> **"Sustaining the transformational force of technology and globalization, . . . while mitigating their polarizing effect within countries, is likely to prove one of the twenty-first century's great challenges."**

The Inequality Challenge

URI DADUSH AND KEMAL DERVIS

High levels of inequality have become a subject of intense debate, particularly in the United States, where inequality has risen sharply over the past 30 years. The rise in inequality in most advanced countries and in many developing countries should be analyzed in the context of other big changes that have affected the global economy over the past three decades. These trends include major technological advances, mostly related to information technology; globalization, which has accelerated growth in many developing nations; and the changing role of the state.

ECONOMY

Global Trends, 2013

Some degree of inequality is a natural part of a market economy—a reflection of the economic incentives that fuel it. For example, as the Harvard economist Simon Kuznets argued, rising inequality accompanies the initial stages of development, when workers attracted by higher wages in cities move from the countryside. The view that the efficient working of the market economy necessarily requires very high inequality, however, finds little empirical basis. There are well-functioning market economies, such as the Scandinavian countries, where income is quite equally distributed. Moreover, recent empirical work at the International Monetary Fund has shown that, on the contrary, growth appears to be more sustained when inequality is moderate than when it is extreme. Very high inequality, as well as raising troubling moral questions, can result in social divisions that reduce the efficiency of both government and the economic system.

We believe that inequality in the United States and in many other countries has reached levels that are excessive on both equity and efficiency grounds. High and rising inequality is especially problematic when growth is slow and the living standards of the typical family are declining. Certainly the temptations of protectionism or retarding technology-induced shifts in employment must be resisted. But at the same time, as the trends that led to higher inequality appear set to persist or even intensify, it is important for policy makers to take corrective measures.

There is no secret to the recipes that governments can use to mitigate inequality; beginning in the 1920s and throughout the immediate post–World War II period, all advanced countries, including the United States, invested heavily in education, adopted more progressive taxation regimes, tightened labor and financial market regulations, and widened and deepened the social safety net. Most recently, governments in Latin America have shown how developing countries can use investments in education and small cash transfers to significantly reduce inequality, alleviate poverty, and improve health and education outcomes, even in an environment of very limited resources. With globalization, increased coordination across countries is needed to ensure that nations retain the capacity to tax corporations, mobile capital, and the highest earners.

DIMENSIONS OF THE PROBLEM

Inequality is a complex phenomenon, the result of multiple and diverse economic forces, and is difficult to define, measure, and compare across countries. The most commonly used and broadest measure of inequality, the Gini coefficient, indicates the extent to which a society's income distribution deviates from one that is perfectly equal—zero being the hypothetical scenario in which each

---

URI DADUSH *is a senior associate and director of the International Economics Program at the Carnegie Endowment for International Peace.* KEMAL DERVIS *is vice president and director of the Global Economy and Development Program at the Brookings Institution. This essay is the fourth in a* Current History *series on inequality around the world.*

person has the same income, and one being the scenario where all the nation's income accrues to one individual. Small differences in the Gini can translate into substantial differences in inequality as measured, for example, by the incomes of the richest 10 percent of the population compared with those of the poorest 10 percent. Unfortunately the Gini scores, which are based on household surveys, are prone to considerable errors, including selection bias, where the richest households do not participate or have incentives not to disclose their income.

Despite weaknesses in the data, based on these surveys as well as analysis of tax data pioneered by the French economists Thomas Piketty and Emmanuel Saez and others, experts are in broad agreement about the big picture: In most countries inequality rose following the industrial revolution in the nineteenth century up to around 1920, then it declined until about 1980, and has been on the rise thereafter. Since 1990, various studies, particularly ones conducted at the World Bank, have shown that inequality has risen in the advanced countries with only few exceptions and in many developing countries. The rise in inequality is a global phenomenon with the exception of Latin America, which already has the highest level of inequality of any region.

Inequality is generally higher in developing countries than in advanced countries, though the United States has levels of inequality comparable to those of many developing countries. Low incomes make it more difficult for developing nations to build a social safety floor, and they do not have the capacity to levy significant and progressive income taxes. For example, in 2007, public social spending in developing countries was roughly half of that in advanced countries as a percent of GDP (11.6 percent versus 20.6 percent), and they tend to collect about half as much tax revenue as a share of the economy.

