

THE UPSIDE
— of —
INEQUALITY

*How Good Intentions
Undermine the Middle Class*



EDWARD CONARD

*For my wife and daughter,
my mother, who died this year,
and my sister, who kept her alive.*



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OUR MORAL OBLIGATION TO HELP THOSE LESS FORTUNATE

Finding improvements to the economy is difficult. Like biological evolution, innovators run millions of experiments to find and commercialize new ways to use the economy's resources more effectively. Alternative uses compete fiercely with one another for survival. The surviving alternatives exist because they're better. As such, criticism is cheap, mistakes are costly, and improvements are dear.

That's not to say we can't find and make economic improvements. That's exactly what innovators do. But before someone criticizes the economy and alleges "improvement," he first ought to try to innovate and compete successfully. It's humbling. The robustness of the status quo should be respected. And proposed improvements should be viewed skeptically.

But even if the dubious claims of advocates of greater income redistribution are mistaken, one can still make a strong moral case that the talents of mankind belong to mankind, and not just to the lucky recipients of those talents. It's true that innovation bubbles up from a larger pool of workers who have endured the arduous training necessary to serve customers effectively and have taken the risks needed to find and commercialize hard-to-find innovations. But it is also true that God-given talent amplifies the value of these efforts.

Like all moral arguments, the suggestion that the talents of mankind belong to mankind raises questions. For example, can we coerce the talented into working on behalf of others? Clearly, there is a complicated, perhaps even contradictory hierarchy of values involved in the claim that the less fortunate deserve something from the rest of us. But that doesn't mean the argument has no merit. For the sake of argument, perhaps one need only assume that the talents of mankind belong to mankind and ignore the other complications.

Those who oppose redistribution argue that the goal of equality of outcomes is harmful and that the more desirable goal should be "equality of opportunity."¹ But the opportunity for a person who starts life with a low IQ, emotional problems, or a troubled childhood predominantly means little more than a low-paying job. Surely, they are *entitled* to more.

While growth is critical to achieving and maintaining full employment, it is disingenuous to depend on growth alone to provide less fortunate workers with steady employment and to alleviate poverty, as opponents of redistribution often do. Less fortunate people will be the last workers hired and the first workers laid off in a recession or a downsizing. And when they are hired, they will be paid low wages that compensate employers and their customers for the cost of hiring these workers relative to more productive alternatives.

Nor can we pretend that entry-level jobs are a gateway to higher-paying jobs for every worker. That might be the case for competent workers, but many less fortunate workers will never progress much beyond an entry-level job. We can blame them for being unreliable, irascible, unhealthy, unmotivated, or for whatever else holds them back, but we also have to admit that many people struggle no matter their good intentions, especially when the payoff for their diligence is low.

The poor need help. And public investments should be made where they can be justified. But justification must be based on tough-minded assessments of the truth, and not on the string of myths tossed out by propagandists looking for whatever justification will stick.

Guilt and compassion for poor children drive a never-ending demand for more welfare. Today many poor, able-bodied families are given as much welfare as they could earn by working—\$30,000 per year. Freed from the need to work, many people grow irresponsible, and their children suffer the consequences.

Unfortunately, the cost of motivating reluctant but able-bodied workers to work may be prohibitively expensive despite our compassion for their children. Nevertheless, we must continue to search for better alternatives. The current approach abandons the next generation to intractable problems, and that's unfair to them. But as we search for new approaches, we must beware that our compassion can lead us to do more harm than good. We must recognize the limits of our knowledge and capabilities, and strive to do good rather than merely acting to make us feel better about ourselves.

Our Moral Obligation to Help Those Less Fortunate Is Not What It Seems

Liberals often cast income redistribution as a moral issue, but if it is, whom are the wealthy obligated to help and what is the most effective way to help them—just less fortunate Americans, or the rest of the world, too? America's poor are among the richest people in the world. According to Pew Research, “more than half of Americans who are poor by U.S. government standards would be middle income when compared with the rest of the world.”² The U.S. poverty threshold of \$23,021 for a family of four in 2011, for example, is 50 percent higher than the threshold of \$10 per person per day for global middle-income status.³

And America's poor achieve middle-income status by world standards with only eight hundred hours a year of work on average, according to the University of Michigan's Panel Study of Income Dynamics.⁴ This is far less work than the rest of the world must do to earn the same amount of money.

That's not to say America's poor don't struggle. But there is a very large pool of poor people to help. Do we prioritize the American poor if they are middle income compared with the rest of the world?

It is hard to believe that geography constrains our moral obligations. If the real reason for helping Americans to the exclusion of others is to *keep the revolution down*—that is, to protect the self-interest of the rich, which is really no moral reason at all—then our moral obligation is to accomplish that objective at the lowest cost possible, so

we can use the remaining resources to help others who need it more, wherever they are located.

On the other side of the moral issue, does geographic proximity give America's poor (or middle and working classes) the right to tax America's successful workers for their own gain? In effect, Donald Trump and his supporters insist that America's properly trained talent, investors, and risk-takers must work on behalf of Americans only—that they should be restricted from hiring offshore workers, for example. If that's just, and not just political power, then why don't those same rights extend to the rest of the world? With a near-infinite amount of world poverty, where does our moral obligation end? Do we give money to the rest of the world's poor until we drive American consumption down to the median world income?

If Americans aren't morally obligated to give to the rest of the world's poor until they have nothing left to give, are they obligated to give away a certain percentage of their income—a third to a half—to others? If so, when 40 million foreign-born immigrants and their families make America their new home, does a larger population of poor then split the fixed pool of money and accept fewer benefits per poor family?²⁵ No advocate of redistribution has advocated that.

And if someone takes the risk and makes the effort to bring forward a valuable innovation, what right do we have to take their success away from them beyond what we demand from any other talented person, as if we had imposed something akin to a tax on talent, for example? Don't people have the right to succeed?

The question of whom we are obligated to help raises the question about how best to help. Every alternative has costs and benefits. Common sense obligates us to choose the alternatives that maximize the benefits per dollar expended.

Were we to give money to the poor until the rich's accounts were drained, it would scarcely make a dent in world poverty, and future generations would be poorer still. That wouldn't be effective. Draining America of incentives to take risk and the equity to bear losses would slow growth and innovation. American innovation has arguably been the most important force pulling the rest of the world out of poverty. According to the World Bank, over half the world's population lived on less than \$1.25 a day in 1980. By 2011 growing prosperity cut that to 17 percent of the world's population, an enormous improvement.⁶

In comparison, the impact of the entire charitable effort is lost in the rounding. Despite the West's having donating over \$4 trillion to developing economies over the last five decades, the general academic consensus is that this aid has had little, if any, impact on growth.⁷

The world's poverty is near infinite. Our only hope of alleviating it comes not from giving charitably, but from making investments and producing innovations that increase prosperity. This is especially true of the cutting-edge U.S. economy, where American innovators predominantly drive increases in standards of living for Americans and the rest of the world. Perhaps investment is the only way to improve the lives of the poor.

For redistribution to make sense, the benefits of redistribution must be greater than the cost of both the diminished incentives and the foregone equity. In a world where entrepreneurs and their investors capture less than 20 percent of the value they create, perhaps even less than 5 percent, if you subtract the investment they make and the taxes they pay from their share of income, tradeoffs favoring redistribution over investment and risk-taking are unlikely to make economic sense.

Yet advocates of redistribution perform few, if any, calculations about the tradeoff between the returns to public investment, which seem to produce surprisingly little at the margin, and private investment that has produced enormous increases in standards of living for everyone. Ironically, it is likely that the moral imperative to help others leads to overreach that drives down returns on public investment at the margin.

Instead of focusing on the dog—talent's moral obligation to get the proper training and bear the risks that grow the economy and increase wages—moralists focus exclusively on the tail, that is, on reducing the resulting consumption of those who succeed. To earn that consumption, the 0.1 percent must overcome slim odds of success by creating five to twenty times more value for others than they capture for themselves. If successful, they must pay taxes on a large portion of the value they capture. And then they predominantly invest and donate what remains.

In light of the value investment, risk-taking, and properly trained talent create for others, it is disheartening to hear well-intended but misguided educators urge our children to take advantage of their privilege and devote their lives to their passion—even work that takes

jobs from lesser-skilled workers—rather than maximizing the societal value of their talents. They maximize the value of their talents⁸ by getting the training, undertaking the arduous responsibilities, and taking the risks necessary to serve their fellow man, whether through business or some other means. If their work is what will bring success to others, shouldn't talented individuals be working as hard as possible?

When we give money to the poor instead of making investments and producing innovation that increases prosperity, it is important to recognize who foots the bill. By and large it's the middle and working classes who bear the cost. The economist Scott Sumner, author of the blog *TheMoneyIllusion*, summarizes the truth succinctly. He argues:

You cannot put the burden of a tax on someone unless you cut into his or her consumption. If the Obama tax increases did not cause Gates and Buffett to tighten their belts, then they paid precisely 0% of that tax increase. Someone else paid, even if they wrote the check. If they invested less due to the tax, then workers might have received lower wages. If they gave less to charity then very poor Africans paid the tax. I have no idea who paid, but I'm pretty sure it wasn't Gates and Buffett.⁹

A person's consumption is his or her true cost to the rest of society, not his or her income. To the extent taxes reduce a person's investment and risk-taking rather than his or her consumption, the cost of the taxes are borne by others, namely workers and customers. When the middle and working classes foot the bill in this way, it's critical that they gain more benefits than the costs they bear.

Just as we can't assume that all redistributive taxes increase middle- and working-class prosperity, neither can we evaluate social spending in a vacuum. It's one thing to support greater government spending on the poor, or other investments that help the public—such as infrastructure. But it's quite another to support an increase in overall government spending.

It's disingenuous to debate spending outside of the context of spending priorities. In the long run, increased government spending crowds out the private sector. After all, resources can only be used one way or another. Ultimately, free enterprise, not government, has reduced poverty.

