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## **Economic Research:**

# How Increasing Income Inequality Is Dampening U.S. Economic Growth, And Possible Ways To Change The Tide

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## **Economic Research:**

# **How Increasing Income Inequality Is Dampening U.S. Economic Growth, And Possible Ways To Change The Tide**

The topic of income inequality and its effects has been the subject of countless analysis stretching back generations and crossing geopolitical boundaries. Despite the tendency to speak about this issue in moral terms, the central questions are economic ones: Would the U.S. economy be better off with a narrower income gap? And, if an unequal distribution of income hinders growth, which solutions could do more harm than good, and which could make the economic pie bigger for all?

Given the decades--indeed, centuries--of debate on this subject, it comes as no surprise that the answers are complex. A degree of inequality is to be expected in any market economy. It can keep the economy functioning effectively, incentivizing investment and expansion--but too much inequality can undermine growth.

Higher levels of income inequality increase political pressures, discouraging trade, investment, and hiring. Keynes first showed that income inequality can lead affluent households (Americans included) to increase savings and decrease consumption (1), while those with less means increase consumer borrowing to sustain consumption...until those options run out. When these imbalances can no longer be sustained, we see a boom/bust cycle such as the one that culminated in the Great Recession (2).

Aside from the extreme economic swings, such income imbalances tend to dampen social mobility and produce a less-educated workforce that can't compete in a changing global economy. This diminishes future income prospects and potential long-term growth, becoming entrenched as political repercussions extend the problems.

Alternatively, if we added another year of education to the American workforce from 2014 to 2019, in line with education levels increasing at the rate of educational achievement seen from 1960 to 1965, U.S. potential GDP would likely be \$525 billion, or 2.4% higher in five years, than in the baseline. If education levels were increasing at the rate they were 15 years ago, the level of potential GDP would be 1%, or \$185 billion higher in five years.

Our review of the data, as well as a wealth of research on this matter, leads us to conclude that the current level of income inequality in the U.S. is dampening GDP growth, at a time when the world's biggest economy is struggling to recover from the Great Recession and the government is in need of funds to support an aging population.

## Overview

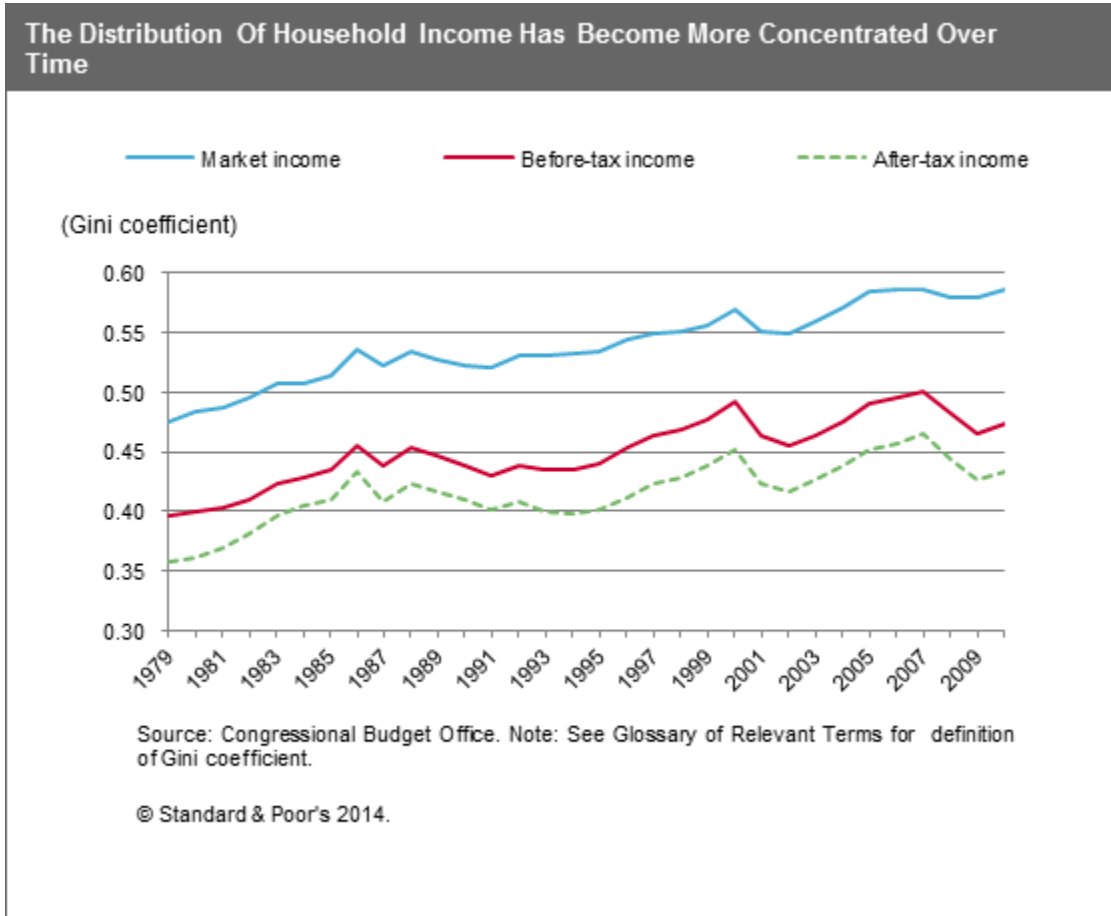
- At extreme levels, income inequality can harm sustained economic growth over long periods. The U.S. is approaching that threshold.
- Standard & Poor's sees extreme income inequality as a drag on long-run economic growth. We've reduced our 10-year U.S. growth forecast to a 2.5% rate. We expected 2.8% five years ago.
- With wages of a college graduate double that of a high school graduate, increasing educational attainment is an effective way to bring income inequality back to healthy levels.
- It also helps the U.S. economy. Over the next five years, if the American workforce completed just one more year of school, the resulting productivity gains could add about \$525 billion, or 2.4%, to the level of GDP, relative to the baseline.
- A cautious approach to reducing inequality would benefit the economy, but extreme policy measures could backfire.

We see a narrowing of the current income gap as beneficial to the economy. In addition to strengthening the quality of economic expansions, bringing levels of income inequality under control would improve U.S. economic resilience in the face of potential risks to growth. From a consumer perspective, benefits would extend across income levels, boosting purchasing power among those in the middle and lower levels of the pay scale--while the richest Americans would enjoy increased spending power in a sustained economic expansion. Policymakers should take care, however, to avoid policies and practices that are either too heavy handed or foster an unchecked widening of the wealth gap. Extreme approaches on either side would stunt GDP growth and lead to shorter, more fragile expansionary periods.

## Is Income Inequality Increasing?

Several institutions, including the Organisation for Economic Co-operation and Development (OECD), the Congressional Budget Office (CBO), and the International Monetary Fund (IMF), have published studies showing that income inequality has been increasing for the past several decades (3). According to a 2011 review by the OECD, the average income of the richest 10% of the population is nine times that of the poorest 10%--in other words, a ratio of 9-to-1. The U.S. ratio is much higher, at 14-to-1 (4). The U.S. Gini coefficient, after taxes, has increased by more than 20% from 1979--to 0.434 in 2010 (see chart 1).

Chart 1



Although a 2011 CBO report demonstrated that real net average U.S. household income grew 62% from 1979-2007, household income growth was much more rapid at the higher end of the income scale than at the middle and lower end. Revisiting the issue in 2013, the CBO showed that after-tax average income soared 15.1% for the top 1% from 2009 to 2010--but grew by less than 1% for the bottom 90% over the same time period, and fell for many income groups (5). Additionally, although the Census Bureau estimates that real mean household income increased 0.2% in 2011 and 2012, it declined for all groups other than those in the top fifth of earners (6).

