




## THE FRAME OF REFERENCE AS A PUBLIC GOOD\*

*Robert H. Frank*

Does consuming more goods make people happier? For a broad spectrum of goods, available evidence suggests that beyond some point the answer is essentially no. Much of this evidence is from the large and growing scientific literature on the determinants of life-satisfaction and psychological well-being.<sup>1</sup> Evidence from this literature also suggests, however, that there are ways of spending time and money that do have the potential to increase people's satisfaction with their lives, and herein lies a message of considerable importance for policy-makers.

The psychologist's conception of human well-being is somewhat different from the economist's. Economists speak of an individual's utility, which in traditional economic models is assumed to be an increasing function of present and future consumption of goods, leisure, and other amenities that people typically view as desirable. Faced with a limited income, the individual is assumed to choose among alternatives so as to maximise her utility. The analogous construct in the psychological literature is 'subjective well-being', a composite measure of life satisfaction, positive affect, and negative affect.

Operational measures of subjective well-being take one of several forms. By far the most popular approach in the psychological literature has been simply to ask people how happy or satisfied they are.<sup>2</sup> For example, people may be asked to respond, on a numerical scale, to a question like, 'All things considered, how satisfied are you with your life as a whole these days?' Or,  'Thinking of your life as a whole, would you consider yourself (a) very happy; (b) fairly happy; or (c) not happy.' Another approach measures the frequency and intensity of positive affect by asking people the extent to which they agree with such statements as: 'When good things happen to me, it strongly affects me.'

 More recently, neuroscientists have also used brainwave data to assess positive and negative affect. Subjects with relatively greater electrical activity in the left prefrontal region of the brain are likely to indicate strong agreement with statements like the ones above, while those with relatively greater electrical activity in the right prefrontal region are much more likely to disagree with these statements.<sup>3</sup> The left prefrontal region of the brain is rich in receptors for the neurotransmitter dopamine, higher concentrations of which  been shown independently to be correlated with positive affect.<sup>4</sup>

\* I thank Jeremy Chua, Rajib Das, Nadja Marinova, Rupal Patel, Lisa Shenouda, and Andrea Wasserman for their able research assistance.

<sup>1</sup> For an excellent and accessible survey of this literature, see Myers (1993).

<sup>2</sup> See Easterlin (1974).

<sup>3</sup> Davidson (1992).

<sup>4</sup> Reported by Goleman (1996).

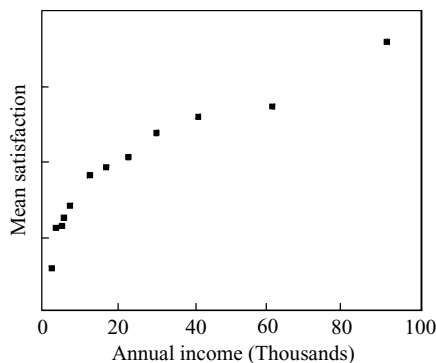


Fig. 1. Income *vs.* satisfaction in the United States, 1981–4. Source: Diener *et al.* (1993).

Satisfaction as identified by any of these measures is predictive of a variety of observable behaviours that most of us take to be indicative of well-being. For example, people who call themselves happy, or who have relatively high levels of electrical activity in the left prefrontal region, are more likely to be rated as happy by friends; more likely to initiate social contacts with friends; more likely to respond to requests for help; less likely to suffer from psychosomatic illnesses; less likely to be absent from work; less likely to be involved in disputes at work; less likely to die prematurely; less likely to attempt suicide; less likely to seek psychological counselling.<sup>5</sup> In short, it seems that what the psychologists call subjective well-being is a real phenomenon. Empirical measures of it have high consistency, reliability, and validity.<sup>6</sup> In what follows, it is not my claim that the only goal of a person or a society should be to achieve the highest possible levels of subjective wellbeing. (Would you prefer to be Socrates dissatisfied or a pig satisfied?) For the purposes of this discussion, I need assume only that an increase in subjective well-being counts as a good thing if it is achieved without having to compromise other important values.

My claim is that available evidence on the determinants of subjective well-being suggests a variety of ways this could be achieved. The basic idea is simple – namely, that, whereas across-the-board increases in many forms of material consumption goods have little discernible effect on subjective well-being in the long run, the same resources can be used in alternative ways that do give rise to lasting increases in subjective well-being.

#### THE DETERMINANTS OF SUBJECTIVE WELL-BEING

Richard Easterlin was the first to call economists' attention to survey data that illuminate the relationship between material living standards and subjective well-being.<sup>7</sup> Easterlin saw three significant patterns in the self-reported satisfaction data. First, he noted that satisfaction levels across individuals within a given country vary directly with income – richer people, on the average, are more satisfied than their poorer countrymen. This relationship is

<sup>5</sup> For surveys of this evidence see Frank (1985*b*, chapter 2) and Clark and Oswald (1996).

<sup>6</sup> Diener and Lucas (1997).

<sup>7</sup> Easterlin (1974).

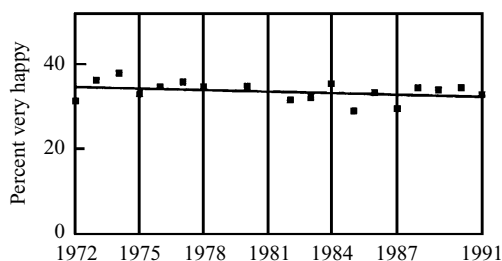


Fig. 2. Percent very happy, United States, 1972–91. *Source*: National Opinion Research Center (1991).

illustrated in Fig. 1, which plots average satisfaction against annual income for a US sample of 4,942 persons surveyed between 1981 and 1984.

