

The willingness-to-pay for Caplanian irrationality

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Abstract

Bryan Caplan's *The Myth of the Rational Voter* popularizes the “near-neoclassical” demand curve for irrationality. This article attempts to show that there is a demand for irrationality at prices higher than zero. This may change policy implications. Many instances of consumer behavior, such as paying a premium for locally produced and “fair trade” goods, the use of local currencies, and the failure to vaccinate children, are other instances of the means-ends irrationality that Caplan observes in political markets.

Keywords

Consumer behavior, public choice, rational irrationality, rationality, voter behavior

Introduction

Bryan Caplan's (2000, 2003, 2007) concept of rational irrationality has raised a new important challenge to the economic efficiency of government. Rational irrationality opposes Wittman's (1989) view that democracy is efficient by challenging the assumption that voters are not systematically irrational. The economic *ends* that the voting public acts on are not consistent with the popular *means* of attaining them, such as attempting to attain

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prosperity through protectionism. In framing the debate, Caplan focuses on the presence of this form of irrationality only in political markets,¹ and presents one model wherein irrationality disappears when market participants are forced to pay any substantial cost to be irrational. This article will argue that the psychological forces that sway voters to vote in systematically biased ways are also present and readily observable on the market. It will thereby demonstrate the need for clarification and revision of Caplan's theoretical underpinnings.²

Caplan's primary argument is that rational ignorance has poor theoretical foundations and must be supplemented by rational irrationality. Eliminating one's irrational beliefs is a painful process few wish to partake in. Since a single vote will have no effect on outcomes in democracy, voters rationally indulge their irrationalities in such costless contexts. Voters thus choose improper means to attain their goals. Among the reasons for this according to Caplan is the improper intuition voters have about the economic sphere in life. This can be significantly generalized to test whether such behaviors exist in other markets, and real-world observation confirms the existence of such systematic bias on traditional markets.

Caplan confines his discussion of the underlying psychology to a brief section of his book. For the purposes of this article, I assume the results of evolutionary psychology. Caplan (2011a, 2011b) has endorsed the use of evolutionary psychology³ more extensively elsewhere. The psychological theory in question Caplan cites is folk economics. In addition to this, this article will consider three closely related concepts: folk biology and the naturalistic fallacy, the psychology of moralization, and a modern form of conspicuous consumption. In putting these together, we acquire a deeper understanding of why individuals want to behave as irrationally in market choices as Caplan argues they do while voting.

There are a number of empirical examples of market participants exhibiting a willingness-to-pay for such irrationality. These examples will focus primarily on a rejection of globalization for reasons that are means-ends irrational in the same sense that voting to reject globalization is means-ends irrational. To buttress this evidence, one other example of such irrationality, the refusal to vaccinate children, is also given. While one may or may not desire to call such actions irrational, they are as irrational as voting behaviors are, perhaps more so since one must incur real costs to partake in behaviors on the market.⁴ To clarify, these examples may not be as economically costly as "traditional" results found in the behavioral economics literature, but they are significant enough to question some of the implications of Caplan's argument.

Rational irrationality and the near-neoclassical demand curve

Individuals are made to feel negative emotions in response to discovering their political worldview is incorrect. On this margin, changing one's mind is an economic "bad." Avoiding coming to terms with one's irrational beliefs is therefore a "good" since one avoids such emotions. In some contexts, irrational beliefs are costly. However, if one believes tariffs imposed by the government create wealth, little cost is felt by voting to express that belief. Since there is almost no chance that an individual's vote will affect the outcome of the election, voting irrationally is a very low cost method of partaking in irrationality. It is so low that we should expect voters to satiate on their irrationality. While "rational irrationality" may be counterintuitive, it directly follows from the painfulness of changing beliefs and downward-sloping demand curves. The individual is still acting "rationally" by maximizing against a constraint, but individuals prefer to maintain their prior worldview.

Their worldview informs them of the best means to achieve their desired ends. However, instead of a traditionally shaped demand curve, Caplan focuses on what he calls a "near-neoclassical" demand curve. By this construction, demand slopes down abruptly at the y-axis and only at very low prices do market participants demand irrationality (Figure 1).

