of distribution and its applications to understanding inequality in Africa, including its impact on policy formation, which has contributed to the exacerbation of distribution. The paper will then discuss the institutional approach to income distribution. The final section will apply the theory to understanding the patterns we have observed in sub-Saharan Africa.

TRENDS IN INEQUALITY IN SUB-SAHARAN AFRICA

The picture of income distribution in sub-Saharan Africa is not a pretty one. Nel (2018) compiled the Gini coefficients on consumption and wealth dispersal for different regions of sub-Saharan Africa based on the latest data he was able to access. These are summarized in Table 6.1.

We can see that while there are enormous variations in the Gini coefficients in Africa, there are a surprising number of countries above the 50 threshold, which is considered to be highly unequal. Nearly 25 percent of the countries listed in Nel's Table 8.1 (p. 107) are above 50. In contrast, only two countries would be deemed to be highly equitable, or having a Gini below 30 (Kenya in 2007; Niger in 2011). The vast

Table 6.1 Inequality of Consumption and Wealth: Various Years

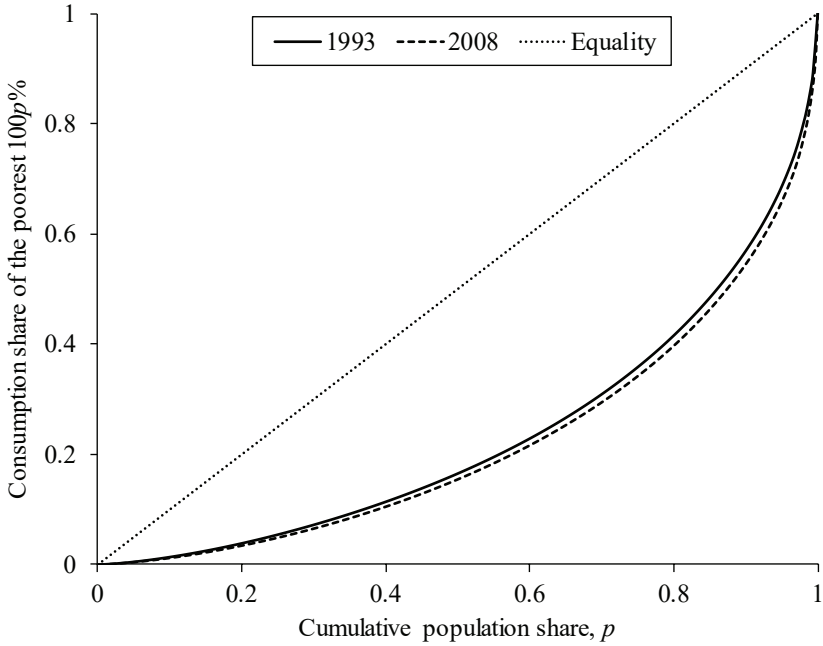
African region	Years of survey	Gini of consumption dispersal—mean and range	Gini of wealth dispersal—mean and range
Southern	1994–2010	52.4	75.3
Western	2002–2011	41.1	68.7
Central	2003–2011	44.4	69.8
Sahel	2008–2011	37.5	66.0
Eastern	2002–2011	41.0	69.0
Total	1994–2011	44.0 (29.9–73.5)	70.2 (62.4–82.9)

SOURCE: Nel (2018).

majority are above 40, which according to Nel is “surprisingly high, given the low level of modernization” (Nel 2018). As we will discuss below, these figures are likely to understate the extent of inequality in Africa. One should also recognize the variations of dates in which the surveys were undertaken (these different spans are shown in the column of Table 6.1 titled “Years of survey”). Nel also presents “less reliable” wealth dispersal Ginis, which seem to be more uniformly and disturbingly high. While this provides a snapshot of the inequality in the region, it does not tell us if distribution is improving or worsening over time.

Jirasavetakul and Lakner (2016) have examined the aggregate trends in the region from 1993 to 2008 based on household budget surveys that also focus on consumption expenditures. The authors’ approach is to use interpersonal inequality, in which everyone is assigned his or her own income, rather than looking at average or weighted averages of countries. They themselves admit that the numbers are bound to be understated, because they do not have data on the most fragile country economies, and because the surveys badly underestimate the consumption expenditures of the richest segments of the population. It should be noted that these numbers are also likely understated given the well-known underrepresentation of the poorest segments of the population in household budget surveys. The study also uses 2011 purchasing power parity (PPP), which tends to disproportionately raise lower incomes, given the overrepresentation in international price comparisons of the nontradable goods, which tend not to be consumed by the poor.²

Figure 6.1 Lorenz Curve for Africa: 1993–2008



SOURCE: Jirasavetakul and Lakner (2016).

Above, Figure 6.1 shows the Lorenz curve, which clearly illustrates negative trends. We can see the steady movement to the right of the Lorenz curve over time, indicating worsening inequality. Data on the Gini coefficient confirm this. The Gini rises from 51.68 in 1993 to 52.16 in 1998, 54.13 in 2003, and 56.12 in 2008. In 2008, sub-Saharan Africa had the highest regional Gini in the world. (In 2007, the world’s mature economies were at 41.1 percent; Russia, Central Asia, and southeastern Europe at 42.7 percent; Latin America and the Caribbean at 52.2 percent; and East Asia and the Pacific at 45.9 percent.)

Table 6.2 attempts to follow trends over a longer period of time at the country level. Countries are selected from the UNU/WIDER inequality data set of the United Nations University World Institute for Development Economics Research (UNU/WIDER) based on the availability of information over the three periods. As much as possible, we

Table 6.2 Income Distribution Patterns in a Selection of Sub-Saharan African Countries

Country	Gini (year), early SAP ('81–'91)	Gini, middle years ('96–'02)	Gini, latest ('05–'14)
Botswana	54.21 (1985)	64.73 (2002)	60.46 (2009)
Cameroon	49 (1983)	54.4 (1996)	46.54 (2014)
Côte d'Ivoire	41.2 (1985)	44.0 (1998)	43.94 (2008)
Ethiopia	32.2 (1981)	29.5 (2000)	31.4 (2011)
Ghana	35.99 (1988)	43.4 (1998)	42.77 (2005)
Kenya	57.3 (1981–83)	46.5 (1997)	48.51 (2005)
Lesotho	55.9 (1986)	51.57 (2002)	54.18 (2010)
Madagascar	46.9 (1980)	40.2 (1999)	42.65 (2010)
Malawi	57.3 (1983)	49.3 (1997)	46.12 (2010)
Mali	36.5 (1989)	39.87 (2001)	38.93 (2006)
Mauritania	42.5 (1988)	39.03 (2000)	32.42 (2014)
Mauritius	35.2 (1980)	37.1 (2001)	35.84 (2012)
Nigeria	35.2 (1981)	48.3 (1996)	48.8 (2010)
Rwanda	28.89 (1984)	45.43 (2000)	50.44 (2013)
South Africa	47 (1985)	54.5 (1997)	73.25 (2011)
Tanzania	35.29 (1991)	37.3 (2000)	37.78 (2011)
Uganda	37.13(1989)	43 (1999)	41.01(2012)
Zambia	48.4 (1991)	57.4 (1998)	55.62(2010)
Mean	43.11	45.86	46.15

SOURCE: Stein (2011); WIDER (2017).

have tried to focus on similar methodologies used in each country over time (though this was not always possible) and to have gaps in the data in each country in the three columns of at least five years. What we see on average is a rising trend in inequality over time. As we would expect, the unweighted average is much lower than the interpersonal inequality discussed above. Still, two-thirds of the countries have rising income inequality from the 1980s to the 1990s and early 2000s, and for more than 60 percent of the countries, the latest Gini coefficients are above the level of the 1980s. The majority of the declines were tiny—well under 10 percent. In the column for the latest figures, the majority of countries on the list have Ginis above 45, a sign of high inequality which is, as we will see, contrary to what the supporters of Kuznets and the marginal theory of distribution predict.

MAINSTREAM THEORY OF DISTRIBUTION

The mainstream literature on inequality has been built around the myth that income is based on ownership of factors of production and that these factors are paid according to their marginal contribution to production.³ To quote John Bates Clark, the wunderkind proponent of the marginalist revolution in America and an early leader in the anti-institutionalist movement, “We may now advance the more general thesis . . . that, where natural laws have their way, the share of income that attests to any productive function is gauged by the actual product of it. In other words, free competition tends to give to labor what labor creates, to capitalists what capital creates, and to entrepreneurs what the coordinating function creates” (Clark [1908], p. 13).

Independent of the Cambridge critique of the problematic nature of measuring the value of capital—and hence the contribution of capital to production—which goes back to the 1960s, what we have here is clearly a normative argument dressed up to be objective. The share of income accruing to resource owners is given by the exchange value lost if the resource were held back from the production process. Here the invisible hand of the market ensures that the income received is equivalent to the value contributed by the factor of production at the margin (Brown 2005).

Hence, in standard economic texts like Mankiw and Taylor (2011), inequality is linked to the shifts in technology and their availability in the educational system. If the educational system develops at the same pace as technology, the highly educated groups will not gain at the expense of the lower educational ones. However, if it does not, the educated groups with the appropriate skills will be rewarded relative to the low-income groups with less education. Even in the face of rapidly rising inequality for the upper 1 percent, Mankiw defends the theory:

If indeed a year of schooling guaranteed you precisely a 10 percent increase in earnings, then there is no way increasing education by a few years could move you from the middle class to the top 1 percent. But it may be better to think of the return to education as stochastic. Education not only increases the average income a person will earn, but it also changes the entire distribution of possible life outcomes. It does not guarantee that a person will end up in the

top 1 percent, but it increases the likelihood. I have not seen any data on this, but I am willing to bet that the top 1 percent are more educated than the average American; while their education did not ensure their economic success, it played a role. (Mankiw [2011], quoted in Syll [2014])

The argument has allowed some of the more prominent members of the economics profession to dismiss concerns about income inequality. The Nobel Prize winner Robert Lucas (2004), for example, stated, “Of the tendencies that are harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution” (p. 20). How can one mess with the market when people are getting the rewards for the intrinsic worth that they have provided to the production process?

Moreover, inequality for neoclassicals is at the heart of an incentive system that compensates people for talents, sacrifice, and risk taking. Regimes that fail to properly reward such behavior are doomed to failure and will encourage the human propensity to shirk and free-ride (Brown 2005).

This has led mainstream economists to argue for the classic tradeoff between efficiency and equity, which is drummed into multiple generations of students. Okun (1975) sums it up nicely: “Any insistence on carving the pie into equal slices would shrink the size of the pie. That fact poses the tradeoff between economic equality and economic efficiency” (p. 46).

