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The Easterlin Paradox Revisited

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The traditional view that well-being depends on both absolute and relative income was challenged in a 1974 paper by Richard Easterlin (Does economic growth improve the human lot? In P. David and M. Reder (Eds.), *Nations and households in economic growth: Essays in honor of Moses Abramovitz* (pp. 89–125), New York: Academic Press). He noted that although individual well-being is strongly positively associated with income within any country at a given point in time, the average level of measured well-being for a country changes little over time, even in the face of substantial growth in average incomes. For decades, social scientists have struggled to explain this "Easterlin Paradox." In a 2008 paper, Betsey Stephenson and Justin Wolfers (Economic growth and subjective well-being: Reassessing the Easterlin Paradox, *Brookings Papers on Economic Activity,* Vol. 39, pp. 1–87) argued that the Easterlin Paradox was a statistical illusion. Using richer data sets that facilitate more precise estimates of the various links between income and well-being, they assert that average well-being in a country does, in fact, rise as average income rises over time, and that rich countries are happier than slightly poorer ones. They also suggest that the link between income and well-being may run through absolute income alone—that is, that individual well-being may be completely independent of relative income. In this article, I argue that there have always been good reasons to believe that well-being is positively linked to absolute income. I also argue, however, that there is no reason to believe that individual well-being is independent of relative income.

Keywords: absolute income, Easterlin paradox, happiness, relative income, well-being

How important are absolute and relative income in determining well-being? The traditional commonsense answer to this question—that both are important—was challenged in a 1974 paper by the economist Richard Easterlin, who noted two seemingly contradictory patterns in survey data (Easterlin, 1974, 1995). Although individual well-being is strongly positively associated with income within any country at a given point in time, he noted, the average level of measured well-being for a country changes little over time, even in the face of substantial growth in average incomes. For decades, social scientists have struggled to explain this "Easterlin Paradox."

Easterlin's own explanation was that well-being depends on relative income, not absolute income. Rich people are happier than poor people at any moment, he argued, because they are better able to meet demands that are largely socially constructed. But when everyone's income rises in tandem, the relevant frames of reference shift. And because relative income is largely unaffected, people feel no better off than before.

In 2008, the economists Betsey Stephenson and Justin Wolfers published an influential paper asserting that the Easterlin Paradox was merely a statistical illusion (Stevenson & Wolfers, 2008).[1] The problem, they explained, was that the paucity of early survey data made it difficult to estimate the national income and well-being relationships with statistical precision. In contrast, cross-section surveys often contained hundreds of thousands of observations, which facilitated statistically precise estimates.

Survey data on well-being have proliferated in the years since Easterlin's paper appeared, making it possible to obtain much more precise estimates of the various links between income and well-being. Those estimates, the authors assert, suggest that average well-being in a country does, in fact, rise as average income rises over time, and that rich countries are happier than slightly poorer ones. They even suggest that the link between income and well-being may run through absolute income alone—that is, that individual well-being may be completely independent of relative income.

In this article, I argue that there have always been good reasons to believe that well-being is positively linked to absolute income. I also argue, however, that there is no basis for the Stevenson–Wolfers (2008) assertion that individual well-being may be independent of relative income.

Income and Happiness

A widely cited example of the supposed insensitivity of average well-being to average income growth is the Japanese experience. Japan was a poor country in 1960 but experienced extremely rapid income growth during the ensuing three decades (see Figure 1). Yet average happiness level reported by the Japanese in the late 1980s was no higher than in 1960, even though average incomes (the darker line in Figure 1) had grown several-fold during that period.

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[1] Stevenson and Wolfers (2008) have shown that average happiness is also positively related to average income over time within countries and across countries at any moment.

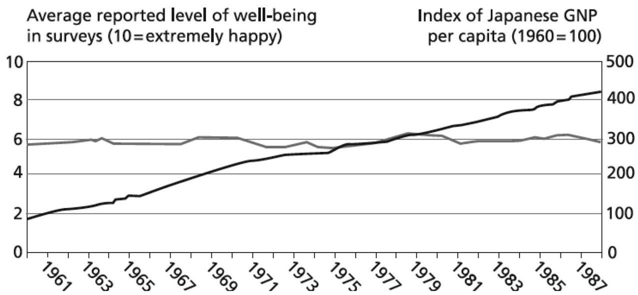

Figure 1. Average happiness versus average income over time in Japan. Adapted from *Happiness in Nations*, by R. Veenhoven, 1993, Rotterdam: Erasmus University. Copyright 1993 by Erasmus University. Reprinted with permission.