Second, Easterlin noted that the average satisfaction levels within a given country tend to be highly stable over time, even in the face of significant economic growth. Fig. 2, for example, plots the percentage of Americans surveyed who respond ‘very happy’ when asked, ‘Taken all together, how would you say things are these days – would you say that you are very happy, pretty happy, or not too happy?’ Veenhoven (1993) found mean subjective well-being over time for Japan to be almost completely stable over the period 1958–87, a particularly striking result in view of the fact that *per-capita* income in that country grew more than fivefold during that period.

A third and final pattern noted by Easterlin is that although average reported satisfaction levels exhibit substantial variation across countries, they are not strongly correlated with average levels of national income. Easterlin argued that these patterns are consistent with the hypothesis that relative income is far more important than absolute income as a determinant of individual satisfaction levels. His pessimistic conclusion was that economic growth does not improve the human condition, since no matter how prosperous a society becomes in absolute terms, the frequency with which people experience relative deprivation will not be much affected.

Subsequent work has suggested the need to qualify Easterlin’s claims in several ways. For example, most careful studies find a clear time-series relationship between subjective well-being and absolute income at extremely low levels of absolute income. Thus, in a country in which most people lack minimally adequate shelter and nutrition, across-the-board increases in income appear, not surprisingly, to yield significant and lasting improvements in subjective well-being.<sup>8</sup> In the same vein, it now appears that average satisfaction levels are in fact significantly lower in extremely poor countries than in rich ones.<sup>9</sup> Subsequent work has also shown that even within countries, the positive link between income and reported satisfaction is significant primarily at the lowest levels of relative income.<sup>10</sup> For individuals in the middle

<sup>8</sup> Diener and Diener (1995).


<sup>9</sup> *Ibid.*

<sup>10</sup> *Ibid.*

and upper portions of the income distribution within such countries, variations in income explain less than 2% of variations in reported satisfaction levels.<sup>11</sup> But it still does appear that average satisfaction levels within a country are not significantly correlated over time with income.

#### BEHAVIOURAL EVIDENCE FROM THE ECONOMICS LITERATURE

Unlike psychologists, who often rely on survey evidence, economists prefer behavioural evidence when attempting to make inferences about sources of human satisfaction. The relevant literature is not extensive, but there are several studies that shed light on the strength of concerns about relative consumption. In one recent paper, for example, Neumark and Postlewaite (1996) investigate how individual labour supply decisions depend on the incomes of important reference group members. The difficulty in such efforts has always been that it is hard to know which others a person includes in her reference group. Neumark and Postlewaite solve this problem by examining the behaviour of sisters. Does a woman's decision about whether to work outside the home depend on her sister's economic circumstances? In conventional models it would not, but Neumark and Postlewaite find differently for a sample of women whose sisters are not employed. Specifically, they find that sister *A* is 16–25% more likely to work outside the home if sister *B*'s husband earns more than sister *A*'s husband.<sup>12</sup>

 Sheryl Ball and her co-authors have shown that even simple laboratory manipulations of status can have profound implications for the terms of market exchange.<sup>13</sup> In one experiment, for example, they awarded half of their subjects 'stars' on the basis of their performance on a transparently meaningless quiz. These subjects consistently received better terms when they exchanged goods with subjects who did not receive stars.

In *Choosing the Right Pond*, I described additional behavioural evidence consistent with the view that status concerns have significant weight in economic decisions. There I showed that the wage distributions within firms are typically much more compressed than we would expect if workers did not care about relative income.<sup>14</sup> Likewise, the incidence of piece-rate pay schemes is much lower, and the frequency with which workers go on strike is much higher, than we would expect if relative income did not matter. In addition, the observed structural differences between the compensation packages of unionised firms and non-unionised firms – for example, the fact that unionised workers tend to receive a much larger share of total compensation in the form of non-monetary fringe benefits – are difficult to explain without reference to collective action problems that arise from concerns about status.<sup>15</sup> The fact that the rich save significantly higher proportions of their permanent incomes than

<sup>11</sup> *Ibid.*

<sup>12</sup> Their Table 3.

<sup>13</sup> Ball *et al.* (1996).

<sup>14</sup> Frank (1985*b*, chapter 4). See also Frank (1984).

<sup>15</sup> Frank (1985*b*, chapter 8).

do the poor<sup>16</sup> is inconsistent with traditional economics models,<sup>17</sup> but this pattern is predicted by models in which utility depends on relative consumption.<sup>18</sup>

In a recent paper I have attempted to estimate the significance of occupational status in career choices using earnings and occupation data from a survey of recent graduates of Cornell University.<sup>19</sup> I found a strong negative correlation between annual earnings and the degree to which an employee's occupation was viewed by outsiders as being socially responsible. I found the same pattern by examining the fees paid to expert witnesses who testify on behalf of the tobacco industry and their counterparts who testify for the American Heart Association and other public interest groups; and the same pattern shows up in pay differences between public interest lawyers and those employed in other segments of the legal profession. I also described survey evidence from a sample of graduating seniors who reported that they would require very large premiums before being willing to switch to a less socially responsible employer.

In sum, the claim that satisfaction depends heavily on relative position is supported by considerable evidence from both the psychological literature on subjective well-being and by at least fragmentary evidence from the behavioural economics literature. I am aware of no empirical or theoretical evidence against this claim.

