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Willingness To Pay vs. Welfare

*Cass R. Sunstein**

Consider the following cases:

1. Jones, who is wealthy, is willing to pay \$1,000 and no more for a new television set. Jones would enjoy a new television set, but he already has a good television set, and he would not, in fact, gain a great deal from a new one. But because he is so wealthy, he would be better off with the television set than with \$1,000.

2. Smith, who is poor, is willing to pay \$75 and no more for a new television set. Smith would greatly enjoy a new television set; he does not now have one. He would be better off with the television set than with \$75. But because he is poor, he would be worse off with the television set at a price in excess of \$75.

3. Jenkins, who is poor and disabled, is willing to pay \$20 and no more for a workplace accommodation that will enable her to work. The cost of the accommodation to her employer is \$150. If the accommodation is made, Jenkins will gain far more in terms of welfare than the employer (and its customers) will lose.

4. Wilson, who is a very wealthy New Yorker, would be willing to pay \$1,000,000 for a summer home in Aspen, Colorado. It turns out that if Wilson bought that summer home, she would not much enjoy it, and in the long run she would not use it. She would miss her friends and her life in New York. In the end, she would be better off with \$1,000,000 than with the summer home in Aspen.

5. Andrews, who is poor, is not willing to pay \$600 for a health insurance plan. It turns out that if Andrews bought that health insurance plan, her life would be much better; she would be far healthier and her chronic back problem would be greatly improved. For her, the loss of \$600 would be much smaller than the gain, in terms of welfare, from purchase of the health insurance plan.

In all of these tales, there seems to be a disjunction between how much people are willing to pay for a certain good and how much welfare they would obtain from receiving that good. This disjunction might well seem odd, because economically oriented law professors (and many policymakers) often work with the idea of “willingness to pay” (WTP).¹ Their goal

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¹ See, e.g., W. KIP VISCUSI, *FATAL TRADEOFFS* (1992).

is to achieve efficiency or to maximize wealth, and WTP is the metric for assessing both efficiency and wealth.²

If efficiency is to be understood in terms of WTP, and if efficiency, so understood, is the appropriate foundation for policy and law, there will be many implications. Consider, for example, the domain of climate change. Should international policy be made only after asking how much people are willing to pay to avoid the adverse effects of climate change? Or consider the areas of water pollution, consumer product safety, and occupational safety and health regulation. Should we evaluate water pollution controls, or protection against risks from consumer products and the workplace, by asking how much people are willing to pay to prevent various bad consequences? If WTP provides the governing measure, policy judgments will be significantly affected.

It is not unreasonable for skeptics to ask: Why should anyone care about WTP? The natural answer lies in welfare.³ If people are willing to pay very little for a good, they would appear unlikely to gain much from receiving it. And if people are willing to pay a great deal for a good, they will probably gain a lot if they are able to obtain it. The cases of Jones and Smith are exemplary of this basic claim.

There is no plausible argument that WTP is important in itself.⁴ If policymakers should attend to it, it is because of its connection to welfare.⁵ If that connection is poor, then the use of WTP will often be vulnerable, even by reference to the criterion that most interests those who use it. This Article will identify two reasons why WTP is likely to be a crude proxy for welfare and will offer some discussion of the implications of this conclusion for law and policy.

The first and more straightforward problem is that sometimes the beneficiaries of law do not pay all or most of its cost. In those circumstances, an inquiry into WTP will not tell us all that we need to know in terms of welfare. This problem, captured in Jenkins' tale, suggests that efficiency and welfare may not march hand-in-hand. Inefficient programs can be welfare-promoting—a fact that raises serious challenges for those considering when to depart from the outcome suggested by cost-benefit analysis (CBA). I shall suggest that when those who gain from regulation are poor, and when those who lose from regulation are wealthy, regulation may well be welfare-promoting even when it fails CBA. A more general implication, familiar to utilitarians but playing little role in contemporary economic analysis of the law, is that substantial redistribution to the poor

² See RICHARD A. POSNER, *THE PROBLEMS OF JURISPRUDENCE* 356 (1990).

³ See LOUIS KAPLOW & STEVEN SHAVELL, *FAIRNESS VERSUS WELFARE* 36–37 (2002). It is also possible to value WTP on the basis of autonomy. If people are willing to pay little for a good, we respect their autonomy if we honor their decisions.

⁴ See Ronald Dworkin, *Is Wealth A Value?*, 9 J. LEGAL STUD. 191 (1980).

⁵ For present purposes I put to one side the relationship between respect for WTP and respect for autonomy, though some of the discussion bears on that relationship.

may be justified on the ground that it increases social welfare. Because an extra dollar is worth more to the poor than to the wealthy, redistribution will increase overall welfare (at least if a system of redistribution can be designed without creating harmful incentives).

The second and more fundamental problem is that people are often willing to pay a great deal for goods whose acquisition does not improve their welfare. WTP and welfare can be mismatched because of failures in “affective forecasting,” excessive optimism, myopia, and related phenomena. The cases of Wilson and Andrews show how affective forecasting may go wrong. It should be clear that if failures in affective forecasting lead to serious blunders, and if planners are in a position to anticipate those blunders, it will be necessary to rethink many questions in law and policy, including such areas as consumer protection, occupational safety and health, and environmental law.

As we shall also see, increases in gross domestic product (GDP) do not produce increases in self-reported happiness, and the relationship between economic growth and welfare remains obscure. At a minimum, I shall suggest that policymakers should focus directly on the ingredients of welfare—a focus suggesting, for example, that a great deal of attention should be paid to methods for reducing mental illness.

Before we proceed, I should emphasize the limited nature of my argument. I am not dealing with the fact that people may be willing to pay something to satisfy malicious or sadistic preferences. Many people believe that such preferences should not count even if people are willing to pay a great deal to satisfy them.⁶ I share that belief but I will not attempt to defend it here. Nor am I dealing with non-welfarist objections to the use of WTP—as in, for example, the claim that people have certain rights, whatever their WTP.⁷ My sole concern is the relationship between WTP and welfare. Finally, I will spend little time on the problem of “adaptive preferences”—a problem that arises when people’s preferences are adaptive to existing opportunities, including deprivation.⁸ Suppose that people are not willing to pay much to obtain a good, simply because they consider that good to be unavailable. (Andrews’ tale is a possible example.) If so, it is possible that law and policy should nonetheless make that good available, in the hope that its availability will ultimately improve people’s welfare. I do not engage that point directly here, though it is connected with the general problem of affective forecasting.

The argument comes in four parts. Part I sketches the welfarist argument on behalf of WTP, attempting to specify the domain in which that argument is most secure. Part II shows that when the beneficiaries of law

⁶ See generally KAPLOW & SHAVELL, *supra* note 3, at 418–31.

⁷ See Dworkin, *supra* note 4.

⁸ See JON ELSTER, *SOUR GRAPES: STUDIES IN THE SUBVERSION OF RATIONALITY* (1987); MARTHA NUSSBAUM, *WOMEN AND HUMAN DEVELOPMENT: THE CAPABILITIES APPROACH* (2001); AMARTYA SEN, *COMMODITIES AND CAPABILITIES* (1985).

do not pay for it, law may increase welfare even though it is inefficient. For law and regulation, an important implication is that welfare effects cannot be fully evaluated without an understanding of who is bearing the costs and who is receiving the benefits. This understanding is crucial to appreciating the welfare effects of regulation, not merely the distributive effects. Part III emphasizes ambiguities in the idea of “welfare,” exploring objective accounts and stressing that it is important to attend to people’s experiences and not only their choices. Part III also investigates efforts to measure subjective happiness and reported life-satisfaction. A highly suggestive puzzle is that there appears to be little or no correlation between economic growth and reported life-satisfaction. Finally, Part IV explores failures in affective forecasting and the general problem of “miswanting.” Because of these failures, people are sometimes willing to pay a great deal for goods that do not promote their welfare and are sometimes unwilling to pay much for goods that would promote their welfare. It follows that if welfare is our lodestar, an emphasis on WTP may lead in the wrong directions. A serious problem is that planners may not be in a good position to know when this is so, but we are beginning to obtain some helpful clues.