Total U.S. government spending, including federal, state, and local spending, has reached 35 percent of GDP with nothing but projected increases as far as the eye can see.¹⁰ Growth has gradually slowed as spending has increased. The economy faces a wave of retiring baby boomers with ever-expanding medical expenditures, while defense spending as a percent of GDP heads to historical lows. At the same time, publicly held federal debt has reached nearly 75 percent of GDP in the wake of the financial crisis, up from 35 percent prior to the recession.¹¹

Does subsidizing the incomes of rich old Americans truly help the poor? If increased government spending slows growth, and if the projected growth in government spending doesn't help the poor, then isn't our moral obligation to reallocate spending rather than to increase it?

It is no surprise that advocates cast redistribution as a moral imperative. It creates a powerful feedback loop that engenders never-ending public support. People eager to help the poor may not feel they have enough money or skill to contribute to the poor, but by voting to redistribute the income of the rich, they believe they are helping. From this perspective, it's their moral obligation to support redistribution, and their vote fulfills it.

This strategy for fulfilling a moral obligation is akin to admonishing a healthy driver not to park in a parking spot reserved for the disabled. The one admonishing fulfills his or her moral obligation, at least in his or her own eyes, by demanding morality from others.

Psychological research shows that people tend to reward themselves after they do a good deed—so-called moral licensing.¹² So if people vote to redistribute other people's money, perhaps they feel less guilty about not giving away their own money, getting the proper training themselves, or taking the necessary entrepreneurial risks that help others. Having taken the moral high ground, they feel less obligated to make their own sacrifices.

Climate-change activists, like Al Gore and Leonardo DiCaprio, provide good examples of this kind of self-deception. They fly private jets spewing carbon dioxide while admonishing the public to limit carbon emissions, as if their crusade for the greater good exempts them from the very thing that they insist is immoral.

Of course Gore, DiCaprio, and others like them buy carbon offsets to soothe their guilt and hypocrisy. But it shouldn't. Again, who really paid for their offsets? . . . the rest of the world of course. They could have flown commercial and bought offsets anyway or used the money they would have used to buy offsets to help the world in other ways—to reduce poverty, for example. In either case, the world would be better off—with either less pollution or less poverty. Instead, they spent the money soothing guilt that they needn't have incurred because they enjoyed the very luxuries they admonish others not to indulge. In their case, the power of moral licensing is beyond the pale.

This desire to help others, which relieves personal guilt, creates a powerful dynamic. It drives people to vote for more redistribution without end, no matter how much the government redistributes income, and how little the further benefits may be. The need to help drives people to find a never-ending supply of needy beneficiaries to receive other people's income. "Poor" becomes a relative term. Advocates of redistribution claim families need 40 percent of the U.S. median income to hold up their heads with dignity.¹³ When advocates define poverty as relative, growing median incomes increase the amount of money needed for redistribution. America's poor may be among the richest people in the world, but they are nevertheless poor in the eyes of proponents of redistribution.

Immigrants often risk their lives to come to America for a better life. They may be grateful for the opportunities America has provided. But advocates of redistribution compare their incomes with the rest of America's and insist they need more help. While many immigrants are much richer than they were in their native countries, they are still poor by U.S. standards.

And there is a near-infinite supply of poor to help in the rest of the world. It's like the endless opportunities for good deeds in the movie *Groundhog Day*.

Even advocacy to slow climate change contains an element of this human need to find someone to help. Growing global prosperity is the predominant driver of global warming over the next one hundred years.¹⁴ Imagine someone insisting on investing money to mitigate climate change when horses were the chief means of transportation because the invention of the car and the prosperity it would bring would

eventually cause global warming. Surely, the more logical answer would have been to make those investments after the invention of the car, when investments were much more productive and the world was much richer. We cannot only find an abundance of poor in the present to help; we can find them in the future, too, even "poor" in the future who are richer than most people are today!

The never-ending quest to help others without careful regard for the costs drains the economy of investment and risk-taking and slows growth, largely at the expense of those who can least afford it—the middle and working classes who depend on work, and not charity, for their incomes.

All but the most ardent libertarians would agree that we have a moral obligation to help those less fortunate. But in a world where the talented are under no obligation to put their talent to good use on behalf of others, and where many of them don't, what alternative do we have other than to pay them to work on our behalf? When one takes our bait and succeeds, rather than ridiculing them, perhaps we should celebrate their success. After all, free enterprise is the salvation of the poor, not charity.

In truth, arguments for redistribution aren't really the moral arguments they appear to be. They both dismiss the needs of the world's neediest poor while simultaneously insisting the world's richest poor need more. Then they downplay the importance of incentives and the inefficiencies associated with government-allocated spending to trump up the value of redistribution. These are political arguments dressed up as moral ones.

Worse, moral arguments drive demand for redistribution whether or not more redistribution is economically logical. People simply soothe their guilt for not giving by demanding that others give on everyone else's behalf.

The moral obligation of the most talented people is not to give up whatever consumption they keep for themselves—the very thing that motivated them to succeed. It's to serve their fellow man by getting the proper training and by using that training to take the risks that produce a better future for everyone. In the end, the best way to help the poor is to help them in the way that we can help them the most—in the case of a talented person, by finding ways to create more value

rather than merely redistributing more and more of the value that has already been created.

Never-Ending Compassion Has Demotivated Work

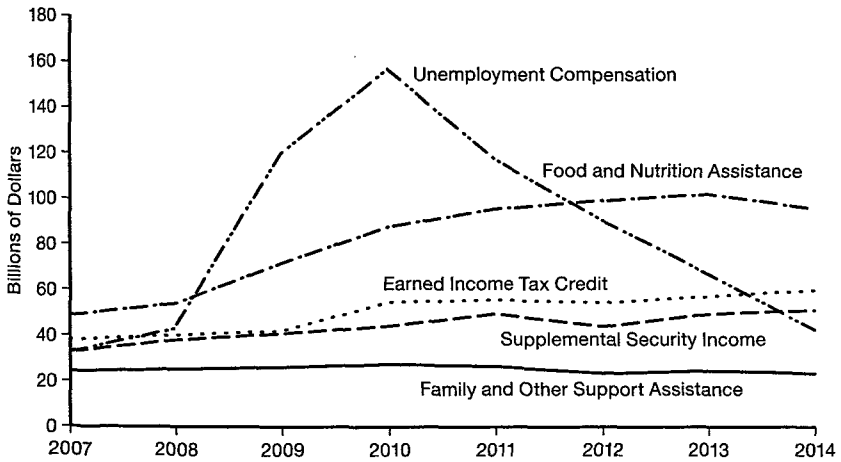
Ultimately, questions of morality come down to how much we give the poor. At some level of support, surely we have fulfilled our obligation. No one reasonable would argue that we should give everyone more than the median wage. The math simply wouldn't work. Yet, I'm surprised that advocates of redistribution often don't know how much we give the poor, and are reluctant to offer an amount they consider fair.

The amount America gives the poor is surprisingly hard to come by. In 2013 the Congressional Budget Office estimated that the federal government gave non-elderly households in the lowest-income quintile \$15,000 per year not counting government benefits that everyone shares.¹⁵ The U.S. Census estimates 2006 state expenditures added about \$4,000 per year.¹⁶ Since 2006 a combination of inflation and increased expenditures has increased this amount to \$30,000 per year.¹⁷ Among these heavily subsidized families and households, households with disabilities and single mothers with children received about the same amount of aid on average, albeit from different programs.¹⁸ These estimates are in line with other estimates (see Figure 8-1, "U.S. Spending on Income Support").¹⁹

To say that we are failing to fulfill our moral obligation when we give poor non-elderly families about \$30,000 per year of support is an odd claim to make. This amount is on par with the median income earned by full-time Hispanic or African American workers age 25 to 64.²⁰ Surely, it is not unfair to give households as much as they could earn in the economy, and more than any other country in Europe gives the poor after taking into account the substantially greater taxes European countries impose on benefits.²¹

If anything, amounts this large may do more harm than good. While there are clearly people who legitimately cannot work and people who briefly stumble onto hard times in a crisis—people for whom we must care—there are also many people who will work less if they

Figure 8-1: U.S. Spending on Income Support



Source: U.S. Office of Management and Budget, "Table 8.5—Outlays for Mandatory and Related Programs: 1962–2020," 2016

earn or receive more. For those people, especially the ones who can't earn much more by working, \$30,000 per year will diminish their need to work and sap their motivation to work.

The need to earn a living and hold a job motivates people to act more responsibly. This has large spillover effects that affect the rest of their responsibilities—staying sober, respecting and cooperating with others, and setting a good example for their children, to name a few. Mitigating the need for a large swath of the U.S. population to work will have far-reaching consequences for those who choose not to work.

While many workers will work no matter the disincentives, disincentives to work are in large part a function of one's earnings potential relative to the size of the government safety net on which workers can fall. Workers with high earnings potential and satisfying work logically find welfare less attractive than high-paying work. Conversely, those who are incapable of earning more relative to government alternatives will be less motivated to work, on average.

Advocates of redistribution often point to Scandinavia as evidence that welfare benefits do not reduce incentives to work.²² Unstated is the fact that Scandinavian wages are high relative to the government safety net.

A Scandinavian economist reportedly told Milton Friedman, "In Scandinavia, we have no poverty," to which Milton Friedman replied, "That's interesting, because in America, among Scandinavians, we have no poverty, either."²³ Scandinavian Americans have median incomes that are \$10,000 to \$15,000 higher than Americans on average.²⁴ Their poverty rates are comparable to native Scandinavians, just 6.6 to 7.5 percent in 2010—half the rate of Americans on average.²⁵ In Scandinavia, high earning potential seems to dampen the effect of welfare on one's work effort, just as it seems to dampen welfare's effects on Scandinavians in America.

There is ample evidence that a worker's earning potential relative to the value of the safety net plays a significant role in many people's motivation to work. The most educated women, for example, have some of the lowest reproductive rates. They seem to prefer work.