This concentration of household income follows a long period in which income concentration remained relatively flat. Using U.S. tax returns, economists Thomas Piketty and Emmanuel Saez found that income concentration dropped dramatically following both World Wars and was roughly unchanged for the next few decades (7). It started climbing again in 1975, reaching pre-World War I levels by 2000--and Saez later observed that U.S. income inequality has now reached levels not seen since 1928 (8). In both cases, a similar pattern was in evidence--a boom in the financial sector, over-leveraged lower-income households, a massive, systemic financial crash--and the two worst economic slumps in U.S. history, the Great Depression and Great Recession, followed.

## When Ends Don't Meet

A few factors help explain the concentration within so-called "market income," which consists of labor income (wages and salaries, plus employer-paid benefits), capital income (excluding capital gains), business income, capital gains, and other income--all before government taxes and transfers (see Glossary for full definition).

The first reason is relatively simple: All these sources of income are less evenly distributed now than a few decades ago. In 1979, the bottom four-fifths of the income spectrum earned nearly 60% of total labor income, about 33% of income from capital and business, and about 8% from capital gains. By 2007, the bottom four-fifths share of labor income had dropped to less than 50%, income from capital and business had decreased to 20%, and capital gains fell to about 5%. In other words, all sources of income were less evenly distributed in 2007 than in 1979 (9).

Some point to the "superstar status" effect, with professional athletes and movie actors enjoying astronomical increases in earnings in the past few decades, helped by technological innovation that broadened their reach across global markets and a "winner take all" phenomenon.

Another "superstar" is the "super managers." Piketty argues that the "primary reason for increased income inequality in recent decades is the rise of the super managers in both the financial and nonfinancial sectors," finding that about 70% of the increase in income going to the top 0.1% from 1979 to 2005 came from increasing pay for those professionals (10). Other studies show that, since the 1990s, deregulation, corporate governance, and a greater reliance on equity options in executive compensation contributed to the compensation gap (11).

Another explanation of market income concentration is technological innovation. This phenomenon boosted the value of high-skill workers, enhancing their productivity and growth, while rendering some low-skill workers superfluous. As automation and production efficiencies have reduced the need for labor in mid-level professional or service jobs, wages have fallen, and occupations requiring a college degree typically offer double the salary of those requiring a high school diploma or less.

Other arguments suggest international trade and increased immigration--as well as the decrease in unionization--may also dampen wages of domestic workers. However, research on the trade effect has been inconclusive, while the impact from increased immigration on domestic wages has been modest (see "Adding Skilled Labor To America's Melting Pot Would Heat Up U.S. Economic Growth," published March 19, 2014, on RatingsDirect) (12). Meanwhile, some research has shown that the sharp decline in the unionization in the country, especially in the 1980s, has had a small but measurable impact on the overall increase in inequality for men over the last few decades (13).

The juxtaposition of slow or stagnant federal minimum wage growth and soaring compensation at the higher end of the labor income scale is another factor to consider. The minimum wage, which has held at \$7.25 an hour since July 2009, has suffered a decline in purchasing power for almost half a century--peaking in 1968, when it was at \$1.60, or just shy of \$11 in today's money.

## **Not Just The Fruits Of Our Labor**

Though the share of income from labor and capital, excluding capital gains, has decreased, the share coming from capital gains and business income has increased over time. In particular, inherited wealth has increased since the World Wars and the Great Depression, as Thomas Piketty has shown (14), and with it the earnings from that wealth. This trend is important because labor income tends to be distributed across income levels more evenly than capital gains--so a shift in income composition can significantly affect inequality.

While labor income accounted for nearly three-fourths of market income from 1979-2007, that figure had dropped to two-thirds by 2007. Capital income (excluding capital gains) is the next largest source, but even at its 1981 peak, it represented only 14% of market income before falling to about 10% of total income in 2007. Conversely, income from capital gains rose, doubling to approximately 8% of market income in 2007 from about 4% in 1979. Business income and income from other sources (primarily private pensions) each accounted for about 7% of total income in 2007, up from about 4% each.

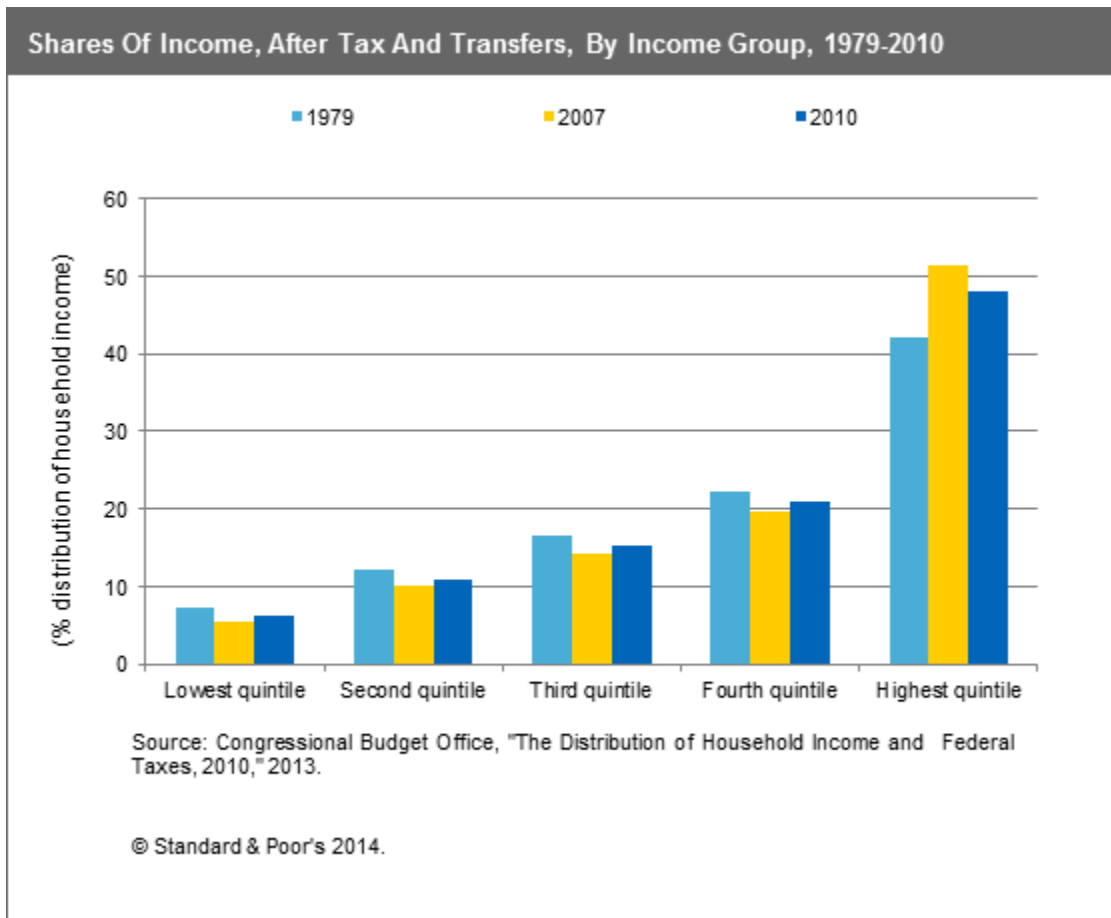
In addition, capital income has become increasingly concentrated since the early 1990s--and, despite declines in 2001 and 2002, concentration spiked from 2003 through 2007, with more than 80% of the capital gains realized by the top 5% of earners going to the top 1% alone (15). Capital gains also have become increasingly concentrated and are tied with business income as the most concentrated income source.

## **The Impact Of Government Policy**

Government policies on taxation and government transfers, such as Social Security and Medicare, have done little to reduce income inequality--and may have contributed to a further widening of the gap.

Because government transfers and federal taxes are progressive, the distribution of net household income (after transfers and federal taxes) is more evenly balanced than the distribution of market income. That said, at the federal level, the equalizing effect of transfers and taxes on household income was smaller in 2007 than it had been in 1979. The CBO estimates that the dispersion of market income grew by about one-quarter from 1979-2007, but the dispersion of after-tax income grew by about one-third (16). The distribution of after-tax income in 2010 became slightly more even among different groups than before-tax income, though the dispersion of after-tax income in 2010 remained wider than in 1979 (see chart 2) (17).