The most dramatic increases in inequality have occurred at the extremes. This trend is global, but has been especially well documented in the United States. The US Congressional Budget Office found that, between 1970 and 2012, the share of market income (income before taxes and transfers) going to the top 1 percent doubled from about 10 percent to about 20 percent. Over roughly the same period, between 1979 and 2010, real household income for the bottom 10 percent grew by a negligible 3.6 percent. Inflation-adjusted incomes of typical American families have seen only modest advances over this long period and have actually declined since the turn of the century.

While in-country inequality has increased across most of the world, global inequality—defined in terms of the income distribution across the entire world population, without distinguishing borders—has started to decline slightly. A reduction in the gap between average incomes in many large developing countries and average incomes in the advanced countries is compensating for the increase in inequality within most countries. The net outcome, if one looks at the world's entire population, has been reduced inequality, as even the bottom third of the population has significantly increased its real income. As the World Bank's Branko Milanovic has recently shown, the top 10 percent of the world population has gained a lot from globalization, but so has a very broad group, ranging from the lowest 5 percent in incomes to the 75th percentile, mainly residents of the largest and most successful emerging economies. Those who have not gained are the very poorest in the bottom 5 percent, many living in failed states, and large parts of the middle class in the advanced countries, accounting for much of the group between the 75th and 90th percentile.

The multiple dimensions of economic inequality—in-country, global, and at the extremes—make it important to define the context of the discussion. Any portrayal of inequality in the world and how it is changing must account for the dynamics of growth in developing and advanced nations, as well as account for the factors driving inequality within countries.

THE VALUE OF SKILLS

Contemporary trends in the distribution of income inside countries are related to three other big changes in the global economy over the last 30 years. First, skill-biased advances in technology, most notably the information technology revolution, are continuing. Skill-biased technological change has increased the demand for skills, capital, and especially the combination of both, relative to the demand for unskilled labor. A recent report by the Organization for Economic Cooperation and Development estimated that technological progress over the past 25 years accounts for roughly a third of the widening of the gap between the 90th percentile earner and the 10th percentile earner across OECD members.

Over the past three decades, developments in information and communications technology—

from the personal computer and the internet to mobile applications—have become central to the process of value creation. They have also facilitated the application of every other labor-saving technology, from machine tools in the factory to combine harvesters in the farm to typewriters in the office. In many occupations, which range the pay scale from positions in management, research, and banking to retail and secretarial jobs, technological advancement has redefined what constitutes a basic and advanced skill set. For many of these positions, a job candidate who is not familiar with basic word processing and spreadsheet software, and who cannot navigate the internet with relative ease and deploy these tools to carry out complex tasks, is not qualified.

Information technology also eliminated many kinds of jobs through automation or upgraded the skill level required to attain or keep those jobs. Welders and farm hands as well as bank tellers, security guards, librarians, shopkeepers, and postal service clerks, for example, face direct competition from machines or software that perform comparable tasks.

The much higher demand for skilled labor than for unskilled labor translates into higher wages for the former unless offset by an increase in its relative supply. However, even when educational and vocational institutions respond swiftly to these shifting currents, which rarely happens, the adjustment takes a long time. Moreover, a feature of investments in information technology (as distinct from adding machines or people in a factory or farm) is that they appear to be less affected by diminishing marginal returns. They are capable in many instances of boosting productivity without an obvious limit over a very long period.

Growth appears to be more sustained when inequality is moderate than when it is extreme.

At the same time, the information technology revolution has radically reduced the cost of communication and, to a lesser extent, of transportation. Together with economic policies that have reduced impediments to trade and investment, technological advances have demolished many of the barriers that separated national markets.