To Okun, inefficiencies arise because redistribution is like a leaky bucket created to move income from the rich to the poor. Sources of leaks include the losses from administrative costs, a reduction and misdirection of work effort, and less motivation to undertake efficiency-enhancing activity.

To others working outside this paradigm, inequality is a disease that cripples those who are economically and socially disadvantaged from participating more fully in life processes. It is not a product of individual choices but a result of social dynamics that divide people into gender, race, nationality, religion, and class, which form the core of the divisive separation between those enjoying privilege and those undergoing deprivation. The idea of a trade-off between efficiency and equity is perverse, and it effectively justifies the vested interests associated with the status quo (Dugger 1998).

MAINSTREAM REACTIONS TO HIGH AFRICAN INEQUALITY

While there was some growing concern by the late 1990s about the welfare implications of rising inequality, posed in the works of some mainstream writers like Stiglitz (1998) and Rodrik (1999), other economists were less worried about the pathologies of inequality and more worried about the inconsistency of the pattern relative to the predictions arising from its theoretical propositions. Higgins and Williamson (1999) examine the Kuznets hypothesis around the world and claim that the African dummy—the dummy variable used to assess whether a country is African—is responsible for a Gini coefficient 10 points higher than predicted.

Milanovic (2003), a member of the Development Research Group of the World Bank (“the Bank”) at the time, attempts to “explain away” the African dummy by running a series of regressions using 1,067 Gini observations from countries in different regions between 1950 and 2000. He draws on political and social factors to try to explain the determinants generating this higher-than-anticipated inequality in Africa. His independent variables in a series of regressions include variations on real GDP per capita, political measurements like political openness, type of political systems and index of government cohesion, an index of ethnic fragmentation, the extent of commodity independence, an interactive term for fractionalization, and the Africa dummy. The key is to identify the variables that remove the significance of the Africa dummy.

Milanovic settles on an equation that has a strongly positive interactive term between the dummy for Africa and ethnicity, while the dummy variable itself becomes insignificant. Ethnolinguistic fractionalization also remains positive. He also finds that inequality is related to ethnic fractionalization in a few of his equations, looking only at a much smaller sample of African countries. However, it disappears when adding an interactive party competitiveness variable.

Variables like ethnicity are attractive to econometricians focusing on explaining economic patterns in Africa like inequality or growth, since they avoid the common problem of endogeneity with other variables like governance (Jerven 2015). However, their meaning remains mysterious. Milanovic himself is uncertain how to interpret the results,

since he does not know why inequality is higher in the face of ethnic fractionalization compared to more homogenous societies, nor can he discern any policy implications. This reminds us that correlation is not causation.

However, the real problem here is that Milanovic and others are asking the wrong questions—partly because they are in a faux natural world that assumes a singular direction based on the “laws” of neoclassical economics. Hence, the search from their perspective is for some other “natural” cause that explains an outcome that disrupts these laws. One salient problem is that rising inequality within African countries or between African countries cannot be explained by a variable like ethnicity, which by its nature is invariant. Second, once one moves away from the “natural” exogenous-type causes of inequality, then one needs to understand the role of policy choices over time, and the way that role has influenced the institutions and structures that dictate how income is distributed in domestic and global production.

POLICY AND INCOME DISTRIBUTION

The history of African economic policy reflects the shifting modalities of aid and the policy paradigms associated with development assistance. Following independence, government-sponsored planning and industrialization were based on import-substitution models and a heavy emphasis on the expansion of infrastructure. The 1970s saw a greater focus on integrated rural development strategies and social spending. Both approaches were rather skeptical of the ability of the market to deliver a distribution of income that would raise the standard of living for the majority of the population.

After 1980, African countries began to follow the dictates of the neoclassical-inspired World Bank/IMF structural adjustment policies known to some as the Washington Consensus, with the promise of improved gains in both poverty reduction and income distribution. The arguments were firmly based on the neoclassical theory of distribution. The Berg report, *Accelerated Development in Sub-Saharan Africa* (World Bank 1981), authored by Elliot Berg, very much set the adjustment agenda in that region of the globe. It argued that a country should

specialize in “those things that it can best produce as compared to other countries” (p. 24) and “produce them with the least use of limited resources” (ibid.) or static comparative advantage and static efficiency gains. In the latter case, the emphasis of the report is on improvements in allocative efficiency in line with the removal of state-imposed distortions that have disrupted the ability of prices to properly reflect their scarcity values.

The agenda on poverty reduction and income distribution was more implicit in the Berg report.

The fundamental error of African governments was their “bias against agriculture” (World Bank [1981], p. 25)—even though that is the sector in which “most of the population earns its livelihoods” (p. 45)—in favor of urban populations. In other words, African government policies impeded farmers from producing crops consistent with the comparative advantage of the country, which curtailed the earning power by disrupting the ability of the market to effectively reward them in line with their contribution to production. The policies hurt the rural poor and exacerbated income distribution. The bias against agriculture was manifest in a number of ways, including import restrictions (tariffs and quotas), which forced farmers to purchase high-cost local inputs and raised the cost of consumer goods. Trade and exchange-rate policies also reduced the prices farmers received for their export crops. Price controls by state marketing boards and overvalued exchange rates greatly curtailed the incomes of farmers in local currency terms (p. 26). The key to raising farmer incomes was through devaluation, privatizing the marketing of input and outputs, removing pan-territorial pricing so farmers could specialize in the crops they produce most efficiently in their region, and removing subsidies on inputs like fertilizer. In this world, once governments removed the fetters to the operation of the market and specialized according to their comparative advantage in the international market, the standard of living for their population would rise relative to that of the developed world.

The urban bias argument as a cause of inequality has its origins in the work of Lipton (1977) and was adopted by Bates (1981) to explain poor agricultural performance in Africa in the 1980s. The arguments and recommendations to reverse urban bias were promoted by chief economist Anne Krueger in the 1980s and culminated in a five-volume study on the political economy of agricultural pricing (Krueger, Schiff,

and Valdes 1991). Liberalization aimed at removing urban bias was widespread by the 1980s throughout sub-Saharan Africa. In the preadjustment period, 25 of 28 governments surveyed set export crop prices. By the mid-1990s, only 11 were still setting prices (Borataw 2001). The trends were not at all surprising given the ubiquity of structural adjustment.

Karshenas (2001) looks more systematically at the urban bias position and the attempt to reverse it through liberalization. Contrary to the urban bias arguments, agriculture terms of trade in the preadjustment period were actually rising in sub-Saharan Africa at a rate that exceeded the sample of Asian countries (1.3 percent versus 0.8 percent). However, in the period of liberalization, the reverse occurred, with relative prices declining by an average of 0.6 percent per year, contributing to the rising income inequality. How do we explain this result, which was contrary to the predictions of orthodoxy?

TOWARD AN INSTITUTIONAL THEORY OF DISTRIBUTION WITH APPLICATIONS TO SUB-SAHARAN AFRICA

At the heart of the institutional theory of distribution is the rejection of the idea of value in severalty. Factors of production are integrated, and their ability to affect production is contingent and interactive. Resources, whether human or nonhuman in origin, derive their utility through their integration into a process, as Veblen put it, which “presupposes the proper working of many other processes” and needs the “running maintenance of interstitial adjustment between the several sub-processes” (1975; quoted in Brown [2005], p. 919). The power of production is found in systems, not in land, capital, and labor. Neoclassical economic constructs have been institutionalized and created the dangerous notion that people are paid according to the natural laws of the market and receive what is deemed worthy of their contribution. They are not a product of human agency but of forces beyond human control (Brown 2005).

In contrast, the institutional theory of distribution points to the need to understand power and its relationship to the contestation of inter-

ests at the heart of the determination of the allocation of the shares of material rewards.⁴ As Brown (2005) puts it, “A theory of distribution should be indistinguishable from a theory of power.” Brown continues: “A satisfactory theory of power would, beyond defining what power is, elucidate principles to explain how power is established, enlarged or diminished, protected and perpetuated, redistributed, exercised, and rendered legitimate or illegitimate” (p. 920). Power is generally seen as the ability to act in a particular way to affect outcomes.

Power is not simply the ability to coerce; rather, it gains effectiveness when it is legitimate. Legitimate power arises when it stems from the “internalized values” of those who are subject to that power. Also important are the symbols of power, which are linked to how people interpret situations and, in turn, how they respond to them. Distributive mechanisms are a product of power relations and are institutionalized processes that are related to habits, customs, rules, and systems of belief. These generate the habits of thought that define the parameters of acceptable behavior.

Power in a market context is related to transactions. “The ratio of exchange,” Commons writes, “measures the degree of power because it measures the ratio between what I give up and what I get back in the exercise of power” (Commons 1924, p. 30). Brown (2005, p. 22) says markets are contained within institutions and should be seen as “clusters of working rules that guide conduct of transactions.” The working rules of transaction reflect the shifting nature of power asymmetries that affect the terms of transactions, which better or worsen outcomes of transactions. Understanding the forces that select working rules and that shape and reshape the relative power of the parties to transactions should be at the core of an institutional understanding of the distribution of income in any society. Transactions are not simply those made among domestic players but involve international participants, and the rules of those transactions are affected by international institutions.

So how does this explain the pattern of income distribution in sub-Saharan Africa? The key is in understanding the forces that shaped and altered the conditions and rules that affected the comparative power of direct producers in transactions over time. “Direct producers” are overwhelmingly peasant farmers in sub-Saharan Africa.

The story of skewed income distribution starts with the colonial experience. Colonization in Africa tended to have low settler popula-

tion, was extractive in nature, and relied on a small, elite group of indirect rulers and well-paid administrators to run the country. These people used fines and minimum acreage laws to encourage farmers to produce cash crops. Export crops were frequently sold to state marketing boards at a fraction of their value. The income garnered was used to support the high salaries of administrators, not to finance economic development or encourage the intensification of agriculture through improved infrastructure, extension, or better inputs, which could have altered the systems of production and potentially raised farmer incomes (van de Walle 2009). Commerce among Africans was actively discouraged with laws that restricted the access of Africans to credit. Manufacturing was tiny except for that which took place in settler colonies like South Africa and Kenya.

Following independence, many governments Africanized civil services but frequently left the same pay scales in place, creating an elite of well-paid bureaucrats with earnings well above median incomes. Marketing boards were kept in place and sometimes extended to new crops with comparatively little invested in agriculture, although fertilizer was subsidized in a number of countries. In some places, pan-territorial pricing was used, which provided a huge subsidy to farmers in remote areas of the country, and some farmers got access to credit at subsidized interest rates. Income from taxing cash crops was used to expand manufacturing. However, the power of workers to raise incomes was carefully controlled. In some countries like Tanzania, pay scales were set by the government, strikes were illegal, and the head of the unions became the Minister of Labor. Though data on income distribution is scarce, it is likely that there were some improvements in income distribution in the early postcolonial period.

