

Falling Behind: How Rising Income Inequality Harms the Middle Class

Testimony by Professor Robert H. Frank¹ before the House Financial Services Committee

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Economic inequality has been growing rapidly in the United States. Congress must soon decide whether to make permanent recent changes in tax policy that will increase it further. In this testimony I will review the causes and consequences of rising income inequality and explore possible policy remedies for it.

The Historical Context

At the end of World War II, income inequality was lower in the United States than at any time since the 1920s. During the ensuing three decades, incomes grew briskly and at about the same rate—almost 3 percent per year—for households up and down the income ladder.

That pattern began to change in the 1970s. Since 1979, for example, the incomes of families in the bottom 80 percent of the income distribution have grown by less than 1 percent each year, and only households in the top 20 percent have enjoyed income growth comparable to that in the earlier period. For a small group at the very top of the economic ladder, however, incomes have been growing explosively. The top tenth of one percent of earners, for example, now earn four times as much as in 1980.

The gains have been larger still for those even higher up the income ladder. For more than 25 years, *Business Week* has conducted an annual survey of the earnings of chief executive officers of the largest U.S. corporations. In 1980, those executives earned 42 times as much as the average American worker, a ratio larger than the corresponding ratios for such countries as Japan and Germany even today. By 2000, however, American CEOs were earning 531 times the average worker's salary.

But the biggest winners of all have been top earners in the financial services industry. Thus, according to Institutional Investor's *Alpha* magazine, James Simons, a hedge fund manager, earned \$1.7 billion last year, and two other hedge fund managers made more than \$1 billion. The combined income of the top 25 hedge fund managers was over \$14 billion in 2006.

Why Has Inequality Grown?

In the standard textbook account, the salary a person commands in the labor market is proportional to his or her stock of human capital—an amalgam of talent, experience, education, training, and other factors that affect productivity. Armed with this perspective, many economists have argued that the recent growth in inequality has been the result of an increase in the rate of return to education and other forms of human capital. Yet we observe essentially the same pattern of inequality growth among college graduates as in the population as a whole. The least prosperous college graduates have struggled to stay even, those in the middle have made only modest gains, while those at the top have done spectacularly well. Among college graduates, the return to education has been higher in some fields than in others. For example, the earnings of computer science graduates grew more rapidly during the last two decades than those of English majors. But even among English majors, those at the top have enjoyed spectacular earnings growth.

Others have argued that inequality has increased in the United States because globalization has put unskilled American workers in competition with low-wage workers from other lands. Yet the basic pattern of inequality growth has been the same even among dentists, who are largely immune from foreign competition. Most dentists today earn little more than their counterparts from 1979, but the best paid dentists earn almost three times as much.²

The human capital story directs our attention to the worker rather than the job. Yet a person who embodies a certain level of human capital will realize its full value only if placed in a position with adequate scope and opportunity. For example, whereas the value of having a slightly more talented salesperson may mean little if the task is to sell children's shoes, it will mean a great deal if the task is to sell securities to the world's largest pension funds.

Philip Cook and I have argued that an important contributor to increased inequality has been the spread and intensification of reward structures once confined largely to markets for sports and entertainment.³ In conventional labor markets, reward is proportional to absolute performance. Thus, in the classic piece-rate scheme, a worker who assembles 101 widgets in a week gets paid one percent more than a coworker who assembles only 100. In contrast, we define a winner-take-all market as one in which small differences in performance often translate into enormous differences in economic reward.

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² For a discussion of increased inequality among different groups, see Frank and Cook, 1995, chapter 5.

³ See Frank and Cook, 1995.

The winner-take-all perspective urges us to look first to the nature of the positions people hold, rather than to their personal characteristics. An economist under the influence of the human capital metaphor might ask: Why not save money by hiring two mediocre people to fill an important position instead of paying the exorbitant salary required to attract someone unusually good? Although that sort of substitution might work with physical capital, it does not necessarily work with human capital. Two average hedge fund managers or CEOs or novelists or quarterbacks are often a poor substitute for a single gifted one.

The result is that for positions for which additional talent has great value to the employer or the marketplace, there is no reason to expect that the market will compensate individuals in proportion to their human capital. For these positions—ones that confer the greatest leverage or “amplification” of human talent—small increments of talent have great value, and may be greatly rewarded as a result of the normal competitive market process. This insight lies at the core of our alternative explanation of growing inequality.

Technology has greatly extended the power and reach of the planet’s most gifted performers. The printing press let a relatively few gifted storytellers displace millions of village raconteurs. Now that we listen mostly to recorded music, the world’s best musicians can literally be everywhere at once. The electronic newswire has allowed a small number of syndicated columnists to displace a host of local journalists. And the proliferation of personal computers enabled a handful of software developers to replace thousands of tax accountants.