The U.S. workforce participation rate of prime working-age Hispanic adult men, ages twenty-five to sixty-four, who, on average, have less access to the U.S. government safety net than American citizens because of their diminished legal status, is higher than that of similarly aged African American men. In 2013 the workforce participation of the Hispanic men was 88 percent versus 75 percent for African American men, despite comparable levels of pay.²⁶ If the difference between the workforce participation rates of Hispanic and African American men is the result of the demotivating effects of welfare relative to earning potential, then the effects are large, indeed.

Similarly, workforce participation rates rise with educational attainment, which correlates with earnings and earnings potential. Seventy-five percent of male and female college graduates participate in the workforce versus only 57 percent of male and female high school graduates with no further college attendance.²⁷ The more people can earn from working, the less they value alternatives to work.

The same is true in Europe. The workforce participation rates for men ages twenty-five to fifty-four in the higher-earning Northern European countries are higher than in lower-earning Southern European countries like Italy, where government benefits are high relative to earning potential—90 to 93 percent workforce participation rates in Scandinavia versus 88 percent in Italy.²⁸

Consistent with these patterns, the hours worked by Americans and

Europeans have been declining, except among the highest-paid Americans.²⁹ A recent study by the National Bureau of Economic Research, for example, finds that in America, “the recent increase in long work hours has been concentrated among the highest wage earners: between 1979 and 2006, the frequency of long work hours increased by 11.7 percentage points among the top quintile of wage earners, while falling by 8.4 percentage points in the lowest quintile.”³⁰

To solve the problem of welfare disincentivizing work, some advocates of increased welfare claim the earned income tax credit (EITC)—which provides government benefits to low-income workers proportional to the hours they work and the money they earn—will increase the motivation of low-wage workers to work by increasing the value of work to them.³¹ While surely that’s true for some, it will also likely disincentivize others—those who value more leisure over more money—who will work less as they can earn more. As high-wage workers throughout the world have grown more prosperous, all but the highest-paid American workers have worked less.³²

Money doesn’t motivate everyone. Those who are least motivated by money will obviously tend to be poorer.

Today the typical non-elderly household in the lowest-earning quintile works eight hundred hours a year—less than half the hours of a full-time worker.³³ With government benefits, that worker earns more than \$30 an hour (see Figure 10-1, “Federal Government Expenditures and Taxes by Household Type”).³⁴ That’s far more per hour than the federal minimum wage of \$7.25 that advocates of redistribution tout as the true pay of low-wage workers. Thirty dollars an hour is on par with the 2015 U.S. median wage, which was \$33.58 including benefits.³⁵

Without the prospects of earning substantially more, if they work substantially more, what motivation do they have to work more? Those who can earn substantially more are unlikely to be poor. Only 3 percent of full-time workers, for example, are in poverty.³⁶

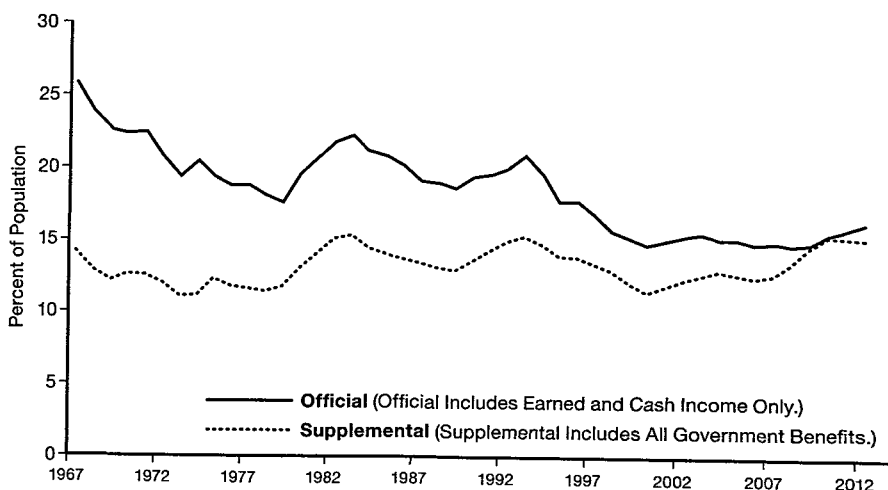
If an increase in the EITC reduces the motivation for some workers to work more, expanding the ETIC to cover a broader swath of low-wage workers may do more harm than good. Unfortunately, it may be best to keep the EITC limited to those we are most concerned about helping—single mothers with young children and other disadvantaged

workers (the handicapped, for example)—rather than expanding it to all workers as some propose. For those for whom we are less concerned, perhaps we just have to accept the fact that they will be poor, often by their own choice.

Many experts, such as the New York University poverty expert Lawrence Mead, are skeptical the EITC will increase work effort overall.³⁷ Mead bases his skepticism about incentive-based laissez-faire approaches to “workfare,” like the EITC, on evidence gathered from field experiments. Mead points to a variety of workfare programs that made welfare conditional on employment—yet very few participated in mandatory employment without high levels of supervision.³⁸

In truth, aid to the poor has risen substantially over time with little, if any, increase in work effort. According to the Congressional Budget Office (CBO), means-tested spending and tax credits for low-income households have risen from 1 percent of GDP in 1972 to nearly 4 percent of GDP in 2012 (see Figure 8-2, “Change in Poverty by Source of Income”),³⁹ with only modest reductions in poverty as measured by market incomes earned. Almost all the reduction in poverty has come from an increase in government aid, not from a corresponding increase in work effort.⁴⁰

Figure 8-2: Change in Poverty by Source of Income



A study of two dozen poor Native American tribes in the Northwest between 2000 and 2010 is quite revealing. Some tribes handed their gambling profits to tribal members, but others did not—a natural, randomized experiment that occurred under fairly uniform economic conditions. Ten out of seventeen tribes that handed casino profits to tribal members saw poverty increase, compared with only two out of seven tribes that did not hand out profits.⁴¹ Poverty among tribes that handed out profits increased four percentage points on average more than Native American tribes nationally—from 25 percent to 29 percent.

According to *The Economist*, the only tribe among the twenty-four that eliminated poverty eschewed per capita payments and instead invested its profits to create new businesses and jobs. A second tribe pursued the same strategy and cut its poverty rate by more than half.⁴²

Rather than concede that the availability of work and a low safety net reduces poverty among able-bodied workers, some advocates of redistribution insist that a lack of jobs creates poverty.⁴³ But if employment opportunities were the primary driver of poverty, poverty rates would have declined significantly leading up to 2007 when the unemployment rate was effectively zero. Instead, during that period, the poverty rate declined only a percentage point or two from its 13 percent to 14 percent forty-year average.⁴⁴ Similarly, U.S. Census surveys consistently find that only 10 percent of the non-working poor report being poor because they can't find employment.⁴⁵ As well, the continued influx of unskilled immigrants shows that a shortage of work is not the problem.

Others argue that the high cost of childcare makes work uneconomical for low-wage workers.⁴⁶ However, the Urban Institute, a credible liberal think tank, finds that the federal- and state-funded Child Care and Development Fund (CCDF) largely subsidizes childcare costs for poor families.⁴⁷ The Congressional Research Service estimates that poor families who received childcare subsidies received \$4,700 per year on average in 2012 for childcare, not including state funding, which is significant; charitable contributions, such as tuition discounts and scholarships; employer contributions; and tax credits—all of which further reduced the cost of childcare for poor mothers eager to work.⁴⁸

Ironically, childcare subsidies may create a disincentive to work.

There is little to stop two single mothers from caring for each other's children in their own homes and both receiving the childcare subsidy and credit for working.⁴⁹ That's a hole so big you could drive a truck through it.

It's hard to look at the macro evidence and not feel deep concern that a safety net, which competes with people's need to work, dulls incentives to work, and that this harms many able-bodied low-wage workers and their children. Differences in the workforce participation rates of able-bodied adults are alarming. Growth in unproductive behavior, such as out-of-wedlock births among lower-wage workers, is worrisome. Lack of increase in the work effort of poor, able-bodied workers, despite increases in social spending, is discouraging. One can't help but wonder if the "War on Poverty" caused more able-bodied poverty than it cured.

Solutions to Poverty Are Likely to Be Prohibitively Expensive

That said, it's likely to be quite expensive to put able-bodied but reluctant workers to work. It costs far more than just their wages to hire lower-skilled and less-productive workers, especially people who are reluctant to work. The cost of hiring these workers may be so high that many workers may be employable only at wages below zero—thieves and disruptive workers who damage customer relationships and scare off sought-after employees, for example.

The resources that increase workforce productivity—namely, properly trained talent, equity to underwrite the risk of creating new jobs, and, to a lesser extent, capital investment—are in short supply. Alternative uses of these resources with higher returns are economically more logical. To the extent these resources could have been used to increase the productivity and pay of middle- and working-class workers, those workers bear a disproportionate share of the cost.

Employers like Walmart and McDonald's have extensive management systems that increase the productivity of their low-skilled workforce. Similarly, the military invests a fortune in capital investment and technological innovation to make soldiers effective. Soldiers need extensive training and supervision to be effective. Experts estimate em-

ployee theft costs American retailers \$18 billion a year, for example, in addition to their costs associated with theft prevention.⁵⁰ All employers incur employ-related costs far beyond the wages and benefits of their workforces.

In an economy with scarce resources, we can use those resources either to make workers with low productivity more productive or to make the working, middle, or upper class more productive. Scarce resources are logically gravitating toward innovation that grows increasingly more valuable as the economy grows larger relative to the individuals who compose it. And they are gravitating toward serving workers who produce innovation—toward increasing the productivity and motivation of the most productive workers.

Properly trained talent that once supervised the middle and working classes is now engaged in nonsupervisory endeavors—namely, commercializing innovation and supporting those who do. This gradual shift leaves fewer resources devoted to increasing the productivity of the middle and working classes. Frankly, this—increasingly deploying scarce resources to increase the productivity of scarce resources—may be the gravest repercussion of growing income inequality. As the most productive workers increasingly serve the needs of the most productive workers, it runs the risk of leaving everyone else behind.