However, this changed with the arrival of neoliberalism, which dramatically altered the terrain of power and the working rules affecting the terms of transactions for farmers and workers in African countries. Spending on agriculture was further curtailed. Fertilizer use collapsed with the removal of subsidies, and farmer incomes plummeted because of the arrival of exploitative middle men and collusive purchasing. Poor roads, declining access to credit, lack of transportation, and a paucity of storage facilities weakened the power of farmers in transactions and forced them to sell their crops at a fraction of their wholesale price. In our nine-year study of 40 villages in Tanzania, we found farmers in

some villages getting as little as 50 percent of the wholesale price of maize. Farmers frequently complained about the exploitative nature of middlemen but felt they had no power to alter the terms and conditions (Maganga et al. 2016).

The structural adjustment period also dramatically cut state or parastatal wage and employment levels, which accounted for most of the formal-sector labor prior to 1980 and dramatically weakened labor's market power, with implications for inequality. In Kenya, for example, wages and salaries consumed 31.7 percent of the budget but fell after a decade of adjustment to only 15.6 percent by 1990–1991. The proportion of spending on economic and social services fell from 33.0 and 35.0 percent in 1975 to 20.5 and 32.9 percent, respectively, with much of the decline going to service debt (Rono 2002).

Austerity combined with liberalization and failed privatizations frequently led to the contraction of economic activity and the loss of employment. For example, of the 183 state divestments in Tanzania through 1998, only 83 were true privatizations. The rest were bankruptcies and liquidations of assets, and they carried with them the loss of thousands of jobs (Gibbon 1999).

Beginning in 1981, Malawi adopted a series of structural adjustment programs following the global economic crisis of 1979–1981 and local factors like the closure of access to ports through Mozambique. Like so many African countries, there was rapid growth of formal-sector employment, which expanded by an average of 9.5 percent per annum during the 1970s. While in some countries employment increased more in the public sector, in Malawi, the expansion was 11.5 percent per annum in the private sector, compared to 3.75 percent in the government.

The impact of adjustment on formal-sector employment growth was almost entirely negative, with an increase in only one sector of production—mining and quarrying—compared to the 1970s. Overall growth fell to an average of only 2.96 percent during the adjustment period through 1995. By 1990, formal-sector employment dropped to only 11.6 percent of the labor force. Real monthly average wages fell by an astounding 41 percent. Contrary to the theory held by the proponents of orthodoxy, there was a rise in the ratio of urban to rural wages over the adjustment period. In the wake of the shrinking of the formal labor sector, the informal sector, which generally has much lower wages,

grew and was likely affected by the comparative decline in real wages in the formal labor market (Chirwa 1999).

Van der Hoeven (2000) examines the impact on income inequality in labor markets arising from structural adjustment. On a theoretical level, he argues that short-run policy changes under adjustment are generally aimed at improving allocative efficiency; this is done through cost cutting in labor markets and the removal of impediments like minimum wage regulation, which invariably leads to cuts in formal-sector employment. At the same time, adjustment often deals with balance-of-payment crises, which leads to tightened monetary policy and additional cuts in employment. The feedback effect of falling demand further exacerbates formal-sector employment. Along the same lines as with Malawi, Van der Hoeven finds widespread declines in formal-sector employment relative to the total labor force in five African countries studied, led by a drop of 25 percent in the ratio in Uganda between 1990 and 1995. Given the focus of adjustment, the fall in public-sector employment was particularly acute. In four countries over the same period, it fell by an average of 30 percent to a level of only 6.6 percent of the total labor force. In a fifth country (Zimbabwe), it stayed roughly constant at an already-low 4.5 percent.

The rapid decline of formal-sector employment weakened labor, which presented implications for workers' standard of living. The wage share of value added in manufacturing fell in seven African countries undertaking adjustment, for which data was available from the years 1980 to 1985 and 1985 to 1992. In some cases it was to ridiculously low levels (e.g., wage share in Ghana was only 13.8 percent in 1985–1992, or a fall of one-third compared to the late 1970s). Not surprisingly, with falling formal-sector employment and declining wage shares, real wages also declined by an average of 40 percent in five of the African countries between the late 1970s and early 1990s, also contributing to rising inequality.

Trade union density also fell to very low levels in a number of African countries, further weakening the power of labor with implications for the distribution of income (Van der Hoeven 2000). One study showed a highly negative and significant correlation between income inequality and coordination in collective bargaining (-0.597). Countries with significant coordination had a Gini coefficient slightly lower

than 30, while countries with lower coordination had an average Gini coefficient above 45 (ILO 2000).

Inequality was further exacerbated by an appreciable decline in government social spending on health and education. Van Der Hoeven estimates that social spending fell to around 5.3 percent of GDP after adjustment in sub-Saharan African countries from 5.9 percent. The data on actual expenditures provides an even more depressing picture. A survey of real health expenditures in 12 countries, undertaking some adjustment over the 1980s, indicated an average real per capita spending decline of close to 20 percent. These statistics on government expenditure, however, were only a small part of the impact of adjustment.

User fees in health and education, which were part of adjustment packages, caused a dramatic decline in attendance at health facilities and, when paid, reduced the real income of the poor (Stein 2015).⁵ On average, gross enrollment rates in primary and secondary schools in sub-Saharan Africa fell by an average of 0.5 percent per annum during adjustment and -4 percent after adjustment, compared to a rise of 4.7 percent prior to adjustment, potentially harming the earning power of people at the lower spectrum of income (Van der Hoeven 2000). There was a similar impact on higher education.

Following independence, there was enormous emphasis placed on higher education as part of the national development project. The expansion of higher education in almost every African country was seen as a key to overcoming the colonial inheritance and putting in place the resources to train a new generation of Africans that could take on vital new roles as doctors, teachers, lawyers, and civil servants. But the optimism of the 1960s and early 1970s gave way to growing pessimism and crises in the latter part of the 1970s. The crises pushed African governments to be more dependent on agencies like the World Bank for financial support for higher education, and with that aid came the conditionalities associated with the loans (Samoff and Carrol 2004).

Increasingly in documents in the 1970s and '80s, the Bank became more hostile to higher education in Africa. Higher education was seen as consuming too many educational resources relative to the education needs elsewhere and as being inequitable, because higher income groups were overrepresented. Rather than alleviating poverty, higher education was adding to it. Universities were putting out too many graduates and emphasizing the wrong training relative to the needs of

labor markets. Hence, the Bank argued, resources should be directed away from higher to primary education (though in practice primary education also suffered), which gave higher net rates of return and so would lead to greater efficiency for the economy. The inevitable cutbacks in higher education would be offset by charging tuition, raising class sizes, cutting back on nonacademic staff, and increasing private education (Samoff and Carrol 2004; Chachage 2016).

The cutbacks imposed by the World Bank and the IMF were devastating to universities. Expenditures fell by an average of 74 percent in the 1980s at African universities. Salaries collapsed and staff vacancies rose as universities, in order to cover their expenses, were forced to dramatically increase the number of students they accepted. For example, by 1991, the University of Dakar was forced to enroll 20,000 students on a campus meant for 3,500 students. In that same year, at Makerere University in Kampala, Uganda, lecturers were earning only \$19 a day, and massive staff departures created vacancies of 48 percent. By 1992, the average salary in Nigeria was 10 percent of what had been paid in 1978. At many African universities, infrastructure badly deteriorated and libraries became neglected. A survey of 31 African countries found that by 1990 the number of books per student had fallen by 86 percent (World Bank 1994).

The neglect of higher education had a dramatic impact on the ability of African countries to participate in the global economy in a manner that would have improved their standard of living and equality of income. At a time when global production was increasingly moving toward a greater reliance on information and technology, sub-Saharan Africa found itself marginalized and unable to gain the benefits from these shifts.

AFRICA AND GLOBAL STRUCTURES OF TRADE AND DISTRIBUTION

On a global scale, the marginal theory of distribution provides the theoretical core of the Heckscher-Ohlin-Samuelson (HOS) model and the factor-price equalization theorem. In the world of HOS, free trade and specializing in producing a commodity that draws on the factor of

relative abundance will lead to a one-world price for labor and capital. The theory can be questioned for its ridiculous assumptions such as pure competition, equal access to technology for all countries, and single commodity prices everywhere. However, none is more absurd than the assumption of factor immobility in a world where capital has increasingly flowed freely between countries and where the mix of production in a country is a product of the strategy of large multinational companies.

Inequality has grown with the increasing expansion of global value chains, which have typically been driven by lead firms that link the production process, either through affiliates or subcontracting. A value chain “describes the sequence of activities that lead up to the sale of a final product, adding value at each stage of the process. Those activities can be contained within a single firm or divided among different firms and include, *inter alia*, design, production, marketing distribution, and postsale service” (UNCTAD 2015, p. 12). Companies divide and subdivide activities based on a host of production, coordination, transportation, and technological costs. Increasingly, global value chains have become more fragmented as production networks have extended across space with little regard for national boundaries.

World manufacturing trade, as a percentage of world manufacturing, tripled from 1970 to 2000 to nearly 130 percent, as trade moved from finished goods produced in one country to trade that linked each stage of production under the supply chain of multinationals in multiple countries. This has been driven by changes in technology, deregulation, and financialization. Transportation and the cost of coordination have dramatically declined because of new technologies spurring global value chains.

The ease of doing business internationally has also been driven by deregulation. UNCTAD, for example, estimates that 9 out of every 10 new policy measures linked to the internationalization of production and the related ease of capital flows were aimed at increasing liberalization. Financialization has also had a profound impact on corporate governance structures by applying heightened shareholder pressures, which altered corporate pay structures. This greatly increased salaries and stock options at the upper end, squeezing labor costs and shortening horizons, with an emphasis on maximizing shareholder value. The functional redistribution of income toward profits at the expense of

wages abounds. Transnational corporations (TNCs) have been allowed greater space to generate new revenue, protect the rents associated with key assets, and dramatically squeeze the lower levels of the value chain, which is where most African countries find themselves. This is not an inevitable outcome of some law of globalization but a deliberate reflection of how states have set policy and the nature of the international power structure underlying the terms and conditions in which countries find themselves in the global distribution of value added (UNCTAD 2015).

