

Chapter 2

Analysis

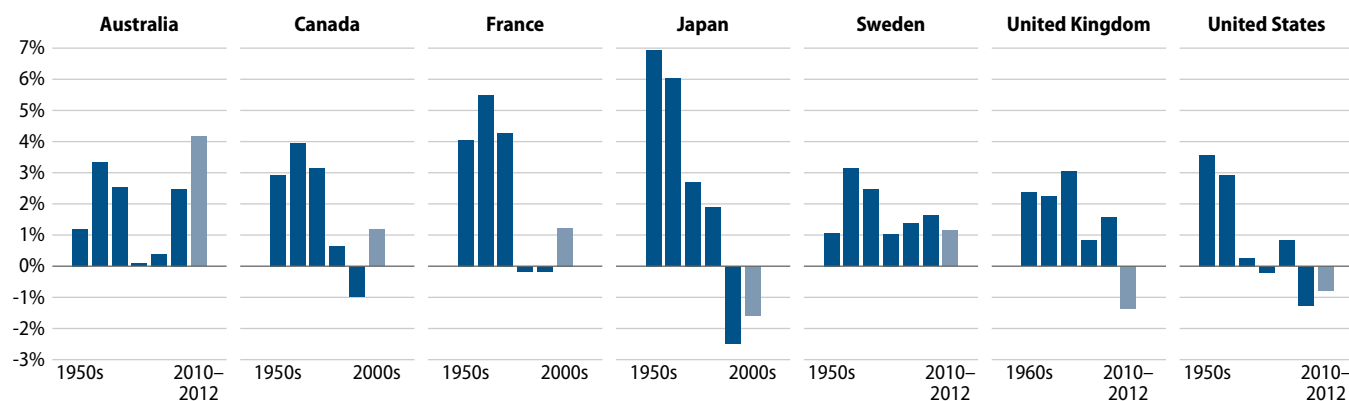
Analysis

There are serious structural challenges facing advanced economies today: the changing economic environment, rising income inequality, and the move from crisis to recovery. These are large, systemic issues that threaten inclusive prosperity.

One way we can compare how advanced economies have coped with these challenges is to compare the income growth of their middle classes; we measured the average income of households in the bottom 90 percent of the income distribution. Middle-class household incomes, which grew rapidly from the end of World War II up until around 1980, are no longer growing rapidly for many advanced economies. Income growth has slowed for those in the middle or on the bottom. In some economies, such as the United States and the United Kingdom, the bottom 90 percent of incomes have even stagnated or declined in recent years. This trend is clear in Figure 2.1, which looks at middle-class income growth in seven countries across seven decades using data from the World Top Incomes Database. (This database is an international collaboration among dozens of economists managed by British economist Anthony Atkinson of Oxford and the London School of Economics, Facundo Alvaredo of Argentina's National Scientific and Technical Research Council, Thomas Piketty of the Paris School of Economics, and Emmanuel Saez of the University of California, Berkeley.¹) Some advanced economies, on the other hand, have maintained middle-class income growth in the 21st century.*

* Australia, Canada, and Sweden, for example, which are all represented on the Inclusive Prosperity Commission.

FIGURE 2.1

Bottom 90 percent average annual income growth rate in select advanced economies by decade

Note: Lighter shading indicates that significantly less than a full decade of data are available. Due to sporadic data availability, appropriate decades range from 9–11 years, and endpoints of decades may differ by 1–2 years.
 Source: Facundo Alvaredo and others, "The World Top Incomes Database," available at <http://topincomes.g-mond.parisschoolofeconomics.eu> (last accessed December 2014).

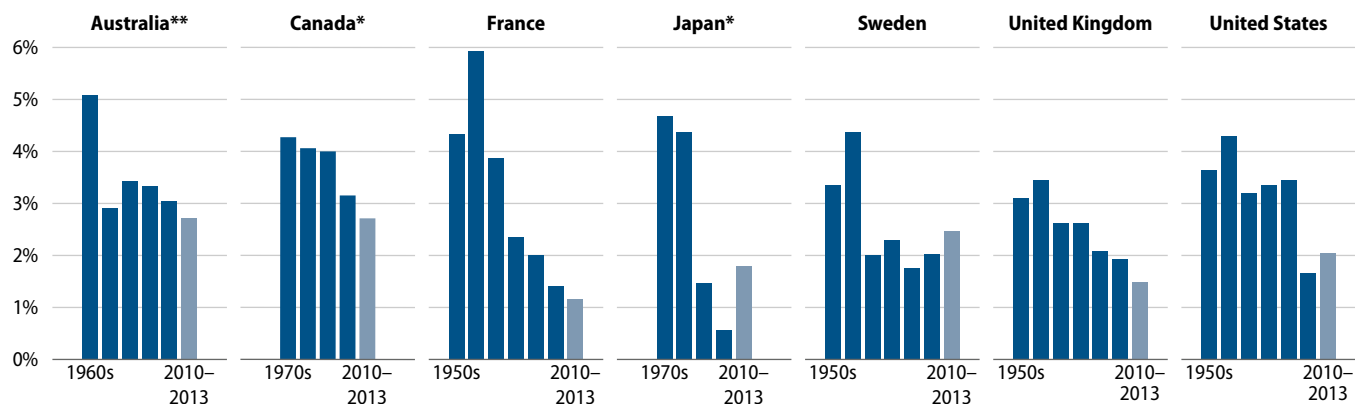
The slowdown in household income growth has several causes. First, income growth in many advanced economies has trended downward. Since the mid-1970s, gross domestic product, or GDP, growth in much of the eurozone has trended downward, as has growth in the United States and Japan. There are exceptions, such as in Sweden and Australia. This trend is easily visible in Figure 2.2, which reports data on GDP growth from the Organisation for Economic Co-operation and Development, or OECD, and U.S. national income accounts.² In some countries, slowing income growth has meant higher unemployment and underemployment, which has contributed to the slowdown in the growth of middle-class household incomes. In others, employment growth has returned but productivity has slowed, leading to the same outcomes.

In addition, markets have delivered increasingly unequal household incomes. There is an upward trend in market-based inequality, as measured by the Gini coefficient (a standard measure of income inequality), in economies as diverse as the United Kingdom, the United States, Germany, and Sweden. While the tax-and-transfer systems in many advanced economies have substantially moderated the increase in market-based inequality, they have not done so completely.

In recent decades, there has been rapid development of international trade and competition—the phenomenon of globalization. There also has been rapid and disruptive technological change, in the form of information and computer technology that is rapidly allowing machines to replace even complex forms of human work.

FIGURE 2.2

Average annual GDP growth rate in select advanced economies by decade



* OECD data not available before 1970

** OECD data not available before 1960

Note: Lighter shading indicates that significantly less than a full decade of data are available.

Source: Organisation for Economic Co-operation and Development, "Stat Extracts: Gross domestic product (GDP)," available at <http://stats.oecd.org/index.aspx?queryid=61429#> (last accessed December 2014). U.S. data from Federal Reserve Bank of Saint Louis, "Real Gross Domestic Product, Billions of Chained 2009 Dollars, Annual, Not Seasonally Adjusted," available at <http://research.stlouisfed.org/fred2/series/GDPC1> (last accessed January 2015).

This changed environment of course offers not just costs, but a host of new opportunities. With globalization comes the possibility of selling goods and services into a global rather than a domestic market and of buying products at lower costs or higher quality than domestic substitutes. Global competition encourages domestic innovation, which helps push developed countries further up the value chain. With technical change also comes the possibility of new products and services and the possibility for workers to enter new, potentially higher-paid forms of work.

At the same time, the forces of globalization and technical change have also put pressure on middle-income families, as new and lower-cost competitors enter markets and new skills become mandatory, not just optional, for the best-paying employment. These new realities clearly call for important adjustments to economic policy.

In this chapter, we examine more closely the effects of globalization, technical change, and declining worker power on the economic position of middle- and low-income earners. We also examine the effects of changes to labor-market institutions and in corporate investment behavior. We show that increased inequality has negative implications far beyond people's finances. Inequality in income translates into inequality in longevity—that is, income is an increasingly

strong predictor of how long people live. Inequality also affects intergenerational mobility—how the income of a child’s parents determines his or her income as an adult. We show how increased inequality contributes to the problem of insufficient aggregate demand—too little spending by consumers and businesses to keep GDP at its capacity. And we also show how many countries are still recovering from the effects of the financial crisis. Poor policy choices have prolonged economic misery, exacerbated the outcomes outlined above, and could reduce long-run potential economic growth.

The changing economic environment

Today’s economy offers both new challenges and new opportunities to the middle class in advanced economies. Globalization and technology have made these countries more productive but have also introduced competition from low-wage countries. These changes are also creating downward pressure on wages that is increasingly moving up the income scale in developed countries. In many countries, the changing relationship between employers and employees has also reduced the voice of workers—whether in the form of “zero-hours” contracts in the United Kingdom or the decline of labor unions in the United States. And corporations have become increasingly focused on reporting short-term profits instead of delivering the long-term investments that will help our economies grow.

In this section, we spell out what each of these emerging trends means for most people in our countries.

Globalization has provided both benefits and competitive challenges

The world is increasingly global, nowhere more so than in our economic interactions. Over the past generation, technology has reduced the costs of transportation, automation, and communication dramatically. The result is a globalized economy that has far greater capital, product, supply-chain, knowledge, and labor-market mobility than ever before.