U.S. capital investment, for example, increasingly funds computerization, not factories that raise blue-collar productivity. The most talented women are no longer schoolteachers. Growing opportunities in engineering and computer programming have stripped factories of critically needed higher-skilled mechanics and foremen necessary for competing with German and Chinese manufacturers. As the economy leaves the supervision of the middle and working classes behind for more productive endeavors, their productivity growth will stagnate.

Given their druthers, what workers really want their productivity increased through supervision? Workers and unions resist greater supervision. And given *their* druthers, companies and their supervisors would rather hire workers who don't need much supervision, especially as properly trained talent and, therefore, supervision are becoming an increasingly constraining resource. It's a Faustian bargain that both sides are eager to make.

The same is true of the poor. If increasing the productivity of

able-bodied but chronically poor people requires a great deal of supervision, but supervision can be employed more productively elsewhere—to increase the productivity of innovators or other more-skilled workers—then it may be more cost-effective to do little more than satisfy the material needs of the poor. Perhaps that's what we've already done—acquiesced to generations of intractable poverty.

And who truly pays the opportunity cost of devoting precious supervisory resources to the poor rather than to supervising the middle and working classes or to accelerating innovation? Predominantly it is the middle and working classes, of course, who must forgo supervision to free up the resources. The rich largely dodge the brunt of this cost because supervision of properly trained talent and the people who serve them produce the highest returns.

President Obama recognizes the limitations on America's supervisory capacities to help the poor gain independence. At a summit on poverty at Georgetown University with Harvard's Robert Putnam and American Enterprise Institute president Arthur Brooks, the president said:

I think it is a mistake for us to suggest that somehow every effort we make [to reduce poverty] has failed and we are powerless to address poverty. That's just not true. . . . In every low-income community around the country, there are programs that work to provide ladders of opportunity to young people; we just haven't figured out how to scale them up.⁵¹

Wherever we find effective, hard-working supervisors of the poor, we will find ladders of opportunity for eager supervisees. Unfortunately, we won't find many such supervisors willing to do it. And when we do, they won't be very scalable.

This is precisely why reducing poverty has proved to be so intractable. It's more expensive to employ low-skilled, less reliable, and often troubled or reluctant workers than to employ the typical low-skilled worker, especially when supervision is scarce. The resulting low wages reduce the value of work to those workers. Compassion, especially for their children, demands welfare that further reduces incentives to work, especially for those least motivated by money. The high cost of supervising these workers makes it uneconomical to do much more

than acquiesce to those people for whom our concerns for their children take precedent—in effect, the current policy.

Where we endeavor to make progress, as difficult as that may be, we should recognize that the organizations that have figured out how to scale up efforts to create independence for the lowest-skilled and least-productive workers are low-wage employers, like McDonald's and Walmart. These employers have successfully provided the engineering and investments necessary to make low-wage workers productive enough to employ. They have found markets where customers are willing to let low-wage workers serve them. And they have found ways to supervise low-wage workers to ensure enough worker productivity and customer satisfaction to make these endeavors successful.

These companies are surely far more effective at putting low-wage workers to work than any government program possibly could be. America is fortunate to have them. The alternative is largely ineffective government-funded make-work programs. Rather than denigrating low-wage employers, as advocates of the poor often do, the government ought to be partnering with them. Whom better to partner with than successful employers?

Employers will be more eager to employ lesser-skilled lower-wage, but ultimately more expensive, workers when workers are in short supply and alternatives are harder to find. That's more likely to occur if growth is robust and low-skilled immigration, low-wage trade, and especially trade deficits are more restricted.

To the extent an earned income tax credit reduces the market wages of workers to the benefit of employers and their customers—in the latter case via lower prices due to competition—so be it. The customers of low-wage workers are largely low-wage workers. And we're fortunate to have eager employers of these workers.

Sadly, well-intentioned but misguided politicians advocate for raising the minimum wage instead of the earned income tax credit. Do they realize that apartheid South Africa raised the minimum wage to prevent black South Africans from competing with lesser-skilled white South Africans for jobs?⁵² One can't help but fear that the \$15 hourly minimum wage in Seattle, for example, a thriving city with a low share of Hispanic immigrants, isn't intended to do the same thing—eliminate low-skilled jobs and motivate low-skilled workers to settle elsewhere.

Perhaps a high national minimum wage would discourage low-skilled workers from immigrating to America by limiting their opportunities for employment, but it would be detrimental to the low-skilled workers who have already settled here. Meanwhile, advocates of the poor would insist on raising government benefits to meet the material needs of unemployed workers not of their own making. Rather than attracting hard-working immigrants with jobs, we would attract those seeking government benefits.

A low minimum wage with a generous earned income tax credit is more logical. In an economy where supervision and the capacity and willingness to bear risk—ingredients essential for employing the poor—increasingly bind growth, unless we find more effective ways to motivate and supervise chronically poor workers than the failed efforts of the past, we are dooming poor children to certain failure.

For the sake of the children, it may be better to pay the chronically poor not to have children. But here again, the costs likely outweigh the benefits, especially if we endeavor to be compassionate. It would probably require giving every person a lifetime guaranteed income, albeit a low one to minimize disincentives to work and subsidize low-wage work with an earned income tax credit. A guaranteed income and subsidized wages would reduce the work efforts of some workers, many of whom are currently productive. We could deduct the cost of childcare from parents' wages. A working mother would receive these deductions back as child support. If able-bodied workers didn't work, we would subtract whatever support we gave them—money to raise their children, for example—from their lifetime benefits; that is, from their Social Security and Medicare. If such a mother identified the father, we would split the childcare costs between them or pay the mother more.

The cost to society of children raised by irresponsible parents is enormous. Should we care if a father who refuses to support his children lives a life in poverty, or similarly, if a mother who refuses to support her children or identify the father lives in poverty after her children become adults? How else can we better align the incentives for having children with the costs to support those children?

It would hardly be surprising if the costs of such a program outweighed the benefits. But what surprises and disappoints me far more

is that for the sake of finding new innovations, the government isn't running a bevy of experiments to find cost-effective solutions for putting irresponsible parents to work and reducing their incentives to have children.

Conclusion

With properly trained talent and the economy's capacity and willingness to take risk constraining growth, it is not surprising that political factions—America's poor, the middle and working classes, and retirees—are fighting to tax and regulate these constrained resources for their own self-interest. None of these factions recognizes that free enterprise would serve their economic interests far more successfully. The unrecognized benefits of free enterprise lie in the future and are difficult for most people to comprehend.

Unfortunately, once one faction successfully threatens control of these constrained resources, all the other factions must logically follow suit. As Democrats grow increasingly successful taxing and regulating properly trained talent and successful risk-takers for the benefit of the poor—both native- and foreign-born—it's hardly surprising that middle- and working-class workers would fight back, insisting that these resources be used exclusively for the benefit of native-born workers. Each faction proposes taxes and regulations—restrictions on free trade, for example—to coerce constrained resources for their own self-interest. Regardless of each faction's objectives, the value of free enterprise is lost in this struggle and everyone is worse off, on average, because of it.

It is also surprising how coldhearted we can be toward the rest of the world's poor. But compassion, especially for America's poor children, drives a never-ending demand for others to provide welfare, despite welfare payments approaching what a low-skilled worker can earn in the market—nearly \$30,000 per year with no end in the demand for further increases in sight. Benefit levels that high demotivate work. Together with the high cost of supervision, it makes the problem of poverty intractable.

Our own actions doom generations of children to poverty despite a growing economy. The success of Hispanic immigrants, who have

traveled long distances, shows there is plenty of work for low-skilled, able-bodied workers who are eager to work.

Instead of searching for solutions to this dilemma, we have largely acquiesced to the political demands of the poor and those who feel guilty about not giving them more. In part, we acquiesce because the costs are largely borne, albeit hidden, by the middle and working classes. Income redistribution reduces payoffs for risk-taking, cuts private investment, slows the accumulation of equity, and has large compounding effects on growth, employment, and wages.

We also acquiesce because the cost of poverty may be cheaper than the cost of the solutions we currently have or are likely to find. If there are cost-effective solutions, they likely entail working closely with low-wage employers to create and supervise viable work; using an earned income tax credit to make low-wage work more economical to workers, employers, and, perhaps most of all, customers; and disincentivizing those unwilling to work from having children.

Ironically, as the economy grows more prosperous, poverty is likely to become an increasingly difficult problem to solve. Rather than solve it, we will congratulate ourselves for finding *unscalable ladders of success*.

Chapter 9

THE LIMITATIONS OF EDUCATION

In the face of seemingly intractable poverty and slow income growth, both the left and the right frequently hold out education reform as the antidote. It's not hard to see why. If education increases students' earning potential and higher pay motivates them to work, then education will alleviate poverty and accelerate growth.

The question, however, is not whether education reform *can* work; it's whether it *will* work. The latter hinges upon whether there are proven but unimplemented methods for improving test scores. Otherwise, as-yet-undiscovered innovation is needed to achieve sought-after improvements. If innovation is needed for improvements, it's a much tougher row to hoe. In that case, successful strategies for economic growth should assume little change in test scores and grow the economy anyway.

Those who are skeptical that implementation of proven methods alone will produce improvements often blame selfish teachers' unions for preventing competition with government-run schools. They believe competition will spawn as-yet-unfound innovations for improving the outcomes of low-scoring students. Perhaps, but it's impossible to know what value innovation may produce.

Those who believe we need only implement proven pedagogical methods point to the poor test scores of American students relative to their peers in the higher-scoring countries and states, such as Massachusetts,

and charter schools. They see poor results as a “national disgrace” that “short changes” students, especially poor students.¹ They often blame a shortfall of educational funding for limiting teacher quality, for preventing teachers from being more effective, and for the lack of effective universal preschool education. They believe effective teachers can improve test scores by teaching smaller classes and that preschool is a critical time for teaching students.