**Chart 2**



While the size of transfer payments rose by a small amount from 1979-2010, the distribution of transfers shifted away from households in the lower part of the income scale. The bottom 20% of households received only 36% of transfer payments in 2010, after receiving 54% in 1979 (18). This was largely because of the growth in spending on programs for the elderly (such as Social Security and Medicare), and benefits of these programs aren't limited to low-income households. Benefits for other programs that largely benefit the poor were also reduced (19). In addition, tax expenditures mostly benefit the affluent: Tax credits and tax deductions benefit those more at higher tax rates.

Changes in federal government tax policy have also exacerbated income inequality in recent decades (20). According to the CBO, the average rate for each income group in 2012 was below the rate that prevailed for that group in the 1990s and most of the 2000s even with the increases in average federal tax rates in 2010 (21). Indeed, the federal income tax rate for the top income earners fell to 35% in 2012 from 70% in 1979, while the government didn't reduce the payroll tax rate until the temporary Payroll Tax Holiday of 2010 (22). Keep in mind that the payroll tax that funds Social Security is levied on pay below a certain threshold (\$117,000 this year). In practice, this means that those earning less than the cap pay a higher rate of Social Security tax than those who earn more than the cap. So, the composition of federal revenues has shifted away from progressive income taxes to less-progressive payroll taxes, and income taxes have become slightly more concentrated at the higher end of the income scale.



Increasing income inequality also poses a risk to certain states' finances, given the correlation between income inequality and revenue volatility in the slow growth after the Great Recession. According to Gabriel Petek, credit analyst at Standard & Poor's, the volatility of tax revenue seems to be increasing despite the states' less-progressive tax structures--suggesting that income inequality as a macroeconomic issue can translate to credit implications for states.

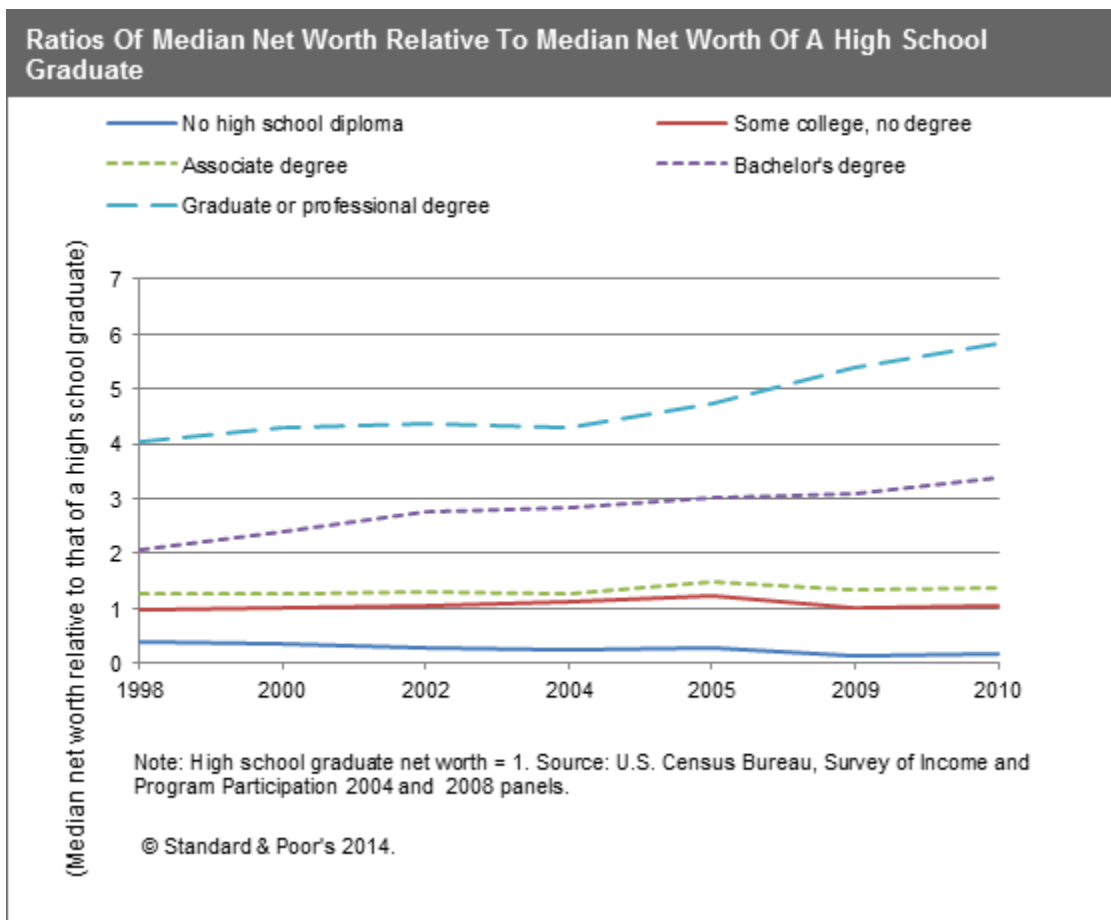
## **Undereducated Workers: Both Today's And Tomorrow's**

Technological achievement has saved us time and reconfigured our daily routines, allowing us to focus on our own skills and boosting productivity and growth. These advances are naturally disruptive in the beginning as workers adjust; that disruption becomes alarming when people don't have the means to adapt, making a lasting impact on career development.

Although the U.S. has been fairly quick to adapt in the past, today's workers have been left behind by technological change. Indeed, while recent advances now require many workers to have graduated from college, the supply of college-educated workers hasn't kept up with demand--and even the fraction of high school graduates has stopped climbing.

This education gap is a main reason for the growing income divide, and it affects both wages and net worth. From a wage perspective, occupations that typically require postsecondary education generally paid much higher median wages (\$57,770 in 2012)--more than double those occupations that typically require a high school diploma or less (\$27,670 in 2012). Further, those with a bachelor's degree had a median net worth value nearly twice that of people with a high-school diploma in 1998--climbing to almost 3.5 times greater by 2010 (see chart 3) (23). This difference is even greater higher up the educational ladder.

**Chart 3**



Harvard professors Claudia Goldin and Lawrence Katz argue that, rather than technology picking up speed, the reduced supply of educated workers is the key factor explaining the education gap, finding that between 1980 and 2005 the pace of the increase in educational attainment slowed dramatically. In 1980, Americans age 30 years or older had 4.7 years more schooling on average than Americans in 1930--but Americans in 2005 had only 0.8 years more schooling on average than Americans in 1980 (24). Based on this data, it would appear the problem isn't that technology has leaped ahead--rather, the supply of educated workers has stalled.