I. THE WELFARIST ARGUMENT FOR WTP

If people’s subjective experience is our central concern, the use of WTP has many advantages. It is not easy to measure welfare. By contrast, policymakers can often work with WTP. WTP might be seen as an administrable way of ascertaining the welfare consequences of one or another approach.⁹

Moreover, there are defining or “core” cases in which the use of WTP makes a great deal of sense. For example, consider a large city called Paretoville where everyone has the same income and wealth. Suppose that some citizens of Paretoville are deciding whether to enter into a contract to buy a certain good. The good might be a computer, a diminution of a mortality risk (say, by 1/10,000), an insurance policy, or an investment opportunity. Suppose that the relevant citizens are willing to pay \$X, but no more, to buy the good. If the government asks those citizens to pay more than \$X, it would seem to be doing them no favors. Why should the officials of Paretoville require people to pay more than such people see fit? If we are interested in welfare, the citizens’ refusal to pay more than \$X should be respected, certainly if they have enough information to make an informed decision. At least at first glance, the adequately informed citizens of Paretoville should be taken to be in the best position to know whether their welfare will be improved if they make the purchase.¹⁰

⁹ See MATTHEW ADLER & ERIC POSNER, *NEW FOUNDATIONS FOR COST-BENEFIT ANALYSIS* (2006) (defending the argument that WTP is an administrable measurement).

¹⁰ I defer the question of affective forecasting.

Consider a small experiment I conducted at Harvard Law School. About thirty-five students were asked the following question:

Under existing regulation of arsenic in drinking water, you face an annual cancer risk of one in 500,000. The government is proposing to tighten the regulation, in a way that would decrease the risk to one in 600,000. How much would you be willing to pay each year, in increased water bills, to favor the government's proposal?

- (a) \$25
- (b) \$50
- (c) \$100
- (d) \$200
- (e) \$400
- (f) over \$400

The median answer was \$50. Only seven people were willing to pay more than \$100. The result was a median valuation of a statistical life (VSL) of \$5 million, representing the WTP of \$50 to eliminate a risk of one in 100,000.¹¹ If people are assumed to be rational, they should not be required to pay an amount in excess of \$50 to eliminate a risk for whose elimination they are willing to pay only \$50.

One of the virtues of the use of the WTP in the core cases is that it works for poor people, such as Smith in case two above, no less than for rich people. If the citizens of Paretoville are poor, and if the amount they are willing to pay is very low, we do not help them if we give them an insurance policy, or a computer, or a reduction of risk that exceeds their WTP. Even if they would benefit a great deal from such a good, they would lose more, by their own lights, from being forced to buy it at an amount that

¹¹ I also asked the same number of students the following question:

Under existing regulation of arsenic in drinking water, you face an annual cancer risk of one in 600,000. The national government is proposing to loosen the regulation, in a way that would increase the risk to one in 500,000. How much would you have to be paid each year, in reduced water bills, to favor the government's proposal?

- (a) \$25
- (b) \$50
- (c) \$100
- (d) \$200
- (e) \$400
- (f) over \$400"

Strikingly, the median answer was \$100, suggesting a VSL of \$10 million. Reframing the status quo produced a doubling of the VSL; people demand much more to increase a risk (by one in 100,000) than they are willing to pay to decrease a risk (by one in 100,000). The disparity raises puzzles that I cannot explore here, but it does suggest a problem with the idea that WTP adequately measures welfare.

exceeds their WTP. Let us suppose, then, that the core cases for use of WTP are those in which the relevant people, armed with adequate information, seek to purchase a good at some price \$X, and the question is whether a planner should ask them to buy that good at a price in excess of \$X.

To accept the use of WTP in the core cases, it is entirely possible to agree that a measure of redistribution would be appropriate. Let us alter the problem slightly and assume that Paretoville has a significant amount of inequality. Perhaps private sources, or government, should provide poor people with the good at a partial subsidy or even for free (that is, without cost to those who are benefited). Perhaps disabled people, such as Jenkins in case three above, should receive an accommodation, even if they are not willing to pay much for it. But as a practical matter, legal interventions need not, and often do not, amount to a subsidy to those who benefit from them. When regulation is imposed, people may have to pay for what they get.

After the enactment of workers' compensation regulation, nonunionized workers faced a dollar-for-dollar wage reduction, corresponding almost perfectly to the expected value of the benefits they received.¹² For drinking water regulation, something similar is involved. When the government eliminates carcinogenic substances from the water supply, it is not as if water companies bear the cost. The cost of regulations is passed on to consumers in the form of higher water bills.¹³ Smith's tale, in case two above, is a mundane example.

For purposes of evaluating the welfarist argument for WTP in the core cases, it does not matter if the existing distribution of income is unjust or if poor people are, in an intelligible sense, coerced to make certain choices by virtue of their poverty. The remedy for unjust distributions, and for that form of coercion, is to give people more resources, not to require people to buy goods on terms that they find unacceptable. Suppose that people are willing to pay only \$60 to buy a health care plan because they are not rich, and that if they had double their current wealth, they would be willing to pay \$120. Even if this is so, government does them no favors by forcing them to pay the amount that they would pay if they had more money.

II. WHO'S PAYING? WHY INEFFICIENT RESULTS MAY INCREASE WELFARE

A. *The Basic Problem*

Sometimes the simple model, and the core cases, do not describe reality. Most important, people do not always pay all or even most of the

¹² See PRICE V. FISHBACK & SHAWN EVERETT KANTOR, A PRELUDE TO THE WELFARE STATE (2000).

¹³ See Cass R. Sunstein, *The Arithmetic of Arsenic*, 90 GEO. L.J. 2255 (2002).

cost of what they receive. Sometimes those involved in making law have a great deal of control over whether and how much people must pay for those benefits. Perhaps Jenkins, in case three above, can be given an accommodation without having to pay a penny for it. Perhaps lawmakers can take steps to ensure that the potential beneficiaries pay little or nothing, or that much of the underlying payment comes from those who have the relevant good or impose the relevant burdens and risks. When this is so, the welfare analysis is much more complicated. An emphasis on WTP may therefore point in the wrong directions.

The disability context is an obvious example. Disabled workers do not pay for the “reasonable accommodations” required by the statute; but as in Jenkins’ case, the WTP of those workers may be low in comparison to the monetized costs. Nonetheless, the accommodations may greatly improve net welfare.¹⁴ Suppose, for example, that a wheelchair-bound person is willing to pay only \$100 for an accommodation, such as lowering a sink, and that the accommodation would cost an employer \$200. The accommodation is inefficient by stipulation; the monetized cost is \$100 greater than the monetized benefit. But it is entirely possible that the aggregate welfare effects will be positive even though the accommodation is inefficient. In terms of welfare, the worker might well gain more than the employer loses. It follows that if courts and regulators use WTP to assess costs and benefits under the reasonable accommodation requirement of the ADA, they will fail to call for accommodations that would greatly improve overall welfare.

Air pollution regulation is another illustration. In California, poor people and members of minority communities have been net gainers from air pollution regulation, and they have not had to pay the full price of what they have obtained.¹⁵ Much of the cost of air pollution reduction has been imposed on those buying new cars. In fact, new car purchasers have been “paying heavily,” between \$1,000 and \$2,000, for pollution-reducing equipment.¹⁶ The conclusion is that the costs of air pollution regulation are borne mostly by people who are wealthy or of moderate means; such people pay “emissions penalties that many of the poor are avoiding.”¹⁷

By contrast, the greatest improvements in air quality have been experienced in the poorest neighborhoods. In 1980, those who lived in wealthier areas faced 25% less nitrogen dioxide than those in poorer areas. By 1998, however, exposure levels were essentially equalized.¹⁸ This equality was not produced by increased pollution in wealthier areas. On the

¹⁴ See generally Cass R. Sunstein, *Cost-Benefit Analysis Without Analyzing Costs or Benefits*, U. CHI. L. REV. (forthcoming 2007).

¹⁵ See Matthew E. Kahn, *The Beneficiaries of Clean Air Act Regulation*, 24 REG. 34 (2001).

¹⁶ *Id.* at 36.

¹⁷ *Id.*

¹⁸ See *id.* at 37–38.

contrary, significant reductions could be found everywhere. But the larger reductions were found in the poorest neighborhoods, formerly suffering from especially high pollution levels.¹⁹

The disability and air pollution examples suggest the possibility that poor people are gaining more, in terms of welfare, than wealthy people are losing, even if a standard economic inquiry into WTP suggests that the relevant regulations are inefficient and therefore unjustified. It follows that if we attend to people's WTP, we might end up with an inadequate account of the welfare effects of air pollution regulation. People might well be gaining more than they lose, even if the monetized costs appear higher than the monetized benefits. Of course the account thus far does not establish that point for air pollution regulation in California. But it is certainly plausible to think that whatever the WTP of those who benefited from air pollution reduction, the welfare gains (longer lives and better health) justified the welfare costs.