But it’s not enough to point only to differences in scores. Differences may exist for a variety of reasons. Theories for such differences lie outside the scope of this book. Evidence that innovation is unneeded must show educational systems that have closed the differences in question and, further, that only a lack of funding stands in the way of successful implementation.

By that standard, the comparisons are far less persuasive than they appear to be. There appears to be little, if any, evidence that other school systems produce higher scores with comparable students and circumstances, or that preschool and smaller classroom sizes are as effective as their proponents claim. If this is true, then innovation, not more funding to implement proven methods, is needed to improve outcomes.

So far, innovation has proved hard to find and harder still to implement. And even if we found and implemented valuable new pedagogical methods, we would not begin to see their benefits to the economy until children joined the workforce twenty years later, longer still before these newly minted students grew to become a significant share of the workforce. That’s hardly the panacea for poverty that advocates claim.

In the interim, the country will need to rely on other strategies for growth. When properly trained talent constrains growth, as it does today, it requires persuading a greater share of America’s talent to undergo the training and to take the risks needed to be successful employers of the rest of America’s workforce.

Higher-Scoring International Schools Do Not Provide Persuasive Evidence of Inferior U.S. Schools

Claims that America can improve educational outcomes without the need for innovation hinge on the belief that American schools are

inferior to the schools of higher-scoring countries—like China, Japan, Korea, and Finland—and that America need only implement their proven methods to achieve similar results. But these claims ignore the fact that there are similarly large and persistent differences between American students descendant from those nations and the scores of other American students. Demonstrating that American schools are inferior requires finding alternate school systems with higher test scores for relevant statistically significant demographics. This simply isn't the case with international schools.

The median test scores of European-American students, for example, are virtually identical to the weighted-average scores of the native-born students in the countries of America's European origins. So, too, are the scores of Asian-American students.²

Some critics of American schools counter that because America's population originated with immigrants, Americans represent the cream of the crop of their native-born population—that is, those people best equipped to immigrate—and therefore their scores should be higher than their foreign counterparts. Wild speculation hardly proves that American schools are inferior. And even if it is true in some instances, there is plenty of evidence and counterexamples that dispute these wholesale claims.³

In many cases, immigrants come from lower socioeconomic families least equipped to immigrate. And given the sizes and multiple generations of America's demographic populations, it is hard to believe these American subpopulations could deviate much from their origin-country averages. Nor do early age scores, which correlate highly to later age scores, show the alleged superiority of Americans.

Perhaps the higher scores of Caucasian and Asian students both in the United States and abroad are evidence of institutional racism within American schools. If they are, America should endeavor to root it out. Nevertheless, differences in the scores of American students are not evidence of proven methods for rooting out institutional biases.

Moreover, the scores of American students with low socioeconomic status, measured by the number of books in their family's home, are higher than similarly disadvantaged students in France, Germany, and United Kingdom. However, a much higher share of American students have "low socioeconomic status"—20 percent in the United States—compared with 10 to 15 percent in other high-wage economies.⁴

As well, the scores of first-generation U.S. immigrants adjusted for socioeconomic status are the highest in the world. In fact, they are significantly higher than the scores of Finnish immigrants despite the much-touted high scores of native-born Finnish students.⁵

The only school systems with results for immigrants similar to America's are those in Canada and Australia, two countries with explicit immigration strategies for attracting and admitting highly educated or high-scoring immigrants. Today nearly 25 percent of Canadian schoolchildren have an immigrant background.⁶

If comparisons to international test scores reveal weaknesses in American schools, surprisingly, it's among students from families with the most academic resources. Among students from these families—families with top-scoring students—American scores are significantly below those of students from similarly advantaged families in France, Germany, and the United Kingdom.⁷ It is possible, however, that Americans with any given level of cognitive capability are richer, on average, than their European counterparts, and therefore have more resources, but that these additional resources do little to increase test scores.

Notwithstanding the possibility that Americans are superior and therefore ought to score higher than their international counterparts, international scores are not significantly different than the test scores of statistically significant demographics of American students, as some critics of American schools are so often quick to assert. Therefore, they cannot provide evidence of proven methods for improving test scores.

Serious comparisons with the rest of the world have lead the Economic Policy Institute, a nonprofit think tank dedicated to advocating for working-class families, to conclude:

Indeed, from such tests [i.e., comparisons with international test scores], many policymakers and pundits have wrongly concluded that student achievement in the United States lags woefully behind that in many comparable industrialized nations, that this shortcoming threatens the nation's economic future, and that these test results therefore demand radical school reform that includes importing features of schooling in higher-scoring countries.⁸

No surprise, the rest of the world doesn't appear to have any secret sauce that American educators have failed to replicate. The rest of the world appears to have neither superior pedagogical methods nor methods for overcoming the obstacles of implementing these methods in difficult environments—in inner-city schools, for example, where the most effective teachers may be reluctant to teach. Until large-scale alternatives with superior performance indicate otherwise, differences between the test scores of various demographics do not prove U.S. schools are inferior.

That is not to say that we should rest on our laurels and accept wide differences in performance between various demographics—far from it. Rather, we should recognize those differences must be closed largely through harder-to-find innovation, instead of through the implementation of proven methods already successfully implemented by other countries.

High Massachusetts Test Scores Probably Do Not Result from Superior Pedagogy

Recognizing that international comparisons don't substantiate what they purport to show, proponents of education reform point to Massachusetts—where test scores across all demographics and socioeconomic levels are among the highest in the world—as evidence that administrators can easily reconfigure public schools to produce higher scores.⁹ While comparisons with Massachusetts are more promising than international comparisons, they, too, are highly suspect.

While Massachusetts's students across all demographics and socioeconomic levels score higher than all other states' averages, the Massachusetts scores are higher when the children are first tested and then don't improve relative to other states as the children advance through school.¹⁰ That's hardly clear-cut evidence of superior schooling. If Massachusetts's teaching methods were superior, one would expect to find Massachusetts's students with similar scores as the rest of the country when they started school and their scores advancing relative to the country as they progressed through school.¹¹ We find no such evidence.

Statistics warns us that the further an outlier is from the mean, the more likely the evidence is unreliable—that it's not what it appears to be. So, if one examines the most promising results from fifty states, one needs to be skeptical about the significance of the results one finds at the tails of the distribution. It is likely the results appear significant for reasons other than the reasons you sought to measure and compare—in the case of Massachusetts, perhaps it has a population with an inherently different capability rather than superior educational methods.

Legitimate comparisons demand assurances of comparability, especially as we choose comparisons further away from the average. If Massachusetts demographics were comparable to the rest of the country, it would provide some assurance. Instead, we find the opposite. Massachusetts—the furthest outlier of fifty states—has demographics very unrepresentative of the rest of the country.

Massachusetts residential real estate prices are much higher. In 2014 the median owner-occupied home was \$330,000 versus \$175,000 nationally, for example.¹² That makes it more difficult for truly disadvantaged families—whose children score lower on average—to live there.

Other demographic evidence is consistent with this prohibition. Massachusetts has a median household income that's more than 25 percent greater than the rest of America's.¹³ And despite having more households where a language other than English is spoken in the home, it has fewer minorities.¹⁴ These differences indicate that comparisons with Massachusetts should be used cautiously and with skepticism rather than as solid proof that America need do little more than implement Massachusetts's proven methods, as advocates of education reform often do.

Demographic differences on their own don't explain why Massachusetts's test scores are higher across all demographics and socioeconomics. But given Massachusetts's prohibitive cost of living, its vibrant knowledge-oriented economy, and its relatively large number of colleges, college students, and recent college graduates, families with low incomes are more likely to be headed by students, recent college graduates, or newly arriving, highly skilled immigrants. The children of those families will score higher on average than truly disadvantaged families, independent of pedagogy.

To its credit, Massachusetts has achieved substantial improvements in scores over time. It was early to test students, to hold teachers and administrators more accountable for results, and to take other steps to improve outcomes. But if Massachusetts truly has methods for improving test scores that other states haven't considered or tried, we should be able to take its methods and repeat the results elsewhere. When someone finds a way to do that, rest assured, it will be headline news. Until then, Massachusetts remains an unexplained outlier.

The Benefits of Charter Schools Seem Limited

Recognizing that the Massachusetts example is of dubious value, many education reformers turn their attention to the performance of charter schools for evidence that schools can do more to improve the test scores of low-scoring students. Some charter schools, like the Knowledge Is Power Program (KIPP) academies, are having success improving the scores of students from historically low-scoring demographics. While their results, and the results of other charter schools that employ the fierce "no excuses" philosophy of KIPP, hold out guarded hope for implementing large-scale improvements without the need for new pedagogy, the alleged improvements are far less convincing than proponents of education reform would have the public believe.

In any statistical sample, one has to be very concerned that experimental results stem not from the effect of the treatment, but from the selection of participants to receive the treatment—what statisticians call selection bias. This is especially true in education, where conscientious parents work hard to secure the best education for their children.

Given the difficulties of gaining admission to many charter schools—having the interest, making the effort, and often winning one or more of several school lotteries—the pool of students seeking admission to charter schools skews heavily toward students with ambitious and conscientious parents. As a result, the test results of charter schools reported in the press overstate the true effect of charter schools on students, because the pool of students applying and accepting admission is different than the pool of public school students. No surprise, students who lose the lottery for charter school admission

and enroll in public schools significantly outperform their public school peers.¹⁵

Where students face lotteries with long odds to gain admission to sought-after charter schools, conscientious parents logically apply to multiple schools. Less conscientious parents may apply to only one or two schools. So the pool of students seeking admissions will be over-represented by students with very conscientious parents who have applied to multiple schools, no different than other competitive schools where students face long odds and therefore apply to many schools. Under those conditions, lotteries will further skew toward the students of the most conscientious parents.

A positive feedback loop is likely to ensue. Demanding charter schools often have long school days and academic calendars. They have strict, unforgiving codes of conduct. The strenuousness of these standards may scare off all but the most ambitious parents. No surprise, these schools' students score higher on tests, if for no other reason than selection bias.