For present purposes, a key feature of winner-take-all markets is that participants’ rewards depend on relative, not just absolute, performance. Whereas a farmer’s pay depends on the absolute amount of wheat he or she produces, and not on how that compares with the amounts produced by other farmers, a software developer’s pay depends largely on her performance ranking. In the market for personal income tax software, for instance, once the market reached consensus on which among the scores or even hundreds of competing programs was the most comprehensive and user-friendly, the lesser-ranked programs quickly disappeared. And although Intuit’s *TurboTax* may have been only slightly better than its nearest rivals, the rewards to its developer were enormously greater.

Of course, the dependence of economic reward on performance ranking is nothing new. What is new is the rapid erosion of the barriers that once prevented the top performers from serving broader markets. In the music industry, the driving force was the arrival of breathtakingly lifelike pre-recorded music. Changes in physical production technologies have been important in other industries as well, but these changes often explain only a small part of the picture.

Of central importance in other cases has been the emergence of the so-called information revolution. In the global village, there is unprecedented market consensus on who the top players are in each arena, and unprecedented opportunity to deal with these players. A company that made the best tire in Akron was once assured of being a player in at least the northern Ohio tire market. But today’s sophisticated consumers increasingly purchase their tires from only a handful of the best tire producers worldwide.

Before there can be large and concentrated rewards in a winner-take-all market, the top performers must not only generate high value, but there must also be effective competition for their services. Yet in many markets, a variety of formal and informal rules traditionally prevented such competition.

Most major sports leagues, for example, once maintained restrictive agreements that prevented team owners from bidding for one another’s most talented players. It was major league baseball’s reserve clause, for example, that made players the exclusive property of the teams that drafted them. Even though the introduction of nationally televised games in the 1950s increased the economic leverage of baseball players enormously, the ensuing decades saw little real growth in their salaries. In the wake of Andy Messersmith’s successful court challenge the reserve clause in 1975, however, player salaries began to grow explosively, now averaging almost \$3 million per year. Similar salary trajectories have ensued as players have won at least limited free agency rights in all the major professional team sports.

Unlike the owners of professional sports teams, the owners of businesses were never subject to formal sanctions against bidding for one another’s most talented employees. But there were often informal norms that seemed to have virtually the same effect. Under these norms, it was once the almost universal practice to promote business executives from within, which often enabled companies to retain top executives for less than one-tenth of today’s salaries.

The anti-raiding norms of business have recently begun to unravel, in part perhaps because managerial talent is has in fact become more fungible in the new environment. It once would have been unthinkable for a computer giant to hire a former tobacco executive as its CEO. But IBM’s decision to hire RJR Nabisco CEO Louis Gerstner is now widely viewed as a move that ensured IBM’s survival. In the interim, inter-firm and inter-industry boundaries have become increasingly permeable, and business executives are today little different from the free agents of professional sports. Firms that fail to pay standout executives and investment managers their due now stand to lose them to aggressive rivals.

With corporate malfeasance much in the news in recent years, there is little doubt that at least some of the spectacular corporate pay packages were not won on merit. But it is a mistake to view corporate malfeasance as the only, or even the most important, cause of rising pay disparity. Despite the well-publicized cases of late, corporate

corruption is almost certainly a less important problem today than it was several decades ago. Interlocking directorates, for example, are less common today, and shareholder activists backed by multibillion dollar pension funds simply did not exist several decades ago. Pay disparities have increased because new technologies have increased the leverage of key players in every arena, and increased competition has translated that additional leverage into higher pay.

Do Growing Pay Disparities Matter?

Technologies that extend the reach of top performers have greatly benefited consumers. But they have also led to increased inequality. Thus, as noted, the incomes of middle-income families are now slightly higher in real absolute terms than they were two decades ago, but substantially lower, in relative terms.

I will consider two possible ways in which this rise in inequality might have made things worse for these families. First, I will examine how the capacity of material goods to deliver satisfaction, in purely psychological terms, depends heavily on the context in which those goods are consumed. I will then discuss a variety of more tangible ways in which a family's economic welfare might be adversely affected by the spending of others.

The Psychological Costs of Inequality

Most of us were taught from an early age not to worry about how our incomes compare with the incomes of others. This sensible advice stems from the observation that since there will always be others with more, focusing closely on income comparisons can't help but generate reasons to feel unhappy.

But suppose you were faced with a choice between the following hypothetical worlds:

World A: You earn \$110,000 per year, others earn \$200,000

World B: You earn \$100,000 per year, others earn \$85,000.

The income figures represent real purchasing power. Thus your higher income in World A would enable you to purchase a house that is 10 percent larger than the one you would be able to afford in World B, 10 percent more restaurant meals, and so on. No matter which world you choose, your relative position will not change in the future. Confronting a once-for-all choice between these two worlds, which one would you choose?