This globalized world economy has created enormous gains for people around the globe and for their standards of living. Reduced transportation and communication costs have allowed businesses to produce manufactured goods at new levels of scale and affordability, with savings from innovations and leaner firms passed

on to consumers in the form of lower prices and a broader range of increasing quality goods. New markets have opened as a result of unprecedented political and economic cooperation between nations, bringing opportunities to people and businesses in countries rich and poor alike. Most importantly, hundreds of millions of people have been lifted out of poverty, with some progress finally reaching even the poorest nations, though in regions of the world poverty still remains alarmingly high.³

The same technologies that businesses have used to move goods and ideas faster and more cheaply have also enabled people to communicate across vast distances with speed and ease. As of 2013, there were 93 mobile phone subscriptions worldwide for every 100 people.⁴ Even in sub-Saharan Africa and South Asia, which are home to much of the world's deepest poverty, there were more than two mobile subscriptions for every three people.⁵ This technology helps many of even the world's poorest people communicate across continents; it has lowered the risk of famine by linking up people across previously disparate markets and has played a major role in politically empowering citizens seeking democracy in even the most brutal regimes around the world. Important results of this increased globalization of trade, technology, and investment are the benefits flowing to consumers from lower prices and an increasing variety of goods. Economist C. Fred Bergsten estimates that such benefits from increased trade translated into an additional \$9,000 in inflation-adjusted income between 1945 and 2003 for the average American household.⁶

While such technologies have transformed people's lives in myriad ways, this report acknowledges these effects while detailing the trend of wage stagnation for much of the population across advanced economies.

No one should want to turn back the clock on the vast benefits of globalization. Yet the changing patterns of trade and investment also raise questions about the future direction of advanced economies and which places and kinds of industries will thrive and create jobs. Firms can now shop around the globe for the lowest labor costs, the places where workers lack basic rights, and the most receptive governments to low tax and regulatory levels. In particular industries, especially manufacturing, domestic employment and wage growth have been affected.⁷

A study by Massachusetts Institute of Technology economist David Autor and his co-authors shows that regions of the United States whose industries were more exposed to competition from China experienced greater employment

declines; Chinese import competition explains about one-quarter of the decline in U.S. manufacturing between 1990 and 2007.⁸ Another study by scholars at the University of Edinburgh and the U.S. Federal Reserve finds that the U.S. industries most exposed to import competition were also the industries where the share of income going to workers declined the most. Their study suggests that “increases in import exposure of U.S. businesses can explain about 3.3 percentage points of the 3.9 percentage point decline in the U.S. payroll share over the past quarter century.”⁹ Unemployment and the declining share of income going to workers produced by international competition present a substantial challenge to workers in advanced economies.

Unless public policy can help find answers to these questions, public support for open economic relationships between countries will diminish even more than it has already. And with the nature of technological change and the economic strategies of fast-growing developing countries, wage competition is expanding up the technological ladder. Both firms and workers are exposed to international competition across a wider range of industries and occupations—from textiles to aerospace and from call centers to advanced engineering. Even in the industries that still employ many workers in the United Kingdom and the United States, this foreign competition has hit workers hard.

Declining worker bargaining power, for example, appears to be a global trend. A job in many European countries can be offshored as easily as a job in the U.S. Midwest, which has been the case for workers across the manufacturing sector in high-wage countries. Yet nations that have robust minimum wages and protections for workers that empower their voice in the workplace have not seen such a strong divergence between worker productivity and worker pay. Indeed, Australia’s workers face the same global trends, yet its switch to collective bargaining over and above a strong set of minimum conditions has helped workers keep more of their productivity gains in take-home earnings.¹⁰

Technology is changing the nature of work

Alongside globalization, technology is also changing the nature of work at a rapid pace, and some believe workers are in a “race against the machine.” In their book of the same name, MIT economists Erik Brynjolfsson and Andrew McAfee argue that millions of workers are being left behind by the rapid digitalization of the economy.¹¹ This trend is unsurprising, as there is no reason to believe there will

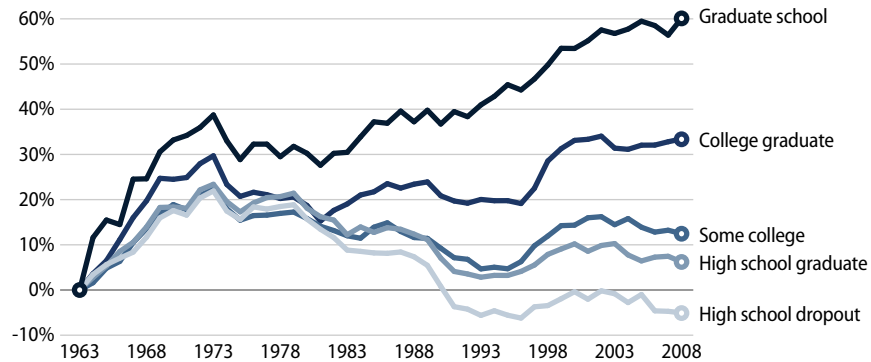
be jobs for all people at socially acceptable wages, despite the rapid technological changes occurring around the globe.¹² New technology can complement labor or substitute for labor, and this is not the first time we have seen technological progress reduce employment opportunities. The rapid pace of innovation in computer automation of routine tasks has rightfully worried policymakers, as this scale of automation has little precedent in industrialized economies. Brynjolfsson and McAfee cite computer programs that instantly translate foreign languages and allow a single lawyer to do the work of 500 in the discovery process as examples of how machines can replace human jobs, not unlike how the ATM replaced the bank teller.

It is natural that technological evolution produces winners and losers. Our understanding of the skills-biased nature of technological progress has evolved over time. Cross-country academic work in this arena demonstrated that growth in new technologies was correlated with reduced demand for unskilled laborers.¹³

Harvard labor economists Claudia Goldin and Lawrence Katz have characterized unemployment and wage stagnation that result from technological progress as a race between technology and education instead of a race against the machine. They argue that since technological progress inherently favors skilled workers, countries must increase the number of skilled workers via human capital investment to prevent rising inequality. They view the recent rise in inequality, particularly in the United States, as a failure to invest in educational institutions.¹⁴ MIT economists Daron Acemoglu and David Autor provide evidence for the race between education and technology by demonstrating that over the past four decades, wages for U.S. workers without college degrees have fallen, and wages for workers with graduate training have risen dramatically.¹⁵ International evidence also shows the same trend of a growing earnings gap between high- and low-skilled workers despite a very large rise in the supply of highly educated labor (which should reduce the gap).¹⁶ There is some evidence, however, that differences in skill level and technological change do not fully explain the growing earnings inequality;¹⁷ one of the most prominent researchers on employment and wage polarization, Autor, has concluded that while the employment polarization hypothesis fits the U.S. data in the 1990s, trends from the past 15 years are at odds with this explanation.¹⁸

FIGURE 2.3

Changes in wages for full-time, full-year male U.S. workers, 1963–2008



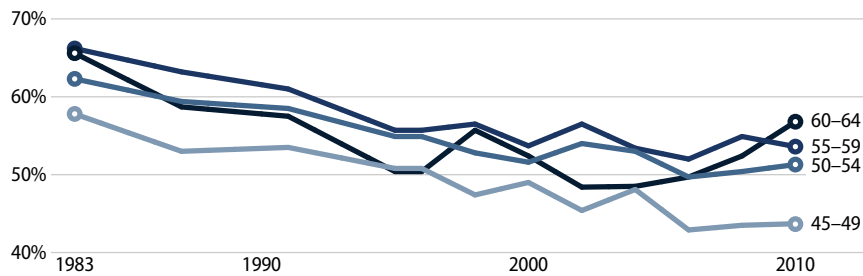
Source: Daron Acemoglu and David Autor, "Skills Tasks and Technologies: Implications for Employment and Earnings" (Cambridge, MA: National Bureau of Economic Research, 2011), Figure 4. Data files available at <http://economics.mit.edu/faculty/dautor/data/acemoglu/>.

Across many developed economies, changing skill requirements appear to be lowering the number of middle-income jobs. This has produced polarized employment growth, characterized by more rapid job creation in highly skilled and highly paid jobs—or in low-skilled, low-paid jobs—and relatively less job creation in medium-skill and medium-wage jobs. A study of the 16 countries in the European Union by economists Maarten Goos, Alan Manning, and Anna Salomons finds that between 1993 and 2006, high-wage occupations increased their share of employment in 13 of the 16 countries, and low-wage occupations increased their share in 11 of the 16 countries. In all 16 countries, low-wage occupations increased in size relative to middle-wage occupations.¹⁹ The U.K. government expects this trend to continue at least through 2022 with growth in highly skilled, white collar occupations and some growth in employment for a number of less skilled occupations but further job losses for both skilled and semi-skilled manual roles and administrative, clerical, and secretarial jobs.²⁰

Frequent job turnover also reduces the incentive for firms to invest in their workers. In the United States, for example, worker tenure fell consistently in the decades leading up to the Great Recession. Long-term relationships with workers provide firms with the incentives to invest in training their workers.²¹ Because investing in a worker's productivity makes the firm more productive, the incentive for on-the-job training falls with declining job tenure.

FIGURE 2.4**Worker tenure is falling in the United States**

Percentage of male wage and salary workers with 10 or more years of tenure, by age, 1983–2010



Source: Bureau of Labor Statistics, *Employee Tenure* (U.S. Department of Labor, 1983–2010).