Higher scores make the schools more desirable to the most ambitious parents. Conscientious parents flock to apply. This further skews the pool to students with parents who apply to a large numbers of schools. No surprise, only fierce, no-excuses, KIPP-like charter schools and schools with lotteries appear to outperform their public school counterparts systematically.¹⁶

Just as propagandists are quick to overlook alternative explanations for the best results out of fifty states, they are also quick to overlook selection bias. In fact, they often seek out hidden selection bias to add apparent statistical significance to otherwise insignificant results.

Sloppy statistical analysis is the provenance of propaganda, especially in economics, where, unlike in science, it is seldom possible to compare experimental outcomes to carefully designed control groups or other counterfactuals. Selection bias is the scourge of science. Hence, science demands randomized double-blind trials—where neither the subjects nor the researchers know which group is the experimental group and which group is the counterfactual control group. But the very thing scientific experiments endeavor to overcome—selection bias—fiercely drives real-world outcomes.

If I sound too cynical, consider another research area in which

natural results are seldom repeatable and where the conclusions are politically charged—climate change. In 2009 hackers revealed e-mails from the Climatic Research Unit (CRU) at the University of East Anglia that raised questions about the institution's objectivity. The British government called upon the independent Science Assessment Panel to investigate these claims. While the panel absolved the university, it found it "very surprising that research in an area that depends so heavily on statistical methods has not been carried out in close collaboration with professional statisticians."¹⁷ These findings are hardly reassuring of wholly unbiased research.

Serious researchers are aware of selection bias and take steps to make adjustments to compensate for its effects. But these adjustments are difficult to make. Students self-select by accepting admission to—and by dropping out of—charter schools. Those to whom charter schools offered admission but turn it down might accept non-public school alternatives more suitable to their capabilities, such as parochial schools. Those denied admission might make similar choices. And public school students who were denied admission are notoriously difficult to track because students from low-socioeconomic backgrounds change addresses often—much more often than their charter school counterparts, for example.

In studying charter schools, careful researchers like Massachusetts Institute of Technology's (MIT) Joshua Angrist, the godfather of selection bias, and his coauthors find the improved results of no-excuses schools may only be "relevant for the set of students who apply"—that is, students with the most ambitious parents. He cautions that the results "may be different for students not interested in attending," and that "no excuses" charter schools "may have little impact on middle-class children."¹⁸

With charter schools, educational innovators may have discovered an alternative for improving the performance of a select group of students—poor students with conscientious and ambitious parents. However, it is hardly clear that this innovation truly has wide-scale applicability for improving the educations of middle- and working-class students or even a large portion of the poor. And it's important to recognize that the National Association for the Advancement of Colored People (NAACP)—the parents most affected by charter

schools—opposes this sorting on the grounds that it removes the role models and leaders from their public schools.¹⁹

That's not to say that we shouldn't expand charter schools until the supply satisfies the demand of parents and endeavors to give each student the best education we can. But while charter schools may add value through rigorous discipline, a large portion of the value comes from allowing self-selection to separate the most promising students and educating them differently. Let's not kid ourselves—that's hardly a prescription for improving the education of the least-promising students.

If we do expand charter schools, we must not forget that we have a moral obligation to help the least-promising students, too. We must continue to search for and experiment with more effective ways to help these children.

Replacing the Least Effective Teachers May Be the Best Opportunity for Improvement

Given the limited applicability of charter schools, and the inability to find other proven pedagogy for achieving widespread improvement in test results, advocates of education reform have turned their attention to other avenues to find demonstrated improvement. A Jack Kent Cooke Foundation study, for example, claims students from families in the lower-income half who score in the top 25 percent on nationally normed standardized tests in first grade fall out of the top 25 percent by twelfth grade in greater numbers than their counterparts in the upper-income half.²⁰ The researchers see this as evidence that school environments and peer groups drag down the academic achievement of lower-income students who may otherwise be successful.

But the study also shows that the same percentage of twelfth graders from families in the lower-income half score in the top 25 percent as first graders from the lower-income half—an indication that environment may have minimal effect on test scores. Differences in the churn of students in the top 25 percent may stem largely from students in the lower-income half scoring closer to the 25 percent cut-off than students in the higher-income half. In that case, random fluctuations in test scores will cause a greater share of the population to cross back and

forth over the cut-off line. Unlike the conclusions of the Cooke Foundation study, the Angrist study of charter schools concludes: “Our findings for charter schools provide little support for this theory”—that is, for Richard Rothstein’s theory that “ambitions are contagious; if children sit next to others from higher social classes, their ambitions grow.”²¹

More promising work by Harvard’s Raj Chetty and his team shows that effective teachers can have an impact on the lifetime earnings of students, even though test score improvements achieved by these teachers fade quickly.²² The study finds that a Herculean one standard deviation improvement in teacher quality—that is, replacing a median teacher with an eighty-fifth-percentile teacher (for one year)—increases the net present value of a student’s lifetime earnings by 1.34 percent, or \$7,000 in 2010 dollars.*

The authors, however, leave methods for achieving such an improvement in teacher quality to the readers’ imagination. In fact, the study finds that because many teachers who would be effective without bonuses will be paid bonuses in order to retain a few additional effective teachers, “the expected benefit of offering a bonus to even an excellent (95th percentile) teacher is only modestly larger than the cost.”²³ That’s a troublesome finding given the study also finds the benefits of good teachers are substantially greater for students from high-socioeconomic families, and substantially less for students from low-socioeconomic families.²⁴ That wouldn’t improve outcomes for low-scoring students in a cost-effective way that advocates seek.

Instead, the study finds that “replacing ineffective teachers is more cost-effective than attempting to retain high value-added teachers.” As a result, it recommends firing teachers whose value-added scores—a measurement of their ability to improve test scores—are in the bottom 5 percent over a three-year period.²⁵ Unfortunately, firing tenured teachers has proved nearly impossible, at least so far, because of the politically powerful teachers’ unions.

One way to implement such a change more cost-effectively might be to pass a constitutional amendment banning teacher tenure in public schools. This may allow schools to replace the least effective

* The study does not address whether such improvements accumulate in subsequent years, or if once a student begins to achieve their full potential, the additional benefit of good teachers declines.

teachers more easily and at lower cost. There may be widespread support for such an amendment. Teachers aren't just union workers in a manufacturing shop. They are custodians of our children. Parents need some say in who teaches their children, when currently they have little. For the sake of our children, it is incomprehensible that schools don't have more leeway to fire incompetent teachers.

That's not to say that teachers' unions cause low test scores or that scores would improve if we fired large numbers of teachers. Without tenure, it is doubtful school systems would fire large numbers of teachers, just as companies rarely fire large numbers of below-average workers. It's just not practical to run organizations that way. But at least we could fire incompetent teachers more easily.

Preschool Appears to Be Less Effective Than Advocates Claim

Given the difficulty of demonstrating the effect of schooling on test scores, advocates of education now claim that we can achieve substantial improvements in scores by investing in preschool education and by spending more to surround young children with a community of government support outside of school. There is scientific evidence, for example, that the brains of young children are highly plastic. It is presumed this plasticity can be manipulated to produce higher scores and more successful adults. This has led to a concern that three-year-old children from high-socioeconomic families hear as many as 30 million more accumulated words as similarly aged children from low-socioeconomic families, and that this has a large impact on the cognitive capabilities of children later in life.²⁶

But here again, the evidence that we need only implement proven methods is discouraging. Head Start—a large government-run preschool program for children from low-socioeconomic families—has produced little, if any, improvement in test scores. Instead, score improvements fade out quickly, just as they seem to in other programs. And the highly regarded Harlem Children's Zone—which provides what it describes as an “unprecedented scale”²⁷ of support, from the earliest years of childhood through its charter school and into

college—seems to achieve no improvement beyond what's achieved in any no-excuses charter school alone according to the Brookings Institution.²⁸

The Brookings Institution's report concludes:

There is no compelling evidence that investments in parenting classes, health services, nutritional programs, and community improvement in general have appreciable effects on student achievement in schools in the U.S. Indeed there is considerable evidence in addition to the results from the present study that questions the return on such investments for academic achievement. For example, the Moving to Opportunity study, a large scale randomized trial that compared the school outcomes of students from poor families who did or did not receive a voucher to move to a better neighborhood, found no impact of better neighborhoods on student academic achievement. The Nurse-Family Partnership, a highly regarded program in which experienced nurses visit low-income expectant mothers during their first pregnancy and the first two years of their children's lives to teach parenting and life skills, does not have an impact on children's reading and mathematics test scores. Head Start, the federal early childhood program, differs from other preschool programs in its inclusion of health, nutrition, and family supports. Children from families enrolled in Head Start do no better academically in early elementary school than similar children whose parents enroll them in preschool programs that do not include these broader services. Even Start, a federal program that combines early childhood education with educational services for parents on the theory that better educated parents produce better educated kids, generates no measureable impact on the academic achievement of children.²⁹

This is hardly evidence of proven methods—quite the opposite. It indicates the improvements are hard to produce and that we lack proven methods.

While these efforts may not close test-score gaps, there is nevertheless evidence that early childhood intervention, and intervention generally, improves productive behavior in adulthood. The Perry

Preschool Study—a 1960s study that randomly assigned 58 three- and four-year-old low-income African American children who were assessed as being at high risk of school failure to a high-quality preschool program and then continued to track the children to the present day—often serves as the cornerstone for these claims.³⁰ While the program achieved significant lifetime results, nearly 90 percent of the program's value to the public came from reducing crime through prevention—hardly a validation of the value of preschool for the vast majority of children who are very unlikely to commit crimes.³¹

Moreover, it is unclear how much of the crime reduction came not from the program but from the well-recognized Hawthorne effect—in which individuals improve aspects of their behavior in response to their awareness of being observed.³² If the children were singled out on a large scale as children likely to grow up and commit crimes, it's not clear whether the attention would have the same positive effect on behavior.