In contrast, cross-section relationships consistently show that average individual happiness levels at any given moment are strongly positively correlated with income. Figure 2, for example, shows this relationship for the United States during a brief period during the 1980s. When we plot average happiness versus average income for clusters of people in a given country at a given time, as in Figure 2, rich people are in fact a lot happier than poor people.

The patterns portrayed in Figure 1 and Figure 2 are consistent with Easterlin's view that well-being depends on relative income, not absolute income. He and others concluded on that basis that, at least for people in the world's richest countries, no useful purpose is served by further accumulations of wealth (cf. Townsend, 1979). On its face, this was always a surprising conclusion because there are so many useful things that additional wealth would enable us to do.

Why Absolute Income Should Matter

If Richard Easterlin is correct, the median earner in a society would not care whether his/her annual income was \$50,000 or \$5 million. Yet many aspects of life that people consider important are palpably better in richer societies than in poorer ones (Diener, Sandvik, Seidlitz, & Diener, 1993). Richer societies typically enjoy cleaner environments, for example, and greater workplace safety. They enjoy the benefits of medical advances that enable people to live longer, healthier lives.

Citizens of richer societies also typically enjoy public goods of higher quality. They have more urban parkland and cleaner drinking water. Their roads and bridges are better maintained, and they are less likely to be victimized by violent crime. The cars they drive are both safer and more reliable.

So why did Easterlin not find a positive link between reported well-being and absolute income? One possibility is that although measures of subjective well-being may do a reasonably good job of tracking our experiences as we are consciously aware of them, that may not be all we care about. For example, imagine two parallel universes—one just like the current one and another in which everyone's income is twice what it is now. Suppose that in both cases you would be the median earner, with an annual income of \$50,000 in one case and \$100,000 in the other. And suppose, as Easterlin would, that you would feel equally happy in the two universes. Finally, suppose people in the richer universe would spend more to protect the environment, which would result in healthier and longer, even if not happier, lives for all. Can there be any question that you would much prefer to live in the second universe?

Yet it is easy to imagine circumstances in which the various advantages of higher absolute incomes might not show up clearly in survey data on well-being. Suppose, for example, that the principal gain from higher wealth was a 10-year extension of the average healthy life span, from 80 to 90 years. How would that affect a 45-year-old's response to a surveyor who asked, "All things considered, how satisfied are you with your life these days?" It might have no effect whatever. Yet that would surely not imply that the survey respondent assigned no value to the longer life span.

Survey measures of subjective well-being may tell us a lot about the factors that contribute to human satisfaction, but not even the most ardent proponents of these measures would insist that they are the final word. As noted, it is easy to envision ways in which across-the-board increases in incomes might facilitate changes for the better that would be unlikely to have much impact on responses to happiness surveys. Whether growth in national income is, or could be, a generally good thing for human well-being is a question that will have to be settled by the evidence.

As Stevenson and Wolfers state in their paper, the fact that Easterlin failed to find statistically reliable evidence of a relationship between absolute income and well-being does not imply that he confirmed the absence of such a relationship. They argue that the larger volume of survey evidence that has become available in recent years shows that absolute income gains do, in fact, promote well-being. Well and good. But that finding can hardly have come as a surprise to anyone who had thought carefully about this question.

Stevenson and Wolfers go further, suggesting that the link between income and well-being may run through absolute income alone—that is, that relative income simply may not matter. But as I attempt to show, that is a far more difficult claim to support than Easterlin's.