To make these claims less abstract: Suppose that the beneficiaries of a proposed drinking water regulation are willing to pay only \$20 to eliminate a risk of one in 50,000 in drinking water; that the per-person cost of eliminating a one in 50,000 risk is \$50; but that for every dollar of that cost, the beneficiaries pay only ten cents. Suppose that the remaining ninety cents will be paid by water companies themselves, in the form of reduced profits, or by employees of the water companies, in the form of reduced wages. In this example, the regulation is inefficient, because the costs of the regulation exceed the benefits. But in principle, the regulation might well be justified on welfarist grounds. After all, the beneficiaries of the regulation are being helped a great deal, and their WTP does not tell regulators what they need to know in terms of the welfare effects.

We need to make a distinction here between WTP and ability to pay. If people do not have much money, they will have little ability to pay. When poor people show a low WTP, it may be because their ability to pay is low. But their low WTP does not demonstrate that they would gain little *in terms of welfare* from receiving the relevant good. Consider cases two and three above, in which Smith is willing to pay little for a television that he would much enjoy, and in which Jenkins is willing to pay little for a workplace accommodation from which he would greatly benefit.

The central problem is that WTP is measuring gains and losses in monetary terms, rather than in welfare terms. The WTP figures do not tell us whether some people are gaining more, in welfare terms, than others are losing in those terms.²⁰ In the water pollution example given above, overall welfare might be increased, not diminished. Or imagine that a reduction in greenhouse gases greatly diminishes risks faced by people in de-

¹⁹ See *id.* at 38.

²⁰ The discussion assumes that interpersonal comparisons of welfare are feasible. See generally ADLER & POSNER, *supra* note 9, for a relevant discussion.

veloping nations, above all in India and Africa, which are especially vulnerable to climate change.²¹ Imagine too that such people are unable and hence unwilling to pay a great deal for protection from such risks. Imagine finally that the cost of the regulation is borne by people in wealthy nations, above all the United States and Europe, and that this cost is higher than the monetized benefits to people in developing countries. Even under these assumptions, the regulation might well produce large overall welfare gains. If people in developing countries are able to have much longer and healthier lives, they might well be gaining far more than people lose in United States and Europe, even if energy bills are higher, automobile use is more expensive, and wages and employment are reduced.

Of course distributional effects might also be relevant. Suppose that in terms of overall welfare, the regulation in question is not desirable; it reduces aggregate welfare. But suppose too that those who benefit from the regulation are poorer and more disadvantaged than those who lose. If those who benefit are disproportionately poor, and those who lose are disproportionately wealthy, the regulation might still be desirable despite the welfare loss. We might care more about those at the bottom and seek to improve their prospects even if those at the top lose more in welfare terms than those at the bottom gain. My emphasis here, however, is on the possibility that there might be welfare gains from policies that are inefficient, not that policies might be justified even if there are welfare losses.

The simple conclusion is that the argument for using WTP is most plausible in cases in which the beneficiaries of some government action pay all or most of its cost. In such cases, WTP is reasonably used so long as people are adequately informed and not suffering from any kind of cognitive problem.²² The analysis must be different when the beneficiaries of regulation are paying only a small fraction of its costs. Unfortunately, that analysis is difficult to conduct: regulators lack “welfarometers” that can tell them about the welfare effects of various courses of action.²³ But as we shall see, it is possible to devise some simple rules of thumb that help to show when WTP is likely to lead in the wrong direction.

B. Cross-National Valuations

This point can be supported, clarified, and applied through an exploration of cross-cultural variations in WTP. It should be clear that simply because they have little money, people in poor nations will show a lower WTP for various goods than people in wealthy nations. The disparity is not necessarily a product of differences in expected welfare from obtain-

²¹ See WILLIAM D. NORDHAUS & JOSEPH BOYER, *WARMING THE WORLD* 91 (2000).

²² Again I am bracketing the problem of affective forecasting.

²³ For discussion of efforts to produce the functional equivalent of welfarometers, see Daniel Kahneman & Alan B. Krueger, *Developments in the Measurement of Subjective Well-Being*, 20 J. ECON. PERSP. 3 (2006).

ing those goods. For example, those who show a WTP of \$10 to obtain a new television might receive more welfare from the television than others who show a WTP of \$750. The difference in WTP is not accompanied by a difference in welfare. If poor people show a WTP of only \$20 to obtain medicine that will prevent premature death, it does not follow that they receive less welfare from their lives than wealthy people who show a WTP of \$100,000 to obtain the same medicine.

Consider in this regard the value of a statistical life (VSL), which is compiled by attempting to ascertain how much people would be willing to pay to avoid some statistical risk. Not surprisingly, studies find that across nations WTP and VSL are highly variable. For example, VSL is as low as \$200,000 for Taiwan, \$800,000 for South Korea, and \$1 million for India, but as high as \$19 million for Australia.²⁴ Consider, for purposes of illustration, the following table:²⁵

TABLE 1: VSL ACROSS NATIONS

<i>Nation and Year of Study</i>	<i>VSL (in 2000 US\$)</i>
Taiwan (1997)	.2 –.9 million
South Korea (1993)	.8 million
India (1996/97)	1.2–1.5 million
Hong Kong (1998)	1.7 million
Canada (1989)	3.9–4.7 million
Switzerland (2001)	6.3–8.6 million
Japan (1991)	9.7 million
Australia (1997)	11.3–19.1 million
United Kingdom (2000)	19.9 million

Because poor people have less money than rich people, the figures in this table should not be terribly surprising. Suppose that we can anticipate that in a particular period, there will be 100,000 deaths worldwide from climate change—deaths that include (let us make up some numbers) 95,000 people from poor countries and 5000 people from wealthy ones. Should we say that the former deaths are worth much less attention than the latter? Building on evidence of cross-national disparities, some assessments of the effects of climate change do find far higher monetized costs

²⁴ W. Kip Viscusi & Joseph E. Aldy, *The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World*, 27 J. RISK & UNCERTAINTY 5, 27–28 (2003).

²⁵ See *id.*

from deaths of people in rich countries than from deaths of people in poor countries.²⁶

From the standpoint of welfare, that conclusion makes no sense at all. The fact that a poor person in a poor nation would be willing to pay only \$1 to eliminate a risk of one in 10,000, whereas a wealthy person in a wealthy nation would be willing to pay \$100, cannot plausibly be used to defend the view that in terms of *welfare*, the latter loss is worse. To illustrate this point, imagine choosing between two programs:

Program A would eliminate (at a cost of \$600) a one in 10,000 risk faced by fifty poor people in India, each willing to pay \$20 to eliminate that risk.

Program B would eliminate (also at a cost of \$600) a one in 10,000 risk faced by fifty wealthy people in France, each willing to pay \$350 to eliminate that same risk.

There is no reason to think that Program A would have a lesser effect on welfare, even though the French WTP is far higher than that of the Indians.

But now consider a different issue. What VSL should the Indian government use when deciding on the appropriate policy to reduce workplace risks? Such a government would not do well to use the WTP of citizens of France.²⁷ If citizens in a poor nation reveal a WTP of \$20 to eliminate risks of 1/10,000, then their government does them no favors by requiring them to pay \$100 or \$50 for that protection. This is the sense in which VSL properly varies across nations, and in which citizens of poor nations have lower VSLs than citizens of wealthy ones. If the government of India uses the American VSL of \$6 million on the theory that its citizens should not be valued less than those of wealthy nations, significant harm to the citizens of India will almost inevitably result.

In the core or defining cases, nothing said thus far argues against the use of WTP.²⁸ Outside of those cases, the issue is more complicated. In

²⁶ Cf. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: WORKING GROUP III: MITIGATION, at 483 (2001), available at http://grida.no/climate/ipcc_tar/wg3 ("The VSL is generally lower in poor countries than in rich countries, but it is considered unacceptable by many analysts to impose different values for a policy that has to be international in scope and decided by the international community. In these circumstances, analysts use average VSL and apply it to all countries. Of course, such a value is not what individuals would pay for the reduction in risk, but it is an 'equity adjusted' value, in which greater weight is given to the WTP of lower income groups. On the basis of EU and US VSLs and a weighting system that has some broad appeal in terms of government policies towards income distribution, Eyre et al. (1998) estimate the average world VSL at around 1 million Euros (approximately US\$1 million at 1999 exchange rates).").