In Africa, neoliberalism increased the reliance of African countries on exporting unprocessed raw materials and demobilized the ability of governments to alter the terms and conditions of international exchange by removing restrictions on capital flows, privatizing state enterprises, and liberalizing trade. Increasingly, value in production has moved to developed countries and offshore tax havens buttressed by international institutional structures, like the WTO, that reinforce the financial and technological power of transnational corporations. Data from UNCTAD indicates that exports in the 2000s in Africa and other developing countries increased substantially without a comparable expansion in domestic value added (de Medeiros and Trebat 2017). Being relegated to primary producers in the global value chain has meant that these African nations have had to forgo huge amounts of income because of a lack of value addition. Added to this has been the loss of associated formal-sector jobs that could have helped reverse the trajectory of inequality in African countries. Instead, countries are subject to the vicissitudes of prices, which are driven today more by the speculative activities of hedge funds and other purveyors of global wealth than by the underlying producers and users of commodities. (UNECA 2013).

WORLD BANK AND THE POST-WASHINGTON CONSENSUS

Over time, the World Bank and the International Monetary Fund began to shift their attitude toward cutbacks in education and health care, partially due to a new commitment to poverty reduction in line with the acceptance of the 2000 Millennium Development goals. The IMF's Heav-

ily Indebted Poor Countries (HIPC) Initiative allowed for a large increase in expenditures in social spending in line with the stipulation in the debt relief initiative that money released from debt servicing needed to be reallocated to spending on education and, to some extent, on health care. Following the Foreign Operations Appropriations Bill of 2001, which ordered the U.S. Executive Director of the World Bank to stop approving loans conditional on charging a user fee, the Bank stopped demanding user fees in health care and primary education.

The withdrawal of user fees in a number of countries has had a dramatic effect on enrollment rates in those countries. In Burundi, 234,000 more children were enrolled in 2005 compared to the previous year—an 88 percent increase—after a \$4.50 school fee was abolished. Similar responses have occurred in Tanzania (2001) and Kenya (2003) after the fees were abolished. Net primary-school enrollment rates, which were at 56 percent in sub-Saharan Africa in 1999, improved to 64 percent by 2004 (60 percent for females and 68 percent for males) (Stein 2015).

In line with these trends, mainstream economists continue to focus on the flawed relationship of productivity to income, discussed above. In this world, the key to improving income inequality is to increase investment in human capital. For decades, since economists came to dominate the World Bank, the argument put forward is that improvements in education will, ipso facto, lead to higher incomes, since “private and social returns to education have consistently been high” (World Bank 2009, p. xxi). Adjustments in the 1980s, particularly, emphasized cutbacks at the tertiary level in education and linked “short- to medium-term overproduction of high-level manpower” to the “growing problems of unemployment and underemployment among graduates” (World Bank 1988, pp. 69–70). After 2000, the bias against tertiary education began to change because “private returns to tertiary education in low-income countries are now frequently on par with the returns from primary education” (World Bank 2009, p. xxi). Human capital growth is seen as the main route to growth and transformation in the continent and “would enable African economies to increase allocative efficiency and maximize the returns from (initially) limited supplies of physical capital” (p. xx).

The problem with this approach is that it ignores the broader structural configuration of African economies, which have performed poorly in generating job opportunities that would improve income distribution. One particularly disturbing element is the poor quality of economic growth in

sub-Saharan Africa. The poverty and employment elasticities of growth are very low in those countries. A percentage increase in GDP leads to a fall in poverty of only 0.95 percent, which is anemic by global standards. Sub-Saharan Africa has the lowest income elasticity of poverty among the six developing areas of the world (Page and Shimeles 2014). Even more disturbing, sub-Saharan Africa's elasticity of employment relative to growth declined by nearly 30 percent between 1991–1995 and 1999–2003 (Kapsos 2005).

A key element in poverty reduction is the movement of the labor force from low to higher value-added activities, which has the potential to pay out higher wages. Institutionalists recognize that economic development requires structural transformation of the economy and that markets are not always effective in shifting resources between sectors. Industry, and particularly manufacturing, tends to have higher value-added than the service and agricultural sectors.

On average, in lower-income Africa, productivity in manufacturing compared to agriculture is roughly 3.8 to 1. Structurally changing economies, from agriculture to industry, can have a significant impact on income. What is required is a commitment to industrial policy or the selective intervention of governmental policy that attempts to alter the sectoral structure of production toward areas that are expected to offer better prospects for raising incomes. This will mean not only changing the domestic mix of economic sectors but also altering the incentives, organization, and capabilities to improve the position of African production in the global supply chain (Stein, Kinuthia, and Elhiraika, in preparation). However, that in itself is not sufficient to improve inequality. It will also require a systematic change in the configurations of power structures in support of labor and farmers to ensure that improvements in value added are passed on as higher incomes.

CONCLUSION

This chapter has documented and assessed competing explanations of income inequality. Gini coefficients in sub-Saharan Africa are high, and by some measures they have been worsening in recent years. This is inconsistent with Kuznets's mainstream distribution, as it predicts that

regions with low industrialization and a high reliance on agriculture should have an equitable distribution of income. The Gini coefficient based on household budget surveys adjusted for PPP rose from 51.68 in 1993 to 56.12 in 2008. By 2008, sub-Saharan Africa had the highest regional Gini coefficient in the world. The remainder of the chapter has endeavored to explain this pattern.

The mainstream literature on inequality has been based on the notion that income is derived from the ownership of factors of production, and that these factors are paid according to their marginal contribution to production. The argument is flawed in multiple ways and is largely a normative argument dressed up to be objective. Factors of production are integrated, and their ability to affect production is contingent and interactive. The power of production is found in systems, not in land, capital, and labor. Neoclassical economic constructs have been institutionalized and have created the dangerous notion that people are paid according to the natural laws of the market and receive what is deemed worthy of their contribution. In other words, the theory espouses that wages are not a product of human agency but of forces beyond human control.

In contrast, the institutional approach to distribution points to the need to understand power and its relationship to the contestation of interests at the heart of the determination of the allocation of the shares of material rewards. Power in a market context is related to transactions in which the working rules of transaction reflect the shifting nature of power asymmetries. Understanding the forces that select working rules and that shape and reshape the relative power of the parties to transactions should be at the core of an institutional understanding of the distribution of income in any society. Transactions are not simply among domestic players but involve international participants, and the rules of those transactions are affected by international institutions.

In Africa, much of the deterioration of income distribution in recent decades can be traced to shifting policy regimes often generated by the same flawed neoclassical economic theories that weakened the power of direct producers in transactions, with implications for their income. On a global scale, the flawed marginal theory of distribution provided the core of Heckscher-Ohlin-Samuelson theory that free trade would lead to the equalization of income in the world. The theory can be questioned for many ridiculous assumptions, including pure competition and equal

access to technology for all countries. However, none is more absurd than the assumption of factor immobility in a world where capital has increasingly flowed freely between countries and where the mix of production in a country is a product of the strategy of large multinational companies.

Inequality has grown with the increasing expansion of global value chains, which have typically been driven by lead firms that link the production process, either through affiliates or subcontracting. In Africa, neoliberalism increased the reliance of African countries on exporting unprocessed raw materials and demobilized the ability of governments to alter the terms and conditions of international exchange. African nations were relegated to being primary producers in the global value chain, which meant they had to forgo huge amounts of income because of a lack of value addition. This carried with it a loss of associated formal-sector jobs, which could have helped reverse the trajectory of inequality in African countries. Instead, countries are subject to the vicissitudes of prices, which are driven today more by the speculative activities of hedge funds.

In recent years, the World Bank, the leading international agency in sub-Saharan Africa, has rediscovered the importance of all forms of education. However, in line with these trends, mainstream economists continue to focus on the flawed productivity-to-income relationship outlined in the paper. In this world, the key to improving income inequality is to increase investment in human capital. However, that in itself is insufficient. It will also require changes in institutions to support laborers and farmers by making sure that improvements in value added are passed along to them in the form of higher incomes.

Notes

1. *Faux naturalism* refers to the false or artificial referencing of laws similar to those governing the natural world when presenting economic theories and related behaviors. Typically, in the axiomatic world of neoclassical economics, “laws” are not rejected; instead, extraneous explanations are introduced that are aimed at perpetuating the “laws.” See Stein (2015) for a discussion of this.
2. For example, the Gini below for Tanzania in 2011 is 37.8. However, our own survey of household imputed income in 40 randomly sampled villages in eight districts in Tanzania between 2010 and 2016 indicates much higher inequality. The Ginis for districts ranged between 56.3 (Mbarali) and 72.3 (Kasulu), with an

overall level of 66.5. The data is compiled from the project “Transformations in Poverty and Property Rights in Rural Tanzania,” undertaken with my colleagues Faustin Maganga, Rie Odgaard, and Kelly Askew.

3. There is little doubt that the myth that factors of production are paid in accordance to the value of their marginal contribution to production is also buttressed by the neoclassical utility theory of value, which replaced the labor theory of value. Instead of social classes battling with capitalists over who gets the shares of production, atomistic utility-maximizing exchanges generate the prices, which in turn help determine the reward given to the individualized contributions to production. Hence the focus should not be on how much income capitalists were getting compared to workers, but on the utility people were deriving. The danger that people might argue that the marginal utility of rich people was lower than that of poor people, and hence utility might be maximized through redistribution, was soon undercut by the introduction of Pareto optimality, which denied the possibility of interpersonal comparisons (Cook 2018).
4. It still is useful to talk of average productivity per worker, income per worker, or value added per worker. Raising productivity is still important for the potential to pay higher incomes to workers. However, productivity does not guarantee higher wages, since any increase can go to greater wages, profits, or lower prices, which will be a reflection of the kinds of power configurations discussed in this section. From an institutionalist perspective, the rise of productivity can come from multiple sources, which may or may not have anything to do with worker efforts. This possibility is a product of the contingent and interactive nature of production.
5. The World Bank (1986) argued, “One way to increase the efficiency and equity of a public education system is to impose selective charges” (p. 17). Efficiency and equity would be improved, since it would get rid of excess demand while giving government revenue to the state to expand the school system with higher spending per pupil. To the Bank there would be little or no effect, since “evidence . . . suggests that household demand for education is relatively unresponsive to increases in private costs” (p. 18). The reality has been dramatically different. The education of much of a whole generation of Africans was lost following the imposition of user fees.

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7

Income Inequality, Progressive Taxation, and Tax Expenditures

James R. Hines Jr.
University of Michigan and NBER

There are important and growing concerns about income inequality in the United States and other high-income countries. These concerns reflect rising apprehension about the political and social consequences of inequality and worries that the advance of technology, expanding international trade and investment, and other economic developments may have significantly widened income gaps in recent decades and will continue to do so in the future. In the United States, these concerns have prompted renewed calls for political activism and vigorous searches for policy measures that might improve the relative economic positions of low- and middle-income Americans.