The globalization effect

Since 1980, the share of trade in world GDP has increased from just under 30 percent to 56 percent in 2010; the share of foreign direct investment has more than quadrupled from 0.6 percent to 2.8 percent of world GDP in 2011. This is just the tip of the iceberg; the number of minutes used for international phone calls from the United States soared from 2 billion in 1980 to 75 billion in 2008; and the internet now reaches 2.4 billion users, of whom nearly two-thirds are in developing countries. Although many impediments still exist, globalization has been especially effective at unifying the global market for capital, enabling it to seek higher returns and strengthening its bargaining power while reducing that of labor unions. Not surprisingly, the share of capital in GDP across the 26 OECD members for which data are available rose by over 4 percentage points between 1993 and 2010, from 32.2 percent to 36.5 percent. This contributes to inequality because high-income individuals derive a much larger share of their income from capital than lower-income citizens.

Moreover, many companies are now global, growing bigger in size and complexity, and raising the rewards for the relatively small number of individuals who manage them. In this “winner takes all” environment, the same applies to managers of large hedge funds and other investment vehicles. In the arts and sports, “superstars” such as Roger Federer, Lionel Messi, Beyoncé, Tom Cruise, or James Patterson command a global audience, expanding their reach in a way that was unthinkable only a few decades ago.

The effect of globalization on inequality is broader and deeper still. Even though, with the exception of superstars, the global market for labor is much less integrated than that for capital, trade and foreign investment enable work to move to the worker even if workers themselves cannot move. The observed effect of trade and foreign investment on wages in advanced countries may appear small, as is often found in econometric studies, but a crucial effect of globalization is to force firms to adopt labor-saving technology in order to compete and survive. This makes it very difficult in practice to separate the effects of trade and of technology on rising inequality.

A large number of developing countries, beginning with populous China and India, have become much more integrated with the world economy, attract foreign investment and advanced technology, and are major suppliers to global value chains. Combined with the fall of the Berlin Wall and the opening of the ex-Soviet system, this led to what the Harvard economist Richard Freeman has called "the great doubling" of the global labor force from around 1.5 billion to 3 billion workers over the past three decades.

The effect of these massive changes on inequality has been threefold. Inequality across the world's citizens has declined as hundreds of millions of people have been pulled out of poverty. Second, as urban agglomerations have developed and factories become established, workers in many developing countries have seen their productivity and wages rise relative to those in the countryside. Third, the world's supply of unskilled workers has surged, lowering their wages relative to skilled workers and relative to the returns to mobile capital.

Over time, in the emerging economies, education levels increase, and skills accumulate. Eventually, this may mitigate the rise of inequality and cause an increase in the relative supply of skilled workers in the world. This process, which is still quite young in the largest and poorest developing economies, implies that the pressures on unskilled workers may begin to abate—witness sharply rising wages in Chinese factories and a declining skill premium in Latin America. But it also means that the pressure on some categories of skilled workers in both developing and advanced countries will increase, even as the opportunities for advanced countries to export to the middle class in developing countries expand.

The development of a middle class in successful developing economies is happening much faster than is generally understood. Take, for example, cars—the quintessential symbol of the middle class in developing countries. Cars in circulation in developing nations have been growing at 10 percent to 15 percent a year. This reflects the fact that many developing countries are clustered near a level of per capita income (around $3,500, adjusted for purchasing power) that represents both the threshold for car ownership and the most commonly used lower bound of income to denote entry into the middle class.

THE REDISTRIBUTORS' ROLE

The effect of taxes and transfers in a democracy is typically to significantly reduce inequality. An OECD report on inequality last year noted that, in the late 2000s, the Gini coefficient after taxes and transfers across OECD countries was about 25 percent lower than the pre–tax/transfer Gini. Government plays a smaller but still significant redistributive role in developing countries. There are very large variations, however, in the impact of public policy over time as well as across advanced and developing countries.

The redistributive effect of government began long ago and was much smaller. In the United States in 1930, at the outset of the Great Depression and well before the New Deal, total government spending in the country was under 10 percent of GDP. By 1980 it had risen to 25 percent and by 2011 to about 40 percent of GDP. In Western Europe, the share of government spending mirrored the United States' in the early part of the twentieth century, but now ranges from about 33 percent (Switzerland) to about 57 percent of GDP (Denmark), with most countries closer to Denmark's high share.