²⁷ For discussion with actual data about VSL in India, see SOMA BHATTACHARYA ET AL., AEI-BROOKINGS JOINT CENTER FOR REGULATORY STUDIES, THE VALUE OF MORTALITY RISK REDUCTIONS IN DELHI, INDIA 2 (2006), available at <http://www.aei.brookings.org/admin/authorpdfs/page.php?id=1343> (finding a VSL of \$150,000 in the context of highway safety).

²⁸ The discussion below of problems of affective forecasting does offer some such arguments.

India, as elsewhere, it is possible that the beneficiaries will pay for only a fraction of the cost of what they get, and that the losers will lose less, in welfare terms, than the gainers will gain in those terms. Nonetheless, it is entirely sensible for the government of India to spend far less on reducing certain risks (of, say, one in 100,000) than the governments of France and the United States. The Indian government does not spend far less on the ground that Indian lives are “worth less” than French or American lives. It does so instead on the ground that it is concerned with the welfare of its citizens, and using a French or American VSL will reduce the welfare of its citizens. But it remains true that if welfare is our guide, serious risks faced by people in poor nations deserve special priority and the WTP of those people is a poor proxy for welfare.

C. Law and Policy

1. Taxes vs. Regulation

At the domestic level, there is a standard response to arguments of this sort: redistributive taxation should be preferred to regulation. For example, suppose that poor people are willing to pay relatively little for air pollution controls and that wealthy people strongly resist the cost of such controls. Suppose too that even though such controls are therefore unjustified on efficiency grounds, they might be justified on grounds of welfare. If so, the best approach is not to impose the controls, but to redistribute resources to poor people. Redistributive taxes are the more effective and more efficient method for achieving welfare goals.

Before examining this claim, note that there is a larger background point here: if a marginal dollar is worth more to poor people than to wealthy people, then there is a strong argument for significant redistribution on welfare grounds, all other things being equal.²⁹ If the goal is to increase welfare, a large amount of redistribution would seem to be mandatory even if equality as such is unimportant. An evident problem is that redistribution might remove desirable incentives and thereby decrease welfare.³⁰ But this problem should not be taken as decisive against redistribution; it raises an empirical challenge, which is to design the optimal redistributive strategy, taking incentives into account.

The broader point is correct. The best response to the problem I have identified is redistributive taxation.³¹ Unfortunately, the political system of-

²⁹ See KAPLOW & SHAVELL, *supra* note 3, at 30.

³⁰ Insofar as the incentives would produce economic growth, there is a complication, which is that economic growth might not produce welfare gains. See ROBERT H. FRANK, *LUXURY FEVER: WHY MONEY FAILS TO SATISFY IN AN ERA OF EXCESS* (1999).

³¹ See Louis Kaplow & Steven Shavell, *Why the Legal System is Less Efficient than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667, 677 (1994) (“[R]edistribution through legal rules offers no advantage over redistribution through the income tax and

ten blocks such taxation, and it does so even if it authorizes law and policy that promotes welfare less efficiently. We need not pause to consider why this might be so. The simple point is that realistically speaking, the choice is often between some status quo and a policy that is both inefficient and welfare-increasing. The choice should be made in favor of welfare, not efficiency. This choice is even easier in the international context. While it might be impossible to redistribute from wealthy nations to poor ones (because no mechanism is available to produce such redistribution), it might nonetheless be possible to obtain an international accord that is both inefficient and welfare-increasing.

2. Administering Welfare: A Challenge for the Office of Information and Regulatory Affairs (and Others)

Difficult administrative issues do remain. For example, suppose that a proposed law is expected to eliminate 100 premature deaths, stemming from risks of one in 100,000, at a cost of \$800 million; suppose too that the median population-wide WTP, for risks of one in 100,000, is \$60, indicating a VSL of \$6 million. At first glance, the law is inefficient. The analysis is straightforward if the case arises in Paretoville and if the problem falls within the core or defining cases. But if it does not, planners must investigate the incidence of the relevant benefits and burdens. If the \$800 million cost is borne mostly by wealthy people, the policy might well be welfare-increasing even though it is inefficient. It is now standard, in the regulatory domain, to investigate whether the beneficiaries of regulation are disproportionately poor.³² But even if we learn that they are, we do not know enough to know whether regulation is desirable. Perhaps the beneficiaries are poor, but perhaps they will bear most of the cost as well; perhaps this is Paretoville after all. And even if the beneficiaries are not poor, the regulation might be welfare-increasing if those who pay are mostly rich. An investigation of the incidence of both benefits and costs will provide relevant information on whether regulation will promote welfare even if it is inefficient.

The Office of Information and Regulatory Affairs, entrusted with managing executive orders calling for cost-benefit analysis of regulatory proposals, would do well to pay attention to this problem. As a first ap-

typically is less efficient.”); Steven Shavell, *A Note on Efficiency vs. Distributional Equity in Legal Rulemaking: Should Distributional Equity Matter Given Optimal Income Taxation?*, 71 AM. ECON. REV. PAPERS & PROC. 414 (1981) (describing how income tax can compensate for inefficient liability rules and redistribute income); David A. Weisbach, *Should Legal Rules Be Used to Redistribute Income?*, 70 U. CHI. L. REV. 439, 439–40 (2003) (“[T]he tax system is a better tool for redistribution of income than legal rules”).

³² See Exec. Order No. 12,866 § 1(b)(5), 58 Fed. Reg. 51,735 (Sept. 30, 1993) (referring to “distributive impacts” and to “equity”). See also the discussion of distributional considerations in OFFICE OF MGMT. & BUDGET, EXECUTIVE OFFICE OF THE PRESIDENT, CIRCULAR A-4, at 42–46 (2003).

proximation, it is not at all implausible to endorse cost-benefit analysis on the ground that it is a rough proxy for welfare.³³ But where the proxy fails, the analysis must be qualified. Where does the proxy fail? For purposes of policy there is a simple answer. If the beneficiaries are poor, and if the costs are borne by those who are wealthy, the outcome of a cost-benefit analysis based on WTP should not be determinative. If the beneficiaries stand to gain a great deal in welfare terms, and those who pay are unlikely to lose much in those terms, the policy should be adopted. Unfortunately, there is no simple metric by which to quantify the welfare judgments. But at least in some cases, the conclusion will be easy enough to reach. Consider, for example, an air pollution regulation that disproportionately benefits poor people and for which wealthy people must pay.

III. WHAT IS WELFARE?

The argument thus far has said nothing about what is meant by the idea of “welfare.” The basic idea might be specified in many different ways.³⁴ Most economists understand welfare by reference to people’s subjective preferences—as, for example, in the idea that *X* will promote *A*’s welfare more than *Y* if and to the extent that *A* prefers *X* over *Y*.³⁵ For those who rely on subjective preferences, it is important to try to ensure that *A* has adequate information; if the watch for which *A* is willing to pay \$75 is likely to work for only one month, *A* should be apprised of that fact. The simple point is that the idea of welfare might be measured by asking what *A* prefers.

Note that *A*’s preference might have little to do with narrowly self-interested desires on *A*’s part. *A* might prefer to give \$75 to charity, rather than to keep it; *A* might prefer to do considerable work on behalf of a favored cause, even though the work is not enjoyable. *A*’s preferences might not promote *A*’s welfare, narrowly conceived, if *A* prefers to take actions that do not promote his welfare, narrowly conceived.³⁶ The standard economic emphasis on people’s subjective preferences has the considerable advantage of attending to what people care about, whether or not their concerns are always connected with their own happiness or self-interest, narrowly conceived.

³³ See ADLER & POSNER, *supra* note 9.

³⁴ For a discussion of this issue see *id.*

³⁵ See, e.g., KAPLOW & SHAVELL, *supra* note 3, at 18–24.

³⁶ I put to one side the question whether it is true or useful to say that *A*’s welfare is promoted when *A* engages in actions that help others.

A. Objective Welfare?

Economists typically speak in terms of people's subjective experience.³⁷ But it is possible to understand the notion of welfare in more objective terms. On this view, the right question is whether people's lives are good, not whether they think that their lives are good (even though their thoughts are highly relevant in this regard). For example, suppose that A's life consists mostly of accumulating campaign buttons, Chicago White Sox memorabilia, or money. Suppose that A spends most of his waking hours trying to acquire as much as he possibly can. It is plausible to think that A's life, objectively understood, is not a good one, and that A's welfare, properly understood, would be higher if his life were not so dedicated.