Today, firms face different incentives for training workers than they once did, such as turnover, and some countries lack the labor-market institutions, such as apprenticeships and labor-management partnerships, to overcome these challenges. As a result, the skill investments that have driven growth in the United States for generations have disappeared. The scale of this decline is dramatic: According to one expert, “U.S. companies are investing about half the amount in training today as a share of GDP compared to a decade ago.”²²

In the United Kingdom, the proportion of the working-age population enrolled in education or receiving training fell by 3.8 percentage points from 2010 to 2013—among the worst in Europe. With automation at home and the tremendous growth of industrialization, as well as skilled workers in low-wage jobs, every dollar spent on training is a potentially stranded investment if a firm relocates to a lower-wage location or if the relationship ends for another reason. Not only do firms have to contend with the increased possibility of well-trained workers leaving—due to the decline of the relationships and the contracts that mitigated the risk—but firms now correctly expect that relationships with workers will be shorter as well. The end result is a system that discourages workers and firms from making joint investments in training that were customary a generation ago and that leaves our economies with less human capital.

The key to minimizing the downside of both globalization and technological change is a policy agenda of a race to the top, instead of a race to the bottom—an agenda that ensures that developed countries produce goods that continue to rise up the value chain toward products with higher value added and that this rise benefits everyone. Policies to improve skills for all, to ensure that a nation’s infrastructure meets its needs, and to encourage innovation are all essential to driving growth and a more inclusive prosperity. Chapter 3 covers these areas in more detail.

Labor-market institutions have changed in several advanced economies

The rise of the sharing economy and other changes

The structure of the employment relationship in some advanced countries has been fundamentally altered by legal and other changes. Firms have created flexibility for themselves while weakening existing worker protections. There has been a rise in non-standard employment such as part-time work, on-call work, temporary employment, and self-employment, as well as significant growth in subcontracted work; this so-called race to the bottom allows firms to hire labor without committing to long-term employment relationships or to providing the benefits that were historically the norm. More recently, technology has allowed a sharing economy to develop in the United States; many of these jobs offer flexibility to workers, many of whom are working a second job and using it to build income or are parents looking for flexible work schedules. At the same time, when these jobs are the only source of income for workers and they provide no benefits, that leaves workers or the state to pay these costs.

In the United States, both established firms, such as Wal-Mart and Amazon, as well as startups, such as Uber, TaskRabbit, and other participants in the gig economy of work ordered on apps, have embraced subcontractors as a way to obtain labor on demand. Many of these arrangements are cast as contracted transactions between service providers and firms but represent traditional work for pay but without standard worker protections.

A recent *New York Times* article on workers in the gig economy notes that while many people now rely on services such as Airbnb, TaskRabbit, or others to generate income, the workers providing these on-demand services have dramatically less power in these arrangements than in typical employment.²³ The innovation

embodied in the sharing economy is a major source of economic growth, providing benefits to consumers and flexibility to workers who need it. These startups will be future engines of growth for advanced economies, so it is important to ensure that the winners succeed on the strength of their innovative products and not at the expense of their workers.

The rise of independent contractors is not unique to the United States. It closely mirrors the zero-hours contracts that have become more prevalent in the United Kingdom since the financial crisis. These contracts provide the employer discretion to vary employees' hours from full time to no hours; the contracts tie individuals to a firm but do not guarantee work, and individuals are paid only for actual hours of work offered by the employer and carried out by the employee.

There are two major dynamics at work in this changing employer-employee relationship. First, firms have structured themselves to be capable of growing quickly by reducing their commitments to employees. By reducing the need to provide a stable, predictable income for the people doing the work, these companies free up capital and reduce overhead costs. Second, these firms also reduce costs by avoiding typical, minimum-mandated corporate expenses such as employment taxes and benefits.

Some economists believe zero-hours contracts can suit some people by making it easier for families to maintain attachment to the labor force in the face of major life events, such as a debilitating illness or the need to care for a disabled relative or new child.²⁴ However, others suggest that the growth of zero-hours contracts during an unusually weak labor market is evidence of the decreased bargaining power of workers. For workers, workplace flexibility is voluntary and beneficial, while workplace volatility is not voluntary and can bring income volatility and added stress into daily life. Many workers in these arrangements are subjected to exploitative employment conditions, with little warning about when and how much they will work in a given week. These workers live their lives "uncertain as to whether a sufficient number of working hours can be secured each week to pay the bills and often fearful that any sign of inflexibility or unwillingness to work will lead to future hours being withdrawn as a penalty."²⁵ There is a need for far greater information and insights on the use of these contracts in order to establish best practices and to make legal or regulatory changes to discourage abuse.

It is certainly telling that these arrangements have grown rapidly in a slack labor market, where bargaining power has tipped in favor of employers. The rising use of zero-hours contracts has been the subject of much criticism in the United Kingdom, where the use of these workers prompted a parliamentary review.²⁶

Worker power has declined, particularly in the United States

Collective bargaining is an important contributor to inclusiveness in advanced economies; in the United States, it plays a significant role in reducing wage inequality. There is a union wage premium, which can be substantial and which tends to be higher for low- and middle-income workers.²⁷ A recent study estimated that the wage premium for workers in the middle quintile of the U.S. wage distribution at 20 percent.²⁸

In many advanced economies, the coverage rate of collective bargaining agreements—that is, the share of workers whose terms of employment are affected by agreements negotiated by unions and employers—is substantial. The average coverage rate of the Organisation for Economic Co-operation and Development is 54 percent; the range of coverage within the OECD goes from 6 percent to 99 percent.²⁹ Union density, or the share of workers who are members of unions, averages 28 percent, and the range goes from slightly more than 4 percent to 79 percent.

There is a difference between coverage and density because in many advanced economies “multi-employer bargaining and public policies extending the negotiated contract to nonorganized firms” guarantee coverage rates in excess of density rates.³⁰ As a consequence, there are advanced economies with low density and high coverage.

Expanding the benefits of collective bargaining in the United States would help reverse the trend toward wage inequality for U.S. middle- and lower-income workers; even modest institutional changes would help empower workers to do so. For example, meaningful labor law reform and the promotion of multiemployer or industry-wide bargaining would be an important breakthrough because individual employers paying good wages would no longer be disadvantaged by competing with low-wage employers.

Corporate behavior has shifted toward short-termism

An additional reason for the absence of inclusive prosperity is the changing nature of corporate behavior. Business leaders,³¹ government officials,³² and academics³³ have pointed out that corporations have shifted their traditional focus on long-term profit maximization to maximizing short-term stock-market valuations.³⁴ One reason that economists have advanced for this transition to corporate short-termism is the overwhelming shift to stock-market-based compensation for CEOs and other highly compensated executives at publicly traded corporations.³⁵

The effects of short-termism are damaging to the economy as a whole. A firm that invests for the long term will make more investments in future productivity, whether that's developing lifesaving medicine; building or buying newer, more efficient machinery; or paying for training for its workforce. All of these investments show up immediately as expenses on the balance sheet and reduce profits in the current quarter but raise future productivity of the firm. Incentivizing a continuing short-term focus lowers future output, reduces long-term competitiveness, and diminishes future worker productivity and the higher wages that it can bring.

The shift to large equity-based compensation practices is a logical outcome of the shareholder-value movement, which purports that the share price of a publicly traded firm is an accurate market valuation of how well it is managed. In principle, tying executive pay to market valuations aligns the incentives of managers and shareholders,³⁶ though experience suggests it is not so simple, and the shift to equity-based pay has caused management to devote resources to maximizing short-term share prices at the expense of the long-term value of the firm.

A testable prediction of this theory is that firms where managers and owners have similar information and incentives will be more responsive to market forces and more profitable in the long run. A recent study that compares similar privately and publicly held firms found that private firms invest nearly 10 percent of total assets annually, about twice as much as public firms, which invest closer to 4 percent of assets.³⁷ Interestingly, the study's authors note that not only do private firms invest more, they invest better, responding strongly to changes in investment opportunities, while public firms barely respond at all. The analysis notes that while different circumstances give managers incentives to overinvest or underinvest, the more common scenario is for shareholders to not know how much the firm should optimally invest. When shareholders lack that information, a manager can give the impression that the firm's long-run profitability is greater than it really is by under-

investing.³⁸ This finding echoes earlier work by MIT and Harvard economists James Poterba and Lawrence H. Summers, who found that public firm managers prefer investment projects with shorter time horizons, a rational response to the belief that stock-market investors fail to properly value long-term projects. Recent research that compares the planning horizons of publicly held companies to privately held firms confirms their results.³⁹

When discussing apparent market short-termism, the executives who lead firms are easy targets, but the nature of publicly traded companies also contributes to their behavior. Because some activist investors who are interested in short-term results are able to take large positions in firms rapidly and drive change from the outside, a CEO cannot expect to be able to make long-term investments that are in the best interest of the company without outside interference.⁴⁰ It is true that publicly traded firms appear to be more driven by short-term concerns than privately held firms, but this is as likely a result of the different constraints these firms face as it is of short-sightedness on the part of their executives.

While much of the literature on executive pay follows the short-term principal-agent framework explored above, another branch considers that executives can engage in actions to deliberately enrich themselves at the expense of the firm.