Much of neoclassical economic theory rests on the premise that World A is the uniquely correct choice. This theory assumes that people derive satisfaction primarily from the absolute quantity of goods and services they consume. On that measure, World A is better because it offers higher absolute consumption for every citizen. That fact notwithstanding, however, a substantial proportion of people confronted with this choice say they would opt for World B.⁴

Many economists appear reluctant to take seriously the concerns that might lead people to make this choice. On its face, this is a curious position for a profession whose practitioners often warmly endorse Jeremy Bentham's dictum that a taste for poetry is no better than a taste for pushpins. If most people say they'd prefer World B, a genuine commitment to consumer sovereignty would appear to rule out any categorical claim that World A is necessarily best for all.

Modern disciples of Adam Smith have nonetheless been extremely reluctant to introduce the purely psychological costs of inequality into discussions of economic policy. Yet as Smith himself recognized, experiencing such costs is a basic component of human nature. Writing more than two centuries ago, he introduced the important idea that local consumption standards influence the goods and services that people consider essential (or "necessaries," as Smith called them). In the following passage, for example, he described the factors that influence the amount an individual must spend on clothing in order to be able appear in public "without shame."

By necessaries I understand not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without. A linen shirt, for example, is, strictly speaking, not a necessary of life. The Greeks and Romans lived, I suppose, very comfortably though they had no linen. But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt, the want of which would be supposed to denote that disgraceful degree of poverty which, it is presumed, nobody can well fall into without extreme bad conduct. Custom, in the same manner, has rendered leather shoes a necessary of life in England. The poorest creditable person of either sex would be ashamed to appear in public without them.⁵

⁴See, for example, Solnick and Hemenway, 1998.

⁵ Smith, 1937.

The absolute standard of living in the United States today is of course vastly higher than it was in Adam Smith's 18th-century Scotland. Yet Smith's observations apply with equal force to contemporary industrial societies. Consider, for instance, *The New York Times* correspondent Dirk Johnson's account of the experiences of Wendy Williams, a middle-school student from a low-income family in a highly prosperous community in Illinois.⁶ Both of Wendy's parents are employed at low-wage jobs, and the family lives in Chateau Estates, a trailer park at which her school bus picks her up each morning.

Watching classmates strut past in designer clothes, Wendy Williams sat silently on the yellow school bus, wearing a cheap belt and rummage-sale slacks. One boy stopped and yanked his thumb, demanding her seat.

"Move it, trailer girl," he sneered.

It has never been easy to live on the wrong side of the tracks. But in the economically robust 1990's, with sprawling new houses and three-car garages sprouting like cornstalks on the Midwestern prairie, the sting that comes with scarcity gets rubbed with an extra bit of salt.

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To be without money, in so many ways, is to be left out.

"I told this girl: 'That's a really awesome shirt. Where did you get it?'" said Wendy, explaining that she knew it was out of her price range, but that she wanted to join the small talk. "And she looked at me and laughed and said, 'Why would you want to know?'"

A lanky, soft-spoken girl with large brown eyes, Wendy pursed her lips to hide a slight overbite that got her the nickname Rabbit, a humiliation she once begged her mother and father to avoid by sending her to an orthodontist.

For struggling parents, keenly aware that adolescents agonize over the social pecking order, the styles of the moment and the face in the mirror, there is no small sense of failure in telling a child that she cannot have what her classmates take for granted.

"Do you know what it's like?" asked Wendy's mother, Veronica Williams, "to have your daughter come home and say, 'Mom, the kids say my clothes are tacky,' and then walk off with her head hanging low."

An adolescent in 18th-century Scotland would not have been much embarrassed by having a slight overbite, because not even the wealthiest members of society wore braces on their teeth then. In the intervening years, however, rising living standards have altered the frame of reference that defines an acceptable standard of cosmetic dentistry. On what ground might we argue that inequality's toll on individuals like Wendy Williams is unimportant because it occurs in psychological rather than explicit monetary terms?

More Tangible Costs of a Widening Income Gap

Increased spending at the top of the income distribution has not only imposed psychological costs on families in the middle, it has also raised the cost of achieving many basic goals. It has done so by means of a process I call expenditure cascades.⁷ Expenditure cascades have been launched by the large growth in purchasing power at the top of the income ladder.

Consumption generally tracks income. When the incomes of the wealthy rise, they eventually spend more on houses, cars, clothing and other goods, just as others do. Upon learning that someone at the top has built a 60,000-square-foot house or purchased a new Ferrari Scaglietti, most people in the middle quintile feel no inclination to alter their own spending. But among those just below the top, such purchases have an impact. They subtly change the social frame of reference that defines what kinds of houses and cars seem necessary or appropriate. Additional spending by top earners thus leads others just below them to spend more. And when they do so, others just below them are affected in the same way, and so on, all the way down the income ladder.