There are many ways in which government policies can and do influence the distribution of income, though redistributive policies can be costly from the standpoint of economic efficiency and growth. Since as a realistic matter it is unlikely that feasible reforms to any one individual government program would fully address current income distribution concerns, it is useful to consider a range of policy options and their likely effects on the distribution of income and the performance of the economy. It is particularly valuable to identify measures that address distributional concerns efficiently.

This chapter considers the design of a tax system in an economy with significant income inequality, focusing on the impact of provisions—such as tax deductions and tax credits—that offer benefits to some but not all taxpayers. Taxation directly affects the distribution of after-tax incomes by imposing larger burdens on some than it does on others, and it indirectly affects the distribution of income through the government programs it finances. A tax program designed to address income distribution concerns is one that imposes burdens based on abil-

ity to pay and that guarantees adequate funding for appropriate government programs; consequently, tax reforms can be evaluated based on the extent to which they permit the tax system to perform these functions.

The U.S. federal income tax imposes tax burdens based largely on ability to pay. The U.S. tax system is progressive, meaning that a taxpayer's burden measured as a percentage of income generally rises with income. The U.S. tax system achieves this progressivity largely with tax rates that increase with income and with the provision of refundable tax credits to low-income working families. As a result, most of the revenue raised by the U.S. federal income tax comes from high-income taxpayers, with a sizable portion of the income-earning U.S. population paying zero or negative federal income taxes.

Despite the progressivity of the U.S. income tax, there are frequently voiced concerns that the system affords too many unwarranted tax breaks, particularly for high-income taxpayers.¹ These concerns are understandable but misplaced. They are understandable because much of the popular discussion of tax policy focuses on apparent inequities created by the availability of tax preferences for which certain taxpayers and not others are eligible. For example, only those taxpayers who itemize their tax deductions are able to receive tax reductions due to mortgage payments, charitable contributions, and state and local tax payments. Prior to passage of the 2017 Tax Cuts and Jobs Act, only about 30 percent of the taxpaying population chose to itemize deductions, with the remaining 70 percent claiming the standard deduction instead.² Since the 30 percent who itemized their deductions were concentrated among high-income taxpayers, it follows that this high-income group received most of the benefits of the favorable federal tax treatment of mortgage interest, charitable contributions, and state and local tax payments. By increasing the standard deduction, the Tax Cuts and Jobs Act significantly reduced the number of U.S. taxpayers claiming the standard deduction, and in the process it further concentrated the benefits of tax deductions among the wealthy. Hence, a simple calculation of the distribution of the benefits of itemized deductions might conclude that the provision of these deductions reduces tax equity by providing benefits almost entirely to taxpayers with high incomes.

On closer examination, it becomes apparent that equity-based concerns about these tax preferences are misplaced, because in fact tax preferences are critical features of progressive tax systems—and indeed,

are what make it possible for tax systems to exhibit high degrees of progressivity, with all the social benefits that are associated with progressivity. There are two reasons for this, the first of which is that tax preferences make it possible to design taxes efficiently, since by providing preferential taxation of highly responsive activities it is possible to differentiate taxes in a way that is less costly to the economy. The economic distortions associated with high tax rates are important considerations in limiting the extent of taxation and tax progressivity, both in theory and in practice. Since high marginal tax rates discourage income production, the cost of imposing high tax rates rises with the degree to which economic activity is sensitive to taxation. Governments can choose to offer tax preferences for activities that are highly sensitive to taxation, which subjects these activities to lower effective tax rates, and thereby subjects relatively insensitive activities to comparatively higher rates of taxation. This type of tax design reduces the efficiency cost of high tax rates and thereby makes it feasible to implement a more progressive tax system.

The second reason tax preferences facilitate tax progressivity is that properly designed tax preferences adjust tax burdens according to ability to pay, which increases the attractiveness of imposing a highly progressive tax-rate structure. One of the important equity concerns about high degrees of tax progressivity is that high tax rates may be unduly burdensome to taxpayers in certain circumstances. For example, even a very-high-income taxpayer may find it impossible or infeasible also to pay federal income taxes at high rates if simultaneously confronted with a combination of extraordinary medical bills, high state taxes, high alimony payments, and other claims on resources. The adoption of sympathetic tax treatment in the form of deductions for medical and other expenses makes legislators and the general public more willing than they would otherwise be to impose high tax rates on those with very high incomes.

As a result, an equitable tax system has a relatively narrow tax base and high tax rates, with rates that increase sharply with income. By applying high tax rates to affluent taxpayers, the system can raise revenue that more than compensates for revenue lost from tax deductions and tax credits, and that has desirable distributional properties in the bargain. Such a system offers favorable rates, refundable credits, and other tax benefits for low-income families. The tax system thereby imposes

tax burdens according to ability to pay and raises revenue sufficient to fund needed government programs. By imposing burdens according to ability to pay and in offering a sound system of government finance, a tax system with high rates and appropriate deductions and tax credits automatically addresses the income-distribution concerns that appropriately motivate much of the current tax-policy discussion.

There is an alternative to such a system: it is a much more stripped-down income tax that offers very few if any deductions and tax credits. There is considerable popular appeal to such a broad-based, low-rate tax system, due in part to its simplicity and in part to the low rates. The archetypal broad-based, low-rate tax system is known as a Haig-Simons income tax, after the fundamental contributions of Robert Murray Haig (1921) and Henry Calvert Simons (1938). In the Haig-Simons income tax, all income is subject to taxation, without provision of deductions or tax credits corresponding to individual taxpayer situations. The virtue of such simplicity is not to be lightly dismissed, but this form of simplicity comes at the cost of considerable loss of tax equity, because such a tax fails to accommodate individual circumstances, and it is unrealistic to think that a Haig-Simons income tax would ever be imposed at highly progressive rates. Indeed, even the appeal to low tax rates immediately reveals that there is a limit to the range of possible tax progressivity, which limits the extent to which those who are best positioned to pay taxes ultimately do so. Those who advocate for broad-based, low-rate tax systems frequently fail to recognize the intimate connection between the breadth of the tax base and the extent to which the government is able to adopt a system that taxes according to ability to pay. The purpose of this chapter is to draw attention to this connection, and to recommend that the United States and other countries do more to tailor their tax systems in ways that make them more progressive.

DISTRIBUTIONAL PROPERTIES OF THE U.S. INCOME TAX

The U.S. federal government collects revenue from several sources, of which two are by far the most important: 1) employment-related payroll taxes, which finance Social Security and Medicare, and 2) the per-

sonal income tax, which finances most of the rest of the government.³ This paper focuses on the income tax, which is the primary discretionary source of revenue for the federal government—and which by its nature is the part of the revenue system that is most amenable to the imposition of burdens according to ability to pay. U.S. payroll taxes are unlike income and other taxes in that eligibility for retirement benefits, disability insurance, and medical insurance requires payment of employment taxes—whereas receipt of other federal benefits are not conditional on paying income taxes. For example, workers who have higher wage and salary income, and therefore pay greater Social Security taxes, receive higher monthly benefits from the Social Security system when they retire. Furthermore, the Social Security system provides benefits in a highly progressive way, with income replacement rates that are much higher at low incomes than they are at higher incomes. Consequently, the Social Security system achieves its distributional objectives not through its tax features but instead through its benefit formula—which would make any distributional examination of Social Security taxes incomplete, given the close connection of Social Security taxes and benefits.

U.S. federal income-tax burdens rise with income, largely reflecting the progressive nature of tax rates. The latest available data cover pre-2018 federal law, with Table 7.1 presenting calculations for tax year 2014. In that year, an adjusted gross income of \$465,600 put a taxpayer in the top 1 percent of the income distribution, and such taxpayers faced average tax rates of 27.2 percent. This top 1 percent of the U.S. income distribution had 20.6 percent of aggregate U.S. personal income that year and paid 39.5 percent of total federal income taxes. An adjusted gross income of \$189,000 put a taxpayer in the top 5 percent of the income distribution; and this group faced average tax rates of 23.6 percent, earned 36 percent of aggregate U.S. personal income that year, and paid 60 percent of federal income taxes. By contrast, the half of the United States that had incomes below \$38,200 faced average tax rates of just 3.5 percent, had only 11.3 percent of personal income, and paid just 3.5 percent of federal income taxes.

Federal personal-income tax burdens in 2014 (and in other years) rise with income levels. This is largely the product of tax rates that increase with income, exempt amounts, and standard and personal deductions that permit taxpayers to earn significant income before it

Table 7.1 Income Distribution, Tax Rates, and Tax Payments, 2014

Income groups (%)	Income cutoffs (\$ 000s)	Average tax rates (%)	Cumulative incomes (%)	Cumulative tax payments (%)
Top 1	465.6	27.2	20.6	39.5
Top 5	189.0	23.6	36.0	60.0
Top 10	133.4	21.3	47.2	70.9
Top 25	77.7	17.8	68.9	86.8
Top 50	38.2	15.5	88.7	97.3
Bottom 50		3.5	11.3	3.5

NOTE: The table presents average federal income tax rates, total incomes, and total federal income tax payments by six income groups for tax year 2014. Income groups are classified by adjusted gross income (AGI) as reported on tax forms. Income cutoffs denote the minimum AGI to be included in the group. Cumulative incomes denote the fraction of total U.S. AGI earned by members of the income group; similarly, cumulative tax payments denote the fraction of total U.S. federal income tax payments by members of the group.

SOURCE: Dungan (2017).

becomes taxable, as well as refundable tax credits available to low-income earners. In 2014, a married couple was not taxable until its income exceeded amounts covered by exemptions and deductions, and then was initially taxable at just 10 percent for the first \$18,150 of net taxable income. Such a couple then faced a 15 percent tax rate until its taxable income reached \$73,800, after which point the marginal tax rate became 25 percent. The marginal income-tax rate rose to 28 percent at an income of \$148,851, 33 percent at an income of \$226,851, 35 percent at an income of \$405,101, and 39.6 percent on any portion of income exceeding \$457,601. Furthermore, the Earned Income Tax Credit and the Child Tax Credit were available primarily for low-income families.

Despite the evident progressivity of the federal income tax, it is possible for tax reform to make the system much more progressive than it was in 2014 or is today. One aspect of federal taxation that is commonly argued to work against tax progressivity is the provision of exclusions, deductions, and tax credits, all of which are commonly called “tax expenditures” (Surrey 1973). The most important single “tax expenditure” is the tax exclusion for employer-provided health insurance. Other significant tax expenditures include the preferential treatment of retirement accounts; deductions for state and local taxes, mortgage interest, and charitable contributions; the favorable tax treatment of capital

gains; and various tax credits. Table 7.2 displays the largest federal tax expenditures for Fiscal Year 2016, with accompanying magnitudes of forgone federal tax revenue because of these tax expenditures. Many of these tax expenditures benefit high-income taxpayers.