One clear finding of this literature is that the devil is in the details of executive pay packages. Option plans for these packages have been designed, and largely continue to be designed, in ways that enable executives to make considerable gains from temporary spikes in a company's stock price, even when long-term stock performance is poor. For example, a recent paper from Alex Edmans and co-authors finds that in the months when a CEO's stock options in the company vest, he or she chooses to disclose news that can boost the company's share price and sell the stock at a high.⁴¹ This indicates that stock options are enabling some CEOs to game the system. The problem is that incentives between CEOs and shareholders are aligned during a long vesting period, but when the options are about to vest and CEOs can cash out, they have an incentive to enrich themselves at the expense of other investors. Stock options that cannot be sold quickly and a fuller consideration of restrictions on additional financial activity by executives—such as restricting hedging activities and forms of diversification significantly—would be needed before equity-based pay can align long-run incentives among executives and key stakeholders in firms.

With the benefit of experience in understanding the difficulty of structuring equity-based pay plans to properly align incentives, the net social benefits of large equity-based executive pay plans are surely less favorable than they appeared to be in the 1990s. Certainly, this questions the wisdom of allowing large U.S. pay packages—often in the form of stock options or dividends—to be deducted from corporate tax obligations simply because they are incentive based. Indeed, many have questioned whether stock-option compensation packages for C-suites have helped fuel the increased number of companies investing corporate profits in share buybacks, which leads to a rise in stock price and therefore increased C-suite compensation.⁴²

As income inequality has increased, the tax systems in some advanced economies have become less progressive

Historically, progressive taxation has limited the concentration of income and wealth. It has also provided needed revenue for social spending. However, the progressivity of tax systems has declined in some advanced economies over the past few decades, with the result being that high-income households and corporations now face lower effective tax rates. As Thomas Piketty has emphasized, progressive taxation of income and wealth can greatly reduce inequality in market economies.⁴³

In the United States, a decades-long accumulation of tax exemptions, deductions, and exclusions has helped reduce the effective tax rates on high-income households and corporations. These provisions in the tax code—sometimes referred to as “tax expenditures”—shelter significant amounts of income and wealth from normal taxation, contributing to growing income and wealth inequality.⁴⁴

Eliminating the tax rules that shelter high-income households and corporations would raise their effective tax rates, make the tax code more progressive, and avoid the waste created by strategies for tax avoidance. Looking across countries, Piketty, Emmanuel Saez, and Stefanie Stantcheva note that falling top tax rates are correlated with CEO pay increases, even after controlling for firm scale, profitability, and other factors that indicate firms are well run.⁴⁵ In other words, CEOs’ pay rises when top-end effective tax rates fall—regardless of how well CEOs actually perform. The authors note that high-ability individuals can bargain over wages, and lower top-end tax rates make it more profitable for executives to seek a larger share of a firm’s profits as compensation.

Examples of rules allowing sheltering are discussed in the text box.

Corporate taxes: Earnings stripping

The United States taxes income earned by U.S. businesses under a worldwide system.⁴⁶ Under this system, tax is owed to the United States regardless of whether the income is earned in Alabama or Albania. However, U.S. multinational corporations are also offered the option to defer taxes owed on profits earned by their foreign subsidiaries. Taxes can be deferred on these profits until the foreign subsidiary repatriates the earnings back to its U.S. parent company.⁴⁷ But while those foreign profits are considered offshore for tax purposes, companies often place those profits in U.S. bank accounts, where they are able to earn interest and circulate through the U.S. economy.⁴⁸ The deferral of taxes on foreign corporate income is the largest tax expenditure in the corporate tax code and is projected to cost the United States more than \$80 billion per year.⁴⁹

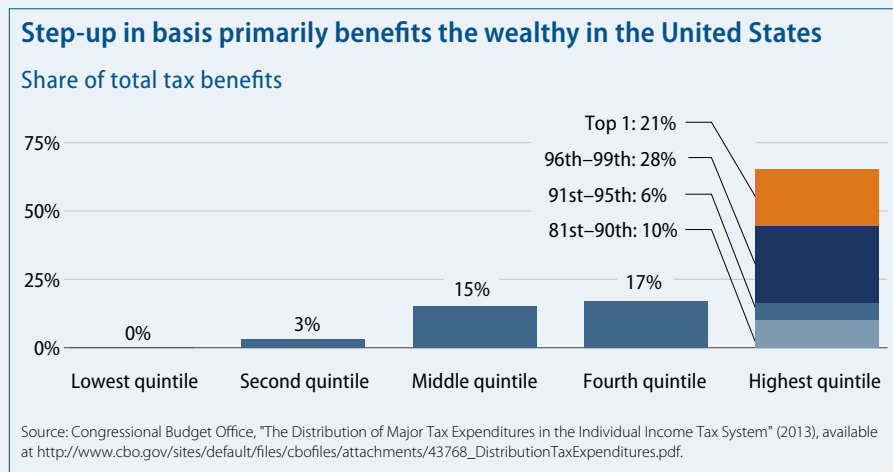
Deferral creates an incentive to move profits to foreign subsidiaries, especially those with low corporate tax rates, in order to delay when taxes are due in the United States. While some profits may be in offshore locations for legitimate business reasons, other profits earned domestically are being artificially shifted offshore for tax purposes. This explains why 40 percent of all foreign profits for U.S. corporations in 2011 were booked in Bermuda, Switzerland, Luxembourg, Ireland, and the Netherlands.⁵⁰ These five countries are often referred to as tax havens because of their extremely low tax rates.⁵¹

U.S. multinationals have clever ways of stripping earnings from their U.S. books and shifting those earnings to their foreign subsidiaries. One common way to do this is by maximizing debt held in the United States. The interest on that debt can be deducted as a business expense and thus reduce the U.S. company's taxable income. Corporations are generally allowed to borrow money in the United States to finance foreign operations and then deduct the interest costs from their U.S. taxable income immediately, even though their foreign income is not taxed until it is brought back into the United States.⁵² By changing the rules on deferring interest deductions, this source of base erosion could be limited.⁵³

Personal taxes: Inherited wealth ‘step-up in basis’

In the United States, a provision of the tax code known as step-up in basis is a direct subsidy for inherited wealth. When an asset is sold, the capital gain is the sales price minus the seller’s basis in the asset, with the basis usually equaling the price that the seller originally paid.⁵⁴ For inherited property, however, the basis is generally the fair-market value of the asset on the date the previous owner of the asset died.⁵⁵ Calculating an heir’s basis in an asset using its more recent value when the previous owner died, instead of its original cost, is called a step-up in basis.

Combined with the United States’ generous estate tax structure, the step-up in basis rule creates very low effective tax rates on inherited wealth. The Congressional Budget Office estimates that the step-up in basis rule will reduce federal revenues by \$644 billion over 10 years, with 21 percent of that subsidy going to the top 1 percent of income earners.⁵⁶



Step-up in basis is a particularly valuable subsidy for the wealthiest estates. A study published by the Federal Reserve estimates that unrealized capital gains comprise 55 percent of the total value of estates worth more than \$100 million.⁵⁷

The negative effects of inequality

As a result of many of the trends mentioned above, income inequality has grown across most advanced economies over the past few decades. The growth of inequality is all the more striking given the increasing productivity of workers; however, the incomes of the vast majority of households have not grown alongside their productivity. The top 1 percent is receiving an increasing share of market income in many advanced economies, but market income has also grown more unequal among the bottom 99 percent. Even net income—income after taxes and transfers from social insurance programs—has become more unequal in many countries. Rising income inequality reduces economic growth by reducing consumption, makes the consequences of the birth lottery more important, and even increases inequality of life expectancy.

This section explores the trend of increasing inequality in the developed world and its consequences.

Trends in income inequality

Decoupling of household income and productivity growth

The pretax incomes of middle-class households in several important advanced economies—including the United States, the United Kingdom, and Japan—have exhibited declining or stagnant growth rates in recent years. (see Figure 2.1)

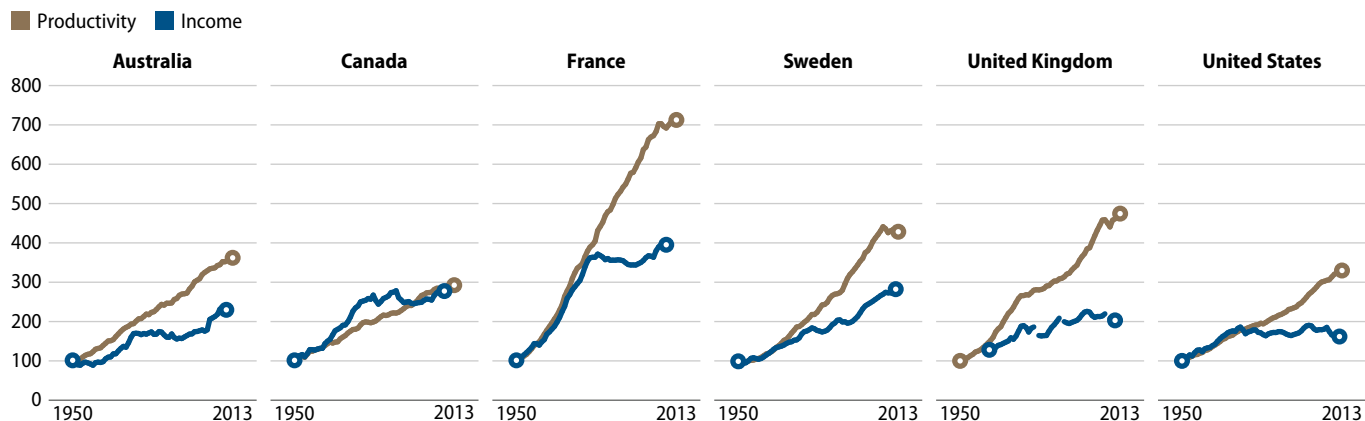
Figure 2.8 displays the average market household income of the bottom 90 percent of the population along with worker productivity growth in seven advanced economies.⁵⁸ The two stayed in lockstep until the 1970s and 1980s, when they began to diverge in every country except for Canada.