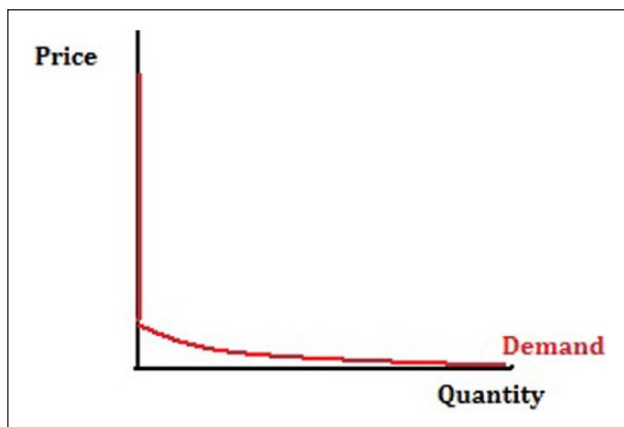


Figure 1. Near-neoclassical demand for irrationality.

The demand curve is “near-neoclassical” in the sense that the neoclassical demand for irrationality is the trivial case of a vertical line through the y-axis, that is, zero irrationality will be purchased regardless how much it costs. But since we observe voters acting irrationally when it is cheap, the curve juts out in such a way that individuals are shown to be very irrational when irrationality is cheap. Caplan (2000) defends this construction by pointing out that it preserves certain results of both neoclassical and behavioral economists (pp. 196–197). He also cites passages from both Bastiat and Schumpeter where they appear to make similar arguments (Caplan, 2007: 134–135).

Often Caplan’s critics have typically objected on philosophical or empirical grounds (Caplan, 2008), as opposed to closely scrutinizing the near-neoclassical demand curve. Bennett and Friedman (2008) argue that both rational irrationality and rational ignorance are contradictory and incoherent concepts. Wittman (2008) claims that the differences between the views of economists and the views of the public are smaller than Caplan leads the reader to believe. On the other hand, Klein (2007, app. 3) offers somewhat persuasive evidence that Caplan’s rational irrationality does not differ from his antecedent, the theory of expressive voting (Brennan and Lomasky, 1993) nearly as much as he suggests.⁵ The question this article addresses is how irrational individuals are when confronted with prices for irrationality greater than zero.

Theoretical discussion of Caplanian irrationality

[At one point I thought] well, yes, the arguments are right, capitalism is the best system, but only bad people would think so. (Robert Nozick)

This section provides the psychological foundation for the irrationalities Caplan describes. I focus on three of the four biases Caplan (2007) outlines: anti-market bias, antiforeign bias, and pessimistic bias (pp. 30–48).⁶ In discussing why these biases are present (Caplan, 2007: 178), Caplan cites evolutionary psychology and Paul Rubin’s (2003) concept of Folk Economics. Following Rubin, he argues that humanity’s evolved intuitions about the way economies function are biased in such a way that humans see the world as a zero-sum game and are suspicious of “outsiders.” This section builds off that and three other closely interrelated psychological concepts to show that the underlying psychology driving irrationality in voting is readily observed in willingness-to-pay in traditional markets. These psychologies all share the perspective that the modern world, characterized by science, technology, capitalism, and impersonal liberal democracy, is malicious and dangerous for human welfare. Anti-market bias, antiforeign bias, and pessimistic bias systematically cause the rational ends of private actors to lose

their relationship with their means, in the same exact sense as voters are systematically biased when voting.

Some of these foundations for rational irrationality may be thought of being “rational” in some sense. I do not take a position on whether or not these foundations *should* be thought of as rational, only that they offer explanations for why voters and consumers have systematically biased beliefs in Caplan’s sense. If these foundations are to be thought of as rational, then that undercuts Caplan’s position, not mine. In other words, to whatever extent these explanations may rationalize voting against free trade (etc.), they draw into question whether rational irrationality is the correct framework for conceptualizing democracy.⁷ That itself does not impinge on the thesis of this article since defending rational irrationality is not its purpose.

Folk economics

The human mind evolved in a setting with significant differences from the modern world and modern economies. Individuals lived in small groups of no more than 150 in which all were familiar with one another. Within the group, individuals typically cooperated, but groups would often prey on one another. Each group had good reason to be suspicious of the intentions of outsiders.