#### DOES ANYTHING MATTER?

Once people escape the physical deprivations associated with abject poverty, do absolute living standards matter at all? It is easy to see how Richard Easterlin could have interpreted patterns in the data on subjective well-being to suggest that they do not. After all, the struggle to get ahead seems to play out with much the same psychological effects in rich societies as in those with more modest levels of wealth. In each case, people who are doing well relative to others, or whose conditions are improving over time, appear more satisfied than those who are doing poorly relative to others or whose conditions are deteriorating over time.

Perhaps the clearest message of the psychological literature is that, beyond some point, across-the-board increases in spending on many types of material goods do not produce any lasting increment in subjective well-being. Imagine people from two societies that are identical in every respect save one: In society *A*, everyone lives in a house with 5,000 square feet of floor space, whereas in society *B* each house has only 3,000 square feet. Provided people from the two societies do not come into frequent contact with one another, psychologists and neuroscientists are unlikely to be able to discern any significant differences in their respective average levels of subjective well-being. Each society will have

<sup>16</sup> Dynan *et al.* (1996).

<sup>17</sup> In particular, it is inconsistent with the permanent income hypothesis (Friedman, 1957) and the life-cycle hypothesis (Modigliani and Brumberg, 1955).

<sup>18</sup> See Duesenberry (1949), Kosicki (1987).

<sup>19</sup> Frank (1996).

its own local norm for what constitutes adequate housing, and people in each society will therefore be equally likely to be satisfied with their houses and other aspects of their lives.

Of course, it takes more real resources to build 5,000 square-foot houses instead of 3,000 square-foot houses. Is there some alternative way of spending these resources that could have produced a lasting increment in subjective well-being? If the answer to this question is no, then policy-makers face an empty agenda. In fact, however, the scientific literature has identified a number of ways in which additional resources can be used to create large and enduring increases in subjective well-being.

Consider the following sequence of thought experiments in which we compare people from two societies with equal wealth levels but different spending patterns. In each case, let us again suppose that residents of one society live in 5,000 square-foot houses while those in the other live in 3,000 square-foot houses. And in each case, let us suppose that the residents of the society with the smaller houses use the resources thus saved to bring about some other change in the conditions of their lives. For example:



*Who is more satisfied, residents of Society A, who have 5,000-square-foot houses and a one-hour automobile commute to work through heavy traffic, or residents of Society B, who have 3,000-square foot houses and a 15-minute commute by rapid transit?* The only difference between these societies is that they have allocated their resources differently between housing and transportation. The residents of society *B* have used the same resources they could have employed to build larger housing to transform the nature of their commute to work. The evidence, as noted, suggests that their smaller houses predict no persistent difference in their subjective well-being. Of course, someone who moved from society *B* to society *A* would be pleased at first to experience the additional living space, but in time would adapt and consider the larger house the norm. Someone who moved from society *B* to society *A* would also initially experience stress from the extended commute through heavy traffic. Over time, his consciousness of this stress would diminish. But there is an important distinction: unlike his adaptation to the larger house, which will be essentially complete, his adaptation to his new commuting pattern will be only partial. Even after long periods of adjustment, most people experience the task of navigating through heavy commuter traffic as stressful. In this respect, the effect of exposure to heavy traffic is similar to the effect of exposure to noise and other irritants. For example, even though a large increase in background noise at a constant, steady level is experienced as less intrusive as time passes, prolonged exposure nonetheless produces lasting elevations in blood pressure. If the noise is not only loud but sporadic, people remain conscious of their heightened irritability even after extended periods of adaptation, and their symptoms of central nervous system distress become more pronounced. Commuting through heavy traffic is in many ways more like exposure to loud sporadic noise than to constant background noise. Delays are difficult to predict, and one never quite gets used to being cut off by others who think their time is more valuable than anyone else's.

Neurophysiologists would find higher levels of cortisol, norepinephrine, and other stress hormones in the cerebro-spinal fluid of residents of the society with the lengthy commute. The prolonged experience of such stress is also known to suppress immune function and shorten longevity.<sup>20</sup> Urban bus drivers, for example, experience an unusually high number of stress-related illnesses.<sup>21</sup> Among people who commute to work, the incidence of such illness rises with the length of commute,<sup>22</sup> and is significantly lower among those who commute by bus or rail.<sup>23</sup> No one has done the experiment to discover whether people from Society *A* would report lower levels of life satisfaction than people from Society *B*. But even in the absence of such survey evidence, we may suspect that most people would prefer to see their children live in society *B*.

*Who is more satisfied, residents of Society A, who have 5,000-square-foot houses and no time to exercise each day, or residents of Society B, who have 3,000-square-foot houses and exercise for 45 minutes each day?* Again we have two societies that have different bundles from the same menu of opportunities. Residents of society *B* could have built larger houses, but instead they spent less time at work each day and devoted the time saved to exercise. Numerous studies have documented the positive physiological and psychological effects of regular aerobic exercise.<sup>24</sup> Exercisers report more frequent and intense positive feelings and tend to have better functioning immune systems.<sup>25</sup> Exercisers have higher life expectancy and are less likely to suffer from heart disease, stroke, diabetes, hypertension, and a variety of other ailments.<sup>26</sup> Evidence for the causal nature of these relationships is seen in the fact that subjects randomly assigned to exercise programmes experience improved physical and psychological well-being.<sup>27</sup> and although many people report that exercise is an unpleasant experience at first, most adapt to it quickly and come to think of it as pleasurable. Here again, the evidence weighs heavily in favour of the residents of society *B*.