Slow household income growth is especially disturbing when we remember that households are supplying more labor—specifically, female labor—than they did 30 years ago. In the United States, for example, the share of mothers who work full time, year round, rose from 27 percent to 46 percent from 1979 to 2007. Indeed, the median annual hours worked by women rose by 739 hours between 1979 and

FIGURE 2.8

Productivity and average income growth for the bottom 90 percent in select advanced economies, 1950–2013

Series indexed to 1950=100



Source: Adapted from Jason Furman, "Global Lessons for Inclusive Growth" (Dublin: The Institute of International and European Affairs, 2014), available at http://www.whitehouse.gov/sites/default/files/docs/global_lessons_for_inclusive_growth_iiea_jf.pdf. Income data from Facundo Alvaredo and others, "The World Top Incomes Database," available at <http://topincomes.g-mond.parisschoolofeconomics.eu> (last accessed December 2014). Productivity data from The Conference Board, "Total Economy Database" (2014), available at <http://www.conference-board.org/data/economydatabase>.

2012—the equivalent of 18 additional 40-hour weeks.⁵⁹ Now that most households no longer have an extra adult to send into the labor force, median market incomes may fall even more quickly in the United States and other countries where market incomes have not grown.⁶⁰

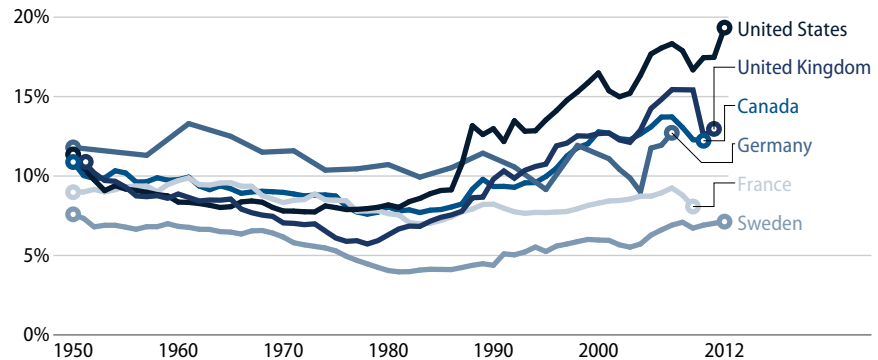
Growing share of market incomes going to the top

While the incomes of the top 10 percent of the income distribution have risen sharply over the past 20 years in many advanced economies, the gains have been the greatest for the upper 1 percent. Figure 2.9 shows different shares of income received by the top 1 percent; nearly all countries experienced a rise in the share after the 1980s. The primary drivers of this income growth at the very top have been an increase in capital income—returns from investments—and large increases in labor income—salaries and bonuses—for top corporate executives and workers in the financial sector in the United States.⁶¹

FIGURE 2.9

The top 1 percent's share of income has grown in select advanced economies since the 1980s

Percent of national income received by the top 1 percent, 1950–2012



Note: 1 percent share excludes capital gains for every country except Germany, which does include capital gains. Linear interpolation is used where gaps in data exist.

Source: Facundo Alvaredo and others, "The World Top Incomes Database," available at <http://topincomes.g-mond.parisschoolofeconomics.eu> (last accessed December 2014).

While the increasing share of income held by the top 1 percent is striking and has received a good deal of attention, there has also been increasing market income inequality within the top 1 percent, as well as within the bottom 99 percent. The ratio of the earnings of the 90th percentile to the earnings of the 10th percentile—a method of measuring inequality among the bottom 99 percent—grew in all but 1 of the 12 advanced economies studied by David Autor over the period between 1980 and 2011. Starkly, the United States and the United Kingdom—which began the period with relatively high ratios—also had the highest growth in the ratios, in spite of the success of both the Clinton and Blair administrations in slowing inequality growth in the years around the turn of the century.⁶²

Tax-and-transfer systems struggle to fight increased inequality

Governments have historically addressed inequality through public policy—primarily progressive taxes and social insurance programs (also known as transfers) such as public retirement benefits. These programs have been very effective in mitigating inequality for generations.⁶³ As middle-class income growth has stalled and overall inequality in market incomes has increased, these tax-and-transfer systems have made net income—in other words, income after taxes and transfers—more equal than market income—or income before taxes and transfers. Nevertheless,

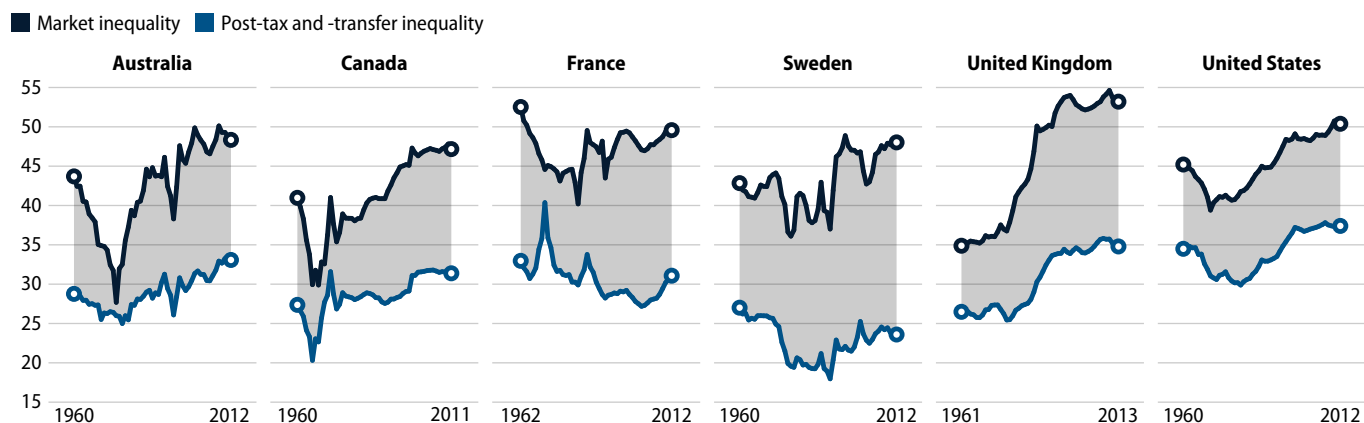
net income inequality in many advanced economies has also increased over the past few decades. Figure 2.10 displays market and net income inequality as measured by a standard measure of inequality (the Gini coefficient) for a group of 20 advanced economies over the period between 1985 and 2005. Each of these economies saw an increase in market inequality over this period, though some countries, such as the United Kingdom, were successful in reversing the trend for market income in the second decade.⁶⁴ Importantly, all but five countries saw an increase in net income inequality, illustrating both the ability of tax-and-transfer systems to counteract the rising level of market inequality and the willingness of many governments to allow net income inequality to increase.

Where countries have been less successful in addressing inequality in net income, they may wish to pursue tax reforms including reducing the rates at the bottom or increasing them at the top. The introduction of taxes on wealth, such as very-high-value properties, can also ensure that inequalities are addressed.

FIGURE 2.10

Inequality in select advanced economies, 1960–2012

Market and post-tax and -transfer Gini coefficients in select advanced economies



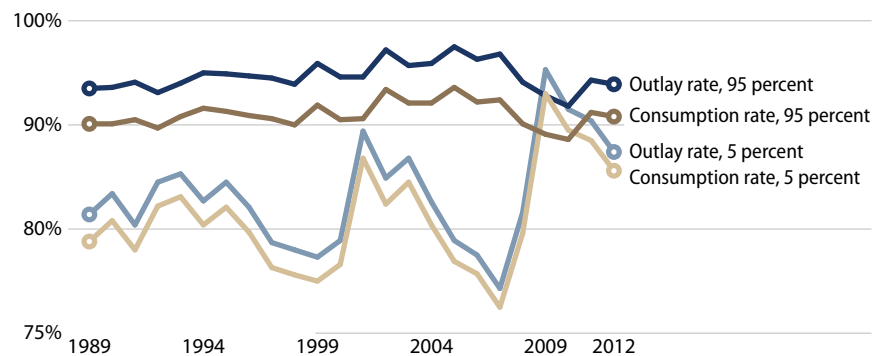
Source: Frederick Solt, "The Standardized World Income Inequality Database." Working paper (The University of Iowa, 2014), available at <http://myweb.uiowa.edu/fsolt/swiid/swiid.html>.

Increasing income inequality may affect long-term aggregate demand in advanced economies

Inequality not only means that the middle class enjoys fewer of the gains from economic growth—it also means there are fewer gains to be had for everyone because of the reduction in economic growth.

There is good reason to believe that increasing concentration of income may reduce aggregate demand in the long term because the wealthy spend a lower fraction of their incomes than middle- and lower-income groups. Using data for the U.S. economy, Barry Cynamon and Steven Fazzari show that higher-income households typically consume a smaller fraction of disposable income than middle- and lower-income groups do. (see Figure 2.11)⁶⁵ They find that the share of disposable income consumed by the top 5 percent of households was substantially below that of the bottom 95 percent during the period from 1989 to 2008. During the financial crisis, the top 5 percent did raise its consumption rate as it had in previous recessions, but its consumption rate was falling between 2010 and 2012 and will likely continue to fall as it did during other economic expansions. The consumption rate of the bottom 95 percent, on the other hand, declined because it could no longer borrow as it did in the 2000s, and its overall consumption had not recovered to its pre-2008 level as of 2012.⁶⁶ The implication is that greater income inequality has the potential to reduce the overall consumption at any given level of national income, reducing overall demand.