Table 7.3 presents the distribution of federal personal income tax expenditures by income group for Tax Year 2013. The first column offers evidence on tax exclusions, which consist of the benefits of the favorable tax treatment of employer-provided health insurance, pension contributions, and income; the favorable tax treatment of capital gains on assets held until death; and other smaller exclusions. As the table indicates, 7 percent of the aggregate value of these tax exclusions is enjoyed by taxpayers whose incomes are in the top 1 percent of the U.S. income distribution. While the aggregate value of these benefits for the top 1 percent is obviously disproportionate to the number of taxpayers, it is actually rather small compared to the roughly 39.5 percent of tax

Table 7.2 Largest Individual Tax Expenditures, 2016

Tax expenditure	2016 amount (\$ billions)
Exclusions from taxable income:	
Employer contributions for health care and insurance	164.6
Employer pension contributions and earnings	156.1
Social Security and railroad retirement benefits	38.4
Capital gains at death	32.9
Interest on state and local government bonds	32.9
Fringe benefits provided under cafeteria plans	31.3
Capital gains on sales of principal residences	29.2
Tax deductions:	
State and local income, sales, and property taxes	96.6
Mortgage interest on owner-occupied residences	59.0
Charitable contributions	55.2
Reduced tax rates on dividends and long-term capital gains	130.9
Tax credits:	
Earned Income Tax Credit	73.0
Child Tax Credit	55.0

NOTE: The table presents the aggregate dollar values (in billions) of the largest individual tax expenditure items for Fiscal Year 2016.

SOURCE: Joint Committee on Taxation (2017a).

Table 7.3 Share of Tax Expenditures by Income Group, 2013

Income group (%)	Tax exclusions (%)	Tax deductions (%)	Capital gains preferences (%)	Tax credits (%)	Total tax expenditures (%)
Top 1	7	30	68	0	17
Top 20	45	81	93	3	51
60–80	23	13	5	12	18
40–60	16	4	2	19	13
20–40	10	1	0	29	10
Bottom 20	5	0	0	37	8

NOTE: Figures in the table report the fraction of total U.S. tax benefits of each tax preference category received by each of the designated income groups, as defined by adjusted gross income. “Tax exclusions” consist of tax benefits from the exclusion from taxable income of employer-provided health insurance, net pension contributions and earnings, capital gains on assets transferred at death, a portion of Social Security and railroad retirement benefits, and other items. “Tax deductions” consist of tax benefits from the itemized deductions for state and local taxes, mortgage interest, charitable contributions, and others. “Capital gains preferences” are the benefits of the preferential tax rates at which long-term gains are taxed. “Tax credits” consist of tax benefits from the Earned Income Tax Credit, the Child Tax Credit, and other available credits. “Total tax expenditures” is the sum of all of these tax benefits.

SOURCE: CBO (2013).

payments (and 20.6 percent of income) accounted for by the top 1 percent of taxpayers. Table 7.3 indicates that the top 20 percent of income earners in 2013 received 45 percent of the tax benefits from tax exclusions—which, again, while disproportionate to that group’s numbers, is rather less than the share of this top-income quintile in tax payments or income. By contrast, taxpayers whose incomes are in the bottom two income quintiles received 15 percent of the aggregate tax benefit of exclusions, which is a sizable benefit considering that the bottom half of income earners has 11.3 percent of aggregate income and pays just 3.5 percent of aggregate U.S. income taxes.

The second column of Table 7.3 presents information on the distribution of the benefits of tax deductions, which include benefits from deducting state and local taxes, mortgage interest payments, charitable contributions, and other expenses. These benefits are more heavily concentrated among high-income taxpayers than are the benefits of tax exclusions. As the table indicates, taxpayers whose incomes are in the

top 1 percent receive 30 percent of the aggregate benefits of tax deductions; income earners in the top quintile of the distribution receive 81 percent of the aggregate benefits of tax deductions. These percentages correspond roughly to shares of aggregate tax payments. By contrast, income earners in the bottom quintile of the distribution receive only negligible benefits from tax deductions, reflecting both the low tax rates against which they take deductions and the very small fraction of such taxpayers who itemize deductions rather than taking the standard deduction.

The third and fourth columns of Table 7.3 display information on distributions of the benefits of capital-gain preferences and tax credits. These two series exhibit very different distributional properties. The benefits of capital-gain preferences—the low rates at which long-term capital gains are taxed—are very strongly concentrated among high-income taxpayers, with the top quintile of income earners enjoying 93 percent of the aggregate benefit of these low tax rates, while the bottom two quintiles of income earners enjoy only negligible benefits. The opposite is true of the benefits of tax credits, which arise almost entirely from the Earned Income Tax Credit and the Child Tax Credit. The bottom two quintiles of income earners enjoy 66 percent of the aggregate benefits of tax credits, whereas the top quintile of income earners receive only negligible benefits.

The fifth column of Table 7.3 displays shares of aggregate benefits from all tax expenditures taken together. Because of the significance of tax deductions and capital-gain preferences, aggregate tax expenditure benefits are again concentrated among high-income taxpayers, with 17 percent accruing to the top 1 percent of taxpayers, and 51 percent to the top quintile. By contrast, the bottom quintile of income earners receives only 8 percent of the aggregate benefits of tax expenditures, and the 20–40 percent quintile receives 10 percent of the aggregate benefits.

Table 7.4 presents information on the benefits of aggregate tax expenditures expressed as shares of after-tax incomes. This method of presenting the values of tax expenditures implicitly modifies the entries to adjust for the dollar values of the benefits provided by different types of tax expenditures. For example, since the aggregate dollar value of tax exclusions greatly exceeds the aggregate dollar value of tax deductions, the distribution of tax exclusions has greater impact on the final distribution of after-tax incomes than does the distribution of tax deductions.

Table 7.4 Values of Tax Expenditures as Shares of After-Tax Income, by Income Group, 2013 (%)

Income group (%)	Tax exclusions (%)	Tax deductions (%)	Capital gains preferences (%)	Tax credits (%)	Total tax expenditures (%)
Top 1	3.2	3.9	5.3	0.0	13.1
Top 20	4.7	2.5	1.7	0.1	9.4
60–80	5.2	0.8	0.2	0.7	7.3
40–60	5.0	0.4	0.1	1.5	7.3
20–40	4.5	0.2	0.0	3.3	7.9
Bottom 20	4.2	0.0	0.0	8.1	11.7

NOTE: Figures in the table report values of total U.S. tax benefits of each tax preference category received by each of the designated income groups, expressed as fractions of group income. “Tax exclusions” consist of tax benefits from the exclusion from taxable income of employer-provided health insurance, net pension contributions and earnings, capital gains on assets transferred at death, a portion of Social Security and railroad retirement benefits, and other items. “Tax deductions” consist of tax benefits from the itemized deductions for state and local taxes, mortgage interest, charitable contributions, and others. “Capital gains preferences” are the benefits of the preferential tax rates at which long-term gains are taxed. “Tax credits” consist of tax benefits from the Earned Income Tax Credit, the Child Tax Credit, and other available credits. “Total tax expenditures” is the sum of all of these tax benefits.

SOURCE: CBO (2013).

Despite a normalization by after-tax incomes, it remains the case that the values of tax deductions and capital-gain preferences appear to be concentrated among high-income taxpayers: the top 1 percent receive benefits from tax deductions equal to 3.9 percent of their incomes, and they receive benefits from capital-gains preferences equal to 5.3 percent of their incomes. By contrast, taxpayers with incomes in the bottom 40 percent of the income distribution receive benefits from tax deductions equal to just 0.2 percent of their incomes and receive only negligible benefits from capital gains preferences. The benefits of tax exclusions in Table 7.4 appear to be spread across the population roughly in proportion to after-tax incomes, and the benefits of tax credits are very strongly concentrated among low-income taxpayers, with those in the bottom quintile of the income distribution receiving tax credits worth 8.1 percent of their incomes. By contrast, taxpayers in the top quintile of the income distribution receive benefits from tax credits equal to just 0.1 percent of their incomes.

The fifth column of Table 7.4 presents the distribution of the dollar values of tax expenditures measured as percentages of after-tax incomes. This distribution of benefits is largely flat across the middle three quintiles of the income distribution, with somewhat greater density in the bottom and top quintiles, and a mild concentration of benefits for the top 1 percent of income earners.

The evidence indicates that taxpayers in the top 20 percent of the U.S. income distribution receive a majority of the benefits of tax expenditures, from which many people quite understandably draw the conclusion that tax exclusions, deductions, and credits are antiprogressive. One problem with this inference is that existing tax expenditures offer benefits roughly in proportion to after-tax incomes, suggesting that they serve largely as factors that reduce effective tax rates by somewhat constant amounts. The second problem is that evaluating tax expenditures in isolation relies on a view of the world in which everything else—notably including tax rates—stays unchanged while tax preferences disappear. This is unrealistic; governments choose tax rates together with tax preferences, and if tax preferences were reduced in magnitude, then government would also change tax rates. Consequently, in order to know just what effect tax expenditures have on the distribution of income, it is necessary to understand the principles that governments apply in designing their tax systems.

THE 2017 TAX CUTS AND JOBS ACT

In December 2017, the United States enacted a major tax reform, commonly known by the bill's original title, the Tax Cuts and Jobs Act (TCJA). This legislation was initially directed at reforming the U.S. system of corporate and international taxation, and while the TCJA did reduce the U.S. corporate tax rate from 35 percent to 21 percent and introduce major changes to the U.S. system of taxing foreign income, the final bill also included significant cuts to individual taxes and the taxation of income earned by unincorporated businesses. As a result, forecasts predicted that the TCJA would reduce federal revenue collections by \$1.456 trillion over 10 years; and even in the scenario in which the tax reduction has the effect of stimulating the economy, federal rev-

venues over that time period would decline by \$1.071 trillion because of the bill's provisions (Joint Committee on Taxation 2017b).

The 2017 legislation significantly reduced individual taxes by lowering tax rates, almost doubling the standard deduction, doubling the Child Tax Credit, increasing the exempt amount under the individual alternative minimum tax (AMT), and making several other changes. There were also several provisions that increased individual taxes, notably by removing personal exemptions, reducing and eliminating several popular itemized deductions, and changing the method by which bracket amounts are indexed to inflation. The combination of rate reductions and limits on itemized deductions produced a lower-rate, broader-based personal income tax system. It also produced a personal income tax system with burdens less well targeted to ability to pay.