A recently published study by Vanderbilt University of Tennessee's state-funded Voluntary Pre-K Program, which randomly assigned one thousand economically disadvantaged children to the program and a control group, found that by the end of the third grade, the children attending preschool performed significantly worse on cognitive and behavioral tests than children who did not attend the program.³³

That's not to say a properly designed preschool program wouldn't be beneficial. But the report concludes:

It is not at all obvious that the rush to implement pre-k programs widely without the necessary attention to the quality of the program provides worthwhile benefits to children living in those disadvantaged environments. . . . Scaling up pre-k programs quickly could lead to badly run programs that might, in fact, be worse than doing nothing.³⁴

A metastudy of 35 high-quality studies of ten much-studied preschool programs found that only half the studies used randomized control trials, the so-called gold standard of research. Of those, only three found statistically significant positive long-term results. But none of those results was linked to school-based pre-K.³⁵ The study concludes:

We know that parents and early environments play by far the most crucial role in shaping a child's development. . . . At the same time, we do *not* know whether school-based pre-K programs actually affect the outcomes that really matter. . . . Our current knowledge is insufficient to justify a large expansion of pre-K as the best path forward. And the growing pre-K push may well do more harm than good by diverting attention and scarce resources from other more effective approaches.³⁶

It is no surprise that advocates of education reform shift the argument from the "known"—college and grammar school education, where there is a growing volume of not very persuasive evidence—to the largely "unknown"—preschool and early childhood development, where evidence is currently scarce. Human nature uses sound reasoning to work backward from one's desired conclusions to a set of defensible foundational beliefs—namely, unprovable beliefs. In effect, people search for unprovable beliefs upon which to build sound arguments that reach their desired conclusions.

Diamond and Saez's assumption that taxes have no long-term effect is an example.³⁷ They can make an audacious assumption like that because no one can prove otherwise.

Years of research and debate gradually clarifies and narrows the boundaries around unprovable beliefs. Serious economists on opposite sides of the political divide can legitimately hold opposing views because there are different unprovable beliefs supporting opposing conclusions. People outside of the profession, however, often unwittingly stand outside these boundaries.

Unfortunately, people often cling to whatever unprovable beliefs are necessary to reach the conclusion they seek, no matter how far-fetched those beliefs may be. Ultimately, we must judge the reasonableness of unprovable beliefs without the benefit of more definitive research.

As research gradually disproves education-related myths, it forces advocates of education reform to find new unprovable beliefs upon which to stand. Preschool and early childhood development currently provide such ground in education.

While preschool education may prove to be the key to improving educational outcomes for low-scoring students, currently it is anything

but a proven solution that warrants wide-scale investment without equivocation. In truth, it's currently a promising but unproven area for further research.

We Shouldn't Count on Improvements to Grade School Education for Growth

Despite decades of efforts to improve primary and secondary school educations, and spending per pupil that rivals the highest-spending economies of the world, even for the poorest students, there is little compelling evidence—besides military academy-like, no-excuses charter schools, which the NAACP opposes—that we can significantly improve the academic outcomes of low-scoring students.³⁸ In *Scientific American*, Grover Whitehurst, now the director of the Brown Center on Education Policy at the Brookings Institution, recalls a call he received in 2002 from the superintendent of a predominantly minority school district asking him to suggest a math curriculum that had been proved effective for his students: “I said, ‘There isn’t any.’”³⁹

Bill Gates, the wealthiest person on the planet, who has rolled up his sleeves and tried to improve education for years through his foundation, recently said:

The trends are that education hasn't improved much in the United States over the last 50 years. . . . A lot of . . . technology . . . tends to empower motivated students more than unmotivated students. And one thing the U.S. has a lot of, is . . . unmotivated students. . . . People [ask], ‘What’s the hardest thing our foundation’s working on . . . malaria, TB, AIDS?’ I always say ‘U.S. education.’⁴⁰

Even Paul Krugman recognizes that education is not the panacea its proponents make it out to be. Krugman argues:

What one still hears from many people inside the Beltway . . . is the continuing urge to make . . . a story about the skills gap, of not enough workers having higher education or maybe the right kind of education. . . . But . . . since [the 1990s] wages of the highly educated have

stagnated. Why on earth are we still hearing the same rhetoric about education as the solution to inequality and unemployment? The answer, I'm sorry to say, is surely that it sounds serious. But, you know, it isn't.⁴¹

If further investments in education had a demonstrated ability to raise test scores and lead students to more productive behavior in adulthood, surely Krugman wouldn't deride "rhetoric about [improving] education" by saying it "sounds serious. But . . . it isn't."⁴² Summers wouldn't be describing it as little more than "whistling past the graveyard."⁴³ And Gates wouldn't be saying "it's easier to cure malaria."⁴⁴

It's not surprising that large-scale programs have had limited effects on the outcomes of children. Several metastudies of nearly three thousand twin studies published by *Nature* finds that shared environment—the environment we control—currently accounts for less than 20 percent of the variation in cognitive and behavioral traits.⁴⁵ That's not to say that some as-yet-unidentified curriculum couldn't have a larger effect on learning, only that modest improvements to current approaches, which have limited effects, will have a small impact.

Harvard economist Greg Mankiw brings the dilemma into sharper focus. He argues:

One might wonder how much of the income inequality we observe can be explained by differences in the resources that people get because of varying parental incomes.

Let me suggest a rough calculation that gives an approximate answer.

The recent [Chetty] paper ⁴⁶ finds that . . . 91 percent of the variance [in the income of adult children] is unexplained by parents' income.

I would be willing to venture a guess, based on adoption studies, that a lot of that 9 percent is genetics rather than environment. . . . Conservatively, let's say half is genetics.

If we had some perfect policy invention (such as universal super-duper pre-school) that completely neutralized the effect of parents' income, we would reduce the variance of kids' income to .955 of what it now is. This implies that the standard deviation of income would fall to 0.977 of what it now is.

The bottom line: Even a highly successful policy intervention that neutralized the effects of differing parental incomes would reduce the gap between rich and poor by only about 2 percent.⁴⁷

And, as Bill Gates fears, any improvements we do find will probably benefit the children of motivated parents and parents with the resources to take advantage of these improvements the most.

That doesn't mean we shouldn't continue to search for improvements. Childhood education is surely an area where the private sector will underinvest. Government research and involvement is critical to progress. Early childhood brain plasticity is real. And no one knows much about it yet. The world will benefit from running many experiments in an effort to find new insights in this field of endeavor. That said, we shouldn't roll out nationwide change for the sake of change by pretending that there are effective off-the-shelf methods we need only implement.

There Seems to Be Promising Opportunities to Accelerate Growth with Education

Unfortunately, widespread improvements to America's preschool and grade school education appears to be difficult and unlikely to be achieved without innovation. Unlike the rest of the economy, educational innovations have been very slow in the making. Perhaps the government's monopoly on education has slowed innovation. But we see surprisingly little progress regardless. If educational innovations were easier to find, we should expect more pockets of success and faster progress.

Regardless of the difficulty, we must strive to find more innovation and use whatever we find. Education is too important to neglect. Today they are several promising avenues for improvement. Online learning, while nascent, looks very promising. Vocational education may prove more effective than traditional education for many students at all levels of education. At the highest skill levels, for example, it is hard to see how more history majors serve the needs of America well. And the evidence seems to suggest that America is squandering some of the value of high-scoring students from lower-socioeconomic families.

Perhaps fifty years ago, America could afford to waste some of its opportunities—not anymore.

Online learning is one area that may hold great promise for primary, secondary, and higher education. Children miss portions of their lessons for a variety of reasons—boredom, illness, changing addresses, unreliable caregivers, and difficulties with learning. With a classroom full of children, teachers don't have time to go back and teach each individual child who misses a particular point.

As a practical necessity, passing grades allow for plenty of unlearned lessons. But unlearned lessons have a compounding effect, because successive lessons build on prior learning. To catch up, struggling students must often suffer embarrassment in front of their peers when seeking remedial help.

Online learning allows student testing to do more than just rank students and assess teachers. It allows for the delivery of flexible curricula that uniquely adjust to each student's needs. And it can deliver this additional teaching without embarrassing students in front of a classroom.

We should also recognize that on-the-job training likely plays a far greater role in increasing a worker's productivity than formal education.⁴⁸ Rather than trying to prepare all children for college—a goal that is out of reach for many students who struggle to graduate from high school—preparing students to succeed at work may be a more logical goal. Perhaps inculcating values that eschew dependency, instill pride in one's work, and increase reliability, cooperation, and sobriety may be more valuable to many workers than math and science. Learning how to do a specific job and how to speak English more effectively might be more valuable than other academic subjects for many students, too.

With 30 percent of African Americans ages sixteen to twenty-four without high school diplomas—nearly double their white peers—at the very least we should be running many experiments to find better alternatives to the current pedagogy.⁴⁹ Providing guidance for at-risk students and working with low-wage gateway employers as those students transition into the workforce—perhaps in conjunction with an earned income tax credit that allows employers to lower wages, which makes increased employment more economical while workers earn more—may be a better way to spend money at the margin than traditional education.

Even more important is making sure that talented Americans

are endeavoring to create a robust demand for the work of their less fortunate compatriots. Thirty or forty years ago, America could afford to misallocate a large share of its talent and still grow faster than the rest of the world. Back then, America supplied roughly 30 percent of the world's college graduates—not anymore.⁵⁰ Much of the world has caught up. Harvard economist Robert Barro's analysis reveals that over the last decade, America supplied only 10 percent of the increase in the world's college graduates.⁵¹ Continued success in a world with \$3-an-hour labor will demand America train its talent more wisely.

Today properly trained talent constrains growth, competitiveness, and wages. Despite the moral obligation of the most talented people to use their talents for the greatest benefit to others, there are armies of top-scoring college students studying curricula where the supply of graduates far outstrips the demand—psychology, sociology, history, and humanities—rather than business, math, and science, which are critical to addressing the needs of others. And there are vast armies of tenured college professors teaching these overdemanded subjects, so shifting supply and demand is likely to be very gradual.