FIGURE 2.11

U.S. disaggregated personal consumption and outlay rates, 1989–2012

Source: Barry Z. Cynamon and Steven M. Fazzari, "Inequality, the Great Recession, and Slow Recovery." Working paper (Washington University in St. Louis, 2014), Figure 5, available at http://pages.wustl.edu/files/pages/imce/fazz/cyn-fazz_consinequ_130113.pdf. Data available upon request.

Recent work by International Monetary Fund, or IMF, researchers is consistent with such an effect. Using data on many economies over a 50-year period, the researchers found that higher levels of net income inequality—after taxes and transfers—are negatively correlated with growth in gross domestic product per person. They also found that the likelihood that a country's economic expansion will end is positively correlated with its the level of net income inequality.⁶⁷ The Organisation for Economic Co-operation and Development has recently concluded that reducing income inequality would boost economic growth, finding that countries where income inequality is decreasing grow faster than those with rising inequality.⁶⁸ The single-biggest effect on growth is the widening gap between the lower middle class and poor households compared with the rest of society.

Changes in income distribution are affecting household welfare in profound ways

Inequality is about more than dollars, pounds, and euros—countries with more inequality are also countries with less opportunity for those with low and middle incomes. And inequality of income translates into perhaps the most disturbing inequality of all—inequality of life expectancy.

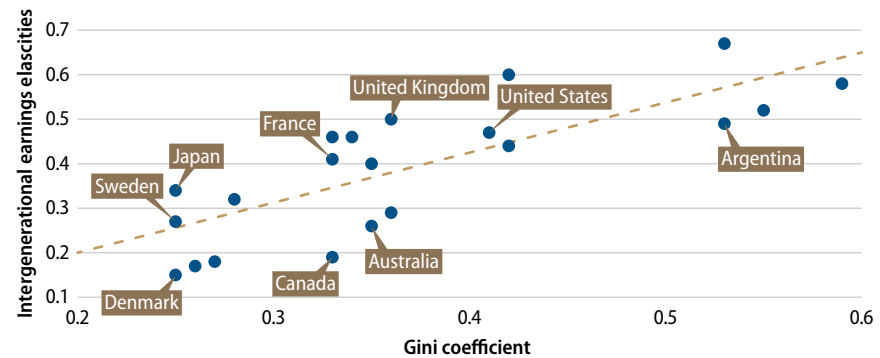
Intergenerational mobility

One of the big concerns about growing inequality is how it affects intergenerational mobility—whether the growing distance between different income groups will reduce the ability of someone to ascend to a higher income group based on education and hard work.⁶⁹ Miles Corak shows a strong international relationship between income inequality and intergenerational immobility—the relationship between parents’ and children’s earnings, known as “intergenerational elasticity.” Alan Krueger has dubbed this the “Great Gatsby” curve; a Center for American Progress re-creation of it is displayed in Figure 2.12. Note the low amount of immobility in the equal Nordic countries and the high amount of immobility in the unequal United States and the United Kingdom.

FIGURE 2.12

The Great Gatsby curve

Income inequality and intergenerational immobility



Source: Lawrence Mishel and others, "The State of Working America: 12th Edition" (Washington: Economic Policy Institute, 2014), Figure 3Q, available at <http://stateofworkingamerica.org/subjects/overview/?reader>.

Economists Raj Chetty, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez have developed a fascinating new dataset for measuring intergenerational mobility in the United States, using parents’ and children’s tax records to estimate the relationship between where in the national earnings distribution a child is born into and where in the distribution a child ends up.⁷⁰ Measuring intergenerational mobility among 1973–1993 birth cohorts, they show no noticeable change in

intergenerational mobility over a time when inequality skyrocketed. That is, children entering the labor market today have the same chances of moving up the income distribution as children born in the 1970s.⁷¹ Because inequality has risen over this period, however, the unfair consequences of the birth lottery—the parents to whom a child is born—are larger today than in the past. A child born into the top 1 percent in 1993 was luckier than a child born into the top 1 percent in 1971, since that child is just as likely to remain at the top but now enjoys a much larger share of the economic pie.

In the United Kingdom, the link between background and educational attainment is even stronger than in the United States. According to the OECD, the relationship between parental and child income in the United Kingdom is more than two times stronger than in Canada, Australia, or Finland. The authors of a recent government-commissioned report on social mobility have suggested that this means that policy can make a difference.⁷² Finland shows what kind of difference policy can make: Finnish children born in the 1950s showed much greater mobility than children born in the 1930s, with most of the increased mobility resulting from increased education.⁷³

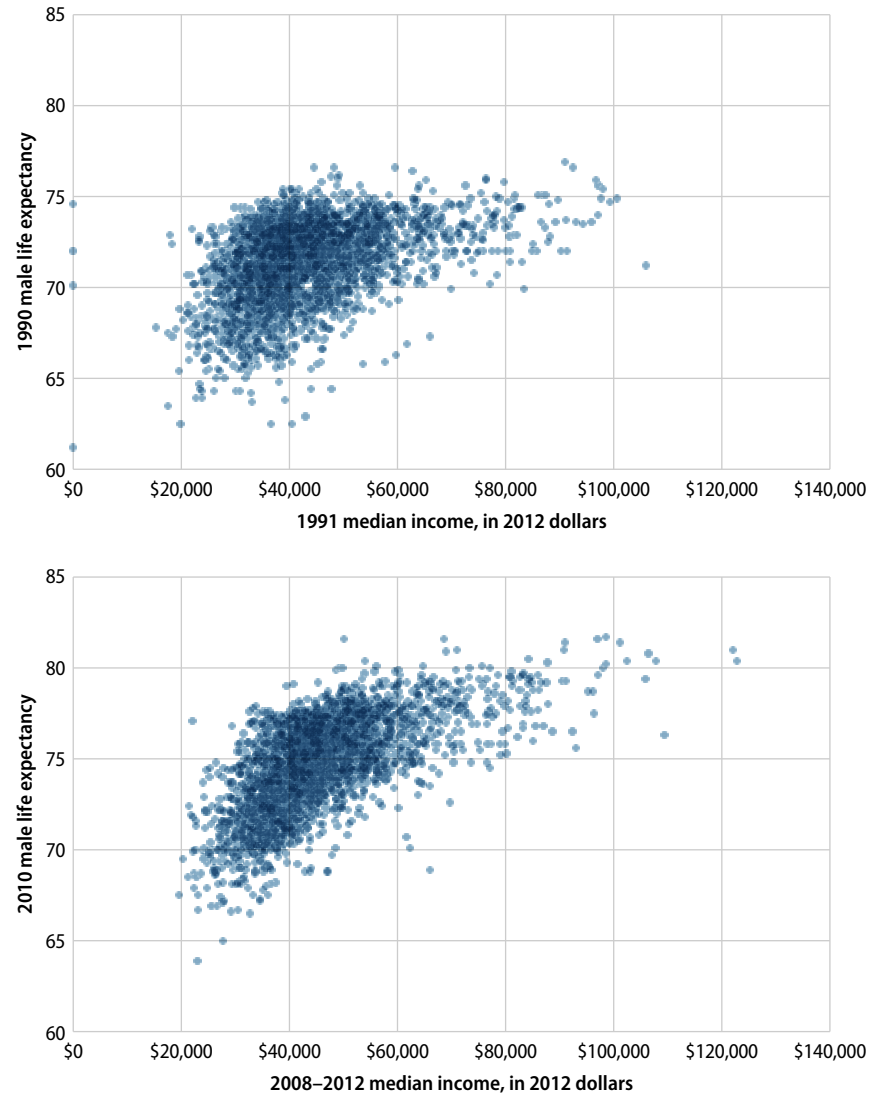
Life expectancy

Too often, the question of income inequality is phrased in terms of wants rather than needs. Not only are we now seeing that inequality is being perpetuated through reduced income mobility, we are also seeing income inequality reflected in key indicators of welfare. Perhaps nowhere is this more striking than in the United States, where today, income is a stronger predictor of life expectancy than it was a generation ago.

A recent study of longevity in the United States found that not only is life expectancy more correlated with income than in the past but that gains in longevity have nearly passed by lower income Americans altogether. American males with less than a high school education “had life expectancies not much better than those of all adults in the 1950s and 1960s.”⁷⁴ Further analysis of these data shows that county-level income is correlated with life expectancy and that this correlation is much stronger today than it was a generation ago.

FIGURE 2.13

U.S. median household income and male life expectancy, by county, 1990 and today



Source: Christopher Murray, Alan Lopez, and Miriam Alvarado, "The state of US health, 1990–2010: burden of diseases, injuries, and risk factors" (Institute for Health Metrics and Evaluation, 2013), available at <http://www.healthdata.org/research-article/state-us-health-1990-2010-burden-diseases-injuries-and-risk-factors/>; Bureau of the Census, *Table C1. Median Household Income by County: 1969, 1979, 1989* (U.S. Department of Commerce, 1970, 1980, and 1990), available at <http://www.census.gov/hhes/www/income/data/historical/county/county1.html>; American Community Survey, *5-year Estimates* (U.S. Department of Commerce, 2008–2012), available at <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>; assistance finding raw data from and figure design based on Alicia Parlapiano, "Where Income Is Higher, Life Spans Are Longer," *The New York Times*, March 15, 2014, available at <http://www.nytimes.com/interactive/2014/03/15/business/higher-income-longer-lives.html>.