*Who is more satisfied, residents of society A, who have 5,000-square-foot houses and one evening each month to get together with friends, or residents of Society B, who have 3,000-square-foot houses and get together with friends four evenings a month?* The question is again whether one use of time produces a larger impact on subjective well-being than another. Because the residents of society *A* work longer hours, they can build larger houses but have less time to socialise with friends. Here again, the evidence suggests that whereas the payoff when all have larger houses is small and fleeting, the pleasures that result from deeper social relationships are both profound and enduring. People with rich networks of active social relationships are much more likely to call themselves happy, and are much more likely to be described as happy by friends.<sup>28</sup> People who lack such

<sup>20</sup> DeLongis *et al.* (1988) and Stokols *et al.* (1978).

<sup>21</sup> Evans (1994).

<sup>22</sup> Koslowsky *et al.* (1995).

<sup>23</sup> Taylor and Pocock (1972).

<sup>24</sup> For a survey, see Plante and Rodin (1990).

<sup>25</sup> Fontane (1996).


<sup>26</sup> Blair (1989).


<sup>27</sup> Palmer (1995).

<sup>28</sup> Argyle (1997).


networks tend to be less physically healthy, and confront a higher risk of dying at every age.<sup>29</sup> In this case, too, the neurophysiologists would have no difficulty discerning which people came from society *B*.

IF SPENDING DIFFERENTLY WOULD MAKE US HAPPIER,  
WHY DON'T WE DO IT?

There are at least two plausible explanations for our failure to allocate available resources in the best possible way. Our spending patterns are in part  result of incomplete information about the extent to which we will adapt to different goods and experiences; and in part they are a result of the fact that many forms of consumption appear much more attractive to individuals than they are to society as a whole. On the first point, consider a person whose wage is such that he could purchase a 30% more expensive car by working an additional Saturday each month, which in his case would mean not spending that Saturday with friends. Standard economic theory suggests that he will work the extra Saturday if the satisfaction afforded by the nicer car outweighs the satisfaction provided by the company of his friends. Since the individual will typically not know how each alternative will alter his subjective well-being, he is forced to construct rough estimates.

 Introspection may provide reasonably good estimates of how changes in consumption will affect subjective well-being in the short run. But because adaptation is inherently difficult to anticipate, the long-run effects of such changes will be harder to forecast. In the choice at hand, this may create a strong bias in favour of choosing the more expensive car over the extra day with friends. Thus, if the new car is substantially faster than the individual's current car, its acquisition will provide an initial thrill. Over time, however, he will grow accustomed to the car's capabilities and its capacity to stimulate will decay.

The contribution to subjective well-being of additional time spent with friends will have a markedly different time profile. As relationships continue over time, the satisfaction they provide tends to increase rather than diminish. In the long run, extra time spent with friends might well prove the better choice. Yet the short-run increment in satisfaction might easily be higher with the new car. And to the extent that these short-run effects are the most available source of information to the individual at the moment of decision, they bias choice in favour of the nicer car.

 A second, more important, source of bias in our spending patterns would exist even in a world of fully informed consumers. It stems from the fact that when payoffs depend on relative position, the individual payoff from many types of spending is different from the collective payoff. Military arms races provide perhaps the clearest illustration. From each individual nation's point of view, the worst outcome is not to buy armaments while its rivals do. Yet when *all* spend more on weapons, no one is more secure than before. Most

<sup>29</sup> Berkman and Syme (1979), House *et al.* (1982).

nations recognise the importance of maintaining military parity, and the result all too often has been a wasteful escalation of expenditures on arms. Nations would spend much less on weapons if they could make their military spending decisions collectively. And with the money thus saved, each side could then spend more on things that promote, rather than threaten, human well-being.

Similar forces affect each family's decision about how much to save. Parents want to save for retirement, but they also have other important goals. For instance, they want to make sure that their children receive an education that qualifies them for the best jobs. For the typical American family, that means buying a home in the best school district it can afford. Most of us thus confront an almost irresistible opportunity to do more for our children: By saving a little less for retirement, we can purchase homes in better school districts.

From the collective vantage point, however, such moves are futile in the same way that military arms races are futile. When each family saves less in order to buy a house in a better school district, the net effect is merely to bid up the prices of those houses. Students end up at the same schools they would have attended if all families had spent less. In the process, an important goal – being able to maintain an adequate living standard in retirement – is sacrificed for essentially no gain. Yet no family, acting alone, can solve this problem, just as no nation can unilaterally stop a military arms race.

Housing is of course not the only expenditure that is driven by forces similar to those that govern military arms races. Spending on cars fits the same pattern, as does spending on clothing, furniture, wine, jewelry, sports equipment, and a host of other goods. The things we feel we 'need' depend on the kinds of things that others have, and our needs thus grow when we find ourselves in the presence of others who have more than we do. Yet when all of us spend more, the new, higher spending level simply becomes the norm.

There is yet another difficulty, one that is independent of the mechanics of the human psychological reward system. It lies in the fact that promotion decisions on the job often depend heavily on the relative number of hours someone works. Thus, an associate in a law firm who goes home at 5 p.m. each day instead of 8 p.m. not only earns less in relative terms, she is also less likely to be promoted to partner. If all the associates left the office a little earlier, of course, no one's promotion prospects would be affected. But each individual has control over only the hours that she herself works. She cannot unilaterally decree that everyone scale back. Landers *et al.* (1996) report that associates in large law firms voice a strong preference for having all work fewer hours, even if that means lower pay, and yet few dare take that step unilaterally.

To the extent that misallocations result from our failure to anticipate different patterns of adaptation in different domains, there is the possibility for unilateral action to improve matters. By becoming better informed and more disciplined, we can make decisions that will better promote our long-term interests. The brisk sales of books urging the adoption of simplified styles of living suggest that many people are at least receptive to this possibility.