Described by Rubin⁸ (2003) as “Folk Economics,” this hardwired way of thinking makes humans very suspicious of those perceived to be outside the group today (as in antforeign bias). While groups are now perceived to be greater than a circle of 150 individuals, such groups still exist, often at the level of ethnicity or nation-state. Politicians need not only rely on contributions from interest groups to support tariffs; individuals are born wanting to support measures closing off interaction with “outsiders,” even if the institutional arrangements have developed today in such a way that such interactions are now mutually beneficial.

Furthermore, according to Rubin, our intuitions also tell us the world is a zero-sum game, since we evolved in a context in which there was a fixed sum of wealth. If one individual has plenty, it is evidence that it is at the expense of others in the group. In a small-group context, it would have been individually and collectively rational to ostracize or even violently punish those who have more. In a positive-sum setting, where trade allows for both individuals to be made better off (even if to different extents), this worldview is incredibly detrimental to economic outcomes. This is in some ways a basis for pessimism bias.

These two hardwired worldviews result in animosity toward free trade. If trade makes an outside group (say, China) richer, it must be coming at the expense of the inside group (say, the United States). Anecdote or other weak justifications will be used to defend this worldview (see Krugman, 1997). Our preferences for zero-sum explanations make us uneasy about trade.

Unfortunately, as we will eventually see, this skepticism does not limit itself to xenophobia; when combined with the other psychological biases in the coming sections, it leads to anti-market biases for even the most cosmopolitan among us today.

Folk biology and the naturalistic fallacy

There is another set of evolved intuitions inhibiting our understanding the modern world. This is the “Folk Biology” that allows children and other untrained individuals to predict and intuit the behaviors and characteristics of plants and animals (Atran, 1998). Without training, a great deal of tacit knowledge is already present in human beings from the moment we are born, as a result of the advantage conferred by such tacit knowledge in the evolutionary context. For example, these intuitions effectively tell us whether plants and animals are safe or dangerous to consume, how to extract substances with medicinal properties, and how to avoid contaminated food.

Again unfortunately, these intuitions do not serve us quite as well in the modern context. Because of this, humans equate what is natural with what is good (Pinker, 2002: 229–230). For instance, natural foods are assumed to be healthier than other foods. This tendency to equate the natural with the good is known as the naturalistic fallacy and is a non-sequitur. This systematic divergence between means and ends seems sufficient to be labeled irrational for purposes here, although whether it counts as irrationality is inessential for the point.

This goes against the intuitions of many, so consider a few examples from Pinker. The consumption of peanut butter is far more dangerous than people realize because peanut butter is surprisingly carcinogenic (Pinker, 2002: 230). Consuming 40 tablespoons of peanut butter carries the same actuarial amount of risk as living 150 years within 20 miles of a nuclear power plant or getting one chest x-ray (Viscusi et al., 2005: 695–696 for that and other risk equivalencies to consuming peanut butter). But talk of moderating or regulating its consumption is rare because folk biology tells people it is safe. Similarly, artificial almond extract is actually far healthier than natural almond extract because natural almond extract contains trace amounts of arsenic (Pinker, 2002: 231). Consumers give too much credence to evidence of the danger of artificial goods, while dismissing concerns over goods deemed to be natural.

The psychology of moralization

Pinker (2002: 276) also discusses a strange phenomenon that has taken place among the left in recent decades. Various concepts and behaviors,

notably sex, have lost their moral connotations among significant segments of Western society. While this may rationally follow from various trends of liberalization and secularization, it does not follow that other concepts and behaviors should *gain* moral connotations. Yet, as Pinker documents, this is exactly what has happened.⁹

Pinker's position should be amenable to the thinking of most economists. The use and social approval of different goods, services, and choices should be weighed by costs, benefits, prudence, and risk. But instead of thinking about others' choices in these terms, modern Westerners have attached moral connotations ruling out thinking in such ways. Among Pinker's examples are "'big box' retailers," "fast food," "fur," and the "weight of fashion models." (Pinker, 2002; the full list is reproduced in Appendix 1). Instead of considering fast food or big box retailers in terms of the costs and benefits they confer, the psychology of moralization leads individuals to think of these goods lexicographically, even if these preferences are not "really" lexicographic. Those who moralize refuse to even acknowledge that the tradeoff exists. They do not argue that fast food is unhealthy and individuals should moderate their consumption. They argue that fast food is immoral and should not exist at all.¹⁰

Much of this fits Caplan's story rather well, but individuals express this moral indignation on the private market just as they do in the voting booth. If desiring to arbitrarily moralize big box chain stores in the voting booth is irrational, so is changing consumption decisions. The empirical examples will provide circumstances when this happens.