Moving from crisis to recovery

A final challenge confronting advanced economies is the recovery from the financial crisis. Many countries, especially in the eurozone, are still struggling to move past the challenges of debt, deleveraging, and possible deflation. There is also increasing evidence that today's low growth may reduce future growth by reducing countries' potential to produce goods and services. And trends such as rising income inequality and aging may even be producing a secular stagnation that makes it difficult to reach full employment absent a credit bubble.

Advanced economies are struggling with the effects of the financial crisis

Developed economies are still burdened by the aftermath of the financial crisis. In addition to the profound economic changes and challenges already identified, advanced economies are faced with the task of completing the recovery from the financial crisis that began in 2008. There are certainly strong common factors across these economies. As economists such as Richard Koo, Paul Krugman, Atif Mian, and Amir Sufi have argued, the crisis has produced a cascade of “balance sheet” recessions, in which the collapse of an asset bubble—such as the U.S. housing market between 2005 and 2007—leaves governments or households with a high level of debt. Their need to repay that debt leaves them with less money to spend on other goods and services, constraining demand and reducing gross domestic product.⁷⁵

The specific contours of the difficulties with recovery differ across countries and regions. In the eurozone, for example, low levels of demand have put the entire region on the cusp of deflation. In the absence of currency depreciation, peripheral eurozone economies that experienced asset bubbles fueled by capital inflows, such as Spain and Ireland, have been forced into severe fiscal austerity that has produced mass unemployment. This has put downward pressure on wages and prices in these economies, in the hope that the resulting change in relative prices would improve their net trade balances and reassure capital markets about the value of their debt. Core eurozone economies such as Germany, while never in the dire position of the peripheral economies, have also pursued fiscal austerity. In addition, while the European Central Bank now seeks aggressively to address the aggregate demand problem in the eurozone, its approach has been inconsistent,

raising policy interest rates in 2011, and somewhat late to introduce monetary stimulus measures similar to quantitative easing. As a result, employment and output for the eurozone as a whole remains weak. These policies have also produced a significant decline in the rate of inflation for the eurozone—currently, the annual core rate is about 0.8 percent—which has prompted the European Central Bank to take measures to avoid the spread of deflation from one or two countries to the rest of the eurozone.

As the example of Japan has shown, deflation or near deflation can amplify demand problems. First, by creating the expectation of lower prices in the future, deflation both dampens the incentives of consumers to purchase goods and services and creates an incentive for investors to delay productive investments into the future, when they will be cheaper to make.⁷⁶ Second, deflation also makes debts—public and private—more expensive to repay. By making it harder for private actors to deleverage by paying off debts, deflation prolongs the hangover of the financial crisis. At the same time, it makes public debts more difficult to reduce through economic growth.

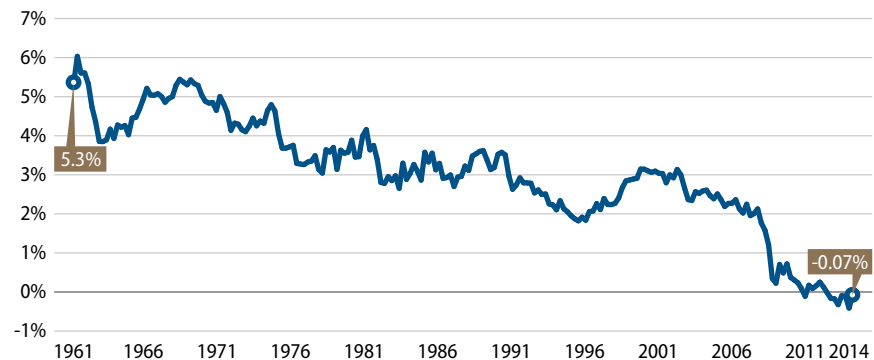
In the United Kingdom, the postcrisis recovery has been accompanied by a “productivity puzzle.” While employment performance has been relatively robust—employment and hours worked have now risen above precrisis levels—real wages and output per worker remains below precrisis levels. There is a view that the underlying rate of productivity growth has collapsed.⁷⁷ One explanation advanced by Mark Carney, the governor of the Bank of England, suggests that increased labor-force participation—brought about by the accumulation of household debt, increased uncertainty about future incomes, and policy changes that have raised pension ages and welfare reforms—has encouraged employers to substitute capital for labor, lowering productivity.⁷⁸ The high cost of capital faced by small firms is another reason for this substitution. But of course that outcome is also a function of the overall level of demand in the labor market, which is affected by aggregate demand policy.

In the United States, there is little doubt that misguided fiscal austerity has harmed the recovery. While the federal government successfully engaged in fiscal expansion through the American Recovery and Reinvestment Act of 2009, much of the expansionary impulse had played out by the end of 2010. Instead of engaging in additional stimulus, conservatives forced the adoption of austerity measures, cutting expenditures when they ought to have been increased. State governments amplified the contractionary effect by cutting their budgets as tax revenues declined. Expansionary monetary policy and quantitative easing by the Federal Reserve have proved insufficient to counteract all of the effects of austerity and the crisis.

There is also some evidence that the United States and other countries face additional, longer-run demand problems. The explanation of these longer-run problems is part of the “secular stagnation” hypothesis advanced by a variety of economists.⁷⁹ The basic idea is that because of changes to the structure of the economy—such as increased income inequality and an aging population, both of which tend to increase savings rates and decrease aggregate demand—it is increasingly likely that full employment will not be reached even when nominal interest rates are reduced to zero.

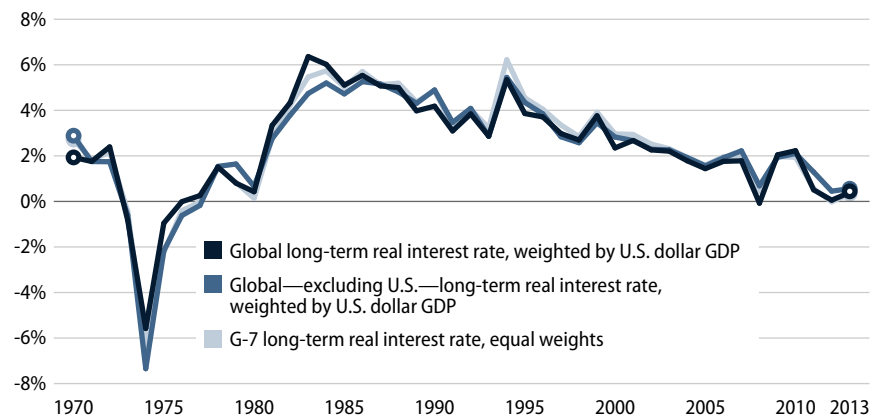
This possibility is reflected in estimates of the so-called natural rate of interest—or the rate consistent with full employment. The work of Federal Reserve economists Thomas Laubach and John Williams shows the estimated U.S. natural rate trending downward from around 6 percent in 1960 to negative values by 2010.⁸⁰ This decline in the estimated natural rate has been mirrored by trend declines in actual real, long-term interest rates in the G-7 economies, dating from the early 1980s.

FIGURE 2.14
U.S. natural rate of interest, 1961Q1–2014Q2



Source: Thomas Laubach and John C. Williams, "Measuring the Natural rate of Interest," *Review of Economics and Statistics* 85 (4) (2003): 1063–1070; Thomas Laubach and John C. Williams, "Laubach-Williams Updated Estimates" (2014), available at http://www.frbfsf.org/economic-research/economists/john-williams/Laubach_Williams_updated_estimates.xlsx/.

FIGURE 2.15
Global long-term real interest rates, 1970–2013



Source: International Monetary Fund, "World Economic Outlook (WEO): Rebalancing Growth" (2010), available at <https://www.imf.org/external/pubs/ft/weo/2010/01/>.

This implies that if the United States were to rely on monetary policy to achieve potential output, then periods of expansion are likely to be accompanied by financial instability, since ultra-low interest rates contribute to asset price bubbles. And in fact, it is easy to interpret the financial instability that accompanied the previous two expansions in the United States in just this manner, since both were characterized by low real interest rates and accompanied by asset bubbles.

Prolonged failure to complete the macroeconomic recovery may reduce the long-run economic potential of advanced economies

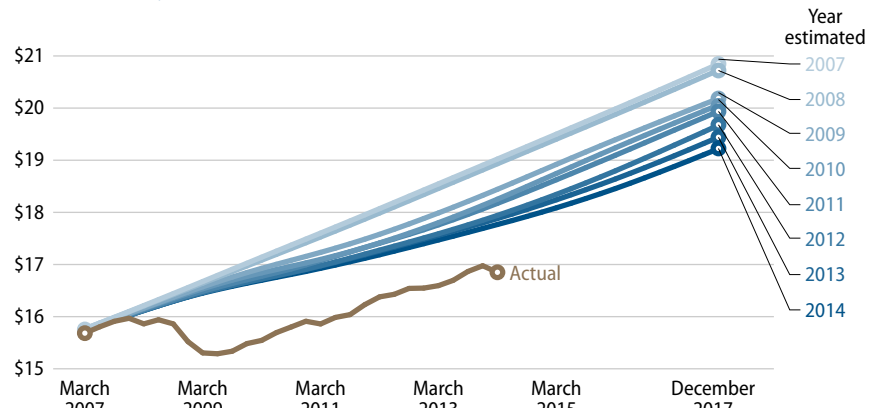
The failure of advanced economies to successfully address the low growth and high unemployment that have flowed from the financial crisis may translate into reduced long-term growth. One major finding of academic economic research during the Great Recession is that long spells of unemployment can permanently lower both workers' earnings and potential GDP.