To the extent, however, that misallocations are the result of the fact that certain forms of consumption are more attractive to individuals than to society

as a whole, the potential for improvement through unilateral action may be sharply limited. Thus, as we have seen, the problem confronting individuals who must decide how to spend their time and money is in many ways like the one confronting nations that must decide how much to spend on armaments. Just as nations end up spending too much on weapons and too little on other things, ordinary people end up spending too much time earning money to buy private goods, and too little time doing other things.

When nations attempt to curtail military arms races, they try to negotiate agreements that specify precisely what kinds and quantities of weapons are permissible. The idea of private citizens conducting similar negotiations about how to allocate their time and money seems wildly impractical. Fortunately, however, the underlying problem can be attacked without trying to micro-manage people's spending decisions at all.

#### ONE SOLUTION: A PROGRESSIVE CONSUMPTION TAX

If our problem is that certain forms of private consumption currently seem more attractive to individuals than to society as a whole, the simplest solution is to make those forms less attractive by taxing them. Without raising our overall tax bill at all, a progressive consumption tax would change our incentives in precisely the desired ways.

Proposals to tax consumption raise the spectre of forbidding complexity – 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 progressive consumption taxation could be achieved by a simple one-line amendment to the federal tax code – namely, by making savings exempt from tax. This is so because the amount a family consumes each year is simply the difference between the amount it earns and the amount it saves. Administratively, a progressive consumption tax is thus essentially the same as our current progressive income tax. An example is provided in the appendix.

The progressive consumption tax illustrated in the appendix is different from other consumption taxes like the value added tax or the national sales tax. Those taxes are levied at the same rate no matter how much a family consumes, and have therefore been criticised as regressive on the grounds that wealthy families typically save much higher proportions of their incomes than poor families. But the consumption tax proposed is not a regressive tax. Its escalating marginal tax rates on consumption, coupled with its large standard deduction, assure that total tax as a proportion of income rises steadily with income, even though the assumed savings rate is sharply higher for high-income families.

Consumption taxation has been proposed before.<sup>30</sup> Its proponents have stressed that it will encourage savings, and hence stimulate economic growth. This is indeed an important benefit – more important, by far, than even the proponents of consumption taxation have realised. Yet the most significant gains from progressive consumption taxation lie elsewhere. Properly designed

<sup>30</sup> See Hall and Rabushka (1995) for a discussion of the so-called flat tax, a form of consumption tax. The flat tax, value-added tax and national sales tax are discussed extensively in Aaron and Gale (1996).

and implemented, such a tax can eliminate trillions of dollars of waste from the American economy.

The key to understanding how this would work is the observation that when the price of a good rises, we buy less of it. It follows that if consumption were taxed at a progressive rate, we would save more, buy less expensive houses and cars, and feel less pressure to work excessively long hours. And this, on the best available evidence, would improve the quality of our lives.

It might seem natural to worry that a tax that limits consumption might lead to recession and unemployment. This is not a serious concern, however, because money that is not spent on consumption is saved and invested. The result is that some of the people who are now employed to produce consumption goods will instead be employed to produce capital goods – which, in the long run, increase the economy's productive capacity. The government knows how to stimulate the economy when recession threatens. Indeed, a central problem of recent decades has been to contain the inflationary pressures that result when demand grows more rapidly than the economy's capacity to produce goods and services. By stimulating savings and investment, the progressive consumption tax will increase the rate at which the economy's productive capacity grows, and thus reduce the threat of inflation.

The extraordinary beauty of the progressive consumption tax is its ability to generate extra resources almost literally out of thin air. It is a win-win move, even for the people on whom the tax falls most heavily. Transition problems could be minimised by phasing the programme in gradually – with phased increases in the amount of savings a family could exempt and phased increases in the highest marginal tax rates.

#### EFFECTS ON SAVINGS AND GROWTH

The case for the progressive consumption tax is strong even if we ignore its effects on growth in our national income. But once we take these effects into account, it becomes compelling. Proponents of consumption taxation have long stressed that it will increase savings, and they are right. These same proponents go on to predict that the increase will be small, and that the resulting increase in growth and well-being, though steady, will be small as well.<sup>31</sup> The latter predictions, however, are significantly off the mark.

Switching to a consumption tax from an income tax would affect savings through several channels. Past advocates of consumption taxation have focused on two. First, the tax would put more resources in the hands of those whose savings rates were highest to begin with. (The less someone consumes, the less tax she pays, and hence the more she is able to save.) And second, a consumption tax would increase the monetary reward for saving. But, as past advocates of consumption taxes have realised, both effects are relatively small.<sup>32</sup>

Where past predictions have gone awry is in having ignored the effect of

<sup>31</sup> See Auerbach and Slemrod (1996), Hubbard and Skinner (1996), Poterba *et al.* (1996) and Slemrod (1990).

<sup>32</sup> See especially Engen *et al.* (1996).

community consumption standards on savings rates. This is by far the most important channel through which a progressive consumption tax would stimulate savings. Even though the direct effect of the tax might be to reduce our consumption only slightly, this would initiate a self-reinforcing sequence of indirect effects. Thus, when others consume less, the amount that we consume would decline still further, and our responses would then influence others, and so on. Once these multiplier effects are taken into account, the effect on savings rates turns out to be substantial.