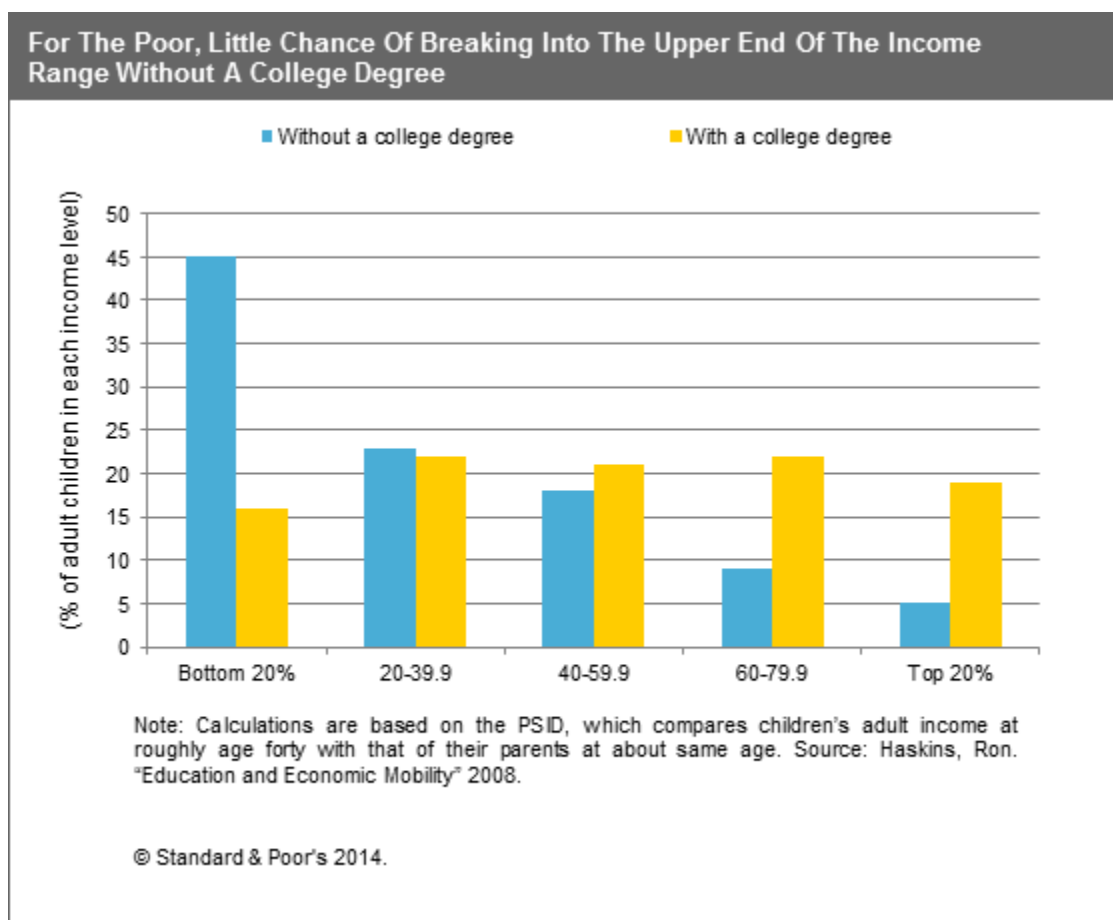
The impact of income inequality on future generations of qualified workers is particularly disconcerting. Michael Greenstone, Adam Looney, Jeremy Patashnik, and Muxin Yu (Hamilton Project-Brookings) examined the effect that the income divide in the U.S. could have on the future upward mobility of the country's children (25). They found that investments in education and skills, traits that increasingly decide job market success, are becoming more stratified by family income, threatening the earning potential of the youngest Americans.

These researchers note that, although cognitive tests of ability show little difference between children of high- and low-income parents in the first years of their lives, "large and persistent" differences start to appear before kindergarten and widen throughout high school (26). Indeed, researchers have found that the gap in test results of children from families at the 90th income percentile versus children of families at the 10th percentile has grown by about 40% over

the past 30 years (27).

Not surprisingly, these differences persist into college and beyond. While there is a 45% chance that a child born into a poor family will remain there as an adult, chances of staying poor drops to 16% if that child finishes college (see chart 4). A child born into the bottom 20% will only have a 5% chance of reaching the top 20% of income earners as adults. But that increases to 19% if they earn a college degree.

**Chart 4**



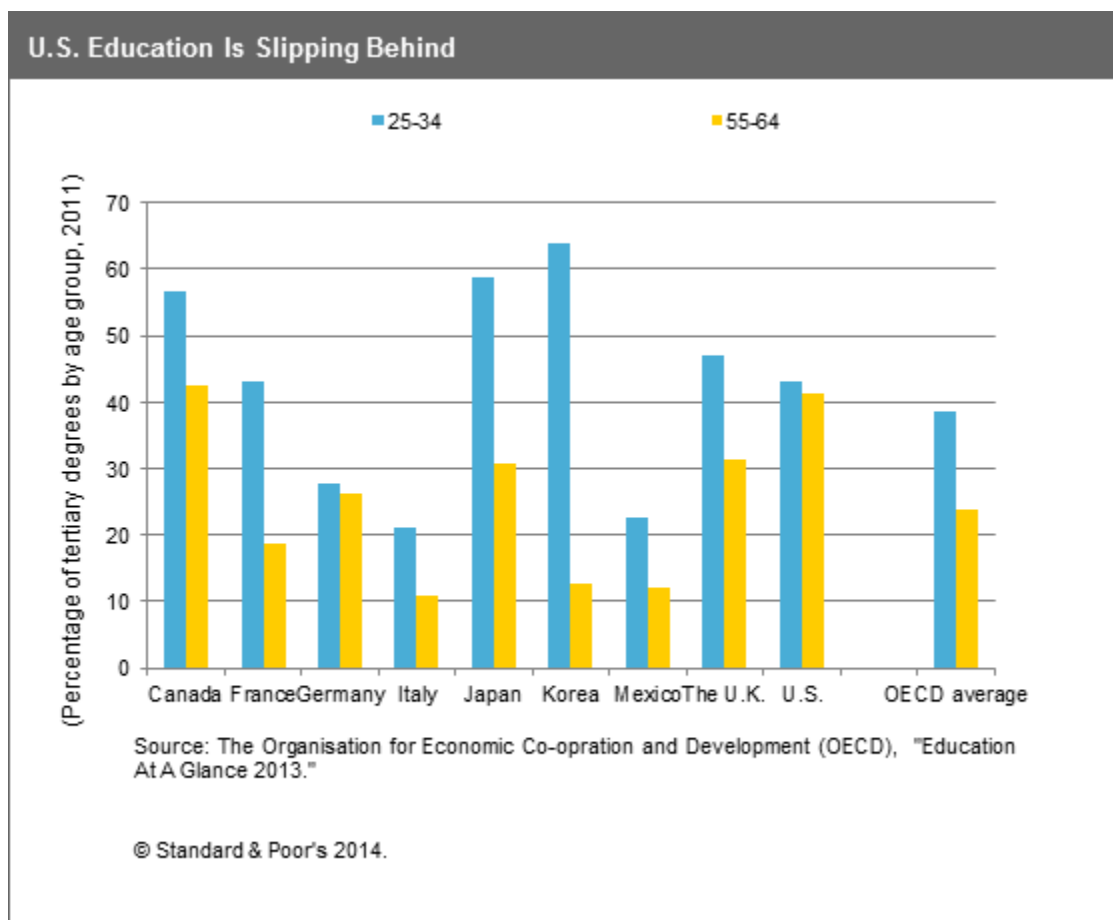
However, college graduation rates have stagnated for low-income students, in sharp contrast with strong gains for wealthy students. While college graduation rates increased by about 4 percentage points between those born in the early 1960s and those born in the early 1980s for the poorest households, the graduation rate for the wealthiest households increased by almost 20 percentage points over the same period (28). These trends likely feed into the income potential for kids as they grew older, with children of well-off families much more likely to stay well-off and the children of poor families disproportionately likely to remain poor.

Given that education--particularly a college degree--is so important in a jobs market that increasingly demands a more educated workforce, these trends are disturbing. The findings suggest that last generation's inequalities will extend into the next generation, with diminished opportunities for upward social mobility. Moreover, the U.S. is losing the

potential addition to growth of a worker who has reached his or her full potential.

The pace of U.S. education is also falling behind its peers (see chart 5). Approximately 43% of Americans aged 25-34 had a college degree in 2011, compared with more than half of people the same age in Canada, Japan, and Korea. Moreover, the proportion of degree holders among Americans aged 25-34 is virtually the same as that among those 55-64, meaning that graduation rates haven't changed much—a sharp contrast with the OECD average and a number of other countries, where graduation rates have increased significantly. As today's U.S. educational attainment slips behind other countries, the U.S.' ability to remain economically competitive in the international market is threatened.