Conspicuous authenticity

Embedded in human psychology are forms of signaling that serve different purposes than conscious goals and desires. As Robert Frank (1988) has argued, emotions offer an effective mechanism for securing cooperation in a repeated game framework. For instance, subtle emotional mannerisms, which are difficult to fake, are a costly signal that only cooperators reliably perform. One does not typically consciously signal that one is a "good person." Instead, actors in this repeated game framework emotionally want things that instrumentally signal that they are "good people." Emotional bonuses are what allow a separating equilibrium to arise among cooperators and non-cooperators. This argument has since been integrated into the evolutionary psychology of moral sentiments (Ridley, 1998).

However, this leads to certain complications that ultimately result in means-ends irrationality. In a similar manner to signaling cooperativeness above, Veblenian status-seeking is also an important component of human psychology, as status confers many benefits in the evolutionary context

(Sundie et al., 2011). Therefore, there is an evolutionary incentive to signal high status, even if one is not consciously aware of it (just as a peacock need not be consciously signaling for its tail to be an effective signal of quality). Individuals emotionally want goods that connote status, without knowing that is why they want them. However, traditional conspicuous consumption (e.g. wearing gaudy jewelry), the original consumer method of seeking-status, has fallen into disrepute and no longer connotes genuine status. “Good” people do not partake in conspicuous consumption, but there are more subtle methods of seeking-status.

Potter (2010: 103–135) argues that there are many goods in modern society matching this logic. While earlier generations used gaudy jewelry and enormous mansions to signal status, modern Westerners purchase “authentic” goods that in practice function as conspicuous consumption, a consumption pattern he calls “conspicuous authenticity.” Instead of seeking status by showing off their wealth, elites now seek “authentic” goods that demonstrate their rejection of mass consumerism, capitalism, and technology:

This form of status-seeking emerged out of the critique of mass society as it was picked up by the 1960s counterculture, and as it became the dominant status system of urban life, we saw the emergence of what we can call “rebel” or “hip” consumerism. The rebel consumer goes to great lengths to show that he is not a dupe of advertising, that he does not follow the crowd, expressing his politics and his individuality through the consumption of products that have a rebellious or out-of-the-mainstream image—underground bands, hip-hop fashions, skateboarding shoes. (p. 121)

These goods are costly both in terms of raw financial cost and as lifestyle changes that are extravagant in their rejection of extravagance. Potter compiles a litany of examples of behaviors, some of which I will discuss below. See Appendix 2 for Potter’s compilation of goods recently marketed as authentic.

Individuals unconsciously pursuing status this way may not like to think of their behavior as status-seeking. But few who engaged in conspicuous consumption ever thought of themselves as crassly pursuing status. “Remember, it is essential to the pretences of the upper classes that their activities of conspicuous leisure must be superficially useful” (p. 120). Modern status-seeking successfully signals status because it goes against what members of society think of as conspicuous consumption. “Status-seeking never disappears—when it is exposed to the light, it simply scurries away and hides until it can transform itself into a subtler and less obvious form” (p. 125). Those practicing conspicuous authenticity really believe what they are doing really is good and respectable, but this is where the issue arises.