The 2017 TCJA reduced average effective tax rates at every income level. Table 7.5 presents a distributional analysis of the effect of the TCJA, comparing tax burdens by income level in 2017 (prior to application of the TCJA's provisions) and 2019. As the table indicates, the TCJA reduced personal income taxes by \$259.5 billion in 2019, lowering the average personal income tax rate from 20.7 percent to 19.0 percent. The tax reductions were concentrated among higher-income taxpayers, in part reflecting the reality that these individuals pay the majority of federal income taxes. The roughly 1.7 million taxpayers with incomes of \$500,000 and above saw their aggregate federal taxes decline by \$60.8 billion between 2017 and 2019, whereas the 37.5 million taxpayers with incomes in the \$20,000–\$40,000 range received an aggregate tax reduction of just \$8.4 billion.

The second and third columns of Table 7.5 present average tax rates in 2017 and 2019 for each of the listed income groups. Average tax rates declined for each of these groups by between 0.5 and 3.1 percent, with most of the large reductions materializing for high-income taxpayers. For example, the average tax rate of taxpayers with \$1 million or more of income fell from 32.5 percent in 2017 to 30.2 percent in 2019; and the average tax rate of taxpayers with annual incomes in the \$500,000 to \$1 million range declined from 30.9 percent in 2017 to 27.8 percent in 2019. By contrast, the average tax rate of taxpayers with annual incomes in the \$20,000–\$30,000 range fell by only 0.5 percent, from 3.9 percent to 3.4 percent. As a result, the 2017 TCJA delivered its larg-

Table 7.5 2019 Distributional Effects of the 2017 Tax Cuts and Jobs Act

Income category (\$ 000)	Tax reduction (\$ billions)	Average tax rates (%)		Number of taxpayers (in millions)
		2017	2019	
Less than 10	0.4	9.1	8.6	19.3
10–20	1.8	–0.7	–1.2	20.6
20–30	3.0	3.9	3.4	21.5
30–40	5.4	7.9	7.0	16.0
40–50	6.7	10.9	9.9	12.8
50–75	23.0	14.8	13.5	27.4
75–100	22.4	17.0	15.6	17.8
100–200	70.4	20.9	19.4	30.7
200–500	65.5	26.4	23.9	9.2
500–1,000	23.9	30.9	27.8	1.1
1,000 and over	36.9	32.5	30.2	0.6
Total	259.5	20.7	19.0	177.0

NOTE: The table presents the aggregate tax reductions between 2017 and 2019, and the average federal income tax rates in 2017 and 2019, for 11 income groups classified by adjusted gross income as reported on tax forms.

SOURCE: Joint Committee on Taxation (2019).

est tax reductions (as measured relative to pretax incomes) to the most affluent taxpayers.

Table 7.6 explores the sources of tax burden changes for affected taxpayer income groups. Entries in the table represent the aggregate magnitudes of tax reductions between 2017 and 2019 for which the listed tax bill provisions were responsible. Thus, for example, the tax rate reductions in the 2017 bill lowered by \$57.8 billion the aggregate 2019 tax liabilities of taxpayers in the \$200,000–\$500,000 income group. The same taxpayer group also received \$23.8 billion in aggregate tax savings from the 2017 bill’s significant reduction in the alternative minimum tax but paid an additional \$25.8 billion in aggregate taxes because of the removal of personal exemptions.

Some patterns are evident from the information in Table 7.6. The tax rate reductions in the 2017 bill reduced aggregate 2019 tax collections by \$198.4 billion, with the benefits concentrated among high-income taxpayers. The 2017 bill reduced aggregate tax collections under the alternative minimum tax by \$38.6 billion; almost all of this

Table 7.6 2019 Distributional Effects of Specific Provisions of the 2017 Tax Cuts and Jobs Act

Income category (\$ 000)	Rate reduction (\$ billions)	Alternative minimum tax (AMT) (\$)	Personal exemptions (\$)	Standard deduction (\$)	Itemized deductions (\$)	Child Tax Credit (\$)
Less than 10	0.0	1 m	-1 m	182 m	0	82 m
10-20	0.0	4 m	-932 m	3.3 b	-4 m	1.0 b
20-30	0.3	0 m	-2.8 b	5.9 b	-60 m	2.4 b
30-40	1.3	2 m	-3.8 b	7.0 b	-153 m	3.5 b
40-50	2.7	6 m	-4.9 b	7.7 b	-231 m	4.3 b
50-75	12.3	9 m	-16.5 b	20.4 b	-1.1 b	9.8 b
75-100	14.7	9 m	-17.7 b	16.8 b	-1.7 b	7.7 b
100-200	61.1	690 m	-54.6 b	37.2 b	-9.1 b	23.9 b
200-500	57.8	23.8 b	-25.8 b	9.6 b	-21.5 b	13.5 b
500-1,000	18.6	13.2 b	-39 m	1.1 b	-12.3 b	93 m
1,000 and over	29.5	873 m	-1 m	425 m	-30.0 b	0
Total	198.4	38.6 b	-127.1 b	109.5 b	-\$76.2 b	66.4 b

NOTE: The table presents the aggregate tax reductions between 2017 and 2019 due to various provisions of the 2017 TCJA, distinguished by income groups as classified by adjusted gross income reported on tax forms. The first column reports tax reductions due to lower tax rates introduced by the TCJA. The second column reports tax reductions due to changes in the alternative minimum tax. The third column reports tax reductions (all of which are negative, so therefore correspond to tax increases) that are due to the elimination of personal exemptions. The fourth column reports tax reductions due to increases in the standard deduction. The fifth column reports tax reductions (all of which are negative, so therefore correspond to tax increases) that are due to limitations on itemized deductions. The sixth column reports tax reductions due to increases in the Child Tax Credit.

SOURCE: Joint Committee on Taxation (2019).

tax reduction was enjoyed by taxpayers in the \$200,000-to-\$1-million income range. The elimination of personal exemptions increased aggregate tax liabilities by \$127.1 billion, most of it paid by taxpayers earning between \$100,000 and \$500,000, and virtually none of which paid by taxpayers earning \$500,000 or above (whose personal exemptions had been already largely phased out under pre-2018 law). Increasing the standard deduction reduced total tax collections by \$109.5 billion, and almost 70 percent of these benefits were received by taxpayers with incomes between \$50,000 and \$200,000. Increasing the Child Tax

Credit reduced total tax collections by \$66.4 billion, with the benefits concentrated among taxpayers with middle-to-high incomes; those with incomes below \$20,000 or above \$500,000 received almost none of the benefits.

The 2017 legislation made several changes to itemized deductions, limiting the ability of taxpayers to claim deductions for state and local tax payments, mortgage interest payments, casualty losses, moving expenses, alimony payments, and various miscellaneous itemized deductions, including expenses incurred in income-earning activities. In total, these restrictions reduced tax collections by \$76.2 billion, with the burden heavily concentrated among high-income taxpayers. For example, these limits on itemized deductions increased by \$30.0 billion the aggregate tax liabilities of taxpayers with incomes of \$1 million or more, despite the relatively small number of such taxpayers; by contrast, taxpayers with incomes below \$100,000 (who itemize their deductions at relatively low rates) were largely unaffected.

Those who have long advocated for broad-based, low-rate income taxation got a version of what they asked for with the 2017 Tax Cuts and Jobs Act. The 2017 TCJA reduced rates and removed deductions and exemptions, moving federal income taxation in the direction of a flatter—and some would argue, simpler—tax system. The federal income tax now collects less money than it would have absent the 2017 changes and does so in a manner that corresponds less to assigning burdens according to ability to pay. While the individual income tax features of the 2017 legislation move the federal revenue system in an unfortunate direction according to these criteria, one way in which the 2017 TCJA is useful is that it illustrates what direction *not* to take in crafting more wholesale reforms to the tax system.

PRINCIPLES OF INCOME TAXATION

Countries impose taxes in order to raise revenue to finance their governments. The cost of raising revenue is that the accompanying taxes impose burdens on individuals and businesses that pay the taxes, and these taxes also impose costs on the economy as a whole by distorting economic incentives. Income taxation discourages income pro-

duction, thereby reducing the efficiency of the economy and running counter to most government objectives. The economic costs of the distortions produced by income taxation almost always rise with the amount of revenue collected,⁴ and with the extent of tax progressivity, so a more distortionary tax system puts downward pressure on government spending and on the extent to which a government will be willing to impose progressive taxes.

The cost of economic distortions is a function of the degree to which price distortions discourage and alter economic activity. Properly designed income exclusions, tax deductions, and tax credits make the tax system less distortionary by directing tax burdens at economic activities that are less responsive to taxation. For example, while all income taxes discourage labor supply, the effects are more dramatic in some instances, and for some groups of workers, than they are for others. Age is an obvious dimension along which the labor supply effects of taxation will usually differ. For example, workers over 60 years old are at far greater risk of retiring than are workers in their forties, so high tax rates are much more likely to drive older workers out of the labor force than they are to induce exit by middle-aged workers. Consequently, an efficient tax system would offer preferential treatment of older workers, all other things being equal. And if a tax system does not offer special exemptions, deductions, or tax credits to elderly workers, then the labor supply responsiveness of this group will put downward pressure on income tax rates in general, since the government will know that higher tax rates significantly reduce the labor supply of a significant portion of the population.

Similar considerations apply to the tax treatment of working families with young children. Since children require care and supervision, parents who work full time must incur out-of-pocket child-care costs, many of which are avoidable if at least one of the parents were to stay home with the children. High tax rates on working parents discourage labor force participation by reducing the net return from working—which has particularly strong effects on income production by parents of young children. The tax system can address this problem most directly by providing tax deductions or tax credits for child-care expenses incurred to accommodate the careers of working parents, which has the effect of more nearly taxing the net economic return to working. While the U.S. tax system currently offers modest versions of

these deductions and credits, they are very much incomplete, which is why high tax rates on labor income would strongly discourage parental labor-force participation.

Certain forms of capital income are similarly sensitive to taxation. Capital gains offer an important example. Capital gains are taxed on realization rather than accrual, so high rates of capital income taxation strongly discourage owners of appreciated assets from selling their holdings, a phenomenon known as the “lock-in effect.” Owners of homes, shares of stock, small businesses, and other valuable properties commonly retain their holdings far longer than they would otherwise want to, in order to delay triggering capital gains taxes. By delaying realizations, an owner implicitly earns returns on the taxes that are not paid in the meantime. To the extent that capital income taxes apply to capital gains, these taxes distort the economy by keeping homeowners in homes they no longer want, investors in shares of companies they no longer want to hold, and business owners in businesses they would prefer to sell to others. Furthermore, anticipation of these taxes discourages investments in the first place. The reality that capital-gains tax realizations are highly sensitive to taxation accounts for the favorable tax treatment that the federal income tax currently affords to income from long-term capital gains. In the absence of such favorable treatment, there would be very strong downward pressure on income tax rates, as governments recognize that the lock-in effect makes high rates very costly.