In short, burgeoning incomes at the top have launched expenditure cascades that have put financial pressure on the middle class. An expenditure cascade in housing, for example, helps explain why the median size of a newly constructed house in the United States, which stood at less than 1,600 square feet in 1980, had grown to more than 2,100 square feet by 2001.⁸ During the same period, the median family's real income increased by less than 15 percent—not nearly enough to comfortably finance so much larger a house.

⁶ Johnson, 1998, p. A1.

⁷ See Frank and Levine, 2007.

⁸ <http://www.census.gov/prod/2003pubs/02statab/construct.pdf>;
<http://www.census.gov/hhes/income/histinc/f03.html>.

The steep rise in median house prices is one of the most important sources of the middle-class economic squeeze. It is an indirect consequence of the higher incomes and spending of top earners. Although it might seem that a family could escape the squeeze by just buying a smaller house, that option would in fact entail a significant cost. The problem is that there is a strong link between the price of a house and the quality of the corresponding neighborhood school. Failure to buy a house near the median price for the area means having to send one's children to below-average schools, a cost that most parents seem unwilling to bear. The upshot is that despite a modest increase in their incomes, middle-class families must now work longer hours, borrow more, save less, and commute longer distances in order to continue sending their children to schools of just average quality.

Increased spending at the top has also imposed other costs on those below. Middle-class families who buy a typical 3,000-pound sedan will incur risks that didn't exist in the 1970s, since they must now share the roads with 6,000-pound Lincoln Navigators and 7,500-pound Ford Excursions. In self-defense, they may want to spend more for a heavier vehicle.

Consider, too, how increased spending at the top affects how much one must spend on a professional wardrobe. Placement counselors have always stressed the importance of dressing well for job interviews. But dressing well is a relative concept. To look good means to look better than other candidates. Because top earners have more money, they spend more on clothing, which has led those just below them to spend more, and so on. So to look good for a job interview, the median earner must spend more than before. Of course, if one job candidate is clearly much better qualified than others for a given position, the clothing he or she wears during job interviews is unlikely to make any difference. But competition is stiff for jobs that pay well and offer opportunities for advancement, and there are typically many well-qualified candidates for such jobs. Under the circumstances, candidates are prudent to take whatever steps they can to gain an edge.

Even the gifts that middle-income families feel compelled to give are have been affected by the greater affluence of top earners. Top earners have been spending a lot more on gifts because they have a lot more money. And as in the examples just considered, their extra spending has launched an expenditure cascade. When others spend more for gifts at weddings, anniversaries, birthdays, and other special occasions, the rest of us must follow suit, or else risk being seen as people who just don't care.

The Educational Arms Race: Another Costly Burden for the Middle Class

Because the pay gap between top earners and others has grown sharply in every field, there is much more intense competition than before for top positions. The employers that post openings for such positions typically receive résumés from hundreds or even thousands of applicants, more than they can possibly interview. Increasingly, a candidate's educational credentials have become the most important criterion in the screening process. Many employers now limit their interviews to applicants from a small handful of top-ranked schools. As expected, this change has fueled explosive growth in demand for elite educational credentials.

For the sons and daughters of the middle class, it was always more difficult than for the children of the wealthy to gain admission to the nation's leading universities. The growing demand for elite credentials has made access even more difficult. It has also made higher education more expensive and made it less likely that financial aid will be awarded on the basis of need.

In response to the increased demand for elite credentials, a growing number of institutions have moved aggressively to acquire the resources that confer elite academic status. But because elite status is an inherently relative concept, the primary effect has been to bid up the prices of these resources. The resulting "positional arms races" help explain why tuitions at both public and private university have risen sharply.⁹ At public universities, for example, tuitions more than tripled between 1980 and 2004, and rose at nearly the same rate in private universities.¹⁰ At some elite private schools, the annual cost of tuition, room, and board now exceeds \$45,000.

Even as tuition and other college costs have been rising, the amount of financial aid available to middle-income and poor families has been dwindling. Because the average SAT score of entering freshmen is itself an important index of an institution's academic status, schools aspiring to elite status have little choice but to bid aggressively for top-scoring students. And hence the growing tendency for merit-based financial aid to displace need-based financial aid. The upshot is that for students from middle- and low-income families, the net cost of receiving a college education has risen dramatically.

At the same time, the economic payoff from a college degree has not kept pace. Indeed, the median salary of college degree holders has actually fallen during the last three decades. Among young male wage and salary workers, for example, the median earnings of those holding a bachelor's degree or higher was \$52,087 in 1972 but only \$48,955 in 2002 (both figures in 2002 dollars).¹¹

⁹ For a discussion, see Frank and Cook, 1995, chapter 8.

¹⁰ College Board, 2004.

¹¹ U.S. Department of Education, 2004.

For the millions of students who have been unable to attend college because of the economic squeeze on the middle class, things are even worse. For although the payoff to a college degree has declined in absolute terms, it has increased relative to the payoff of having only a high school diploma. For those with only a high school diploma, median earnings was \$42,630 in 1972 but only \$29,647 in 2002 (again, both figures in 2002 dollars).