If conspicuously authentic consumers are purchasing “authentic” goods to achieve status, they are duplicitous; their implied altruistic motives do not match their actual aims. But if they *honestly* purchase goods that have an appearance of morality but serve no real moral purpose, they are means-ends irrational. They are led by their emotions to genuinely want such goods, but the goods do not serve the moral purposes they believe the goods serve. For instance, consumers may be emotionally drawn to locally produced goods because they are what respectable, high-status people purchase, so it signals they are high-status as well. The story that goods sold at Walmart suck wealth out of the community and destroy the environment offers the appearance of morality. The story is the conscious (but irrational) reason why conspicuously authentic consumers buy local. But the underlying, unconscious motivation is the quest for status.¹¹

Folk Economics, The Naturalistic Fallacy, The Psychology of Moralization, and Conspicuous Authenticity can be tied together to present a coherent theoretical backing to both Caplan’s voter irrationality and irrationality that may be found elsewhere in the world. Humans are intrinsically anti-market, antiforeign, and excessively pessimistic. The modern world is not seen as a positive for human welfare. The benefits of exchange are downplayed both because natural intuitions tell us that interactions are zero-sum and that we should be suspicious of those outside the group we identify with. “Natural” is equated with “good,” making us unnecessarily suspicious of the artificial modern world. Folk economics and folk biology create an intuitive paradigm that human beings are uncomfortable leaving. Moreover, when the modern world became secularized, the psychology that previously led individuals to moralize against sin now leads individuals to moralize against actions, behaviors, and goods which contradict scientifically incorrect folk economics and folk biology. One way of doing this is voting against free trade, as Caplan argues. However, another way of satisfying these irrationalities is to conspicuously purchase goods that affirm one’s position as a high-status, “authentic” person untainted by the evils of capitalism. The remainder of this article will provide examples of the existence of a willingness-to-pay for such goods.

Examples of willingness-to-pay for rejecting globalization on private markets

Because Caplan cites protectionism frequently as voter irrationality, we start with three examples of consumers rejecting globalization on private markets. To make these examples convincing, I make the case that (a) they contain elements of moralizing behavior, folk economics, the naturalistic

fallacy, and/or conspicuous authenticity, (b) they are means-ends irrational, and (c) individuals are willing to pay some non-trivial amount for them. With these elements in place, they follow a similar or identical motivation as voting for protectionism, but they do not lie on the near-neoclassical demand curve for irrationality.

Before detailing these examples precisely, I also want to move the reader to ask exactly what one would expect to observe if we lived in a world where the near-neoclassical demand for irrationality holds. The examples provided here contradict straightforward interpretations of what that entails. One can argue certain behaviors are small deviations, but they do not fit the curvature of the near-neoclassical demand curve. One may also posit alternative rationales for purchasing such goods, but that will always be possible, and is equally possible for Caplan's examples in political markets. Indeed, Caplan (2012) informally admitted that demand for organic food contradicts the near-neoclassical demand curve, as alluded to earlier, and that case was not explicated here because the case against organic is weaker than the following examples.

Ineffective private methods for curtailing global warming

Global warming is a serious problem for political economists, environmental economists, and policymakers in the 21st century. Yet, while policymakers should examine different methods of eliminating this externality, much of the public moralizes this issue. Certain solutions, especially those that curtail consumption and globalization, are preferred to those solutions which are *less* economically costly for today's consumer.

One figure in this debate is Bjorn Lomborg, author of *The Skeptical Environmentalist* (2001) and *Cool It* (2007). In his more recent book, Lomborg uses data from the United Nations and cost-benefit analysis to argue that global resources are better spent first to solve other more pressing human problems. Alternative aid efforts are more likely to save lives (per dollar of sacrifice) than what was then being internationally debated regarding global warming. This did not deny the existence of global warming, or that it was a problem. Rather, it acknowledged the existence of tradeoffs when allocating scarce resources among competing ends. His critics claim that this provides "cover to politicians, climate-change deniers, and corporations that don't want any part of controls on greenhouse emissions" (Begley, 2010). While reasonable analysts may disagree on methodology and fact, Lomborg asked an economic question that needed to be asked by policymakers. Attempts at vilifying Lomborg for scientific dishonesty¹²—these attempts referred to by *The Economist* as "incompetent and shameful"—were eventually annulled by Denmark's Ministry of Science, Technology, and Innovation (*The Economist*, 2003).

Respected economists who have little interest in fighting environmentalist groups have been vilified as well. Levitt and Dubner (2009) in their popular book *Superfreakonomics* argue for a geo-engineering solution to global warming, one that would release sulfur dioxide into the stratosphere at a lower cost than methods which would actively curtail carbon emissions. