

Are Positional Externalities Different from Other Externalities?

by

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A nice suit is one that compares favorably with those worn by others in the same local environment. More generally, a positional good is one whose utility depends on how it compares with others in the same category.²

A positional externality occurs when new purchases alter the relevant context within which an existing positional good is evaluated.³ For example, if some job candidates begin wearing expensive custom-tailored suits, a side effect of their action is that other candidates become less likely to make favorable impressions on interviewers. From any individual job seeker's point of view, the best response might be to match the higher expenditures of others, lest her chances of landing the job fall. But this outcome may be inefficient, since when all spend more, each candidate's probability of success remains unchanged. All may agree that some form of collective restraint on expenditure would be useful.

In such cases, however, it is often impractical to negotiate private solutions. Do positional externalities then become legitimate objects of public policy concern? In attempting to answer this question, I employ the classical libertarian criterion put forth by

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² Hirsch, 1976.

³ Frank, 1991.

John Stuart Mill, who wrote the state may not legitimately constrain any citizen's freedom of action except to prevent harm to others.⁴ On the basis of a variety of market evidence, I argue that many positional externalities appear to meet Mill's test, causing not just negative feelings but also large and tangible economic costs to others who are ill-equipped to avoid them. I also discuss an unintrusive policy remedy for positional externalities, one modeled after the use of effluent charges to curb environmental pollution.

I. Concerns About Relative Position

Most of us were taught from an early age not to worry about how our possessions compare with those of others. This sensible advice stems from the observation that since there will always be others with more and better things, focusing closely on such comparisons cannot help but generate reasons to feel unhappy.

But suppose you were faced with a choice between two hypothetical worlds. If you choose world A, you will live in a 4000-square-foot house and others will live in 6000-square-foot houses; but if you choose world B, you will live in a 3000-square-foot house, others in 2000-square-foot houses. Once you choose, your position on the local housing scale will persist.

According to the standard neoclassical economic model of choice, which holds that utility depends on the absolute amount of consumption, the uniquely correct choice is world A. For if absolute house size is all that matters, A is indeed a better world for all, since everyone has a larger house there than the largest house in world B.

⁴ *On Liberty* cite.

In fact, however, most people say they would pick B, where their absolute house size is smaller and their relative house size is larger. Even those who say they would pick A seem to recognize why someone might be more satisfied with a 3000-square-foot house in B than with a substantially larger one in A.

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 are quick to endorse Jeremy Bentham's dictum that a taste for poetry is no better than a taste for pushpins. If most people *say* they would 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.

This simple thought experiment is consistent with the hypothesis that, in some domains, people appear willing to sacrifice absolute consumption for improved relative position. The same hypothesis has received strong support in the empirical literature on human happiness and well-being.⁵

For several decades, behavioral scientists, mainly psychologists, have been actively attempting to measure human subjective well-being. They employ a variety of instruments, ranging from simple surveys that ask people to report how happy they are to sophisticated electroencephalographic assays that measure the frequency and amplitude of the electrical waves emanating from different sites in the brain. Individual readings from the various measures turn out to be remarkably consistent with one another, and consistent as well with a variety of other evidence regarding human well-being. People who say they are happy or who are revealed as happy by the various other measures, for

⁵ For a comprehensive survey of this literature, see Diener, Kahneman, and Schwartz, 1998.

example, are also more likely to be rated as happy by their friends. And all of the happiness measures are strongly correlated with observable behaviors that we associate with well-being. Those who identify themselves as happy in surveys, for example, are more likely to initiate social contacts with friends and more likely to help others in need. They are less likely to suffer from psychosomatic illnesses—digestive disorders, headaches, vascular stress, and other stress disorders. They are less likely to be absent from work, or to get involved in disputes at work. And they are less likely to attempt suicide—the ultimate behavioral measure of unhappiness. In brief, the happiness literature has identified measures of human subjective well-being that are consistent, valid, and reliable.⁶

What factors influence happiness? Much of the interpersonal variation in happiness appears hereditary, but environmental factors also seem to matter. People who have many close friends, for example, tend to be significantly happier than others, and also to live longer.

What about income? Studies show that when incomes rise for everybody, measures of well-being do not change much. Consider the example of Japan, which was a very poor country in 1960. In the ensuing decades, its per-capita income rose many-fold, yet the average happiness level reported by the Japanese remained essentially unchanged (See Figure 1).

⁶ For a brief survey of the studies that support these claims, see Frank, 1999, chapter 5.

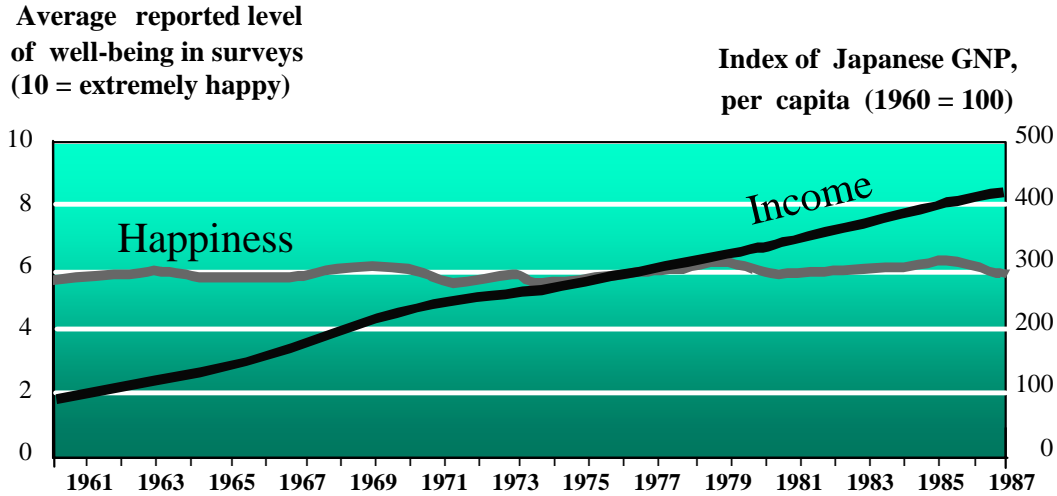


Figure 1. Average Happiness vs. Average Income Over Time in Japan
 Source: R. Veenhoven, "Happiness in Nations," International Monetary Fund, 1993.

The pattern shown in Figure 1, which consistently shows up in other countries as well, poses an apparent challenge for conventional economic models. If getting more income does not make people happier, why do they go to such lengths to get more income? Why, for example, do legal associates work 100 hours a week hoping to become partners in law firms? Why do tobacco company CEOs endure the public humiliation of testifying before Congress that nicotine is not addictive?

It turns out that if we measure the income-happiness relationship in a second way, income matters very much indeed. Consider Figure 2, which shows this relationship for the United States during a brief period during the 1980s. When we plot average happiness versus average income for clusters of people in a given country at a given time, as in the diagram, rich people are in fact substantially happier than poor people.

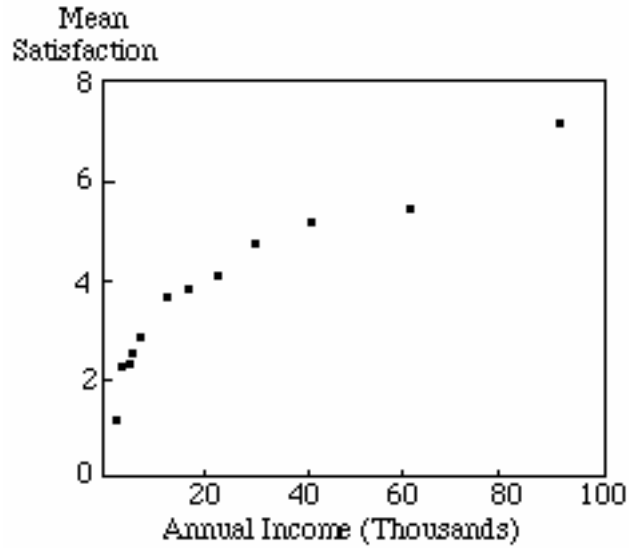


Figure 2. Income Vs Satisfaction in the US, 1981-4.

Source: Diener, Ed, Ed Sandvik, Larry Seidlitz, and Marissa Diener. “The Relationship Between Income and Subjective Well-Being: Relative or Absolute?” *Social Indicators Research*, 28, 1993: 195-223.

The patterns portrayed in Figures 1 and 2 are consistent with the view that relative income is a far better predictor of happiness than absolute income.⁷ Kahneman et al. (2006) argue that traditional happiness surveys may overstate the influence of income on happiness, because people may focus on their material well-being in attempting to answer the survey question. They show that income’s influence is smaller when the dependent variable is reported mood during experience sampling rather than the response to a survey question. But even on their preferred measure, people with annual incomes under \$20,000 reported being in a bad mood more than 50 percent more often than people with incomes over \$100,000.

That relative income matters is often seen as a regrettable human frailty. Yet it is a mistake to view concerns about relative income in harshly pejorative terms. These

⁷ On this point, see especially Easterlin, 1976, Easterlin 1995, and Clark and Oswald, 1996.

concerns are much better understood as an unavoidable consequence of the need to make the kinds of evaluative judgments people confront as they attempt to solve practical problems in their daily lives.

Suppose you must decide what to wear outside. Is it a cold day? Pose that question on a 60-degree day in Havana in November and people will say of course! But on a 60-degree day in March in Helsinki, they will say no. And in each case, people will think you are stupid for having had to ask. Havana residents will wonder that you did not notice people huddled in blankets around bonfires. Helsinki residents will be puzzled at your having overlooked the crowds in the streets celebrating the warm day in shirtsleeves. Of course, if it gets cold enough, or hot enough, then it matters little what city you are in. But within a broad band of temperatures, local context is decisive.

Consider the two vertical lines shown in Figure 3. Which one is longer? In psychology laboratories around the world, subjects confidently answer that the one on the right is longer. Why? Because it *looks* longer. In fact, however, the two lines are the same length. The line on the right looks longer because it bridges a larger share of the gap between the two horizontal lines.

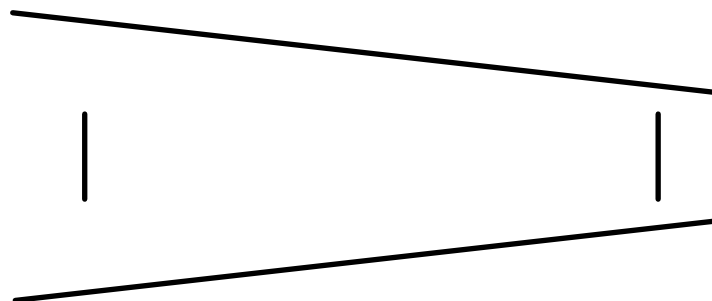


Figure 3. Which vertical line is longer?

Similar framing effects color our evaluations of the things we own. Suppose you ask, “Is my car OK?” and your car happens to be a 1978 Chevy Nova. Your answer to this question will depend on context. If you live in Havana, this is more than OK. To arrive at a social gathering in it is like having a sign around your neck saying, “I am a player.”

The same car would be seen differently by an aspiring film producer in Bel Air, California. There, arriving at a social gathering at the wheel of a 1978 Chevy Nova is like having a sign around your neck saying “I am not a player.” Skillful dealmakers in Bel Air do not drive 1978 Chevy Novas, and in that context, the car sends a costly negative signal. To experience discomfort about that car in Bel Air is not to be saddled with a psychopathology.

Adam Smith made essentially the same point in *The Wealth of Nations* when he described how community consumption standards affected which goods came to be viewed as essential, or “necessaries”:

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.⁸

⁸ Page cite.

The same issues play out in contemporary societies, the only difference being that the standards that now define necessity have escalated sharply since Adam Smith's day. In the late 1990s, for example, the *New York Times's* Chicago bureau chief, Dirk Johnson, filed a detailed report after having spent several days with the Williams family in Dixon, Illinois, a wealthy community west of Chicago. Although the family's annual income was slightly above the Federal poverty threshold, they lived in a trailer park just outside the city limits and were conspicuously disadvantaged by local standards. Some excerpts from Johnson's account of several days spent with Wendy Williams, the family's 13-year-old daughter:

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.

....

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." ⁹

⁹ Johnson, 1998, A1.

In Adam Smith's day, overbites and crooked teeth were not markers of social position, because not even the children of the wealthy had access to the kinds of cosmetic dentistry we now take for granted. Although the best response available to someone in Wendy Williams's position may be to attempt to ignore the taunts of her classmates, such attempts are rarely completely successful. The psychological injuries suffered may be diminished, but not completely eliminated. I will return below to the question of what status such injuries ought to have in public policy analysis.

II. Rising Income Inequality and Expenditure Cascades

My focus thus far has been on the psychological costs of having low relative position. Although these costs are real, many economists feel uncomfortable about giving them decision weight for policy purposes, perhaps out of concern that to do so might encourage people to be less aggressive in taking their own steps to alleviate feelings of relative deprivation. But not all costs of inequality are psychological. In this section I describe a variety of ways in which increased income and wealth inequality have made it more costly for middle-income families to achieve important goals in everyday life.

I begin with a brief look at the changes that have occurred in the distributions of income and wealth in the United States during the decades following World War II. Income growth from 1945 until the end of 1970's was well-described by the famous picket-fence chart shown in Figure 4. Incomes grew at about the same rate for all income classes during that period, a little under 3 percent per year. It varied a bit across income

classes, but no matter where you fell along the income scale, you enjoyed fairly robust income growth.

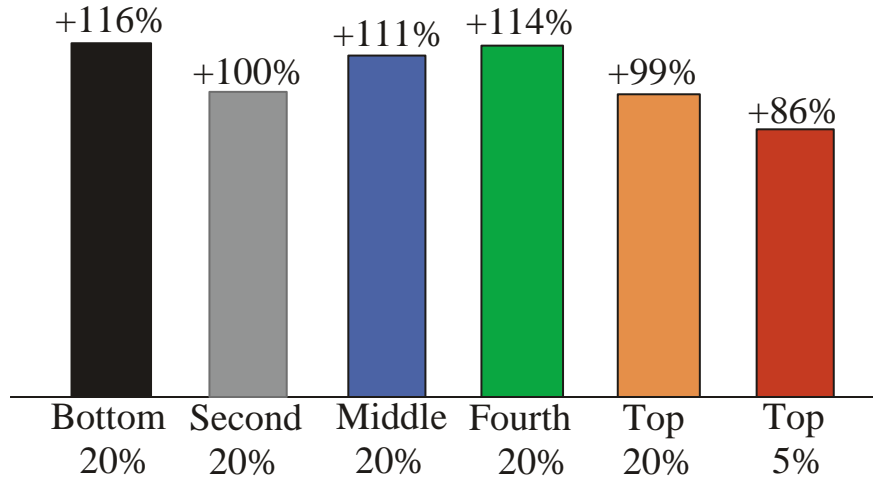


Figure 4. Changes in Before-Tax Household Incomes, 1949-1979.

Source: <http://www.census.gov/hhes/income/histinc/f03.html>

Since consumption expenditures tend to track incomes closely, spending was also increasing at a fairly uniform rate across the income scale during this period. The houses in which rich people lived in 1979 were bigger than those of their counterparts in 1945, but the same was also true, and by roughly the same proportion, of the houses in which poor and middle-income people lived. In short, income and consumption growth were balanced across income categories during the three decades following World War II.

That pattern began to change at some point during the 1970s. Some people date the change even earlier than that. In any event, if we look at the period from 1979 to 2003, we can see how dramatically different the later income growth pattern is from the earlier one. In the more recent period, shown in Figure 5, people at the bottom of the income distribution gained only just over 3 percent in real purchasing power terms, and

gains throughout the middle were also very small. For example, median family earnings were only 12.6 percent higher at the end of that 24-year period than at the beginning. Income gains for families in the top quintile were substantially larger, and larger still for those in the top five percent. Yet even for these groups, income growth was not as great as during the earlier period. The later period was thus not only a period of slower growth but also, and more important, a period of much more uneven growth.

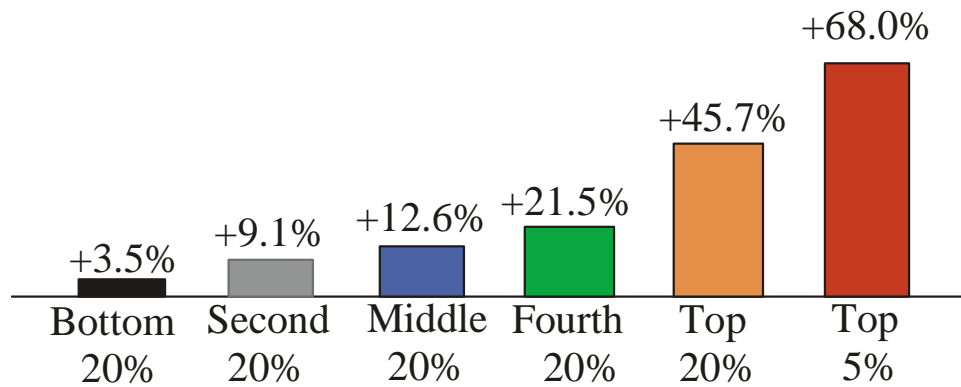


Figure 5. Changes in Before-tax Incomes, 1979-2003.

<http://www.census.gov/hhes/income/histinc/h03ar.html>

Income inequality has also increased in two important ways not portrayed in Figures 4 and 5. One is that changes in the income-tax structure during the Ronald Reagan presidency significantly shifted real after-tax purchasing power in favor of those atop the socioeconomic ladder. Tax rates on top earners were increased slightly in the final year of the George H. W. Bush administration and further still during the administration of Bill Clinton, which also increased the earned income tax credit for working families with low incomes. But those interim adjustments were far outweighed by the large additional tax cuts targeted toward high-income families by George W.

Bush. A second change not reflected in Figures 4 and 5 is the magnitude of the earnings gains recorded by those at the very top.

Figure 6 portrays some of the results of these two additional effects. Note that the middle 20 percent of earners (net of both tax and transfer payments) gained slightly more ground than in Figure 5, which showed pre-tax incomes (net of transfer payments). Note also that the gains accruing to the top 1 percent in Figure 6 are almost three times as large the corresponding pre-tax gains experienced by the top 5 percent in Figure 5.

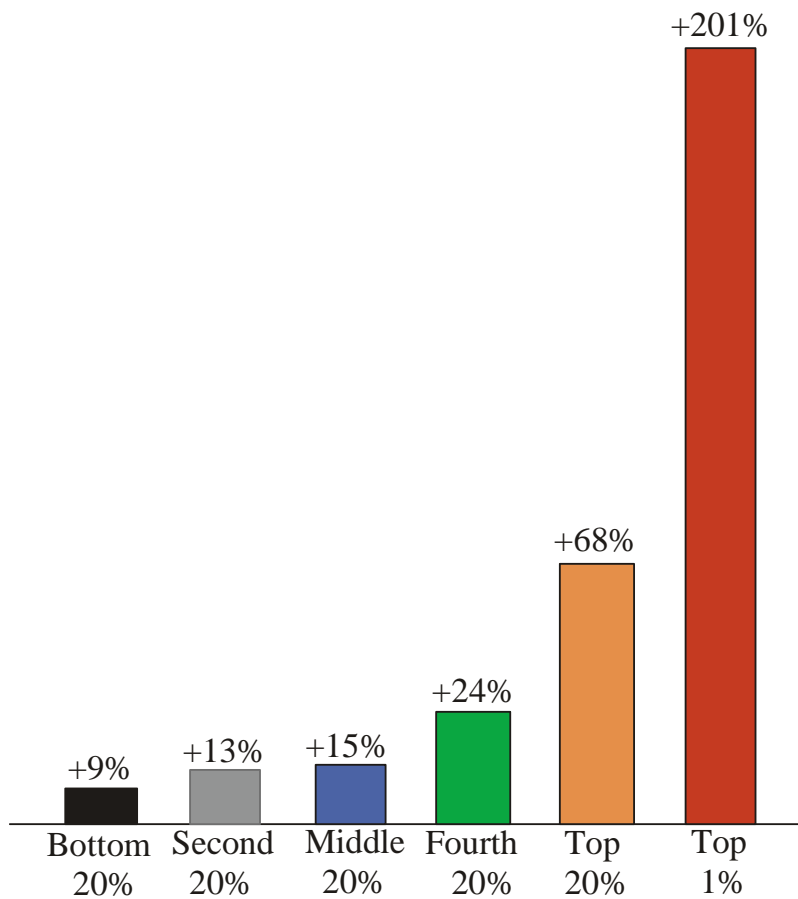


Figure 6. Change in After-Tax Household Income, 1979-2000

Source: Center on Budget and Policy Priorities, “The New, Definitive CBO Data on Income and Tax Trends,” Sept. 23, 2003

Even more spectacular income growth has occurred within the top 1 percent of earners. Only fragmentary data exist for people that high up in the income distribution, but there are snapshots here and there that show us what has been happening. One valuable source is the salaries of CEOs, which *Business Week* has been tracking for more than 20 years. In 1980, the CEO of Fortune 200 companies earned about 42 times as much as the average worker. That ratio had grown to over 500 times as much by 2000. And there is evidence that the gains have been even more pronounced for those who stand even higher than CEOs on the income ladder.

For the last several decades, then, the general pattern has been one of absolute income losses for those in the bottom quintile, small gains for those in the middle, strong gains in the top quintile, and spectacular gains for those at the very top. Have these changes made life more difficult for middle-class families?

According to conventional economic theory (I refer to the permanent-income hypothesis and the life-cycle hypothesis), a family's total spending over the course of its life cycle should closely track its total lifetime income.¹⁰ In response to the observed distributional changes, then, conventional theory predicts substantial increases in consumption by top earners and little or no change in consumption by those in the middle. If we add the standard assumption that utility depends primarily on absolute consumption, conventional models suggest that the observed changes in income patterns have not been costly for middle-class families.

Nor indeed is there any indication that such families are directly troubled by the widely reported spending habits of the wealthy. On the contrary, many middle-class

¹⁰ Friedman, 1957; Modigliani and Brumberg, 1955.

families actually appear entertained by television and magazine coverage of the lifestyles of the rich and famous. Sociological studies consistently confirm that the comparisons that really matter are highly local in character.¹¹ As Bertrand Russell once remarked, “Beggars don’t envy millionaires; they envy other beggars who earn more than they do.”

But even if local comparisons are the only ones that count, sharply increased spending by top earners may nonetheless have spawned significant additional spending by the middle class. When top earners build larger mansions, for example, they shift the frame of reference that defines an acceptable house for those just slightly below them on the income scale. And when those people respond by building bigger houses, they in turn shift the frame of reference for those just below them, and so on, all the way down.

Increased expenditures by top earners may thus launch what I call an “expenditure cascade” that results in increased expenditures even among those whose incomes have not risen. With respect to housing, perhaps the single most important category of household expenditure, the cascade story tracks experience far more closely than conventional consumption models. Thus the median size of a newly constructed house in the United States, which stood at 1600 square feet in 1980, had risen to over 2100 square feet by 2000, despite the fact that the median family’s real income had grown little in the intervening years.¹²

This change has important implications for the spending decisions of even those families who are completely unconcerned about relative house size *per se*, because the cost

¹¹ For a survey, see Frank, 1985, chapter 2.

¹² <http://www.census.gov/prod/2003pubs/02statab/construct.pdf>;
<http://www.census.gov/hhes/income/histinc/f03.html>.

of sending a child to a school of average quality is closely linked to the price of the average house in the community. In the United States this is true in part because of the direct link between local school budgets and local property tax revenues. But in the light of evidence that any given student's achievement level rises with the average socio-economic status of his or her classmates, property values and school quality will be positively linked even in countries in which school budgets largely independent of local property values.

We may safely assume that most middle-class families aspire to send their children to schools of at least average quality. Indeed, parents who felt completely at ease with the prospect of their children attending below-average schools would be judged harshly in most countries. The fact that median house size has increased so much in recent years has thus confronted many middle-income families with a painful dilemma. They can either send their children to a school of average quality by purchasing a house that is larger and more expensive than they can comfortably afford; or they can buy a smaller house that is within their budget and send their children to a below-average school. To see why so many families might find the former option more compelling, we need not assume that they are strongly prone to envy or jealousy.

A similar logic applies to a middle-class family's decision about which car to purchase, for in this domain as well, we see evidence of an expenditure cascade. Higher incomes at the top have induced top earners to buy cars that are faster, more luxuriously appointed, and heavier than those purchased by their counterparts two decades earlier. But the same changes have occurred even for automobiles marketed directly to middle-income consumers whose incomes have risen little. Today's entry level Honda Civic, for

example, is at 2500 pounds about the same size as 1985's Honda Accord, whose current model weighs 3200 pounds. For about the same real price, an Accord buyer in 1985 could buy today's Civic and in the process do better on virtually every absolute performance dimension. The new Civic is faster and more reliable than the old Accord. It has nicer upholstery and a better sound system. And it even gets better gas mileage.

But people who buy a 2500-pound Civic today will incur a significant risk that they wouldn't have incurred in their 1985 Accords, because they must now share the roads with 6,000-pound Lincoln Navigators and 7,500-pound Ford Excursions. The odds of being killed in a collision rise roughly five-fold if your car is struck by one of these large vehicles. To explain why many families might decide against today's Honda Civic, we need not assume that they are driven by envy or other psychological frailties.

Increased incomes at the top have also meant increased spending on clothing, and here too we see evidence of a cascade that has affected people in the middle. And in this instance as well, we need not invoke envy to explain why people in the middle might have decided to spend more than in the past. First impressions count for a lot during job interviews, but looking good is an irreducibly relative concept. It means looking better than others who are competing for the same job. If others are spending more, you must spend more as well, or else be prepared to live with reduced odds of landing the job you want.

Even the gifts that middle-income families feel compelled to give are have been affected by the greater affluence of top earners. Suppose you have been invited to a professional associate's home for dinner and want to bring a bottle of wine for your host. What should you bring? John Brecher and Dorothy Gaiter, whose unpretentious, value-

oriented wine column appears each Friday in *The Wall Street Journal's* weekend section, devoted a recent column to precisely this question. "Ask a respected wine merchant to suggest an unusual wine, one that your host is unlikely to have tried before," they sensibly recommended. "And plan on spending about \$30."

Why should you spend so much, given that many wines available today for under \$10 are far better than the wines drunk by kings of France in centuries past? In part because you have an interest not only in how the wine tastes, but also in how your gift will be interpreted. Higher incomes of top earners have led not only to the predicted higher spending on the most celebrated wines, but also to an increase in what typical consumers spend on far more ordinary varieties. Giving a wine that has become inexpensive by today's standards might be read as a statement that you view your relationship with your host as unimportant. So unless you really don't care about the relationship, the extra \$20 is probably worth spending. Here again, we need not invoke envy to explain why many in the middle might feel pressure to spend more.

How can middle-class families be spending significantly more on housing, cars, clothing, gifts, and other goods if median earnings are only slightly higher than in the late 1970s? The answer is that they appear to be working every margin. They are working longer hours, saving less, borrowing more, commuting longer distances, and filing for personal bankruptcy rates than their counterparts in the 1970s and 1980s.¹³

Is there any evidence that the growth in inequality of recent decades has played a causal role in the expenditure cascades described above? Using U.S. Census data at the county level from 1990 and 2000, Adam Levine and I studied the relationship between

¹³ For a survey, see Frank, 1999, chapter 3.

increases in inequality and changes in the probability of filing for bankruptcy. We found that even after controlling for income and other known causal factors, bankruptcy filings grew significantly more rapidly in those counties that experienced the greatest growth in income inequality.¹⁴

Traffic delays for rush-hour commuters in major U.S. cities roughly tripled between 1983 and 2003, and here, too, evidence is consistent with the expenditure cascade hypothesis.¹⁵ Again using Census data at the county level from 1990 and 2000, Levine and I found that increases in the proportions of drivers with long commutes were significantly larger in counties with larger increases in income inequality.¹⁶

We also found that rising inequality appears to strain personal relationships. Thus, even after controlling for other factors known to influence divorce rates, we observed higher increases in divorce rates in the counties that had experienced the largest increases in inequality.¹⁷

Other authors have reported similar findings. Using OECD data across countries and over time, Bowles and Park found that total hours worked were positively associated with higher inequality, both as measured by the 90/50 ratio and the Gini coefficient.¹⁸ Bjornulf Ostvik-White has identified a systematic positive relationship between median house prices and income inequality at the school district level in 2000 Census data.¹⁹

In sum, available evidence suggests that rising inequality imposes not only psychological costs on the members of middle-income families, but also a host of other

¹⁴ Frank and Levine, 2005.

¹⁵ http://tti.tamu.edu/documents/mobility_report_2005.pdf.

¹⁶ Frank and Levine, 2005.

¹⁷ Ibid.

¹⁸ Bowles and Park, 2002.

¹⁹ Ostvik-White, 2003.

more tangible economic costs. A family's ability to achieve a variety of important objectives in life depends not just on how much it spends in absolute terms but also on how its expenditures compare with those of others. Expenditure cascades launched by the higher incomes of top earners constitute positional externalities.

Should Positional Externalities Be Treated Differently?

As noted at the outset, the libertarian tradition holds that the state may restrict someone's liberty of action only to prevent harm to others. Increased spending by top earners does in fact appear to harm others. Parents who save less or work longer hours in order to be able to afford a house in a better school district may have no conscious intention to impose costs on other parents. Nor is it likely that those who buy expensive interview suits wish to impose additional costs on other job candidates. Yet such actions do impose costs on others, forcing them to spend much more than would otherwise be necessary to achieve ordinary life objectives.

But preventing harm to others is only a necessary condition for government intervention, not a sufficient condition. Indeed, liberal societies routinely permit actions that cause harm to others, typically on the grounds that even greater harm would result from attempts to prevent those actions. For example, most liberal societies protect the right to free speech, even though certain forms of speech are manifestly harmful to others. The right to free speech, however, is never absolute. If the prospective harm of unrestricted speech is too great, we impose restrictions, as when we prohibit yelling "fire" in a crowded theater if there is no fire.

The question of whether to restrict actions that cause harm to others requires a careful weighing of the harm caused by the actions themselves against the harm that would be caused by restricting the freedom to act. Ronald Coase won the Nobel Prize in economics in 1991 largely on the strength of his contribution to our way of thinking about this delicate balancing act.²⁰ My aim in this section is to explore how Coase's insights might help inform our thinking about public policy toward positional externalities.

Before Coase, it was common for policy discussions of externalities to be couched in terms of perpetrators and victims. A factory that created noise, for example, was a perpetrator, and an adjacent physician whose practice suffered as a result was a victim. Coase's insight was that externalities like noise or smoke are purely reciprocal phenomena. The factory's noise harms the doctor, yes; but to invoke the doctor's injury as grounds for prohibiting the noise would harm the factory owner. It is not the factory owner's intent to harm the doctor. Nor is it the doctor's intent to impede the workings of the factory. Their proximity to one another and the nature of their specific activities creates a mutual problem to be solved. Both the factory owner and the doctor, Coase argued, have a shared interest in finding the least costly solution to this problem. He concluded that if they were able to negotiate freely with one another, they would resolve it efficiently, regardless of whether the government held the factory owner liable for noise damages.

But the deeper message of Coase's paper was a different one—namely, that when negotiation is for some reason impractical, the state should assign the burden of adjusting

²⁰ Coase, 1960.

to an externality to whichever party can accomplish it at lower cost. For example, if the doctor and the factory owner cannot negotiate, the government should hold the factory liable for noise damage if it is less costly for the factory to reduce its noise than it is for the doctor to move to a more sheltered location. But if the reverse is true, then the government should not hold the factory liable. That posture, Coase reasoned, would induce the doctor to relocate, which under the circumstances would be the efficient solution.

What does Coase's reasoning have to say about the problem of consumption externalities? To help frame ideas, I begin with a simple example whose details echo many of the issues that arise in the analysis of free speech. Suppose there are some in the population who enjoy wearing purple shirts and others who are offended by the sight of purple shirts. Those who like them would collectively pay up to \$1000 for the privilege of wearing them, while those who dislike them would pay up to \$2000 to avoid having to see them. If negotiation between the two groups were practical, opponents could compensate those who favor purple shirts for agreeing not to wear them. But suppose negotiation is impractical. Should the state then prohibit the wearing of purple shirts? Since the shirts generate larger costs than benefits by assumption, a prohibition might appear to be the efficient outcome.

But that reasoning alone is insufficient to justify a prohibition. If it were, the laws of free speech would prohibit most personal insults, which typically impose greater costs on the insultee than benefits on the insulter. In the free speech case, the right to insult others may be defended on at least two other grounds that appear relevant to the purple shirt example. First, the right to speak freely appears to have general value above and

beyond the value one might assign to speaking freely on any given occasion. By the same token, the right to choose clothing according to one's whims of the moment may have general value beyond what one would be willing pay for the right to wear a purple shirt.

A second concern is the need to anticipate the extent to which affected parties might be able to adjust over time to the injuries in question. In a climate in which personal insults are permissible as a matter of right, for example, potential victims of insults might gradually learn to tune them out, or perhaps even alter their behavior and social circumstances to limit their frequency. Similarly, in a climate that defends the individual's right to wear colors of her own choosing, those who are initially offended by purple shirts might eventually get used to them, or they might tailor their environments to limit exposure to them.

Defending any given right entails both costs and benefits. In the end, questions regarding which specific rights to defend are thus quintessentially practical ones.²¹ Having the right to insult to others and the right to choose the color of one's clothing permits one to cause harm to others. These rights nonetheless appear defensible because the alternatives seem likely to generate even greater harm. It is in this spirit that I frame my discussion about the extent to which we should defend the individual's right to spend her income in whatever ways she chooses, even in the face of evidence that some forms of spending impose costs on others.

The basic question is whether society should attempt to limit the consumption expenditures of top earners in the interest of constraining expenditure cascades that

²¹ Holmes and Sunstein, 2000.

impose costs on families farther down the income scale. For illustrative purposes, I focus again on the important category of housing expenditures, although virtually the same issues would arise for other goods with strong positional components. Are the losses to top earners from having their expenditures on housing restricted likely to outweigh the gains to middle-class families from such restrictions?

If the only costs associated with expenditure cascades were psychological, middle-income families might in time find means of adjusting to the discomfort they initially experience from living in houses that appear diminished by the increased housing expenditures of others. But even if the capacity to adjust to psychological costs were limited, it might still be best to place the burden of adjustment on those who experience these costs, since the alternative might be interpreted as a tacit invitation to complain.

As noted earlier, however, positional externalities in the housing market also entail far more tangible costs, most notably that failure to keep up with community spending patterns means having to send one's children to schools of below average quality. The scope for accommodation to such costs seems far more limited. For many families, the best response will be to match the housing expenditures of other families with similar incomes. To do so they may have to save less, work longer hours, carry more debt, and commute longer distances, all of which are associated with reduced levels of subjective well-being.²²

What about the costs to top earners of spending less on housing? In light of evidence that, beyond some point, the capacity of a house to confer utility depends predominantly on its relative size, there would be little effect on measured levels of

²² For a survey of this evidence, see Frank, 1999.

subjective well-being among top earners if all had slightly smaller houses. Of course, there might be more general costs associated with the very fact of having their spending options restricted. These costs would depend on the specific instruments by which the restrictions were implemented. A regulatory commission assigned to micromanage the building plans of high-income households might be a costly intrusion. But expenditures might also be restrained in other, less intrusive ways, a point to which I will now turn.

Taxes and Positional Externalities

Although it took several decades, economists finally persuaded policy analysts and legislators to move away from command-and-control environmental regulation in favor of policies that reduce incentives to pollute. Instead of prohibiting firms from polluting, or requiring specific pollution-control technologies, the new approach is simply to tax firms on the basis of how much they pollute (or, equivalently, to require them to purchase effluent permits). As economists had long predicted, the costs of any given level of pollution abatement are far lower under incentive-based systems than under prescriptive regulation.²³

The problem of excessive environmental pollution is caused by an incentive gap much like the one that gives rise to expenditure cascades. So for essentially the same reasons that effluent taxes are an efficient way of limiting the costs of pollution, a progressive consumption tax may be an efficient way of limiting the costs of expenditure cascades.

²³For an excellent survey, see Dorris, 1996.

Taxpayers would report their incomes to the IRS just as they do now. They would report how much they had saved during the year, much as we do now in order to exempt money saved in IRAs and 401k accounts. People would then pay tax on their “taxable consumption,” which is just the difference between their income and their annual savings, less a standard deduction. Rates at the margin would rise with taxable consumption. If the tax were revenue neutral, marginal rates at the top would be significantly higher than current marginal tax rates on income. To illustrate how the tax would change spending incentives for top spenders, consider a taxpayer whose marginal rate under the current income tax is 0.33 and whose marginal rate under a progressive consumption tax would be 0.70. Under each tax regime, suppose that this taxpayer foregoes an extra dollar of consumption for the length of time it takes for money in a savings account to double in value. How much extra future consumption will his sacrifice support in each case? Under the current income tax, his dollar of foregone consumption generates a bank deposit of \$1, which becomes \$2 on the date in question. When he withdraws the \$2, he must pay \$0.33 in income tax on his one dollar of interest income. So \$1 of foregone consumption today translates into \$1.67 of future consumption under the current income tax.

Under the consumption tax, by contrast, foregoing \$1 of consumption today would result in a \$0.70 reduction in current tax liability, and so would support a current bank deposit of \$1.70. At withdrawal time, this deposit will have grown to \$3.40. To find C_F , the amount of future consumption this deposit will support, we solve $C_F + 0.7C_F = \$3.40$ for $C_F = \$2$. Giving up a dollar of current consumption thus supports only \$1.67

of future consumption under the current income tax, but \$2 under the progressive consumption tax.

A revenue-neutral switch from the current income tax to a progressive consumption tax would thus alter the incentives confronting wealthy taxpayers as they decide how much to spend and save. A direct effect of the switch in tax policy, then would be to reduce current expenditures on mansions. But the policy change would also have indirect effects. If people at the top save more and spend less on housing, that will shift the frame of reference that influences the housing expenditures of those just below the top. So they, too, will spend less on housing, and so on all the way down the income ladder.

By all available evidence, that would be a good thing. In 2005, the aggregate household savings rate in the United States was negative. Americans spent more than they earned during a full calendar year for the first time since The Great Depression. Liberals and conservatives alike agree that our failure to save has had damaging macroeconomic consequences, that we would all be better off if we all spent less and saved and invested more. But no individual has the power to alter the aggregate savings rates.

The advantage of the tax approach in both the environmental and consumption domains is its flexibility. In the environmental domain, firms for which pollution reduction is most expensive may find it in their interest to continue to pollute even after the imposition of an effluent tax. Similarly, those high-income families for whom consumption reductions would be especially difficult may respond to higher tax rates by expending additional effort in order to maintain their previous spending levels. But in

both the environmental and consumption domains, the relevant externalities depend more on overall activity levels than on the activity levels of particular individuals or firms. And just as the imposition of effluent charges mitigates pollution damage by leading most firms to curtail pollution, a progressive consumption tax would mitigate the costs of expenditure cascades by curtailing spending by most top earners.

Evidence from the happiness literature suggests that no significant reductions in subjective well-being would be experienced by top earners in the wake of an across-the-board reduction in their rate of growth of consumption expenditure. The same literature also suggests that reduced rates of spending at the top would provide relief from financial distress for middle-income families. What is more, additional tax revenues could be used to fund public services that voters at all income levels appear to value highly.

Because of recent budget deficits, for example, many states have begun laying off police, firefighters, and prosecutors. Others are cutting essential medical services for the poor and mentally ill and releasing prison inmates early. Class sizes are already increasing in most states. Teachers' salaries, already low by historical standards, are set to fall still further.

Persistent budget deficits have led to cuts in federal financing for basic scientific research, even as our comparative advantage in the scientific domain has continued to dwindle. These cuts threaten 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."

Citing revenue shortfalls, we have postponed maintenance of our 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, and an annual average of \$120 in pothole damages per vehicle.

Revenue shortfalls and low household savings rates have also forced us to borrow more than \$650 billion each year, primarily from China, Japan and South Korea. These loans, which must be repaid in full, with interest, create additional risk of international monetary instability in the meantime.

Revenue shortfalls have also compromised our national 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. Sam Nunn, the former United States senator, 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 still enter our ports without inspection.

These observations call into question the prevailing assumption that tax policy confronts us with an agonizing tradeoff between equity and efficiency. If expenditure cascades influence middle-income spending patterns in the ways suggested by available evidence, higher marginal tax rates on top earners would appear justified not only on grounds of equity, but also on grounds of narrow economic efficiency.

The tax cuts recently achieved by the Bush administration are based on the view that low tax rates on top earners will stimulate effort and investment, the fruits of which will eventually boost incomes at all levels. Many have found evidence for the trickle-down hypothesis unpersuasive. But even if we accept this hypothesis at face value, lower

top marginal tax rates do not imply improved economic welfare. What is certain is that they will spawn across-the-board expenditure increases by top earners. Such increases will serve mainly to raise the standards that define what consumers at all income levels feel they need. And that will mean reduced levels of economic well-being for middle-income families, even if we set aside the implications of lower tax revenues for the provision of basic public services.

Concluding Remarks

If higher tax rates on top earners would mean not only a more equitable economy but also a more efficient one, why do the economists advising President Bush continue to push for changes in the opposite direction? One possibility is that even though they recognize that many people care about relative position as an empirical matter, they believe that such concerns are simply not a legitimate basis for public policy. They might be concerned, for example, that to implement policies for curtailing positional externalities could encourage people to give freer reign to destructive emotions such as envy and resentment. Or they might be concerned that recognizing positional externalities as legitimate public policy concerns might provoke attempts to implement sweeping new economic and social regulations. Both concerns merit careful attention.

As for the first, society does in fact have a strong and legitimate interest in maintaining its traditional efforts to keep envy and other destructive emotions in check. After all, as John Rawls and others have argued persuasively, absolute equality is neither an attainable nor even a desirable social goal. It is easy to imagine that if society were to

abandon its efforts to discourage envy, ruthless intolerance of even the most minor forms of inequality might quickly emerge.

Envy, however, is not the central issue. Expenditure cascades would continue to occur and would continue to impose large and tangible economic costs on middle-income families even if everyone were completely free of envy. Context influences our assessment of material living standards for the same kinds of practical reasons that context influences our assessments of temperature and distance. When context matters, there is simply no presumption that individual spending decisions give rise to the greatest good for all. To acknowledge the obvious importance of context is in no way to encourage people to give free reign to feelings of envy.

It is also easy to see why some might fear that treating positional externalities on a par with other externalities might provoke a wave of intrusive economic and social regulation. After all, positional externalities are widespread, and our early experience with environmental regulation provides ample grounds for concern about government interventions that do more harm than good. Yet we have no reason to believe that acknowledging the legitimacy of positional externalities would doom us to protracted prescriptive regulation. With the lessons of environmental regulation fresh in memory, the same pitfalls might be avoided entirely.

The progressive income tax, which is already part of our existing policy arsenal, provides an instrument for attacking positional externalities in the same way that we now attack environmental externalities with effluent charges. A progressive consumption tax would be an even better instrument for this purpose. We already confront the question of how steeply progressive our tax system should be. On the available evidence, increasing

its progressivity relative to the current structure would change expenditure patterns in ways that would result in greater well-being for consumers across the entire income scale. Yet the current policy debate is driven by an intellectual framework that continues to insist, contrary to all evidence, that relative consumption does not matter.

References

- Bowles, Samuel and Yongjin Park. "Emulation, Inequality, and Work Hours: Was Thorstein Veblen Right?" Santa Fe Institute mimeograph, 2002.
- Clark, Andrew and Andrew Oswald. "Satisfaction and Comparison Income," *Journal of Public Economics*, 61, 1996: 359-81.
- Coase, Ronald. "The Problem of Social Cost," *Journal of Law and Economics*, 3, 1960: 144-171.
- Diener, Ed, Ed Sandvik, Larry Seidlitz, and Marissa Diener. "The Relationship Between Income and Subjective Well-Being: Relative or Absolute?" *Social Indicators Research*, 28, 1993: 195-223.
- Dorris, Gary W. *Redesigning Regulatory Policy: A Case Study in Urban Smog*, PhD dissertation, Cornell University, 1996.
- Easterlin, Richard. "Does Economic Growth Improve the Human Lot?" in *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*, Paul David and Melvin Reder, eds., New York: Academic Press, 1974.
- Easterlin, Richard. "Will Raising the Incomes of All Increase the Happiness of All," *Journal of Economic Behavior and Organization*, 27, 1995: 35-47.
- Frank, Robert H. *Choosing the Right Pond*, New York: Oxford University Press, 1985.
- _____. "Positional Externalities," in Richard Zeckhauser, ed., *Strategy and Choice: Essays in Honor of Thomas C. Schelling*, Cambridge, MA: MIT Press, 1991: 25-47.
- _____. *Luxury Fever*, New York: The Free Press, 1999.
- Frank, Robert H., Bjornulf Ostvik-White, and Adam Levine. "Expenditure Cascades," Cornell University mimeograph, 2003.
- Friedman, Milton. *A Theory of the Consumption Function*, Princeton, N.J.: Princeton University Press, 1957.
- Hirsch, Fred. *Social Limits to Growth*, Cambridge, Mass.: Harvard University Press, 1976.
- Holmes, Stephen and Cass Sunstein. *The Cost of Rights: Why Liberty Depends on Taxes*, New York: W. W. Norton, 2000.
- Johnson, Dirk. "When Money Is Everything, Except Hers," *New York Times*, October 28, 1998: A1.

Kahneman, Daniel, Ed Diener, and Norbert Schwartz, eds., *Understanding Well-Being: Scientific Perspectives on Enjoyment and Suffering*, New York, Russell Sage, 1998.

Kahneman, Daniel, Alan B. Krueger, David Schkade, Norbert Schwartz, and Arthur B. Stone. "Would You Be Happier If You Were Richer? A Focusing Illusion," *Science*, 312, June 30, 2006: 1908-1910.

Mill, John Stuart. *On Liberty*, New York: Viking, 1982.

Modigliani, Franco and R. Brumberg. "Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data," in *Post-Keynesian Economics*, K. Kurihara, ed., London: Allen & Unwin, 1955.

Smith, Adam. *The Wealth of Nations*, New York: Random House, 1937.

Veenhoven, Ruut. "Happiness in Nations," International Monetary Fund, 1993.