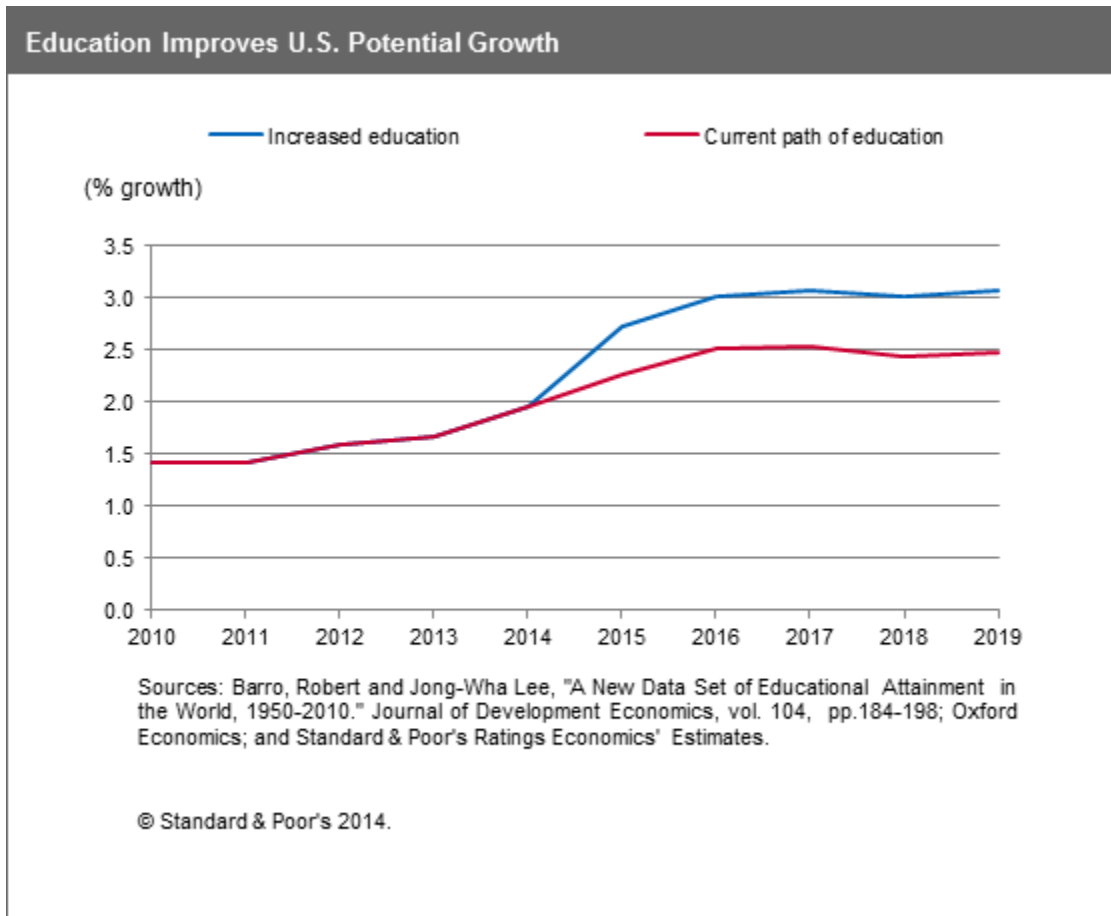
**Chart 5**



What if, instead, we broke that cycle? What if the supply of educated workers picked up its pace, and, more or less, kept up with technological changes? The U.S. has been no stranger to this in the past. In the early part of this century, technological advancements were accompanied by an education boom (29). What would be the impact to the economy and to people's pocketbooks if the U.S. workforce's pace of education were to reach rates of education seen 50 years ago? That was when the American workforce gained a year of education from 1960 to 1965, which is a bit stronger than the period from 1950 to 1980, where they gained an average of about eight months of education every five years (30). In this scenario, the U.S. would add another year of education to the American workforce. U.S. potential GDP would likely be \$525 billion, or 2.4% higher in five years than in the baseline (see chart 6). If education

levels were increasing at the rate they were 15 years ago, the level of potential GDP would be 1%, or \$185 billion higher in five years. A more educated workforce would benefit from higher wages. While the increased supply of people with advanced degrees may initially slow wage gains for jobs requiring an advanced degree, a stronger economy would help support higher incomes for all and help government budgets.

**Chart 6**



Historically, data at the state level support these results. States with a well-educated workforce are high-wage states. A clear and strong correlation exists between the educational attainment of a state's workforce and median wages in the state, with more educated individuals more likely to participate in the job market and earn more, and less likely to be unemployed (31). The unemployment rate for people 25 years old and older with a college degree was 3.3% in June 2014, which is one-third of the unemployment rate of those with less than a high school degree.

Education is an investment in the health and livelihood of future generations, with greater parent education positively correlated to a child's health, cognitive abilities, academic achievement, and future economic opportunities. Education not only benefits workers today, but also children tomorrow.

With evidence indicating that a well-educated U.S. workforce is not just good for today's workers and their children but also for the economy's potential long-term growth rate and government balance sheets, what do we need to do to get

there? This will likely require some investment in the human capital of the U.S. workforce, today and tomorrow. But studies have indicated that the benefits greatly outweigh the costs. Researchers estimate that, depending on the exact program, \$1,000 in college aid results in a 3- to 6-percentage-point increase in college enrollment, with the total cost in aid averaging \$20,000 to \$30,000 to send one student to college (32). Given a college graduate is expected to earn about \$30,000 more per year than a high school graduate over the course of their life, the benefits outweigh the costs. It also this means more tax revenue from higher income than otherwise would have been the case.

Other new low-cost interventions, like simpler financial aid applications, more outreach about financial aid options that are available to students from low-income households, as well as offering college mentors to students, could help send more kids to school and encourage them to stay once they get there (33). Indeed, while the sticker price of a college degree is high, according to the College Board in 2012, the actual price paid after financial aid is often lower. That may be enough to encourage more low-income families to enroll.

While most agree that increasing college graduation rates would be a boon for economic growth, what about education before college? Goldin and Katz argue that the U.S. had "pioneered" free and accessible elementary education for most of its citizens and extended its lead into high school education when other countries were introducing mass elementary school education (34). After World War II, U.S. universities were known to be the best in the world. But by the early 1970s, Golden and Katz note that high school graduation rates plateaued and have been relatively flat for more than three decades, and college graduation rates slid backwards. That educational slowdown is likely the most important reason for increased education wage differentials since 1980 and is a major contributor to income inequality today.

Even if the U.S. government offers financial aid for college, many high school graduates aren't prepared for the rigors of university education. The 2003 Program for International Assessment (PISA), for one, showed U.S. 15-year-olds to be substantially below the OECD average in mathematics literacy, problem solving, and scientific literacy (35).

Increasing aptitude in early education has been discussed in a number of studies. Most point to increasing the quality of K-12 education to improve high school graduation rates and postsecondary education (36). Some have argued that inadequate investments by states and local governments in education have weakened the ability of a state to develop, grow, and attract businesses that offer high-skilled, high-wage jobs (37). The Brookings Institution has found that a high-quality universal preschool program, costing about \$59 billion, could add \$2 trillion in annual U.S. GDP by 2080. This additional growth would generate enough federal revenue to easily cover its costs several times over (38). However, the authors note that it is difficult to win support for a short-term investment, like preschool programs, given the long-term nature of its benefits to the economy.

## **Catching Up With The Joneses**

As income inequality increased before the crisis, less affluent households took on more and more debt to keep up--or, in this case, catch up--with the Joneses, first by purchasing a new home. Further, when home prices climbed, these households were willing to borrow against their newfound equity--and financial institutions were increasingly willing to help them do so, despite slow income growth. A number of economists have pointed to ways in which this trend may

have harmed the U.S. economy.

Professor of Public Policy at U.S. Berkeley Robert Reich argues that increased inequality has reduced overall aggregate demand. He observes that high-income households have a lower marginal propensity to consume (MPC) out of income than other households, and they're currently holding a bigger slice of the economic pie. Research by economists Atif Mian, Kamalesh Rao, and Amir Sufi backed that up, finding the MPC for households with an average annual income of less than \$35,000 to be three times larger than the MPC for households with average income over \$200,000 (39). Mian and Sufi also found that, as home values increased between 2002 and 2006, low-income households very aggressively borrowed and spent (possibly borrowing on increased home equity)--while high-income households were less responsive. Unsurprisingly, when housing wealth declined, the cutback on spending for low-income households was twice as large as that for rich households (40).