The share of government spending in developing countries is much smaller, though it has also risen over the past decade, from 27 percent to 31 percent. Despite much younger populations in developing countries, their share of government education spending in GDP is lower than in advanced countries, and the gap in government health spending is even wider, representing less than half that of advanced countries.

In advanced countries, the increased role of government has taken the form of a more comprehensive welfare state, including provision of health and education services, pensions, and unemployment insurance, paid for by a more or less progressive tax system. In developing countries, all aspects of the state redistribution process of advanced countries have been adopted but on a smaller scale and limited to the formal sector, reflecting resource constraints, weak administrative capacity, and relatively low tax intake.

The increased role of the state has also varied greatly over time. After a big rise in the redistributive role of government following the Great Depression and World War II, a shift toward a less progressive system of taxes and expenditures accompanied by deregulation and privatization took place during the tenures of British Prime Minister Margaret Thatcher and US President Ronald Reagan. The trend began in the United Kingdom and the United States but spread quickly to many advanced and developing countries, and it was reinforced by the fall of the Berlin Wall and economic reforms in China (remember Deng Xiaoping's dictum: "to get rich is glorious").

In the United States, the state's redistributive role has diminished in recent years with the tax cuts enacted under President George W. Bush. Moreover, high earners enjoy big tax benefits, such as a "carried interest" provision that treats the income of private equity firms as long-term capital gains, and deductions for mortgage interest for large homes, including second homes.

At the same time, in some countries and regions, state interventions have reduced inequality from high levels over the past decade. As Tulane University's Nora Lustig and others have recently noted, such interventions in Latin America have included conditional cash transfers in Argentina, Brazil, and Mexico and in-kind transfers in Peru. Although such programs are relatively small—the budget for Mexico's Progresa/Oportunidades, for example, is about 0.5 percent of GDP—with design improvements they have more effectively targeted the poor and ultimately have had a significant impact on poverty reduction. Furthermore, in Argentina, Mexico, and Peru, streamlined and increased transfers have been accompanied by more progressive spending on health, education, and nutrition. Latin America, however, remains an exception to the in-country trend toward greater inequality.

Inequality in many countries has reached levels that are excessive on both equity and efficiency grounds.

THE AMERICAN CASE

The United States is of special interest because it is the largest economy, and leads technological advancements. A forward-looking comparison of trends in the United States with those of the largest developing economies, China, India, and Russia, where inequality has also increased, and with Brazil, where it has declined, provides a lens for investigating the multifaceted aspects of this phenomenon.

Inequality has risen most rapidly in the United States, making it the most unequal among advanced countries. Not only have market incomes diverged over the past 30 years, but the government's role in smoothing the distribution has also diminished. At the broadest level, the Congressional Budget Office found that, between 1979 and 2007, the Gini coefficient for household market income in the United States rose from 0.48 to 0.59. The Gini coefficient for household disposable income—which accounts for taxes and transfers—also rose from 0.37 to 0.49, an even higher percentage rise.

An examination of trends in average and median household incomes, as well as incomes at the very top and bottom of the distribution, tells a similar story. Between 1979 and 2007, Americans' average household disposable income increased by over 60 percent. Median household disposable income, however, increased by just a little more than half as much, a reflection of income growth that has been weighted toward the upper end of the income distribution. The ratio of the top quintile of the income distribution to the bottom quintile, as well as that of the top decile to the bottom decile, moreover, is higher in the United States than in any other advanced OECD country.

In the United States, high and rising inequality has been accompanied by low social mobility, a recent finding that is strikingly at odds with conventional wisdom. A study by the Center for American Progress found that children born to parents in the bottom quintile of the income distribution have just a 1 percent chance of entering the top 5 percent, but children born to parents in the top 5 percent have a 22 percent chance of staying in that very high income bracket. Social mobility is now much lower in the United States than in European countries.

As discussed previously, the factors driving inequality in the United States are rooted in shifts that have unfolded over the past 30 years, including reduced progressivity of the tax system, and slower growth of investment in education. Despite heightened awareness, there is no political consensus on how to respond, and high fiscal deficits will likely force cuts in social spending anyway. Since, at the same time, there is little evidence that the underlying drivers of inequality are losing momentum, it appears unlikely that the trend toward higher inequality among Americans will be broken any time soon.