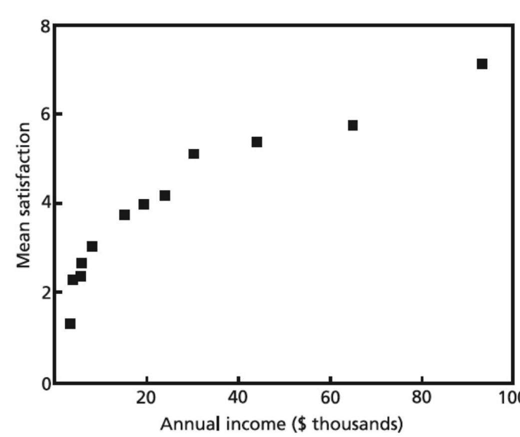

Figure 2. Income versus satisfaction in the United States, 1981–1984. Adapted from "The Relationship Between Income and Subjective Well-Being: Relative or Absolute?" by E. Diener, E. Sandvik, L. Seidlitz, and M. Diener, 1993, *Social Indicators Research*, *28*. Copyright 1993 by Kluwer Academic Publishers. Reprinted with permission.

The Importance of Relative Position

Those who claim that relative income does not matter must embrace a set of extremely implausible beliefs that are implied by that claim. Perhaps their biggest challenge would be their need to deny the clear lessons of everyday experience. As countless studies have confirmed, evaluation depends heavily on context. Long ago, as a Peace Corps volunteer teaching in a village high school in Nepal, I lived in a two-room house with no plumbing or electricity. Any teacher who lived in such a house in an American city would feel ashamed of the fact, and his children would not want their friends to know where they lived. Yet at no time during the 2 years I lived in Nepal did that house seem in any way inadequate. On the contrary, it was a nicer house than the ones most of my colleagues lived in, and I was always proud to entertain guests there.

If my friends from Nepal could see my house in Ithaca, New York, they would think that I had taken leave of my senses. "Why would anyone need such a grand house?" they would wonder. But middle-income Americans would have no such reaction.

Someone committed to the belief that relative income does not matter—that is, someone committed to the belief that context has no effect on evaluation—would find these reactions impossible to explain.

The notion that well-being is independent of relative income is also in conflict with prevailing theories and evidence on human motivation. Motivation resides in the brain, which has been evolving for millions of years. According to Charles Darwin's theory of natural selection, its proximate purpose in every generation was to guide its bearer to take the actions that would best promote the transmission of its genetic blueprint into the next generation.

As Darwin saw clearly, much of life is graded on the curve. For a genetic mutation to be favored, it is not sufficient that it enable individuals to generate large numbers of offspring. It must enable them to produce more offspring than rivals who do not carry the mutation. Reproductive fitness is thus a quintessentially relative concept. To survive and prosper, individuals need not be the strongest, fastest, or smartest organism in the universe. They may be weak, slow, and stupid. What matters is that they be able to compete successfully against members of their own species vying for the same resources.

To do so, their nervous system must absorb information about the local environment and calculate the extent to which different behavioral options will contribute to their ability to achieve various goals. But their nervous system must also perform another important function, which is to rank those goals. Which ones are most important? Which ones should be abandoned during times of duress?

Because reproductive success has always depended first and foremost on relative resource holdings, it would be astonishing if the evolved brain did not care deeply about relative position. Most vertebrate societies, including the vast majority of early human societies, were polygynous, meaning that males claimed more than one mate when they could. It was the high-ranking males in those societies who claimed multiple mates. And given the inexorable logic of musical chairs, it was the low-ranking males who were left with none.

Famines were also a frequent survival threat in the environments in which humans evolved. But even in the worst famines, there was always some food available. And the question of who got fed was almost always settled by relative income. Then as now, it was the poorest in every group who were most likely to starve.

Against the backdrop of this payoff structure, imagine two genetic variants—one that codes for a brain that cares strongly about relative position, and the other for a brain that does not care at all about it. In general, caring more strongly about something inclines you to expend more mental and physical energy to acquire it. So individuals who care more about relative position would be more likely to muster the behaviors necessary to acquire and defend positions of high rank. That, in turn, would make them more likely to survive famines and marry successfully, thus increasing their genotype's frequency in the next generation.

The current environment is of course very different from the ones in which our ancestors evolved. But relative position still matters, often for purely instrumental reasons. When you go for a job interview, for example, you want to dress presentably, but the standards for looking good are almost purely relative. An interviewer many have no conscious awareness of how different candidates are dressed. But if you show up in a $600 suit, you would be more likely to get a callback if other candidates were wearing $200 suits than if they were dressed in ones costing $1,200.