So even the slight income gains received by median earners in recent decades are illusory in a broader economic sense. The real hourly pay rates for most individuals in this group are lower now than they were 25 years ago. Their small gains in total family income are the result almost entirely of greater labor force participation of married women.

Consequences of the Financial Squeeze

If the real incomes of middle-class families are little larger than before, how have these families financed their higher levels of consumption and larger tuition payments? In part by working longer hours, but mainly by saving less, borrowing more, and doing without things that were once considered essential. American families with at least one credit card, for example, now carry an average of more than \$9,000 in credit card debt, and before recent changes in the laws governing bankruptcy, personal bankruptcy filings were occurring at seven times the rate they did in 1980. The national personal savings rate, always low by international standards, has fallen sharply since the 1980s and have been negative for the past two calendar years (the first time that has happened since The Great Depression). One in five American families has zero or negative net worth. Some 45 million Americans now have no health insurance, 5 million more than in the early 1990s.¹²

In brief, the data support popular press accounts portraying widespread and genuine economic distress among middle class families. The difficulties confronting these families are not the result of exploitation by employers with market power. Rather, they stem in large part from the growing inequality in income and wealth that has resulted from ordinary market forces. Modern technology has greatly amplified the economic leverage of the best performers in every domain. By all indications, it will continue to do so. If future income gains continue to be captured disproportionately by top earners, as the winner-take-all perspective suggests, things will get worse. Luxury spending will continue to grow briskly, launching additional expenditure cascades that will raise the price of admission to the middle class still further.

Income Inequality Also Distorts Occupational Choice

Consumers clearly gain when modern technology and increased mobility allow the most talented people to serve broader markets. Once the world's hospitals are linked by high-speed data transmission networks, for example, the world's most gifted neurosurgeons can assist in the diagnosis and treatment of patients thousands of miles away—patients whose care would otherwise be left to less talented and experienced physicians. And we should count as a benefit that the most talented executives are now more likely to manage the most important companies.

Yet the lure of the top prizes in winner-take-all markets has also steered many of our most able graduates toward career choices that make little sense for them as individuals, and still less sense for the nation as a whole. In increasing numbers, our best and brightest graduates pursue top positions in law, finance, consulting, and other overcrowded arenas, in the process forsaking careers in engineering, manufacturing, civil service, teaching, and other occupations in which an infusion of additional talent would yield greater benefit to society.

One study estimated, for example, that whereas a doubling of enrollments in engineering would cause the growth rate of GDP to rise by half a percentage point, a doubling of enrollments in law would actually cause a decline of three-tenths of a point.¹³ Yet the number of new lawyers admitted to the bar each year more than doubled between 1970 and 1990, a period during which the average standardized test scores of new public school teachers fell dramatically.

One might hope that such imbalances would fade as wages are bid up in underserved markets and driven down in overcrowded ones, and indeed there have been recent indications of a decline in the number of law school applicants. For two reasons, however, such adjustments are destined to fall short.

The first is an informational problem. An intelligent decision about whether to pit one's own skills against a largely unknown field of rivals obviously requires a well-informed estimate of the odds of winning. Yet people's assessments about these odds are notoriously inaccurate. Survey evidence shows, for example, that some eighty percent of us think we are better than average drivers; and that more than 90 percent of workers consider themselves more productive than their average colleague.

Psychologists call this the "Lake Wobegon Effect," and its importance for present purposes is that it leads people to overestimate their odds of landing a superstar position. Indeed, overconfidence is likely to be especially strong in the realm of career choice because, in addition to the usual motivational biases that support it, there is also

¹² <http://www.nchc.org/facts/coverage.shtml>

¹³ See Murphy et al., 1991.

the fact the biggest winners are so conspicuous. The seven-figure NBA stars appear on television several times each week, whereas the many thousands who fail to make the league attract little notice. Similarly, the handful of hedge fund managers with 10-figure salaries are far more visible than the legions of aspiring hedge fund managers who never made the final cut. When people overestimate their chances of winning, the number who forsake productive occupations in traditional markets to compete in winner-take-all markets will be larger than what could be justified on traditional cost-benefit grounds.

The second reason for persistent overcrowding in winner-take-all markets is a structural problem that economists call “the tragedy of the commons.” This same problem helps explain why we see too many prospectors for gold. In the initial stages of exploiting a newly discovered field of gold, the presence of additional prospectors may significantly increase the total amount of gold that is found. Beyond some point, however, additional prospectors contribute very little. Thus, the gold found by a newcomer to a crowded gold field is largely gold that would otherwise have been found by others.