THE FUTURE OF INEQUALITY

China has also seen a big increase in income inequality, though from extremely low levels and against a background of very rapid economic growth. According to an International Labor Organization study, between 1985 and 2007, China's Gini coefficient for household disposable income rose from less than 0.25 to over 0.40—in large part due to a widening rural-urban gap. The state has responded by progressively shoring up the livelihoods of the rural poor and urban migrants. Recent steps include a 17 percent increase in the minimum wage for urban workers over the past year, calls for a 10 percent annual increase through 2015, and near-completion of a national pension scheme including all rural provinces. China has more budget capacity than most countries, and with its leadership paying more attention to social tensions, and a dwindling supply of cheap labor, there is reason to believe that inequality there will stabilize, if not decline.

Like China's, India's economy was booming until recently, but a large part of the Indian population has yet to realize gains from growth. Major inequalities persist in income, access to health care, and education. The gap between the top and bottom deciles has doubled, with the income in the top decile now 12 times that of the bottom decile, compared to a 6-to-1 ratio in the 1990s. India's inequality is not helped by the government's low investment in social protection schemes (less than 5 percent of GDP), the country's limited fiscal capacity, and the timidity of government reforms. India's large informal sector, where standard worker protection is nonexistent, also presents a huge challenge; the formal workforce has barely grown since 1991. The trend in inequality will depend on the government's ability to provide expanded and targeted public services, as well as on increased employment opportunities in the formal sector, neither of which is looking very promising at present.

Social mobility is now much lower in the United States than in European countries.

Russia is another country that has seen a sharp rise in inequality. After the collapse of the Soviet Union, Russia's Gini coefficient for household disposable income rose by over 50 percent due to wage decompression, reflecting productivity differences across sectors. It began to moderate more recently. Over the past decade of solid economic growth, the coefficient seems to have declined to about 0.35. Inequality in Russia is unusual insofar as it has tended to be extremely fluid; annual surveys reporting Russian household incomes found that only 10 percent of respondents had never been in poverty between 1994 and 2008, but only 1 percent remained in poverty for this entire period of time. There surely is also substantial underreporting at the top incomes. It is particularly hard to predict trends in Russia.

Brazil still stands out as one of the world's most unequal countries, but one where inequality has fallen over the past decade. According to Lustig, the country's Gini declined from 0.59 to 0.54 between 1998 and 2009. Between 2002 and 2009, moreover, the per capita income of the poorest decile grew over six times as fast as that of the richest decile. The decline of inequality in Brazil is in large part the result of the government's recent efforts to increase access to education and provide greater direct cash transfers to the poorest. Together these policies account for an estimated two-thirds of the reduction in the Gini coefficient from 1995 onwards. However, Brazil's inequality remains high, and there are signs that the current approaches to reducing it may be running out of steam.

Inequality in post-apartheid South Africa has increased. Between 1993 and 2008, the Gini coefficient for household disposable income rose from 0.66, an already extraordinarily high level, to 0.7. The racial dimension of inequality that characterized apartheid South Africa persists, with Africans' per capita income at 13 percent that of whites. However, there are signs that intra-racial inequality gaps are playing an increasingly significant role in driving aggregate income inequality.

These vignettes suggest that the inequality trend is unlikely to be broken soon. Governments will come under pressure to address inequality, but globalization and technical advances are likely to continue. China may prove an exception, mainly because market forces there already are shifting in favor of unskilled workers, and fiscal capacity and savings are much greater than elsewhere. Given the country's size and presence in global markets, China may also have a modest equalizing effect on the income distribution in other countries.

Meeting the challenge

Extreme inequality has been found to be associated with numerous problems: political rifts; outright corruption, or at least the pervasive influence of money on politics and policy; poverty; conspicuous consumption; high crime rates; bad health and education outcomes; discrimination and inequality of opportunity; and stagnant living standards for the middle class and lower income groups. Even many of those who are not disturbed by high inequality on moral grounds would likely agree that a constantly increasing Gini, a Gini at the level of Brazil and Mexico, or an income concentration reaching more than 20 percent for the top 1 percent, as in the United States, is undesirable, since so many of the above problems then become prevalent.