Similarly, most parents want to send their children to good schools, but school quality is relative, and better schools tend to be located in more expensive neighborhoods. The upshot is that for median earners to send their children to a school of even average quality, they must outbid 50% of other parents pursuing the same goal. No matter how much people earn, only half of all children can attend schools in the top half. In this domain, the link between success and relative income could not be stronger.

The hypothesis that concerns about relative position are part of the evolved circuitry of the human brain is also supported by evidence of specific neurophysiological processes that respond to local rank. For example, local rank appears to both affect and be affected by concentrations of the neurotransmitter serotonin, which regulates moods and behavior. Within limits, elevated serotonin concentrations are associated with enhanced feelings of well-being. (The drug Prozac, widely prescribed for depression and other mood disorders, increases the effective concentrations of serotonin in the brain.)

In males, concentrations of the sex hormone testosterone appear to have a similar relationship with local rank. Reductions in local rank tend to be followed by reductions in plasma testosterone levels, whereas these levels tend to rise following increases in rank. A player who wins a tennis match decisively, for example, experiences a postmatch elevation in plasma testosterone, and his vanquished opponent experiences a postmatch reduction. As with serotonin, elevated concentrations of testosterone appear to facilitate behaviors that help achieve or maintain high local rank (for a review, see Frank, 1999).

A broad spectrum of behavioral evidence is also consistent with the hypothesis that people attach considerable importance to their rank in local hierarchies. The high observed wage compression among coworkers within firms, for example, would be difficult to explain without invoking a willingness to pay for high local rank (Frank, 1985). Without invoking concerns about relative consumption, it would be impossible to explain the observed links between changes in income inequality and changes in spending patterns (Frank, Levine, & Dijk, 2010).

And in addition to the survey evidence cited by Easterlin and others, more recent work documents a robust negative association between individual happiness measures and average neighborhood income (Luttmer, 2005).

Concluding Remarks

It would be good to have more detailed evidence on the relationship between income and well-being. But subjective well-being surveys are not the only relevant evidence. We also have cogent theories about factors that should matter in human motivation, and those theories clearly stress the importance of relative income. We have voluminous behavioral evidence about what people care about, and that evidence, too, clearly supports the claim that people care deeply about relative income.

I take Stevenson and Wolfers at their word that their survey evidence does not enable them to reject the hypothesis that relative income does not matter. But I remind them of their own admonition to Richard Easterlin: Absence of evidence is not evidence of absence! And if we take everything we know about this issue into account, it is virtually certain that relative income matters.

References

Diener, E., Sandvik, E., Seidlitz, L., & Diener, M. (1993). The relationship between income and subjective well-being: Relative or absolute? *Social Indicators Research, 28,* 195–223. doi:10.1007/BF01079018

Easterlin, R. (1974). Does economic growth improve the human lot? In P. David & M. Reder (Eds.), *Nations and households in economic growth: Essays in honor of Moses Abramovitz* (pp. 89–125). New York: Academic Press.

Easterlin, R. (1995). Will raising the incomes of all increase the happiness of all? *Journal of Economic Behavior and Organization, 27,* 35–47. doi:10.1016/0167-2681(95)00003-B

Frank, R. H. (1985). *Choosing the right pond*. New York, NY: Oxford University Press.

Frank, R. H. (1999). *Luxury fever*. New York, NY: Free Press.

Frank, R. H., Levine, A. S., & Dijk, O. (2010). *Expenditure cascades*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1690612

Luttmer, E. (2005). Neighbors as negatives: Relative earnings and well-being. *Quarterly Journal of Economics, 120,* 963–1002.

Stevenson, B., & Wolfers, J. (2008). Economic growth and subjective well-being: Reassessing the Easterlin Paradox. *Brookings Papers on Economic Activity, 39,* 1–87. doi:10.1353/eca.0.0001

Townsend, R. (1979). Optimal contracts and competitive markets with costly state verification. *Journal of Economic Theory, 21,* 265–293. doi:10.1016/0022-0531(79)90031-0

Veenhoven, R. (1993). *Happiness in nations*. International Monetary Fund. Rotterdam: Erasmus University.

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