In an extreme case, A might suffer from some kind of mental disability which leads him to be obsessed and miserable. A chooses patterns that make his life miserable and he badly needs help. In this case, it is not enough, indeed it is hopeless and cruel, simply to allow A to satisfy his preferences. More optimistically, he might actually enjoy his efforts at accumulation, but his life is narrow, repetitive, compulsive, and without much meaning, even by his own lights.

In any case, we might believe that whether A's life is good depends (partly) on what it includes and not (entirely) on what A thinks, independent of the circumstances under which A has developed those thoughts. Amartya Sen and Martha Nussbaum have elaborated a "capabilities approach" to human development, one that might be seen as welfarist insofar as it attempts to specify some capabilities that are taken to be indispensable preconditions for a good life.³⁸ The capabilities approach begins with an objective account of what people should be able to do and to be; if people lack the relevant capabilities, they might be taken to lack the preconditions for welfare or well-being.³⁹ Both Sen and Nussbaum also refer to "functionings," understood to capture what people actually end up doing given the basic capabilities. The idea of functionings might also be used as the basis for a welfarist account.⁴⁰ John Finnis has worked in a broadly similar vein.⁴¹

If welfare is understood to have an objective component, it should be unsurprising that people's choices, and their WTP, do not always promote their welfare. If people suffer from capability failure, their deprivation may not enable them to make welfare-promoting choices. Raised under conditions of inequality, women may not want significant changes in their situations, only because the underlying conditions have made those changes unimaginable. Similarly, people raised under circumstances of poor health

³⁷ See, e.g., KAPLOW & SHAVELL, *supra* note 3, at 18–24.

³⁸ See NUSSBAUM, *supra* note 8; AMARTYA SEN, DEVELOPMENT AS FREEDOM (2000).

³⁹ See NUSSBAUM, *supra* note 8, at 78–80.

⁴⁰ See *id.*

⁴¹ See generally JOHN FINNIS, NATURAL LAW AND NATURAL RIGHTS (1980).

may not be willing to pay much to improve their health, for they lack the resources or information to understand what better health could actually mean or entail. Raised without clean air or clean water, or beautiful areas, people might not be willing to pay much to improve air or water quality or to preserve or increase the number of beautiful areas.

Perhaps the problem here is a lack of information; perhaps preferences have adapted to a lack of anything better.⁴² In either case, we do not promote welfare, or for that matter freedom, if we simply honor people's WTP. And while these problems are especially acute in poor nations, it would be most surprising if they could not be found in wealthy nations as well.

B. Measuring Subjective Welfare?

An objective account of welfare raises many questions, and it might be best to proceed by investigating the relationship between WTP and welfare in more subjective terms. Economists tend to think that if people are willing to pay \$75 for a watch, they prefer the watch to \$75. But it should be clear at the outset that the idea of "preference" has a serious ambiguity. Do we mean to measure *A*'s preference at the time of *choice*, or at the time of *experience*?

Suppose that *A* chooses the watch over \$75, but that after two days, concludes that the watch is ugly, that he made a stupid decision, and that he would turn back time and undo the transaction if he could. Suppose that *A* actually hates his watch and is made miserable by it. If so, *A*'s choice has not promoted *A*'s welfare by *A*'s own lights. If we emphasize *A*'s subjective well-being, we might think that his choices are no more than a proxy for his welfare, rightly specified. Recall here Wilson's case above; Wilson is willing to spend a great deal for a summer home that she would not enjoy. Or consider the case of Andrews, who is not willing to pay much for a health plan from which she would greatly benefit. The general question is whether welfare might be measured directly.

1. Happiness in General

Inspired by this question, many social scientists are attempting to measure welfare by exploring how happy people are, either in general or in response to particular choices and events.⁴³ The apparent and admittedly inadequate premise is that happiness and welfare are identical.⁴⁴ For

⁴² See ELSTER, *supra* note 8.

⁴³ See, e.g., Kahneman & Krueger, *supra* note 23; RICHARD LAYARD, HAPPINESS (2005).

⁴⁴ See generally LAYARD, *supra* note 43. Layard offers an argument to this effect, which is in my view unconvincing. One might think that one's welfare is promoted by activities that do not produce happiness in its simple form, for example, good works. One might also believe that welfare is promoted by activities that produce a sense of meaning, or that fit with people's preferred ideals, even if they do not in any simple sense make people "happy."

the moment, let us take that premise as a definition rather than an argument; certainly happiness is at least an ingredient in welfare. If the goal is to measure happiness, we might do so by asking people or instead by attempting to measure hedonic states in various ways.⁴⁵

a. The Puzzling Disconnect Between Economic Growth and Happiness Measures

An evident puzzle is that increases in economic growth are not correlated with increases in reported life-satisfaction. Consider Figure 1.

FIGURE 1 [2 IN ORIGINAL]: LIFE SATISFACTION AND INCOME PER CAPITA

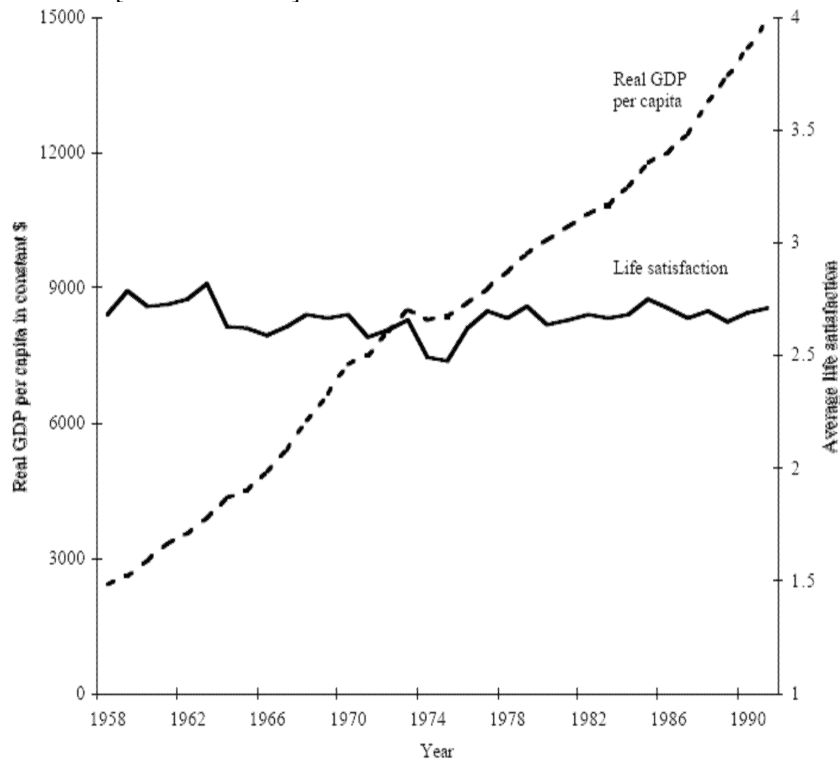


Figure 2. Satisfaction with Life and Income per Capita in Japan between 1958 and 1991

Sources: Penn World Tables and World Database of Happiness.

⁴⁵ A good overview is WELL-BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY (Daniel Kahneman et al. eds., 2002).

⁴⁶ Bruno Frey & A. Stutzer, *What can Economists Learn from Happiness Research?*, 40 J. ECON. LIT. 402, 413 (2002).

The pattern shown here turns out to be typical. The United States, France, and Japan all experienced dramatic increases in real income in the twentieth century, but showed no increase in subjective well-being.⁴⁷ An especially striking finding involves China.⁴⁸ Between 1994 and 2005, China experienced explosive growth of 250% in average real income. In that same period, life satisfaction in China actually declined, with a reduction in reported “satisfaction” from approximately 80% to 70% and an increase in reported “dissatisfaction” from approximately 21% to 35%.⁴⁹ Hence it is not easy to establish any kind of correlation between economic growth and increases in subjective welfare.

For purposes of self-reported happiness, what appears to matter is relative economic position, not absolute economic position.⁵⁰ People’s self-reported happiness is greatly affected by their position in the economic hierarchy rather than by their absolute wealth. By itself, this finding does not demonstrate that WTP is a poor proxy for welfare. But it does raise serious problems about any effort to identify WTP with welfare: even if wealth is maximized, in the sense that society’s aggregated WTP is very high and getting higher, people’s life-satisfaction may not be better. From existing evidence, it is odd but not implausible to say that if the GDP of America or France doubled in some period of years, we would not pick up any increase in people’s life-satisfaction. (Return to the case of China.) If welfare is our lodestar, this possibility raises serious concerns for those who believe that economic growth is the best way to increase national well-being.