Consider a man who must choose whether to work in a factory for \$10,000 a year or to become a prospector for gold. If the two activities are equally attractive apart from the matter of pay, he should become a prospector only if he expects to find at least \$10,000 worth of gold a year. Suppose he expects to find \$11,000 in gold, and that \$9,000 of that gold would have been found by others if he had worked in the factory. It will still be worth his while to go prospecting, even though his presence in the gold field increases the total amount of gold found by only \$2,000. Yet society’s total income would have been \$8,000 higher had he instead gone to work in the factory.

Similarly misleading incentives confront potential contestants in winner-take-all markets. Beyond some point, for example, an increase in the number of aspiring hedge fund managers produces much less than a proportional increase in the amount of commissions on managed investments. One MBA student’s good fortune in landing a position in a leading hedge fund is thus largely offset by his rival’s failure to land that same position.

To be sure, even those who fail to win the biggest prizes often go on to earn comfortable incomes. But career choices must be measured not in terms of absolute pay, but relative to what might have been. Contestants for the top prizes in finance are highly talented people who could have held interesting jobs at high pay in other fields. Those who end up as account managers in small banks may not starve, but neither do they realize their full potential.

The externality that leads too many people to shoot for the top positions in law and finance is similar to the one that caused trouble in the case of prospectors for gold: Just as individual prospectors take no account of the fact that most of the gold they might find would otherwise be found by others, so also do aspiring superstars tend to ignore the fact that their presence makes other contestants less likely to win.

So for both informational and structural reasons, overcrowding in winner-take-all markets is not likely to be a self-correcting problem.

Inequality Is a Public Problem

Some have castigated organizations for their lack of restraint in curbing runaway salaries at the top. But to the extent that competitive forces have driving these salaries, it is quixotic to expect that they might be attenuated by individual restraint. A slightly more talented CEO or hedge fund manager can boost a large organization’s annual bottom line by hundreds of millions of dollars or more. An organization that fails to bid aggressively for its top candidates all but ensures they will end up working for rivals.

The point is not that talented individuals are too lazy to work hard unless they are paid multimillion-dollar annual salaries. Rather, it is that most highly talented people, like others, tend to choose the employer that makes the best offer. Evidence suggests that if all salary offers were cut by half, the most talented individuals would work just as hard as before. But individual organization control only the amounts they pay, not the amounts paid by other organizations. If society wants to slow the rate of growth of income inequality, tax policy is the only available lever.

When market forces cause income inequality to grow, public policy in most countries tends to push in the opposite direction. In the United States, however, we have enacted tax cuts for the wealthy and cut public services for the needy. Cynics explain this curious inversion by saying that the wealthy have captured the political process in Washington and are exploiting it to their own advantage.

This explanation makes sense, however, only if those in power have an extremely naïve understanding of their own interests. A careful reading of the evidence suggests that even the wealthy have been made worse off, on balance, by recent tax cuts. The private benefits of these cuts have been much smaller, and their indirect costs much larger, than many recipients appear to have anticipated.

On the benefit side, tax cuts have led the wealthy to buy larger houses, in the seemingly plausible expectation that doing so would make them happier. As economists increasingly recognize, however, well-being depends less on how much people consume in absolute terms than on the social context in which consumption occurs. Compelling evidence suggests that for the wealthy in particular, when everyone’s house grows larger, the primary effect is merely to redefine what qualifies as an acceptable dwelling. So, although the recent tax cuts have enabled the wealthy to buy more and bigger things, these purchases appear to

have had little impact. As the economist Richard Layard has written, “In a poor country, a man proves to his wife that he loves her by giving her a rose, but in a rich country, he must give a dozen roses.”

On the cost side of the ledger, the federal budget deficits created by the recent tax cuts have had serious consequences, even for the wealthy. These deficits will exceed \$1 trillion over the next six years, according to projections by the Congressional Budget Office. The most widely reported consequences of the deficits have been cuts in government programs that serve the nation’s poorest families. And since the wealthy are well represented in our political system, their favored programs may seem safe from the budget ax. Wealthy families have further insulated themselves by living in gated communities and sending their children to private schools. Yet such steps go only so far.

For example, deficits have led to cuts in federal financing for basic scientific research, even as the United States’ share of global patents granted continues to decline. Such cuts threaten the very basis of our long-term economic prosperity. As Senator Pete Domenici, Republican of New Mexico, said: “We thought we’d keep the high-end jobs, and others would take the low-end jobs. We’re now on track to a second-rate economy and a second-rate country.”

Large deficits also threaten our public health. Thus, despite the increasing threat from micro-organisms like *E. coli* 0157, the government inspects beef processing plants at only a quarter the rate it did in the early 1980’s. Poor people have died from eating contaminated beef but so have rich people.

Citing revenue shortfalls, the nation postpones maintenance of its streets and highways, even though doing so means having to spend two to five times as much on repairs in the long run. In the short run, bad roads cause thousands of accidents each year, many of them fatal. Poor people die in these accidents but so do rich people. When a pothole destroys a tire and wheel, replacements cost only \$63 for a Ford Escort but \$1,569 for a Porsche 911.