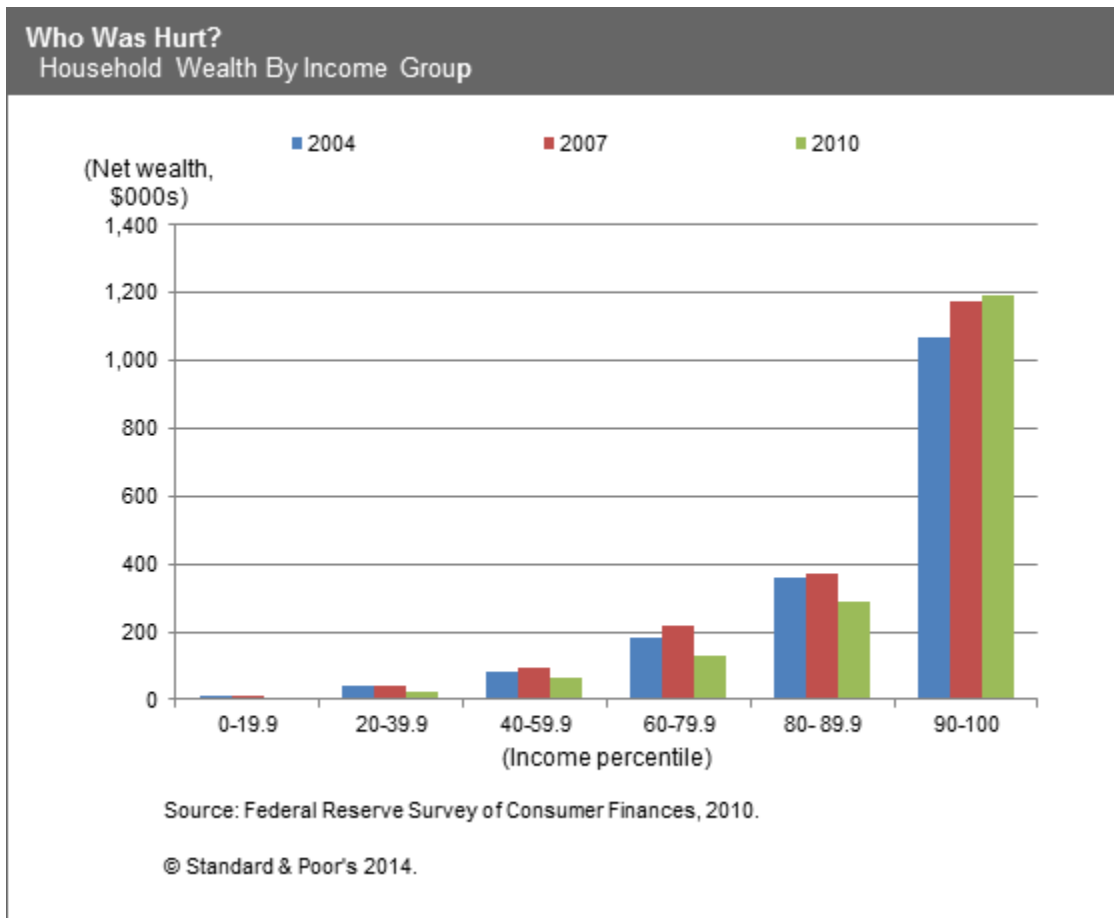
Mian and Sufi further used ZIP codes to locate areas with disproportionately large numbers of subprime borrowers (those with low incomes and credit ratings) and found that these ZIP codes experienced growth in borrowing between 2002 and 2005 that was more than twice as high as in ZIP codes with wealthy "prime" borrowers (41). They also found that ZIP codes with lower income growth received more mortgage loans during that time period, supporting the notion that government policy targeting low-income groups increased lending to the less well-off. After 2006, the subprime ZIP codes experienced an increase in default rates three times that of prime ZIP codes.

Raghuram Rajan claims that, while high-income individuals saved, low-income individuals borrowed beyond their means in order to sustain their consumption, and that this overleveraging, as a result of increased inequality, was a significant cause of the financial crisis in 2008 (42). An IMF paper by Michael Kumhof and Romain Ranciere also details the mechanisms that may have linked income distribution and financial excess and have suggested that these same factors were likely at play in both the Great Depression and Great Recession (43).

Unfortunately, coming back from the Great Recession appears to be taking longer than many had hoped. With a postrecession annual growth rate of 2.2%, our recovery is not even half the historical average annual growth of 4.6% for other recoveries going back to 1959. This is not a complete surprise, given that financial crises are often followed by prolonged recessions and a long bout of subpar growth--thanks in part to the deleveraging that comes as people try to repair their finances.

Indeed, during the recession, the consumption-to-income ratio of the bottom 95% of earners fell sharply, as banks and other lenders imposed tighter borrowing constraints, according to a study by Barry Z. Cynamon and Stephen M. Fazzari (44). Though the consumption-to-income ratio of the top 5% rose, this increase was not enough to offset inadequate demand coming from the bottom 95%. That makes sense. Between 2007 and 2010, the average U.S. household lost 39.6%, or about 18 years' worth, of their net wealth in the three years when the recession started in 2007 to the early recovery in 2010. The middle class lost over 40% of their wealth in just three years, while the top 10% of income earners actually accumulated an additional 2% to their wealth (see chart 7). Corporations that have been reluctant to invest or to cut prices to gain market share because of distorted incentives to seek short-term stock market gains have also depressed demand, according to Andrew Smithers (45). These two factors go a long way to explain why the recent recovery has been subpar in comparison with other postrecessionary periods.

**Chart 7**



Indeed, economist Robert E. Hall, a senior fellow at Stanford University's Hoover Institution, laments that "the years since 2007 have been a macroeconomic disaster for the United States of an unprecedented magnitude since the Great Depression," noting that U.S. economic output in 2013 was 13% below what the precrisis trend has predicted (46). He is skeptical that a sudden surge in output will help the economy recover the ground it lost. Rather, a possible scenario would be a gradual return to a precrisis growth rate, which leaves the U.S. permanently below the level of output that precrisis trends had suggested.

Indeed, while Standard & Poor's is expecting the annual real growth rate to climb above the 3% mark in 2015. That will be the first time since 2005 and comes after another year of subpar growth of just 2.0% expected for 2014. The U.S. already has averaged a mere 1.4% over the last 10 years, through 2013. After expecting to see that long-awaited burst of growth in 2014 of 3% at the beginning of the year, we have reduced our expectations for GDP growth back to that 2% mark once again. We now expect the 10-year average annual growth to be about 2.5% though 2024. To put that in perspective, five years ago, we forecasted the 10-year average annual growth rate to be 2.8%, with all yearly rates much higher than the 2% mark.



## Secular Stagnation

The Fed's expectation for long-run U.S. economic growth has drifted down even more than our forecasts. Five years ago, the Fed expected to see the economy ambling along at a respectable 2.65% annual pace over the long run. By June, the Fed's expectation for long-run growth in the U.S. had dropped to 2.2% (central tendency was 2.1% to 2.3%).

The IMF and CBO have also lowered their long-term growth projections. Last month, the IMF lowered its long-run growth forecast for the U.S. to about 2% (47). The CBO now projects that real (inflation-adjusted) GDP will increase at an average annual rate of 2.3% over the next 25 years, compared with 3.1% during 1970–2007.

Aside from the fact that there are different Federal Open Market Committee participants now than before, the Fed's reasons for lowering its expectations for long-term growth are likely similar to concerns that the IMF and CBO raised, including the effects of an aging population on the economy and more modest prospects for productivity growth. The CBO also noted that in addition to the retirement of the baby-boom generation, the declining birth rates and leveling off of increases in women's participation in the work force also helped slow the growth of the labor force.