Of course self-reported happiness is not the only thing that is important, even if welfare is our lodestar. It is possible to question self-reported happiness on the ground that it may not adequately measure subjective happiness; perhaps self-reports invite relative rather than absolute assessments.⁵¹ If this is so, people in China might report declining satisfaction after a period of explosive economic growth, not because they are less happy in absolute terms than they were before, but because they see that they are less happy, relatively speaking, than they were before. Even if those reports do measure subjective happiness, perhaps subjective happiness should not be our guide. Happiness may not increase with growth in GDP, but one result of GDP growth may well be increases in longevity, health, and opportunity.⁵² From the standpoint of increasing human welfare, it is

⁴⁷ Edward Diener & E. Suh, *National Differences in Subjective Well-Being*, in *WELL-BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY* 439–41 (2002).

⁴⁸ See Kahneman & Krueger, *supra* note 23, at 16.

⁴⁹ See *id.*

⁵⁰ See FRANK, *supra* note 30.

⁵¹ For a response to this concern, see Kahneman & Krueger, *supra* note 23, at 7–9.

⁵² See SEN, *supra* note 8. Sen argues that the concern should be capabilities, not economic growth, but it is nonetheless true that growth is (imperfectly) correlated with improvements in capabilities.

better to enable people to live eighty healthy years than fifty less healthy years, even if the level of daily happiness does not increase. If increases in GDP are correlated with longer and healthier lives, and with better opportunities and greater education, such increases appear to increase welfare even if subjective happiness stays constant.

But if the goal really is welfare, we might pursue longevity, health, opportunity, education, and subjective happiness directly and focus on economic growth only to the extent that it is responsible or a good proxy for such improvements. If the data on subjective happiness is taken seriously, the consequences for law and policy would appear to be significant, because economic growth would be demoted to a secondary goal, to be promoted only to the extent that it helps achieve primary goals, which might in any case be pursued directly.⁵³

b. Measuring Experience

There are major problems with relying on reported life-satisfaction as a measure of welfare. Perhaps people report high life-satisfaction even though their daily lives are not especially good⁵⁴; perhaps they report low life-satisfaction even though from moment-to-moment, their welfare is high. Daniel Kahneman and his coauthors have attempted to learn more about welfare by seeing how much people enjoy various activities.⁵⁵ They find that some voluntary choices produce high levels of self-reported happiness, but that other voluntary choices do not. Here is a summary of their preliminary findings:

⁵³ See Kahneman & Kruger, *supra* note 23, at 18–21.

⁵⁴ Cf. AMARTYA SEN, RESOURCES, VALUES AND DEVELOPMENT 307, 309 (1984). Sen shows that widows in India gave better self-reports about their health than did widowers, even though the widows were in fact in worse health.

⁵⁵ Daniel Kahneman et al., *A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method*, 306 SCI. 1776 (2004).

Table 1. Mean affect by situation. Positive affect is the average of happy, wam/friendly, enjoying myself. Negative affect is the average of frustrated/annoyed, depressed/blue, hassled/pushed around, angry/hostile, worried/anxious, criticized/put down. For each situation, the table shows the mean ratings on affect descriptors, the average amount of time all respondents spent in the situation, and the proportion of respondents reporting at least one episode of that type. Episodes for which the respondent reported multiple activities or interaction partners were included in each of the corresponding computations.

	Mean affect rating					Mean hours/day	Proportion of sample reporting
	Positive	Negative	Competent	Impatient	Tired		
Activities							
Intimate relations	5.10	0.36	4.57	0.74	3.09	0.2	0.11
Socializing	4.59	0.57	4.32	1.20	2.33	2.3	0.65
Relaxing	4.42	0.51	4.05	0.84	3.44	2.2	0.77
Pray/worship/meditate	4.35	0.59	4.45	1.04	2.95	0.4	0.23
Eating	4.34	0.59	4.12	0.95	2.55	2.2	0.94
Exercising	4.31	0.50	4.26	1.58	2.42	0.2	0.16
Watching TV	4.19	0.58	3.95	1.02	3.54	2.2	0.75
Shopping	3.95	0.74	4.26	2.08	2.66	0.4	0.30
Preparing food	3.93	0.69	4.20	1.54	3.11	1.1	0.62
On the phone	3.92	0.85	4.35	1.92	2.92	2.5	0.61
Napping	3.87	0.60	3.26	0.91	4.30	0.9	0.43
Taking care of my children	3.86	0.91	4.19	1.95	3.56	1.1	0.36
Computer/e-mail/Internet	3.81	0.80	4.57	1.93	2.62	1.9	0.47
Housework	3.73	0.77	4.23	2.11	3.40	1.1	0.49
Working	3.62	0.97	4.45	2.70	2.42	6.9	1.00
Commuting	3.45	0.89	4.09	2.60	2.75	1.6	0.87
Interaction partners							
Friends	4.36	0.67	4.37	1.61	2.59	2.6	0.65
Relatives	4.17	0.80	4.17	1.70	3.06	1.0	0.38
Spouse/SO	4.11	0.79	4.10	1.53	3.46	2.7	0.62
Children	4.04	0.75	4.13	1.65	3.40	2.3	0.53
Clients/customers	3.79	0.95	4.65	2.59	2.33	4.5	0.74
Co-workers	3.76	0.92	4.43	2.44	2.35	5.7	0.93
Boss	3.52	1.09	4.48	2.82	2.44	2.4	0.52
Alone	3.41	0.69	3.76	1.73	3.12	3.4	0.90
Duration-weighted mean	3.89	0.84	4.31	2.09	2.90		
% time > 0	97%	66%	90%	59%	76%		

Findings of this kind present many puzzles. Evidently people do not much like interacting with their co-workers and bosses, at least not compared to interacting with their friends and relatives; but work-related interactions may be worthwhile on balance, because people are paid for those interactions. From this evidence, then, we cannot conclude that people's choices, or their WTP, do not promote their welfare. But the evidence at least suggests the possibility that people are choosing to engage in behavior that they do not enjoy or that might fail to improve their welfare.

If it were possible to measure the relationship between particular choices and particular experiences directly, we would have a test of welfare that might actually be used to assess the effects of law and policy. Here the mismatch would not merely be between WTP and welfare; it would be between choices and welfare. The result of such a mismatch would be more ambitious than anything I have discussed thus far. Perhaps the goal should be to find national "happiness accounts" or "welfare accounts," exploring subjective well-being at the aggregate level.⁵⁶ If such explorations are feasible, an emphasis might be made not on GDP, but on changes in aggregate happiness or self-reported welfare over time. Such an emphasis might significantly alter national priorities. We might see, for example, that efforts to reduce mental illness would have a significant impact on aggregate happi-

⁵⁶ See the discussion in Kahneman & Krueger, *supra* note 23, at 22.

ness or self-reported life-satisfaction—a far more significant impact than general efforts to promote economic growth.⁵⁷

IV. ERRORS IN AFFECTIVE FORECASTING

Focusing more narrowly on particular welfare-reducing choices, a growing literature investigates the problem of “miswanting,” which arises from failures of “affective forecasting.”⁵⁸ A decision about what to do, or what to acquire, requires people to make judgments about the welfare effects of an action or an acquisition. As in the cases of Wilson and Andrews above, we now know enough to say that these judgments may go badly wrong. Let us see exactly why, and then turn to implications for law and policy.

A. *Projection Bias*

People’s current emotional states often have a large impact on their affective forecasts in a way that can produce significant errors. A simple demonstration, involving consumption choices, is that shoppers at grocery stores are greatly influenced by how hungry they are at the time that they shop.⁵⁹ They fail to adjust for the fact that in the next week, they are unlikely to be hungry most of the time.⁶⁰ In the same vein, catalogue shoppers who place orders via telephone are greatly influenced by the weather conditions at that time and hence make choices that they later regret.⁶¹ When people buy warm clothes on especially chilly days, they are more likely to return those clothes.⁶² This distortion has been labeled “projection bias,” meaning that people wrongly project their current emotional state onto their future selves.⁶³

As Kahneman and Thaler suggest, a related problem can arise when people join sports clubs with the mistaken belief that they will visit the club often. Evidently many people greatly overestimate their likely use of such clubs.⁶⁴ Those who make such overestimates are not necessarily in a “hot” state, but they are projecting their current desire for more exercise into the later state, when they might well want to stay home and relax. The

⁵⁷ See LAYARD, *supra* note 43.