In 2011, J. Bradford DeLong and Lawrence H. Summers presented research that pointed out the possibility that a similar dynamic may be at play in the United States during the continued slow recovery from the Great Recession.⁸¹ They argued that if we accept the possibility that fiscal intervention can affect long-run aggregate supply, the costs of fiscal stimulus are much lower than previously thought, and activist fiscal policies should be pursued more often. While this finding was originally quite controversial,⁸² it has since gained considerable support, as some additional research has found that the costs of the prolonged slump could be very large, permanently reducing GDP by as much as 7 percent as of late 2013.⁸³ Subsequent work by the International Monetary Fund has confirmed that potential GDP around the world has fallen as a result of the slow recovery from the financial crisis of 2008. Therefore, the conventional wisdom—that there are no long-term costs to doing nothing to increase demand—is also wrong.

FIGURE 2.16

Austerity has reduced long-term growth prospects in the United States

Actual and projected GDP paths, in trillions of 2013 dollars, 2007–2017

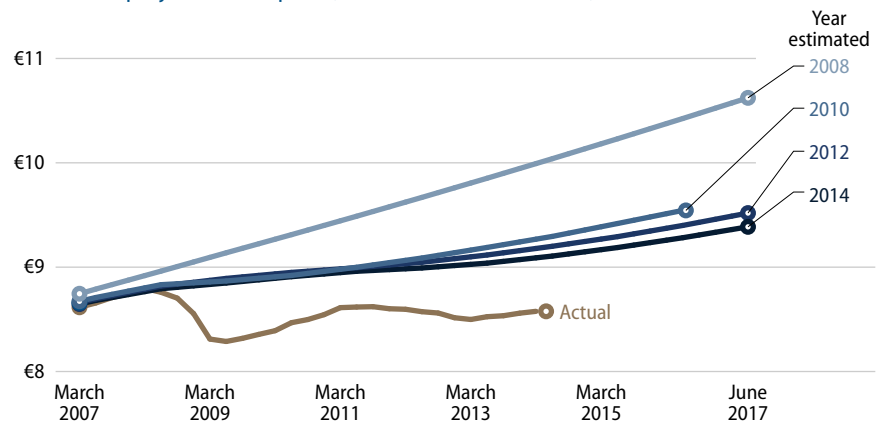


Source: Larry Summers, "Reflections on the new 'Secular Stagnation hypothesis,'" Vox, October 30, 2014, Figure 1a, available at <http://www.voxeu.org/article/larry-summers-secular-stagnation>.

FIGURE 2.17

Austerity has reduced long-term growth prospects in the eurozone

Actual and projected GDP paths, in trillions of 2005 euros, 2008–2017



Source: Larry Summers, "Reflections on the new 'Secular Stagnation hypothesis,'" Vox, October 30, 2014, Figure 1b, available at <http://www.voxeu.org/article/larry-summers-secular-stagnation>.

Challenges to sustainable aggregate demand

Sustainable aggregate demand is the virtuous cycle that is the engine of growth and innovation in advanced capitalist economies. When firms know they will face predictable, rising demand for products in the future, they invest in their future profits. Without the promise of future aggregate demand, we cannot count on firms to invest in innovation to increase productivity and drive up aggregate supply over the long run.

These investments can be simple ones that raise productivity, expand capacity, and help the firm's long-term bottom line, such as new factories and better equipment for these factories. But these investments can also be more fundamental and increase the well-being of society as a whole. When programmers develop an app for a phone, they both make money off the app—if it is any good—and create something other software firms can learn from at no cost. When a firm trains a worker to use a new programming language, the worker makes the firm more money through her enhanced productivity, but she may also share with friends who work at other firms about what she's learned, making them more productive too. These investments and knowledge spillovers are what make an economy grow, but without predictable future growth in aggregate demand, there is less incentive for firms to initiate these investments in the first place.

Advanced economies have clearly struggled to generate sustainable aggregate demand in the aftermath of the Great Recession. This is not altogether surprising, as the United Kingdom, the United States, and other advanced economies face significant challenges to the economic model that made them successful at creating sustainable aggregate demand in the second half of the 20th century. Rising income inequality has shifted income to wealthier households. These households have fewer immediate needs and demand more assets and fewer goods and services for each new dollar they earn. Across an entire economy, a more unequal income distribution therefore means that the same growth in aggregate demand requires faster GDP growth.

This result is also consistent with recent research from the IMF, showing that economies with greater levels of inequality experience slower GDP growth.⁸⁴ Simply put, without broad-based income gains, economies do not produce growing markets for new, innovative products, dampening incentives for firms to innovate and invest. The 1 percent will not buy as much as the 99 percent. Two economies growing at the same rate but with different income distributions pres-

ent firms with different sets of demands. An especially unequal society will produce more demand for financial innovation, as economic growth creates greater incentives to produce greater financial yield. A more equal society, where less of the gains from GDP growth accrue to a small group, will produce more demand for goods and services, providing entrepreneurs with incentives to produce genuine innovations that raise society's ability to produce goods and services with a given stock of inputs. While financial innovation rarely benefits society at large, innovation in the real economy does, and evidence increasingly suggests societies that devote more innovative effort to the real economy create faster, more sustainable economic growth.⁸⁵

While increasing income inequality has the potential to reduce the returns on investments through lower aggregate demand, the demand for investment capital has been falling for other reasons, chiefly the decline in the amount of capital required to create wealth in our information economy. The cost of producing software is minimal compared with traditional, fixed capital investments such as those required for manufacturing. Many of the new economy business models rely on creating network externalities, a task more demanding of speed than of size, and require little capital investment once a dominant position is established.

The combined effect of these three forces—(1) firms needing less capital to make investments, (2) aging populations and increasing wealth concentration among individuals raising demand for assets relative to goods and services, and (3) increased income inequality reducing aggregate demand and hence investment demand—is completely consistent with the finding that real interest rates have fallen. It also implies low real interest rates in the future, suggesting we need a better mix of policies than those currently in place.⁸⁶

Different countries' fiscal considerations will lead to different solutions for how to finance the key public-sector role in growing the economy's supply side through investments in infrastructure and human capital that also help stabilize aggregate demand today. Where countries are not investing sufficiently in public capital, where opportunities exist for increased productivity through public investment, and where real interest rates have fallen, governments should recalibrate to reflect this new reality.

The need for a progressive supply-side agenda

Alongside rising sustainable levels of aggregate demand, economies in advanced countries must increase the productive capacity of their workforces, make much-needed investments in public goods and infrastructure, and put in place the conditions for innovation that are the best way of increasing trend growth. Raising human capital is critical to improving economic growth. Improving the quality of compulsory education and providing both vocational and academic routes to high skills is vital. Improving education levels for all helps reduce inequality by ensuring that everyone is able to benefit from a growing economy. Increasing the quality and quantity of skills for disadvantaged children is an essential way of creating inclusive prosperity.

Investments in infrastructure, such as transport, energy, telecom, and housing, are also essential to improving economic growth. Because they tend to be large scale and long term, they require high levels of coordination in order to maximize the wider benefits to society as a whole. This means that in many cases, governments will play a vital role in planning, delivering, and financing these projects.

Innovation and investment in equipment and new ideas are crucial for raising long-term trend-growth levels. Investing in capital allows firms to incorporate new technologies and can be an important part of their strategies to reorganize production processes toward global best practices. The dynamism of innovative new firms, which introduce new products and processes into the market, is vital for growth. Fostering a supportive environment for investment and innovation is central to having a dynamic and productive economy. Since there are often market failures in innovation, the government also has a role in providing incentives for research and development and creating wider policies to support innovation such as clusters.

Policy and institutions make a difference

This chapter outlined the substantial challenges facing advanced economies today: The economic environment has shifted, income inequality has grown, and the recovery from the economic crisis is not yet complete. But these challenges are surmountable.

There is considerable evidence that certain national policies can produce vastly different outcomes. While all advanced economies have been buffeted by increased global competition and rapid technological change, the consequences for their citizens have not been uniform. Canada, Australia, and Sweden, for example, have access to the same automation and are at least as exposed to trade and low-wage competition as other countries, but they have maintained a closer link between productivity and wage growth in the face of these pressures.⁸⁷

The next section will therefore be devoted to identifying policies that can help make advanced economies more inclusive.

Endnotes

- 1 Facundo Alvaredo and others, "The World Top Incomes Database," available at <http://topincomes.g-mond.parisschoolofeconomics.eu/> (last accessed December 2014).
- 2 Organisation for Economic Co-operation and Development, available at <http://stats.oecd.org/> (last accessed December 2014).
- 3 World Bank, *World Development Indicators Database Online* (last accessed November 6, 2014).
- 4 Ibid.
- 5 Ibid.
- 6 C. Fred Bergsten, "A New Foreign Economic Policy for the United States." In C. Fred Bergsten, ed., *The United States and the World Economy: Foreign Economic Policy for the Next Decade* (Washington: Peterson Institute for International Economics, 2005), available at <http://bookstore.piie.com/book-store///3802.html>.
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