In this light, former Secretary of the Treasury Lawrence Summers has said that the U.S. may be mired in a period of slow growth, marked by only marginal increases in the size of the workforce and small gains in productivity--what he called "secular stagnation" (48). This refers to an economic era of persistently insufficient economic demand relative to the aggregate saving of households and corporations. Here, the U.S. may be stuck in a long-run equilibrium where real interest rates need to be negative to generate adequate demand. Without that, the U.S. slides into economic stagnation. While specific causes of secular stagnation are still uncertain, possible reasons include slower population growth, an aging population, globalization, and technological changes. An increasingly unequal distribution of income and wealth is also cited as a contributing factor. Disparate income growth is important because those at the top of the distribution have a higher savings rate. Since income that is put into savings is not spent, it undercuts the overall level of economic activity that takes place. Mian and Sufi emphasize the role of income inequality and how recent years seem to suggest the only way the economy is capable of generating faster economic growth is by being juiced with more aggressive credit expansion, which does not last (49).

Unfortunately, the move toward low-paying jobs has continued unabated. In the past four years since the outset of the U.S. economic recovery, job gains have come mainly in low-paying positions, according to the National Employment Law Project, an advocacy group for low-income workers. While 22% of job losses during the recession were in lower-wage industries, 44% of employment growth in the past four years has come in this group--meaning that, today, lower-wage industries employ 1.85 million more Americans than before the downturn. And often these low-wage jobs have less access to benefits, such as private health insurance, pensions, and paid leave, compared with their higher-paying brethren (50). Considering the Bureau of Labor Statistics' forecasts that low-paying jobs will dominate employment gains for the next decade, it seems clear that labor-income disparity will continue to widen.

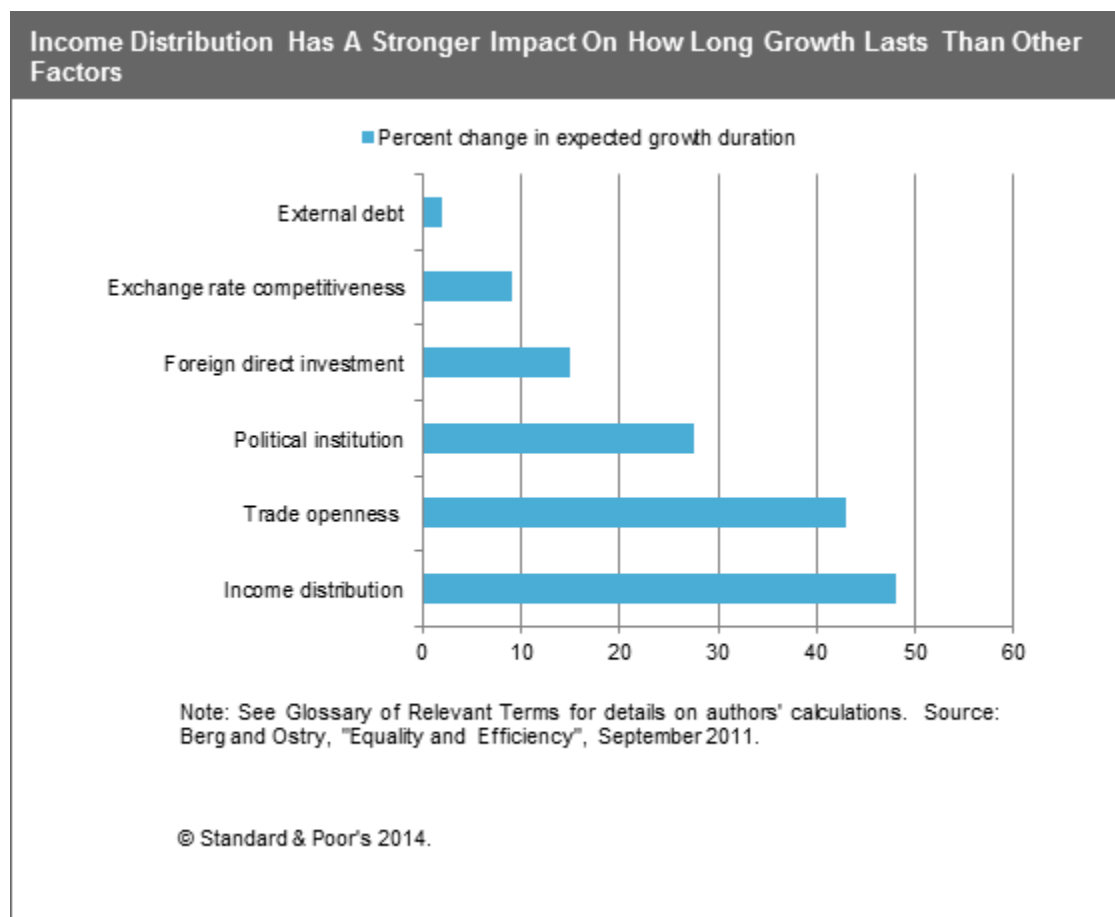
## Not Just A Problem For The Poor

Do societies inevitably face a choice between efficient production and the equitable distribution of income? According to IMF economists Andrew Berg, Jonathan Ostry, and Jeromin Zettelmeyer, the answer is no. They argue that the empirical literature on growth and inequality using long-run average growth may have missed how income distribution is tied to abrupt ends in growth.

Their work examined growth over a long time horizon, between 1950 and 2006, focusing on the duration of growth spells, and showed that there may be no trade-off between efficiency and equality (51). In fact, they posited that equality could be an important component of sustained growth, observing that the level of inequality may be the key difference between countries that enjoy extended, rapid expansion and those whose growth spurts quickly dissipate. In short, promoting greater equality may also improve efficiency in the form of more sustainable long-run growth.

Of the number of variables associated with longer growth spells, income inequality's relationship with the duration of growth spells was the strongest (see chart 8). They found that a 10% decrease in inequality (a change in the Gini coefficient to 0.37 from 0.40) increases the expected length of a growth spell by 50%.

**Chart 8**



Meanwhile, the experiences of developing and emerging economies suggest that igniting growth is less difficult than sustaining it (52). Even the poorest of countries have managed to expand their economies for several years--only for growth to falter.

Berg and Ostry found that income inequality is the single most important factor in determining which countries can sustain economic growth. Using the GINI coefficient--which ranges from 0 to 1.0--they measured the extent to which economic growth falls as inequality rises. A country in which everyone earns exactly the same would have a score of 0, while a society in which one person owned everything would have a score of 1.0. Berg and Ostry saw that a GINI coefficient of higher than 0.45 could weigh on growth. Although correlation is not causation, we note that, based on after-tax income, the U.S. economy scored 0.434 on the GINI scale in 2010, according to the CBO, placing it near that threshold (53).

To be sure, it seems counterintuitive that inequality is associated with less-sustainable growth, since some inequality, by providing incentives to effort and entrepreneurship, may be essential to a functioning market economy. But beyond the risk that inequality may heighten the susceptibility of an economy to booms and busts, it may also spur political instability--thus discouraging investment. Inequality may make it harder for governments to enact policies to prevent--or soften--shocks, such as raising taxes or cutting public spending to avoid a debt crisis. The affluent may exercise disproportionate influence on the political process, or the needs of the less affluent may grow so severe as to make additional cuts to fiscal stabilizers that operate automatically in a downturn politically unviable.

## **Striking A Palatable Balance**

The discussion about income inequality is hardly new, and contrary opinions abound. In his influential 1975 book "Equality and Efficiency: The Big Tradeoff," economist Arthur Okun argued that pursuing equality can reduce efficiency. He claimed that not only would more equal income distribution reduce work and investment incentives, but the efforts to redistribute wealth--through, for example, taxes and minimum wages--can themselves be costly (54).

Of course, income inequality in the U.S. was much less 40 years ago. Kristin Forbes found that, in the short- and medium-terms over a few years, an increase in income inequality has a significant positive relationship with economic expansion (55). But Forbes also found that the relationship was weakened (or could turn negative) when she increased the length of the growth spells. And a World Bank study later found that the positive effect on growth was almost exclusively reserved for the top end of the income distribution (56).