⁵⁸ Daniel T. Gilbert & Timothy D. Wilson, *Miswanting*, in *FEELING AND THINKING: THE ROLE OF AFFECT IN SOCIAL COGNITION* 178 (Joseph P. Forgas ed., 2000); Timothy D. Wilson & Daniel T. Gilbert, *Affective Forecasting*, 35 *ADVANCES IN EXPERIMENTAL SOC. PSYCHOL.* 345 (June 2003).

⁵⁹ See Timothy D. Wilson & Daniel T. Gilbert, *Affective Forecasting*, *supra* note 58, at 361.

⁶⁰ *See id.*

⁶¹ See Daniel Kahneman & Richard H. Thaler, *Utility Maximization and Expected Utility*, 20 *J. ECON. PERSP.* 221, 224 (2006).

⁶² *See id.*

⁶³ See George Loewenstein et al., *Projection Bias in Predicting Future Utility*, 118 *Q.J. ECON.* 1209 (2003).

⁶⁴ See Kahneman & Thaler, *supra* note 61, at 223–25.

problem with projection bias is that it suggests that people will make choices that do not promote their welfare,⁶⁵ as when they end up with products that they do not enjoy when they are using or consuming them.

Projection bias is closely related to what has been called the “hot/cold empathy gap.”⁶⁶ When people are in “hot” emotional states, they tend to err in anticipating their future emotional states; when they are in “cold” states, they blunder with respect to what they will want when they are “hotter.”⁶⁷ Here is a simple demonstration. Visitors to a museum were asked to take a short trivia quiz and instructed to select one of two possible forms of compensation: answers to the quiz or a candy bar. When people were asked to make the choice before taking the quiz, they generally chose the candy bar. When people were asked to choose after taking the quiz, and hence were in a “hot” state in terms of their curiosity, they generally chose the answers.⁶⁸ It is reasonable to think that when people are in a “hot” state, they may take risks that they would not otherwise take, in a way that might lead to overall welfare losses. Consider unsafe driving, excessive drinking, and risky sexual activity.

Of course, it is not clear how or whether public officials should react to the possibility of projection bias. My major point is that people might be willing to pay for goods that will not promote their welfare—and that they might not be willing to pay for goods that will promote their welfare. For this reason, use of WTP, at the time of choice, may well lead to welfare losses.

B. Unrealistic Optimism

Many people suffer from excessive optimism.⁶⁹ With respect to most of the risks faced in ordinary life, people show a tendency to be unrealistically optimistic.⁷⁰ The most well-documented findings of optimism involve relative (as opposed to absolute) risk. About 90% of drivers think that they are safer than the average driver and less likely to be involved in a serious accident.⁷¹ People generally think that they are less likely than other people to be divorced, to have heart disease, to be fired from a job, and much more.⁷² At first glance, a belief in relative immunity from risk seems dis-

⁶⁵ See *id.* at 224.

⁶⁶ Timothy D. Wilson & Daniel T. Gilbert, *Affective Forecasting*, *supra* note 59, at 364-65.

⁶⁷ See Kahneman & Thaler, *supra* note 61, at 223-25.

⁶⁸ See *id.*

⁶⁹ See David Armor & Shelley E. Taylor, *When Predictions Fail: The Dilemma of Unrealistic Optimism*, in *HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT* 334 (Thomas Gilovich et al. eds., 2002).

⁷⁰ See SHELLEY E. TAYLOR, *POSITIVE ILLUSIONS: CREATIVE SELF-DECEPTION AND THE HEALTHY MIND* 6-11 (1989) (proposing that a healthy self-conception is biased toward optimism).

⁷¹ See *id.* at 10-11.

⁷² See Neil D. Weinstein, *Unrealistic Optimism About Susceptibility to Health Prob-*

turbing. But by itself, this finding does not establish that people underestimate the risks that they actually face. Perhaps people have an accurate understanding of their own statistical risks even if they say and believe, wrongly,⁷³ that other people are more vulnerable than they are.

But there is also evidence of unrealistic optimism for absolute risks. For example, professional financial experts consistently overestimate likely earnings, and business school students overestimate their likely starting salaries and the number of offers that they will receive.⁷⁴ People also underestimate their likelihood of being involved in a serious automobile accident,⁷⁵ and their failure to buy flood and earthquake insurance is at least consistent with the view that people are excessively optimistic.⁷⁶ It is reasonable to extrapolate that when risk-related behavior is involved, people's WTP may be distorted by excessive optimism. To that extent, it may poorly reflect the welfare effects of various courses of action.

Here as well, the appropriate legal response is not clear. But at the very least, informational strategies, designed to reduce or to eliminate the bias, would seem justified from the welfarist point of view.⁷⁷

C. Myopia

Some people are myopic, emphasizing the short-term at the expense of the future.⁷⁸ Consider the case of Andrews, who refuses to purchase health insurance that would make her life go better. Myopic behavior might be seen as a taste for current well-being over future well-being, in a way that raises no concerns about welfare losses or bounded rationality. But if a day's welfare gains are purchased at the expense of long-term distress, bounded rationality is probably involved. Myopia helps to account for self-control problems, leading consumers to make decisions that undermine their well-being over time. Consider here the problems associated with insufficient exercise, obesity, poor diet, and excessive smoking and drinking. A distinctive form of bounded rationality stems from neglect of the aggre-

lems, 10 J. BEHAV. MED. 481, 486 (1987) (listing results from survey obtaining comparative risk judgments from 297 individuals about a broad range of hazards).

⁷³ See W. KIP VISCUSI, SMOKE-FILLED ROOMS: A POSTMORTEM ON THE TOBACCO DEAL 162–66 (2002) (using survey data to show that smokers do not ignore risks to themselves as much as underestimate them in relation to other smokers).

⁷⁴ See Armor & Taylor, *supra* note 69, at 334–35.

⁷⁵ See Christine Jolls, *Behavioral Economics Analysis of Redistributive Legal Rules*, 51 VAND. L. REV. 1653, 1660–61 (1998) (discussing generally individuals' underestimation of their chances of being in automobile accidents).

⁷⁶ See *id.* at 1661–62 (discussing individuals' failure to insure as a function of their over-optimism). Note that the availability heuristic can counteract this problem by leading people to insure against salient risks.

⁷⁷ See Christine Jolls & Cass R. Sunstein, *Debiasing Through Law*, 35 J. LEGAL STUD. 199 (2006).

⁷⁸ See George Loewenstein & Drazen Prelec, *Anomalies in Intertemporal Choice: Evidence and Interpretation*, in CHOICES, VALUES, AND FRAMES 578, 592–93 (Daniel Kahneman & Amos Tversky eds., 2000).

gate effect of a large number of relatively small borrowing choices.⁷⁹ Call this “cumulative cost neglect.” Addictive behavior is the most serious problem here, but “cumulative cost neglect” can be a problem even when addiction is not involved.

When behavior is myopic, WTP will not adequately capture the welfare effects of choices. People may be willing to pay significant amounts for goods and for courses of action that do not, on balance, make their lives go better. If welfare is the goal, WTP is a poor guide.

D. The Focusing Illusion and Immune Neglect

Individual welfare is a component of many variables. If people are depressed, anxious, or experiencing some kind of mental illness, their subjective welfare will be low by definition.⁸⁰ But there is a much broader problem. With respect to subjective happiness, individual choices may go wrong if they depend on a mistaken judgment about the importance of a particular choice to overall well-being. Daniel Kahneman and David Schkade have described the problem in a wonderful maxim: “Nothing in life matters quite as much as you think it does while you are thinking about it.”⁸¹ The general point here is that when focusing on a particular aspect of life, or a particular ingredient of welfare, people may make serious blunders.

Consider a simple demonstration. Most people appear to believe that they would be happier in California.⁸² This belief is held by Californians as well as people who do not live in California. But in fact, those who live in California are not happier than those who live elsewhere. Apparently they are subject to a “focusing illusion.”⁸³ Focusing on the idea of California, and on California’s weather in particular, causes people to believe that they would be happier in California. This belief is held even though weather is not an important determinant of most people’s happiness.

Focusing illusions can be found in many domains. In particular, people fail to consider the power of psychological mechanisms that immunize them from the kinds of hedonic losses that they expect to face in the event that things go wrong. Consider some examples:

1. Assistant professors greatly overstate the effect of the tenure decision on their subjective happiness.⁸⁴ They expect that this decision will affect their happiness for many years, and in part for that reason, greatly want to be tenured. But after a few years have passed, those who are tenured are no happier than those who were denied tenure.

⁷⁹ See Paul Slovic, *Do Adolescent Smokers Know the Risks*, 47 DUKE L.J. 1133 (1998).