Deficits have also compromised the nation’s security. In 2004, for example, the Bush administration reduced financing for the Energy Department’s program to secure loosely guarded nuclear stockpiles in the former Soviet Union by 8 percent. Former Senator Sam Nunn now heads a private foundation whose mission is to raise private donations to expedite this effort. And despite the rational fear that terrorists may try to detonate a nuclear bomb in an American city, most cargo containers continue to enter the nation’s ports without inspection.

Large federal budget deficits and low household savings rates have also forced our government to borrow more than \$800 billion each year, primarily from China, Japan and South Korea. These loans must be repaid in full, with interest. The resulting financial burden, plus the risks associated with increased international monetary instability, fall disproportionately on the rich.

At the president’s behest, Congress has already enacted tax cuts that will result in some \$2 trillion in revenue losses by 2010. According to one recent estimate, 52.5 percent of these cuts will have gone to the top 5 percent of earners by the time the enabling legislation is fully phased in.

With the economy already at full employment, no one pretends these cuts are needed to stimulate spending. Nor is there any evidence that further cuts would summon outpourings of additional effort and risk taking. Nor, finally, does anyone deny that further cuts would increase the already high costs associated with larger federal budget deficits.

Moralists often urge the wealthy to imagine how easily their lives could have turned out differently, to adopt a more forgiving posture toward those less prosperous. But top earners might also wish to consider evidence that their own families would have been better off, in purely practical terms, had it not been for the tax cuts of recent years.

The nation’s recent fiscal policy choices provide striking testimony to the incredible staying power of trickle-down theory. This largely discredited theory’s claim that lower taxes on the rich will spur economic growth has animated the push for less progressive taxes for almost two decades. Trickle-down theorists are quick to object that higher taxes would cause top earners to work less and take fewer risks, thereby stifling economic growth. In their familiar rhetorical flourish, they insist that a more progressive tax system would kill the geese that lay the golden eggs. On close examination, however, this claim is supported neither by economic theory nor by empirical evidence.

The surface plausibility of trickle-down theory owes much to the fact that it appears to follow from the time-honored belief that people respond to incentives. Because higher taxes on top earners reduce the reward for effort, it seems reasonable that they would induce people to work less, as trickle-down theorists claim. As every economics textbook makes clear, however, a decline in after-tax wages also exerts a second, opposing effect. By making people feel poorer, it provides them with an incentive to recoup their income loss by working harder than before. Economic theory says nothing about which of these offsetting effects may dominate.

If economic theory is unkind to trickle-down proponents, the lessons of experience are downright brutal. If lower real wages induce people to work shorter hours, then the opposite should be true when real wages increase. According to trickle-down theory, then, the cumulative effect of the last century’s sharp rise in real wages should have been a significant increase in hours worked. In fact, however, the workweek is much shorter now than in 1900.

Trickle-down theory also predicts shorter workweeks in countries with lower real after-tax pay rates. Yet

here, too, the numbers tell a different story. For example, even though chief executives in Japan earn less than one-fifth what their American counterparts do and face substantially higher marginal tax rates, Japanese executives do not log shorter hours.

Trickle-down theory also predicts a positive correlation between inequality and economic growth, the idea being that income disparities strengthen motivation to get ahead. Yet when researchers track the data within individual countries over time, they find a negative correlation. In the decades immediately after World War II, for example, income inequality was low by historical standards, yet growth rates in most industrial countries were extremely high. In contrast, growth rates have been only about half as large in the years since 1973, a period in which inequality has been steadily rising.

The same pattern has been observed in cross-national data. For example, using data from the World Bank and the Organization for Economic Co-operation and Development for a sample of 65 industrial nations, the economists Alberto Alesina and Dani Rodrick found lower growth rates in countries where higher shares of national income went to the top 5 percent and the top 20 percent of earners. In contrast, larger shares for poor and middle-income groups were associated with higher growth rates.¹⁴ Again and again, the observed pattern is the opposite of the one predicted by trickle-down theory.

The trickle-down theorist's view of the world is nicely captured by a Donald Reilly cartoon depicting two well-fed executives nursing cocktails on a summer afternoon as they lounge on flotation devices in a pool. Pointing to himself, one says angrily to the other, "If those soak-the-rich birds get their way, I can tell you here's one coolie who'll stop" working so hard.

This portrait bears little resemblance to reality. In the 1950s, American executives earned far lower salaries and faced substantially higher marginal tax rates than they do today. Yet most of them competed energetically for higher rungs on the corporate ladder. The claim that slightly higher tax rates would cause today's executives to abandon that quest is simply not credible.