Income inequality can contribute to economic growth, and a degree of inequality is a necessary part of what keeps any market economic engine operating on all cylinders. Indeed, a degree of inequality is to be expected in any market economy, given differences in "initial endowments" (of wealth and ability), the differential market returns to investments in human capital and entrepreneurial activities, and the effect of luck.

However, too much of the focus in the debate about inequality has been on the top earners, rather than on how to lift a significant portion of the population out of poverty--which would be a good thing for the economy. And though extreme inequality can impair economic growth, badly designed and implemented efforts to reverse this trend could also undermine growth, hurting the very people such policies are meant to help (57).

There is no shortage of proposals for tackling extreme income inequality. President Obama has proposed an increase in the hourly minimum wage to \$10.10 from the current rate of \$7.25, and the IMF recently called on lawmakers to boost the wage (though it refrained from suggesting a specific level). Managing Director Christine Lagarde said that doing so would help raise the incomes of millions of poor and working-class Americans and "would be helpful from a macroeconomic point of view" (58).

An increase in the minimum wage would certainly carry with it short-term impacts, likely bringing 900,000 people above the poverty line in the second half of 2016--and, according to the CBO, lifting wages for 24 million workers at the next level above minimum wage. Fewer American households at or below the poverty line would also help bolster government balance sheets and likely improve state and local credit conditions.

But raising the minimum wage is not without negative consequences. Reduced labor demands resulting from higher wages could reduce potential hires by 500,000 jobs, according to CBO estimates (59). Further, while 49% of those workers making the minimum wage are under age 25, the CATO Institute reports that, of older workers (the other half of minimum wage earners), 29.2% live in poverty and 46.2% live near the poverty level, with family incomes less than 1.5 times the poverty line (60).

Apart from minimum wage discussions, a recent report from the OECD suggested that carried interest--the share of profits that money managers take in from an investment or fund--should be taxed as regular income rather than as returns on investment. Ian Ayres, professor of law at Yale, and Aaron S. Edlin, professor of law and economics at the University of California, Berkley, proposed an automatic extra tax, the so-called Brandeis tax, on the income of the top 1% of earners that would limit the after-tax incomes relative to median household income (61).

Warren Buffett, the chairman and chief executive of Berkshire Hathaway, who consistently ranks among the world's wealthiest people, has long argued along similar lines. He claimed that his 2010 federal tax bill--income taxes and payroll taxes--amounted to 17.4% of his taxable income (62). That, he wrote, was the lowest percentage of any of the other 20 people in his office, whose tax burdens were between 33% and 41% and averaged 36%.

Meanwhile, two Democratic California legislators--Loni Hancock and Mark DeSaulnier--have proposed tying the state's corporate income tax to the ratio of CEO-to-worker pay--a sliding scale in which a company's tax bill could shrink along with the gap in pay between executives and workers. The change would trim a company's tax rate for any corporation in which the chief executive makes less than a hundred times what the median worker earns.

Any clear-headed consideration of these options must recognize that heavy taxation--solely to reduce wage inequality--could do more damage than good. While the IMF studies found that some redistribution appears benign, extreme cases may have a direct negative effect on growth. Heavy taxation solely to equalize wages may reduce incentives to work or hire more workers. A number of studies have indicated that losses from redistribution are likely to be minimal when tax rates are low but rise steeply with the tax or subsidy rate (63).

IMF authors Ostry, Berg, and Tsangarides note that "redistribution need not be inherently detrimental to growth, to the degree that it involves reducing tax expenditures or loopholes that benefit the rich or as part of broader tax reforms (such as higher inheritance taxes offset by lower taxes on labor income)" (63). Moreover, redistribution can also occur when taxes finance public investment, or spending on health and education disproportionately benefits the poor, which

help offset the growing divide in educational opportunities and outcomes, broadening the pathways for our future leaders, to the benefit of all.

That said, some degree of rebalancing--along with spending in the areas of education, health care, and infrastructure, for example--could help bring under control an income gap that, at its current level, threatens the stability of an economy still struggling to recover. This could take the form of reallocating fiscal resources toward those with a greater propensity to spend, or toward badly needed public resources like roads, ports, and transit. Further, policies that foster job-rich recoveries may help make growth more sustainable, especially given that rising unemployment correlates with rising income concentration. Additionally, effective investments in health and education promote durable growth and equity, strengthening the labor force's capacity to cope with new technologies.

The challenge now is to find a path toward more sustainable growth, an essential part of which, in our view, is pulling more Americans out of poverty and bolstering the purchasing power of the middle class. A rising tide lifts all boats...but a lifeboat carrying a few, surrounded by many treading water, risks capsizing.

Writer: Joe Maguire

## **Glossary Of Relevant Terms**

### **Market income**

Based on CBO analysis, market income includes the following components:

- Labor income: cash wages and salaries (including 401(k) plans), employer-paid health insurance premiums, and the employer's share of Social Security, Medicare, and federal unemployment insurance payroll taxes.
- Business income: net income from businesses and farms operated solely by their owners, partnership income, and income from S corporations.
- Capital gains: profits realized from the sale of assets. Increases in the value of assets that have not been realized through sales are not included in market income.
- Capital income (excluding capital gains): taxable and tax-exempt interest, dividends paid by corporations (excluding S corporations), positive rental income, and corporate income taxes. The CBO assumes that corporate income taxes are borne by owners of capital in proportion to their income from capital, so the corporate tax is included in household income before taxes.
- Other income: retirement income for past services and any other sources of income.

### **Transfer income**

Transfer income includes cash payments from Social Security, unemployment insurance, Supplemental Security Income, Aid to Families with Dependent Children, Temporary Assistance for Needy Families, veterans' benefits, workers' compensation, and state and local government assistance programs, as well as the value of in-kind benefits, including food stamps, school lunches and breakfasts, housing assistance, energy assistance, Medicare, Medicaid, and the Children's Health Insurance Program (health benefits are measured as the fungible value, a Census Bureau estimate of the value to recipients).

## **After-tax income**

After-tax income is equal to market income plus transfer income minus federal taxes paid. In assessing the impact of various taxes, individual income taxes are allocated directly to households paying those taxes. Social insurance, or payroll, taxes are allocated to households paying those taxes directly or paying them indirectly through their employers. Corporate income taxes are allocated to households according to their share of capital income. Federal excise taxes are allocated to households according to their consumption of the taxed good or service.

Average tax rates are calculated by dividing federal taxes paid by the sum of market income and transfer income. Negative tax rates result from refundable tax credits, such as the earned income and child tax credits, exceeding the other taxes owed by people in an income group. (Refundable tax credits are not limited to the amount of income tax owed before they are applied.)

## **The Gini Index**

The Gini Index is a measure of income inequality based on the relationship between shares of income and shares of the population. It is a value between 0 and 1.0, with 0 indicating complete equality and 1.0 indicating complete inequality (in which one household receives all the income). A Gini Index that increases over time indicates rising income dispersion.

## **Chart 8 details**

Data from Berg, Ostry, and Zettelmeyer (2008).

Authors' calculations: The height of each factor represents the percentage change in a growth spell between 1950 and 2006 when the factor moves from the 50th percentile to the 60th percentile and all other factors are held constant. Income distribution uses the Gini coefficient. The political institutions factor is based on an index from the Polity IV Project database that ranges from +10 for the most open and democratic societies to -10 for the most closed and autocratic. Trade openness measures the effect of changes in trade liberalization on year-to-year growth. Exchange-rate competitiveness is calculated as the deviation of an exchange rate from purchasing power parity, adjusted for per capita income.

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(20) For example, the Bush Administration tax cuts of 2001 and 2003 reduced the income tax rate, capital gains tax rate, and dividend tax rate. Earlier, the tax cuts under President Ronald Reagan in the 1980s lowered the top individual income tax rate to 28% from 50%. There was no reduction to the payroll tax rate until the Payroll Tax Holiday of 2010.

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