⁸⁰ See generally LAYARD, *supra* note 43.

⁸¹ Kahneman & Thaler, *supra* note 61, at 229.

⁸² See David A. Schkade & Daniel Kahneman, *Does Living in California Make People Happy?*, 9 PSYCHOL. SCI. 340 (1998).

⁸³ See *id.*

⁸⁴ See Gilbert & Wilson, *supra* note 58, at 186.

2. Voters believe that the outcome of an election will greatly affect their happiness a month after the election. But in that month, losers and winners are as happy as they were before the election.⁸⁵

3. College students predicted that their happiness would be affected more by the physical features of their dormitories than by the quality of their social life. In fact, the opposite was true: physical features had essentially no impact on their happiness.⁸⁶

4. People think that a year after winning the lottery, the winners are likely to be much happier than they were before they won the lottery. But after a year has passed, lottery winners are about as happy as they were before.⁸⁷

5. People expect that paraplegics will show much lower happiness levels than people who are able-bodied. In fact, their happiness levels are lower, but not dramatically so.⁸⁸

6. People in the midst of a divorce believe that they will be very unhappy fifteen months after their divorce. In fact, their happiness levels are about the same.⁸⁹

7. Major life events, such as bereavement and marriage, are expected to have significant long-term consequences for subjective happiness, but the consequences are temporary.⁹⁰

There appear to be several problems here. One is that people show “immune neglect;” they do not see the power of their internal psychological immune system, which greatly diminishes the welfare effects of apparently significant changes. Another problem is that people demonstrate a kind of “impact bias,”⁹¹ in the form of a tendency to exaggerate the effect of future events on their own emotional states. People have been found to overestimate the welfare effects of personal insults, sports events, romantic break-ups, electoral defeats, and much more.⁹² The overestimates appear to be a product of “duration bias,” understood as an exaggeration of the length of time during which both desirable and undesirable effects will have an emotional impact.⁹³ “The conclusion from this body of research is that people are systematically wrong in their expectations about the life circumstances that will increase or decrease their happiness, which in turn implies that life choices that people make in their pursuit of happiness are also likely to be wrong.”⁹⁴

⁸⁵ *See id.*

⁸⁶ *See id.* at 356–57.

⁸⁷ *See* Philip Brickman et al., *Lottery Winners and Accident Victims: Is Happiness Relative?*, 36 J. PERSP. & SOC. PSYCHOL. 917 (1978).

⁸⁸ *See id.*

⁸⁹ *See* Gilbert & Wilson, *Miswanting*, *supra* note 58.

⁹⁰ *See* Kahneman & Krueger, *supra* note 23, at 14.

⁹¹ Wilson & Gilbert, *Affective Forecasting*, *supra* note 58, at 349–51.

⁹² *See id.* at 353.

⁹³ *See* Kahneman & Thaler, *supra* note 61, at 230.

⁹⁴ *Id.* at 231.

It is not yet clear how the focusing illusion and related phenomena might be enlisted to measure the welfare effects of various courses of action. But it is clear that insofar as people's WTP is a product of such phenomena, it will lead people in directions that are not welfare-promoting, and that may even be harmful to their interests.

For the legal system, there is a more concrete implication. Juries and others may also suffer from projection bias and may greatly exaggerate the hedonic effects of some losses. For example, suppose that a plaintiff has lost two fingers and the jury is asked to monetize the loss, including the associated pain and suffering. Because of the power of the psychological immune system, it is not implausible to think that the loss is short-term and relatively small. After a period of adjustment, those who lose two fingers, or even an arm, may be only trivially worse off than those who have suffered no such loss. Juries are unlikely to see the adaptation and are likely to suffer from a focusing illusion akin to those asked whether they would be happier if they lived in California. It is a worthwhile question whether in the award of damages, the legal system might be showing a systematic bias as a result.⁹⁵

E. Problems, Puzzles, and Libertarian Paternalism

Suppose that people's choices often go wrong, for reasons of the sort that I have elaborated. It remains true that freedom of choice should be counted as both an intrinsic and an instrumental good. Perhaps people ought to be permitted to choose as they like, because it is an insult to their autonomy to deny them the right to choose, even if their choices do not promote their welfare. Perhaps freedom of choice should be respected because it is an ingredient in welfare, in the sense that people feel frustrated or worse if their choices are not honored. An understanding of failures in affective forecasting might not justify error-prone officials, themselves subject to similar errors, in foreclosing choices on welfare grounds. Indeed, public errors in affective forecasting would be far more damaging than private ones, if only because they affect so many people at the same time and are less readily subject to self-correction.⁹⁶

In these circumstances, the best response to the problem sketched above might well be a form of "libertarian paternalism," an approach that does not compromise freedom of choice, but that steers decisions in welfare-promoting directions.⁹⁷ For libertarian paternalists, it is generally important to allow people to go their own way, even if social planners believe that their welfare is likely to be jeopardized. The planners may be

⁹⁵ See Cass R. Sunstein, *Illusory Losses*, J. LEGAL STUD. (forthcoming).

⁹⁶ See generally Edward L. Glaeser, *Paternalism and Psychology*, 73 U. CHI. L. REV. 133 (2006).

⁹⁷ See Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not An Oxymoron*, 70 U. CHI. L. REV. 1159 (2003).

wrong, and even if they are right, freedom of choice should ordinarily be respected. But libertarian paternalists also believe that default rules, information, and debiasing strategies⁹⁸ are properly used to increase the chances that people will choose well. Such strategies might well be enlisted when planners have good evidence that affective forecasting errors are likely to occur and to produce real harm.

A defense of libertarian paternalism is well beyond the scope of the present discussion.⁹⁹ My major claim is theoretical rather than programmatic: If welfare is the goal, WTP will sometimes not be the means, because affective forecasting is not always reliable. Those who emphasize WTP, and unconstrained freedom of choice, might well be producing welfare losses.

V. CONCLUSION

In certain cases, the relationship between WTP and welfare ought to be close. When people pay for all (or almost all) of the costs of a good that they are receiving, and when adequate information is available, it makes sense to use WTP. The analysis is far more complicated when the beneficiaries are paying little or nothing for what they are receiving. If the beneficiaries are poor, and if those who pay are wealthy, the program may be welfare-promoting even if it is inefficient. We have seen that in the context of disability and air pollution policy, the inefficient solution might well promote welfare.

To be sure, the tax system is usually the best means of redistributing wealth. But sometimes the tax system is unavailable, and when the only options are inaction and inefficient regulation, the latter is sometimes best if the goal is to promote welfare. One implication is that it is not enough to ask for government agencies to examine whether the beneficiaries of regulation are poor. It is also necessary to examine the wealth or poverty of those who pay for regulation. If cost-benefit analysis based on WTP is used as the basis for law and policy, it might well block measures that would promote welfare—and fail to promote measures that would produce significant welfare gains. We have seen examples in the context of air pollution regulation and climate change.

A much more fundamental point is that people's choices, and their WTP, may lead them to make decisions that do not promote their welfare. Remarkably, increases in GDP do not produce increases in people's self-reported life satisfaction—a finding that raises the possibility that economic growth does far less good than is customarily believed. In addition, affective forecasting is error-prone. As a result of projection bias, people do not see that their current emotional state can be a crude proxy for

⁹⁸ See Jolls & Sunstein, *supra* note 77.

⁹⁹ See Sunstein & Thaler, *supra* note 97.

their future emotional state, and hence they make choices that they will later come to regret. As a result of unrealistic optimism, people take risks when an objective analysis of their own welfare suggests that they ought not to do so. As a result of myopia, people make decisions that produce long-term or aggregate harm. As a result of focusing illusions, people exaggerate the aggregate impact of specific changes on their welfare. WTP is often based on an affective forecast, and sometimes the forecast will be badly wrong.

Much work remains to be done to establish the appropriate response, if any, to these problems in terms of law and policy. At a minimum, I have suggested that there are serious problems with the emphasis on economic growth as the measure of social welfare; that an emphasis on the actual ingredients of welfare might be feasible as well as better; and that jury awards for hedonic damages might well be inflated. I have also suggested that when affective forecasting is likely to go wrong, a form of libertarian paternalism, steering without blocking choices, may be best. For people with diverse views about government policy—for those on the right, the left, and places in between—libertarian paternalism may well be able to attract broad appeal. The broadest point is that to the extent that affective forecasting errors turn out to be serious, the use of WTP is hard to justify from the standpoint of the very account that most plausibly supports it.