Now, our growing understanding of the incentive problems created by winner-take-all markets poses an even more decisive challenge to trickle-down theory. Society's highest incomes accrue to the top performers in winner-take-all markets, which, as noted, persistently attract too many contestants. To the extent that economic incentives matter at all (and it is the cornerstone of trickle-down theory that they do), the effect of higher taxes on top earners would be to cause fewer of our most talented people to compete for limited slots in winner-take-all markets. Moreover, the people most likely to drop out would be those whose odds of making it into the winner's circle were smallest to begin with. Thus, the value of what gets produced in winner-take-all markets would not be much reduced if higher taxes were levied on winners' incomes; and any reductions that did occur would tend to be more than offset by increased output in traditional markets.

The optimistic conclusion is that a more progressive tax structure may produce not only greater equality of incomes, but also higher economic growth.

Better Still: A Progressive Consumption Tax

Advocates of consumption taxes have stressed their positive impact on savings, their ability to capture revenue now lost to the underground economy, and their relative simplicity. These are important advantages, to be sure. Yet they pale in comparison to the advantages of using consumption taxes to counteract the inefficiencies that arise from winner-take-all markets.

For instance, a progressive tax on consumption, like a progressive income tax, would reduce the effective rewards of landing a superstar position. Like a progressive income tax, it would thus reduce overcrowding in winner-take-all markets.

A progressive consumption tax would also pay another dividend—namely, it would free up hundreds of billions of dollars of resources that are largely wasted through mine-is-bigger consumption arms races. Consider, for instance, a wealthy family's decision to build an 8,000-square-foot house. It does so not just because spacious living quarters are desirable in some absolute sense, but also because houses that size have become the norm for their income bracket. To have a smaller or less well appointed house than one's peers would entail social embarrassment. Yet, if *all* wealthy families had smaller houses (as indeed most do in cities like Manhattan and Tokyo), no one would be embarrassed in the least.

The standards that define acceptable wardrobes, cars, and a host of other important budget items likewise depend strongly on the amounts other people spend on them. This means that if others were to spend less, we, too, could spend less without any real loss in satisfaction.

Thus, if a consumption tax led wealthy families to buy 5,000-square-foot houses instead 8,000, and Porsche Boxsters instead of Ferraris, no one would really be worse off, and several hundred thousand dollars of resources per family would be freed up for more pressing purposes—deficit reduction, medical research, capital investment, job

¹⁴ See Alesina and Rodrick, 1992.

training, school lunches, drug treatment programs, time for family and community, whatever. The elegant hidden feature of the progressive consumption tax is this ability to create resources virtually out of thin air.

Opponents of progressive consumption taxes will caution that such taxes will cause unemployment, citing the layoffs in the shipbuilding industry that followed imposition of a luxury tax on yachts in 1991. But that was a tax with a glaring loophole that exempted boats purchased outside the country. A general progressive tax on consumption would shift employment from some activities to others, to be sure, but that is precisely the objective. Full employment for carpenters can be achieved by the construction of small number of mansions for the well-to-do, or by the construction of a larger number of smaller houses for people with more modest incomes.

Proposals to tax consumption also raise the specter of citizens having to save receipts for each purchase, of politicians and producers bickering over which products are to be exempt, and so on. Yet a system of consumption taxation need entail no greater complexity than the usual systems of income taxation. Indeed, with the strategic elimination of certain deductions and loopholes, it could easily be made to entail less.

The need to keep receipts, for example, can be avoided by exploiting the simple accounting identity that a person's income is the amount she spends plus the amount she saves. This permits us to calculate overall consumption as the difference between current income, which must be reported under the current tax system, and current savings, which would document in much the same way that we currently document contributions to 401(k) retirement accounts. There is simply no need to add up the value of each item purchased.

The need to debate which, if any, consumption categories ought to be exempt can be avoided by having a large standard deduction—by making the first, say, \$30,000 of each family's annual consumption expenditures exempt from taxation. This feature would serve two purposes: it would shield necessities like food, health care, basic clothing, shelter, and transportation-- from taxation; and it would make the tax progressive. Further progressivity could be achieved by having tax rates that rise with consumption, just as we now have tax rates that rise with income. The so-called "Unlimited-Savings-Allowance" proposal by Senators Nunn and Domenici in the mid-1990s, was a tax with all these features.

The so-called "flat tax" favored by many conservatives is itself a consumption tax, and that is a point in its favor. Yet its adoption would move us in precisely the wrong direction. By reducing the tax rates on top earners by more than half, it would steer even more of our best and brightest students into winner-take-all markets that are already overcrowded. By giving the top earners much more disposable income, it would also fuel the growth of wasteful consumption expenditures, both by the rich and by others who emulate them. And most important, it would worsen the social strains of income inequality.

The nation's current tax policies rest on an outmoded understanding of the forces that allocate both talent and reward in a winner-take-all society. These forces suggest that equity and growth are more likely to be complements than substitutes. This is a hopeful conclusion, indeed, for it means that the very same policies that promote both fiscal integrity and equality are also likely to spur economic growth.

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