Contrary to popular belief, U.S. employment growth isn't outpacing other high-wage economies because of growing employment in small businesses. Europe has plenty of small family-owned businesses. U.S. growth is driven by small companies that grow large, predominantly successful high-tech start-ups, such as Google, Microsoft, and Apple, which have spawned large industries around them.⁵² A combination of business and technical skills are critical to the success of these faster-growing companies.

A Ewing Marion Kauffman Foundation survey of over five hundred engineering and tech companies established between 1995 and 2005 reveals that 55 percent of the U.S.-born company founders held degrees in science, technology, engineering, or mathematics, so-called STEM-related fields. Over 90 percent held terminal degrees in STEM, business, economics, law, and healthcare. Only 7 percent held terminal degrees in other areas—only 3 percent in the arts, humanities, or social sciences.⁵³ It's true some advanced-degree holders may have earned undergraduate degrees in humanities, but they quickly learned humanities degrees alone offered inadequate training to meet the demands of customers, and they returned to school for more technical degrees.

Other studies reach similar conclusions. A study by Stanford economics professor Charles Jones estimates that 50 percent of the growth since the 1950s comes from increasing the number of scientific researchers relative to the population.⁵⁴ A recent study from University of California, Davis, economics professor Giovanni Peri and Colgate economics associate professor Chad Sparber finds the small number of “foreign scientists and engineers brought into this country under the H-1B visa program have contributed to 10%–20% of the yearly productivity growth in the U.S. during the period 1990–2010.”⁵⁵ Another study finds that as of January 1, 2016, immigrants have started more than half of the eighty-seven U.S. unicorns—privately held U.S. start-ups tracked by the *Wall Street Journal* and Dow Jones VentureSource valued at \$1 billion or more.⁵⁶

Despite the outsized importance of business and technology to America’s economic growth, colleges awarded nearly half of all recent bachelor’s degrees in the 2010–2011 academic year in fields outside these areas of study.⁵⁷ Critical thinking is valuable in all forms, but it is more valuable when applied directly to the most pressing demands of society.

At the same time, U.S. universities expect to graduate a third of the computer scientists our society demands, according to a study released by Microsoft.⁵⁸ Companies have bridged the talent gap in the information-technology sector with non-computer science majors, according to a report by Daniel Costa of the Economic Policy Institute.⁵⁹ The study finds that the IT sector has recruited two-thirds of its talent from other disciplines—predominately workers with other technical degrees. But with the share of top-performing U.S. students earning STEM-related degrees declining sharply over the last two decades, the industry has turned to foreign-born workers and, increasingly, off-shore workers to fill its talent needs.⁶⁰ While American consumers will benefit from discoveries made in other countries, discoveries made and commercialized here have driven and will continue to drive demand for U.S. employment, both skilled and unskilled, at least indirectly through growing consumption.

University of California, Berkeley, economics professor Enrico Moretti estimates each additional high-tech job creates nearly five jobs in the local economy, more than any other industry creates.⁶¹ Unlike

a restaurant, for example, high-tech employment tends to increase demand overall rather than merely shifting employment from one competing establishment to another. If talented workers opt out of valuable training and end up underemployed, not only have they failed to create employment for other less talented workers, they have taken jobs those workers likely could have filled.

Students need not study technology to increase their productivity. The economy also needs armies of salesmen and supervisors who can be more effective with trained interpersonal skills. These skills are critical for increasing the productivity of lesser-skilled workers. But who goes to college with dreams of becoming a salesman or a supervisor, and how many professors are eager to develop expertise in these areas of knowledge so they can impart them?

In large part, the higher pay of highly paid talent stems from the unwillingness of talented people to suffer and endure the arduous training and work that adds value to others. For selfish reasons, talented people with choices often prefer to pursue careers that are more fun and interesting and to avoid taking risks that jeopardize the comfort of their careers. Pay for sought-after talent and risk-taking is set at the price of persuading one more talented person to join these efforts.

Ironically, we complain about growing income inequality by demanding higher taxes on the income of successful workers and risk-takers without ever admonishing talented students who have turned away from higher pay to fulfill their moral obligation to use their talent for the benefit of others. In fact, society tells students that pursuing noncommercial endeavors is the higher calling. A better strategy would do the opposite—praise hard work and risk-taking that serves others, especially customers, and rebuke underutilized talent.

In the absence of such a cultural awakening, the government—the largest financer of college educations—could take the lead on driving changes in the studies of students by restricting what educations the government is willing to finance. That doesn't mean the government would stop financing all history degrees. Rather, it would restrict financing to the number of historians demanded by the market, rather than by the students and their faculty influencers.

Free market purists may recoil at the notion of central planning, but the government already largely finances public universities. Naive

young students are horrible at matching their studies to the demands of the job market. College professors are largely driven by academic research, not undergraduate job training. Where properly trained talent is one of our economy's binding constraints, perhaps America would benefit from less of a *laissez-faire* approach to education. Besides, there is plenty of opportunity to attend private schools to pursue whatever students choose.

The availability of faculty to teach a rebalanced curriculum is a major obstacle to implementing wholesale changes to the majors America's universities graduate. But again, online learning may offer a low-cost opportunity to expand the reach of the curriculum, and of the professors most effective at delivering it.

Another large opportunity for harvesting America's underutilized talent and putting it to work creating more productive jobs for others is finding top-scoring students who have not graduated from college and training them to be better job creators. For top-scoring students, the value of additional college-level training is likely greater than mere credentialing.

According to the National Center of Education Statistics' longitudinal study of students in 2002, 74 percent of high school sophomores from families in the top quartile of income who score in the top 25 percent graduate from college with at least a bachelor's degree. Only 41 percent of top-scoring students from families in the lowest quintile earn bachelor's degrees or higher. Similarly, only 53 percent of top-scoring students in the middle two quintiles earn bachelor's degrees or higher.⁶² Finding a way to increase the graduation rate of top-scoring, middle- and low-income students to the same rate as the top income quartile would increase top-scoring college graduates by 20 percent.

There may be a variety of hard-to-solve reasons unrelated to education why some low-income families with high-scoring children are unable to earn more money. These reasons may correlate with the lower college graduation rates of their children. Alcoholism and other self-defeating behaviors, for example, are often passed from one generation to the next.

As well, the high scores of lower-income children are likely to be closer to the seventy-fifth percentile, on average, than the high scores of

upper-income children. The college graduation rate of lower-scoring, high-income children is lower, too.

For these reasons, perhaps we can capture only half of the apparent improvement in graduation rates—a 10 percent increase in top-scoring college graduates instead of 20 percent. Even half of *that* is still a big increase in the productive capacity of America.

In a world where properly trained talent constrains growth and improving academic scores has proved difficult, investing to train more job creators and helping young at-risk workers transition to work may be a better way to spend money on education, at least at the margin, than the way money is currently spent. Again, running experiments to find ways to improve education may be more valuable than pouring more money into programs that have not been very effective.

Conclusion

Time and again, we are told that American education is inferior and that improvement is the key to growing the economy, alleviating poverty, and reducing income inequality. Low test scores are troubling. American schools are clearly failing the most disadvantaged students. And higher scores would surely accelerate growth if America could produce them. But despite the higher scores of some other nations, there is scant evidence that America can implement proven off-the-shelf curriculum to achieve better results. Innovation is needed. We should bust our pick searching for it. But improvement via innovation has proved hard to achieve. Wishful thinking, as seductive as it is, is not a strategy. Believing the evidence and making the investments that it supports is the key to success.

The single biggest improvement America could make to grade school education is firing incompetent teachers. To make improvements, we simply have to run schools on behalf of students, and not teachers. Sadly, it may require a constitutional amendment banning tenure. I wouldn't hold my breath if I were you.

Tough, no-excuses charter schools may not be a panacea for every at-risk child, but they are for many of them, especially the ones with conscientious parents. America should expand charter school capacity until any parent who wants their child to attend can do so. Having

their child attend an effective charter school ought to be a parent's God-given right, even if the NAACP prefers otherwise.

Rather than pouring more money into America's antiquated education systems, we should be running a multitude of experiments to find solutions that work. Improvements to America's educational practices likely require innovation and not merely the implementation of proven methods that haven't worked well. This may include better preparing lower-scoring students to work more effectively so they create opportunities to learn on the job rather than teaching subjects that seem to do them little good. It may also entail working with low-wage gateway employers to help at-risk students find and hold jobs. Online learning may provide a more cost-effective way to deliver much-needed curricula, especially in a world where the old curricula and teachers may be growing increasingly obsolete.

But even if we do find and implement breakthroughs, it wouldn't begin to have much effect on our workforce for twenty years. Nor will it fully suffuse the workforce until twenty years after that.

While we continue to search for better methods, our strategy today should be to use America's scarcest and most valuable resource—its talent—more effectively. We already know how to do that.

In an economy whose growth is constrained by properly trained talent, training talented students to create productive jobs for their fellow Americans is, by far, the most impactful strategy for using education to improve the economy. The success of America's top students increases the rest of America's productivity and raises standards of living for generations to come.

Perhaps the fastest way to effect change is for the government to stop subsidizing students to study subjects where the supply of graduates far exceeds the demand—history, for example—and pay students more to study curriculum that creates jobs. Currently, there is an enormous mismatch between what students choose to study and what people need them to study.

Nor are talented lower-income students earning bachelor's degrees at the same rate as higher-income students. In today's more technology-driven economy, where the rest of the world's talent grows increasingly competitive, America can no longer afford to waste such an enormous share of its talent.

This education agenda is achievable without the need for innovation. It would accelerate growth, albeit modestly, without budget-busting spending increases of dubious value. It's disappointing that America lacks the will to implement it. And even if it is implemented, America can do more to accelerate growth.

Chapter 8: Our Moral Obligation to Help Those Less Fortunate

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