Of course, norms and attitudes differ, and as Francois Bourguignon, a former chief economist of the World Bank, has recently argued, these color the perspective of inequality levels for individuals in a given country. For example, surveys have shown that in some countries (the United States among them) people have generally felt, until recently at least, that there is plenty of opportunity and inequality is not too bad, even though statistics say otherwise. In other countries (for instance, France), people say inequality is extensive even though statistics say the opposite.

Perceptions vary in part because high inequality is easier to tolerate when, as in most developing countries, median incomes are rising rapidly and the middle class is benefiting even as the rich are benefiting even more. Inequality is harder to tolerate when large segments of a population see their income stagnate, as in the United States and in the European nations afflicted by the sovereign debt crisis.

Policies aimed at achieving greater balance can be grouped under three main headings. First, some policies affect market incomes (pre-tax and pre-transfers) by shifting the underlying economic drivers of inequality. Second, other policies affect disposable incomes through taxes and transfers. Third, international cooperation designed to close tax loopholes and reduce competition for lower taxes can increase nation-states' capacity to pursue redistributive policies. Each of these kinds of measures has a different but important effect on the inequality picture.

Market incomes are strongly affected by productivity. Productivity is determined by skill and the amount and quality of capital available for labor to work with, as well as by a stable and predictable macroeconomic and financial environment. There is a lot of evidence, however, that bargaining power and social norms also affect market incomes. Sky-high executive pay is considered more "normal" in certain countries, and unions were better able to affect wages when they were more powerful.

With respect to productivity, the most effective thing that can be done in all countries is to have a high-quality, inclusive, and equal opportunity–oriented system of education and skill formation. The provision of inclusive and effective health care is probably a close second, as only healthy citizens can generally be productive. Another important driver of productivity is the amount of capital, including infrastructure, that a worker can access. Additionally, prudential regulation of the financial system is essential to create efficient, stable, and inclusive capital markets so that access to credit on reasonable terms is possible for smaller firms and is more insulated from big shocks.

The distribution of disposable income can be changed through progressive taxation and by government expenditures that have a progressive impact. While debates about trade-offs between efficiency and equity continue, it is clear that fundamental tax reforms and a better targeting of the net benefits of public expenditures in most advanced countries would not likely affect efficiency. In the United States, problems ripe for attention are the regressive nature of the Social Security tax, mortgage interest tax credits even on homes worth over a million dollars, and a policy of not requiring even the wealthiest beneficiaries of Medicare to pay a greater share of its cost.

Given the mobility of capital and highly skilled professionals, some degree of international cooperation will also be needed. Absent such cooperation, the world could witness a more pronounced race to the bottom in terms of taxes, as countries compete to attract investment, and as corporations take advantage of diverse and complicated loopholes to shift their accounting profits so as to minimize tax liabilities. This represents, of course, a huge challenge, but it will have to be met if the redistributive aspect that nation-states' public policies acquired in the second half of the twentieth century is to remain effective in a much more globalized environment.

Inequality in the world defies simple characterization. Over the past 30 years, hundreds of millions of the world's poorest people have seen their lot improve as the forces of technology, globalization, and better macroeconomic policies have transformed the globe. A large middle class has emerged in some of the world's largest and relatively poor countries. At the same time, in most countries, the relatively affluent have seen their incomes soar, and in some instances their share of national income has increased so rapidly that the bulk of the population has seen little gain.

Sustaining the transformational force of technology and globalization, and the impetus they are providing to the growth of the global economy, while mitigating their polarizing effect within countries, is likely to prove one of the twenty-first century's great challenges. It is unlikely, and indeed undesirable, that either globalization or technological advances will be stopped. Still, a failure of public policy to promote greater balance in the distribution of the gains accruing to society as a whole could result in fissures so deep that our ability to derive the benefits of the new age could be severely impaired. ■