Higher savings rates, in turn, are the surest path to more rapid economic growth. Some might wonder whether achieving higher growth rates would be such a good thing in the end since, after all, people do tend to adjust quickly to changes in material living standards. One might also worry that more consumption means more garbage and more greenhouse gases. On the first point, the evidence suggests that although we adjust rather quickly to any stable standard of living, we seem to derive continuing satisfaction from an ongoing increase in our standard of living.<sup>33</sup> The faster the economy is growing, the more satisfied people seem to be. Opportunities are greater in a rich society than in a poor one. The former Soviet Union generated more pollution than any nation on earth not because of its high rate of economic growth, but because its productivity lagged so far behind that of its rivals. A richer society has more resources for medical research, more resources for rapid transit, more time for family and friends, more time for study and exercise – and more resources for better insulated houses and cleaner, more fuel-efficient cars.

#### ARE POSITIONAL EXTERNALITIES A LEGITIMATE CONCERN OF TAX POLICY?

Most economists accept the proposition that market allocations may be suboptimal when production is accompanied by the discharge of environmental pollutants. Most tend also to be enthusiastic in their embrace of effluent taxes as a solution to the problem of environmental pollution. The dependence of utility on relative consumption gives rise to what I have elsewhere called positional externalities.<sup>34</sup> Analytically, these externalities are no different from ordinary environmental pollutants. My proposal to tax consumption is thus precisely analogous to an effluent tax.<sup>35</sup> Most economists accept the existence of positional externalities as a purely descriptive matter.<sup>36</sup> Yet many of these same economists may question whether such externalities are proper targets for public policy intervention. On the face of it, this is a curious position for the

<sup>33</sup> See Shin (1980) and Frank and Hutchens (1993).

<sup>34</sup> Frank (1992).

<sup>35</sup> Many others have suggested taxes to mitigate the externalities that arise from the dependence of utility on relative income or relative consumption. See, for example, Bagwell and Bernheim (1996), Boskin and Sheshinski (1978), Layard (1980), Ng (1987), Oswald (1983) Kosicki (1987), Ireland (1994, 1997).

<sup>36</sup> There is indeed an extensive literature in which economists have discussed the dependence of satisfaction on relative living standards. In addition to the authors previously cited, see Kapteyn and van Herwaarden (1980), van Praag (1993), Easterlin (1974, 1996), Sen (1983, 1987), Hirsch (1976) and Scitovsky (1976).

profession that has always insisted that ‘a taste for poetry is no better than a taste for pushpins’.

Of course, it is one thing to say that a person’s tastes are her own business, and quite another to say that *A*’s discomfort from *B*’s consumption constitutes grounds for restricting *B*’s consumption. As parents most of us try to teach our children not to worry about what others consume, and perhaps this is the best posture for the state to assume as well. And yet many forms of consumption cause not only injured feelings in others but also more tangible economic losses.<sup>37</sup> The job seeker gains a leg up on his rivals, for example, by showing up for his interview in a custom-tailored suit. The best response for others may be to show up in custom-tailored suits as well. Yet all job seekers might prefer the alternative in which all spent less on their professional wardrobes. Likewise when *A* sends his child to an expensive private school, he may not intend to reduce the likelihood that the children of others will be accepted to top universities, but that is a consequence of his action nevertheless, and it may be the best response of others to follow suit. And yet all might find that outcome less attractive than when all send their children to the public schools.

To acknowledge that our utility from consumption depends on context is simply to note an obvious fact of the human condition. Because each individual’s consumption affects the frame of reference within which others evaluate their own consumption, this frame of reference becomes, in effect, a public good. The uncoordinated consumption decisions of individuals are not more likely to result in the optimal level of this public good than the uncoordinated actions of individuals are likely to result in an optimal level of military preparedness. The progressive consumption tax is a simple policy measure that can help mould the frame of reference in mutually beneficial ways.

But not even a steeply progressive consumption tax can fully neutralise the externalities that arise from competition for spots atop various local hierarchies. At best, it can reduce some of their costs. Even with such a tax, it will still prove useful to ameliorate consumption externalities through a variety of less formal means – adoption of social norms, choice of personal reference groups, introspection, and so on. As policy interventions go, a consumption tax is not especially intrusive. After all, we have to tax something anyway. And available evidence suggests that across-the-board consumption reductions will not entail significant utility losses for middle- and upper-income citizens, the only people who might experience a heavier tax burden under a progressive consumption tax.

#### CASH ON THE TABLE

‘Cash on the table’ is the familiar economist’s metaphor for situations in which people seem to be passing up opportunities for gain. Each year, Americans leave literally trillions of dollars on the table as a result of wasteful consumption arms races. This waste can be curbed by a disarmingly simple policy change – in

<sup>37</sup> Sen (1987) emphasises this point.

essence, a one-line amendment that exempts savings from the federal income tax. Adoption of a progressive consumption tax would greatly enhance every citizen's opportunity to pursue his or her vision of the good life.

The only intelligible reason for having stuck with our current tax system for so long is that we have not understood clearly how much better the alternative would be. But we now have all the evidence we could reasonably demand on this point. In the face of this evidence, the progressive consumption tax emerges as by far the most exciting economic opportunity of the modern era.

*Cornell University*

#### REFERENCES

- Aaron, Henry J. and Gale, William G. (1996). *Economic Effects of Fundamental Tax Reform*. Washington, DC: Brookings Institution.
- Argyle, Michael (1997). 'Causes and correlates of happiness.' In *Understanding Well-Being: Scientific Perspectives on Enjoyment and Suffering*, (ed. Daniel Kahneman, Ed Diener and Norbert Schwartz) New York: Russell Sage.
- Auerbach, Alan and Slemrod, Joel (1997). 'The economic effects of the tax reform act of 1987.' *Journal of Economic Perspectives*, forthcoming.
- Bagwell, Laurie Simon and Bernheim, B. Douglas. (1996). 'Veblen effects in a theory of conspicuous consumption.' *American Economic Review*, vol. 86, (June), pp. 349-73.
- Ball, Sheryl, Eckel, Catherine, Grossman Philip and Zame, William (1996). 'Status in markets.' Department of Economics Working Paper, Virginia Polytechnic Institute, (January).
- Berkman, L. F. and Syme, S. L. (1979). 'Social networks, host resistance, and mortality: a nine-year followup of Alameda county residents.' *American Journal of Epidemiology*, vol. 109, pp. 186-204.
- Blair, S. N. (1989). 'Physical fitness and all-cause mortality: a prospective study of healthy men and women.' *Journal of the American Medical Association*, vol. 262, pp. 2396-401.
- Boskin, Michael and Sheshinski, E. (1978). 'Optimal redistributive taxation when individual welfare depends on relative income.' *Quarterly Journal of Economics*, vol. 92, pp. 589-601.
- Clark, Andrew and Oswald, Andrew (1996). 'Satisfaction and comparison income.' *Journal of Public Economics*, vol. 61, pp. 359-81.
- Davidson, Richard J. (1992). 'Emotion and affective style: hemispheric substrates.' *Psychological Science*, vol. 3, pp. 39-43.
- DeLongis, Anita, Folkman, Susan and Lazarus, Richard S. (1988). 'The impact of daily stress on health and mood: psychological and social resources as mediators.' *Journal of Personality and Social Psychology*, vol. 54, pp. 486-95.
- Diener, Ed and Diener, Carol (1995). 'The wealth of nations revisited: income and the quality of life.' *Social Indicators Research*, vol. 36, pp. 275-86.
- Diener, Ed and Lucas, Richard E. (1997). 'Personality and subjective well-being.' In *Understanding Well-Being: Scientific Perspectives on Enjoyment and Suffering* (ed. Daniel Kahneman, Ed Diener and Norbert Schwartz), New York: Russell Sage.
- Diener, Ed, Sandvik, Ed, Seidlitz, Larry and Diener, Marissa (1993). 'The relationship between income and subjective well-being: relative or absolute?' *Social Indicators Research*, vol. 28, pp. 195-223.
- Duesenberry, James (1949). *Income, Saving, and the Theory of Consumer Behavior*. Cambridge, Mass.: Harvard University Press.
- Dynan, Karen E., Skinner, Jonathan and Zeldes, Stephen P. (1996). 'Do the rich save more?' Federal Reserve Board mimeo (November).
- Easterlin, Richard (1974). 'Does economic growth improve the human lot?' In *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz* (ed. Paul David and Melvin Reder), New York: Academic Press.
- Easterlin, Richard (1995). 'Will raising the incomes of all increase the happiness of all?' *Journal of Economic Behavior and Organization*, vol. 27, pp. 35-47.
- Engen, Eric, Gale, William and Scholz, John Karl (1996). 'The illusory effects of saving incentives on savings.' *Journal of Economic Perspectives*, vol. 10, pp. 113-38.
- Evans, Gary W. (1994). 'Working on the hot seat: urban bus drivers.' *Accident Analysis and Prevention*, vol. 26, pp. 181-93.
- Fontane, Patrick E. (1996). 'Exercise, fitness, and feeling well.' *American Behavioral Scientist*, vol. 39, January, pp. 288-305.
- Frank, Robert H. (1984). 'Are workers paid their marginal products?' *American Economic Review*, vol. 74, September, pp. 549-71.