The examples of the effects of high tax rates on labor supply by elderly workers, labor supply by working parents, and capital gains realizations, are just that: examples. In fact, there are scores of dimensions along which economic activity is more and less responsive to taxation, and which therefore from an efficiency standpoint justify favorable tax treatment of certain taxpayers and activities, and less favorable treatment of others. In the absence of such tax differentiation, the system becomes less efficient and more costly, which makes governments less willing to impose the high tax rates necessary to fund significant government operations and to do so in a progressive manner.

The efficiency considerations that argue in favor of an extensive system of tax preferences in the form of exclusions, deductions, and credits simply add to traditional equity considerations. Taxpayers in different situations, and with different forms of income, have differing

abilities to pay taxes, and therefore should be subject to taxation at different rates. Children again offer an obvious example. A married couple with labor income of \$80,000 is clearly in a different economic position from a family consisting of a married couple and five children with a family income of \$80,000, and it is obvious that the childless couple has in a very practical sense greater real income and therefore greater ability to pay taxes. The U.S. tax system offers only very modest benefits to families with children and would need to do much more in order to adjust properly for the effect of family size on taxpaying ability. Failure to adjust taxes properly for family size means not only that tax burdens are inequitably distributed between taxpaying families, but also that there is downward pressure on tax rates in general, since high tax rates without proper adjustments for family size would impose severe burdens on families in certain circumstances.

Casualty losses offer another example. A family whose home burns down or whose car is stolen incurs significant economic losses in addition to life disruption, insofar as any losses are uninsured. There is a very real sense in which the family's economic income in the year of the incident is lower by the amount of the uninsured loss; and an uninsured loss certainly diminishes a family's ability to pay federal income taxes without incurring significant economic hardship. Until 2018, it was possible for U.S. taxpayers to claim deductions for casualty losses to the extent that such losses exceeded 10 percent of adjusted gross income, but provisions of the 2017 TCJA all but eliminated this deduction. The result is not only the serious inequity that follows from subjecting people to taxation based on inaccurate measures of their annual incomes, but also downward pressure on tax rates, to prevent federal income taxes from imposing significant hardship on families incurring casualty losses and other major economic disruptions.

There are many other dimensions along which the economic situations of taxpaying families differ, and which bear on their ability to pay federal taxes. Families incur medical and educational expenses, job disruptions, investment reversals, loan demands from friends and relatives, and many other circumstances that could be reasonably accommodated by provisions in the tax system. It is a reality that tax breaks given to one group of taxpayers must be made up by higher burdens on other taxpayers, but fortunately there is a simple legislative method of performing such an adjustment, which is to increase tax rates.

INCOME DISTRIBUTION AND INCOME TAXATION

A properly designed income tax offers many exclusions, deductions, and credits that accommodate individual situations and thereby adjust tax burdens according to ability to pay. Such a system also imposes relatively heavier burdens on income sources that are least responsive to taxation. These features give the tax system a narrow base and relatively high rates. The high rates are indeed important attributes: a tax system that imposes burdens in accordance with ability to pay has tax rates that rise sharply with income, making the tax-rate schedule highly progressive.

Under any circumstance, it is in the national interest to adopt an income tax that imposes burdens according to ability to pay, but at a time of heightened concern over the distribution of income there is even greater need to adhere to sound principles in crafting income tax provisions. Sound tax design addresses income distribution concerns in several ways. The first is by accommodating individual circumstances and needs, implicitly adjusting tax burdens for differences in real incomes. The second way in which sound tax design addresses income distribution concerns is by facilitating the imposition of a highly progressive tax-rate schedule, one in which high-income taxpayers shoulder much more of the tax burden than do low-income taxpayers. And the third way is that sound tax design makes it feasible to finance significant government expenditures at a reasonable cost, which makes it possible for the government to adopt spending measures that assist low-income and otherwise vulnerable portions of the population.

The United States already has a progressive personal income tax, and it already permits many exclusions, deductions, and tax credits that narrow the base and, to a degree, adjust tax burdens to individual situations. These features of the income tax are widely criticized, notably by advocates for greater tax progressivity, who feel that higher-income taxpayers receive most of the benefits of exclusions, deductions, and tax credits. Evidence from tax filings confirms that this observation is largely correct: high-income taxpayers do indeed benefit from tax expenditures, with slightly more than half of the benefits going to people in the top quintile of the income distribution, and just 8 percent of the benefits going to people in the bottom quintile.

It is a mistake to conclude from this observation, as so many have, that the answer to making the tax system more progressive lies in selective reductions in tax expenditures. On the contrary: in order to make the tax system more progressive, it is necessary to expand significantly the number of tax expenditures, particularly those that benefit high-income taxpayers. The tax-rate schedule can be made more progressive only by adjusting the taxation of high-income earners for aspects of their economic activities and personal situations that bear on their ability and willingness to pay taxes. Put simply, with different design, it is possible to impose higher tax rates on those with high incomes—but this design will certainly entail significant tax breaks for some with high incomes. The tax system can thereby do much more to align tax burdens with abilities to pay, and to relieve burdens on those who are struggling economically—but such a system lies open to critique by well-meaning critics who do not appreciate the connection between the breadth of the tax base and the progressivity of tax rates.

Recent legislative developments are far from encouraging. The 2017 Tax Cuts and Jobs Act gave the tax system a narrower base and lower rates, reducing its progressivity and also reducing total tax collections. In eliminating or restricting tax deductions for casualty losses, alimony payments, moving expenses, state and local income tax payments, mortgage interest payments, and expenses incurred in income-earning activities, the 2017 TCJA significantly reduced the extent to which tax burdens align with ability to pay. The tax-rate reductions enacted by the TCJA simply add to the mismatch between tax burdens and taxpaying ability, and the reduced tax collections make it ever more difficult to maintain government programs directed at those in challenging economic circumstances. The TCJA was the product of a political process driven by many considerations, but underlying some of the changes that it enacted was a mistaken sense that a broad-based, low-rate income tax is better than the alternative. Certainly this is not the case if one desires a tax that imposes burdens according to ability to pay and does so in a progressive manner. But even if one's goal is merely efficiency, not equity or progressivity, a good tax system is highly differentiated, offering multiple exclusions, deductions, and credits.

It is important not to overlook efficiency in designing a tax system, whether or not analysts and advocates are motivated by a desire to distribute tax burdens equitably. A more efficient tax system offers

greater opportunity to pursue all objectives, including those related to equity; and in particular, a more efficient tax system can support a more progressive tax rate structure at lower cost than does a less efficient tax system. In addition, a more efficient tax system makes it feasible for the government to finance worthwhile expenditures, including those that may have redistributive effects. Properly crafted tax expenditures enhance the efficiency of the tax system by directing tax burdens to where they have the least effect of discouraging income production, thereby making the economy more productive.

Postwar U.S. history includes long stretches of time over which tax rates were high and the tax system offered extensive exclusions, deductions, and tax credits. The recent movement has been in the opposite direction, and to little good effect from the standpoints of aligning tax burdens with ability to pay and financing the U.S. government. Those inclined to criticize tax breaks as giveaways to the rich might do well to reflect on the alternative, which is a stripped-down tax system with relatively flat rates and little if any accommodation for the needs of individual taxpayers. In fact, the tax system needs more of what it once had, with high tax rates but also extensive tax preferences for certain types of income and taxpayers in specified circumstances. Only then will it be possible to address the income distribution concerns, and the government financing concerns, that properly motivate those interested in contemporary U.S. economic policy.

Notes

1. See, for example, Pechman (1977), Century Foundation Working Group (2002), Reid (2017), and Sarin and Summers (2019).
2. In tax year 2015, 44.6 million U.S. tax returns itemized deductions out of 150.5 million returns filed, representing 29.6 percent of the total. These and other tax-return data are available at <https://www.irs.gov/statistics/soi-tax-stats-individual-income-tax-return-form-1040-statistics>.
3. The Congressional Budget Office (CBO 2019) reports that, in 2018, total U.S. federal government revenues were \$3,329 billion, of which \$1,684 billion (50.6 percent) represented individual income taxes, and \$1,171 billion (35.2 percent) were payroll taxes.
4. Atkinson and Stern (1974) identify exceptional cases in which higher tax revenues can be associated with reduced economic distortions; see Dahlby (2008) for a review of this literature.

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Authors

Sisay Asefa is director of the Center for African Development Policy Research and a professor in the Department of Economics at Western Michigan University. His areas of research include development policy, rural development, food security, and governance and institutions.

Charles L. Ballard is a professor of economics at Michigan State University. Among his areas of expertise is econometric analysis of trends in income inequality in different regions of the United States. He is director of the State of the State Survey conducted by the Institute for Public Policy and Social Research at Michigan State.

Mary E. Corcoran is a professor emerita of public policy, political science, and women's studies in the Gerald R. Ford School of Public Policy at the University of Michigan. Her research focuses on the effects of gender and race discrimination on economic status and earnings, and on professional women's career trajectories.

Teresa Ghilarducci is a labor economist and a nationally recognized expert in retirement security. She is the Bernard L. and Irene Schwartz Professor of Economics at the New School for Social Research and the director of the Schwartz Center for Economic Policy Analysis (SCEPA) and the New School's Retirement Equity Lab (ReLab).

James R. Hines Jr. is the L. Hart Wright Collegiate Professor of Law and codirector of the Law and Economics Program at the University of Michigan Law School. He is also the Richard A. Musgrave Collegiate Professor of Economics in the Department of Economics and serves as the research director of the Office of Tax Policy Research in the University of Michigan's Stephen M. Ross School of Business. His research focuses on various aspects of taxation.

Wei-Chiao Huang is department chair and professor of economics at Western Michigan University. His research interests include various issues related to China's economic reforms. He was awarded the 2018 College of Arts and Sciences Faculty Achievement Award in Global Engagement.

David Lam is a professor of economics, director of the Institute for Social Research, and a research professor in the Population Studies Center at the University of Michigan. He has worked extensively in Brazil and South Africa, where his research analyzes links between education, labor markets, and income inequality.

Howard Stein is a professor in the Department of Afroamerican and African Studies and the Department of Epidemiology at the University of Michigan. He is a development economist who has taught in both Asia and Africa. Among his research focuses has been the impact of property rights formalization on poverty in rural Tanzania.

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