- Frank, Robert H. (1985a). 'The demand for unobservable and other nonpositional goods.' *American Economic Review*, vol. 75, March, pp. 101-16.
- Frank, Robert H. (1985b). *Choosing the Right Pond*. New York: Oxford University Press.
- Frank, Robert H. (1991). 'Positional externalities.' In *Strategy and Choice: Essays in Honor of Thomas C. Schelling* (ed. Richard Zeckhauser), pp. 25-47. Cambridge, MA: MIT Press.
- Frank, Robert H. (1996). 'What price the moral high ground?' *Southern Economic Journal*, vol. 72, July, pp. 1-17.
- Frank, Robert H. and Hutchens, Robert (1993). 'Wages, seniority, and the demand for rising consumption profiles.' *Journal of Economic Behavior and Organization*, vol. 21, pp. 251-76.
- Friedman, Milton (1957). *A Theory of the Consumption Function*. Princeton, NJ: Princeton University Press.
- Goleman, Daniel (1996). 'Forget money; nothing can buy happiness, some researchers say.' *New York Times*, 16 July, pp. C1, C3.
- Hall, Robert E. and Rabushka, Alvin (1995). *The Flat Tax*, 2nd Ed., Stanford, CA: The Hoover Institution Press.
- Hirsch, Fred (1976). *Social Limits to Growth*. Cambridge, MA: Harvard University Press.
- House, James S., Robbins, C. and Metzner, H. M. (1982). 'The association of social relationships and activities with mortality: prospective evidence from the Tecumseh community health study.' *American Journal of Epidemiology*, vol. 116, pp. 123-40.
- Hubbard, R. Glenn, and Skinner, Jonathan (1996). 'Assessing the effectiveness of savings incentives.' *Journal of Economic Perspectives*, vol. 10, pp. 73-90.
- Ireland, Norman (1994). 'On limiting the market for status signals.' *Journal of Public Economics*, vol. 53, pp. 91-110.
- Ireland, Norman (1997). 'Status-seeking, income taxation and efficiency.' *Journal of Public Economics* (forthcoming).
- Kapteyn, Arie and van Herwaarden, F. G. (1980). 'Interdependent welfare functions and optimal income distribution.' *Journal of Public Economics*, vol. 14, pp. 375-97.
- Kosicki, George (1987). 'Savings as a nonpositional good.' *Southern Economic Journal*, vol. 54, October, pp. 422-34.
- Koslowsky, Meni, Kluger, Avraham N. and Reich, Mordechai (1995). *Commuting Stress*. New York: Plenum.
- Landers, Renee M., Rebitzer, James B. and Taylor, Lowell J. (1996). 'Rate race redux: adverse selection in the determination of work hours in law firms.' *American Economic Review*, vol. 86, June, pp. 329-48.
- Layard, Richard (1980). 'Human satisfactions and public policy.' *Economic Journal*, vol. 90, pp. 737-50.
- Modigliani, Franco and Brumberg, R. (1955). 'Utility analysis and the consumption function: an interpretation of cross-section data.' In *Post-Keynesian Economics* (ed. K. Kurihara). London: Allen and Unwin.
- Myers, David G. (1993). *The Pursuit of Happiness: Who is Happy and Why?* New York: Avon.
- National Opinion Research Center (1991).
- Neumark, David and Postlewaite, Andrew (1996). 'Relative income concerns and the rise in married women's employment,' University of Pennsylvania Department of Economics mimeo.
- Ng, Yew-Kwang (1987). 'Diamonds are a government's best friend: burden-free taxes on goods valued for their values.' *American Economic Review*, vol. 77, pp. 186-91.
- Oswald, Andrew J. (1983). 'Altruism, jealousy, and the theory of optimal nonlinear income taxation.' *Journal of Public Economics*, vol. 20, pp. 77-87.
- Oswald, Andrew J. (1996). 'Happiness and economic performance.' University of Warwick Department of Economics Mimeo (September).
- Palmer, Linda K. (1995). 'Effects of a walking program on attributional style, depression, and self-esteem in women.' *Perceptual and Motor Skills*, vol. 81, pp. 891-8.
- Plante, Thomas G. and Rodin, Judith (1990). 'Physical fitness and enhanced psychological health.' *Current Psychology: Research and Reviews*, vol. 9, Spring, pp. 3-24.
- Poterba, James, Venti, Steven and Wise, David (1996). 'How retirement saving programs increase savings.' *Journal of Economic Perspectives*, vol. 10, Fall, pp. 91-112.
- Scitovsky, Tibor (1976). *The Joyless Economy*. New York: Oxford University Press.
- Sen, Amartya (1983). 'Poor, relatively speaking.' *Oxford Economics Papers*, vol. 35, July, pp. 153-67.
- Sen, Amartya (1987). *The Standard of Living*. Cambridge: Cambridge University Press.
- Shin, D. C. (1980). 'Does rapid economic growth improve the human lot?' *Social Indicators Research*, vol. 8, pp. 199-221.
- Slemrod, Joel (1990). 'The economic impact of the tax reform act of 1986.' In *Do Taxes Matter? The Impact of the Tax Reform Act of 1986* (ed. Joel Slemrod), pp. 1-12. Cambridge, MA: MIT Press.
- Stokols, Daniel, Novaco, Raymond W., Stokols Jeannette and Campbell, Joan (1978). 'Traffic congestion, type A behavior, and stress.' *Journal of Applied Psychology*, vol. 63, pp. 467-80.
- Taylor, P. and Pocock, C. (1972). 'Commuter travel and sickness: absence of London office workers.' *British Journal of Preventive and Social Medicine*, vol. 26, pp. 165-72.

van Praag, Bernard, M. S. (1993). 'The relativity of the welfare concept.' In *The Quality of Life* (ed. Martha Nussbaum and Amartya Sen), Oxford: Clarendon, pp. 363-92.

Veenhoven, Ruut (1993). *Happiness in Nations: Subjective Appreciation of Life in 56 Nations*. Rotterdam: Erasmus University.

## APPENDIX

*The progressive Consumption Tax: An Example*

The following example illustrates how a progressive consumption would work for a family of four if the standard deduction were \$7,500 per person. With a total standard deduction of \$30,000 per year, the family's taxable consumption would be calculated as its income minus \$30,000 minus its savings minus its tax. A family whose income was no more than \$30,000 plus the amount it saved would thus owe no tax at all under this plan. Suppose the tax rate on families with positive taxable consumption began at 20% and then gradually escalated as taxable consumption increased, as shown in Table A1.

Table A1  
*Tax Rates on Taxable Consumption*

Taxable consumption(\$)	Marginal tax rate (%)
0-39,999	20
40,000-49,999	22
50,000-59,999	24
60,000-69,999	26
70,000-79,999	28
80,000-89,999	30
90,000-99,999	32
100,000-129,999	34
130,000-159,999	38
160,000-189,999	42
190,000-219,999	46
220,000-249,999	50

Given this rate schedule, Table A2 shows how much tax families with different income and savings levels would pay.

Table A2  
*Illustrative Income, Savings, and Tax Values Under a Progressive Consumption Tax (\$)*

Income	Savings	Taxable consumption	Tax
30,000	1500	0	0
50,000	3000	14,167	2833
100,000	10,000	49,844	10,156
150,000	20,000	81,538	18,462
200,000	40,000	104,265	23,735
500,000	120,000	257,800	92,200
1,000,000	300,000	471,000	199,000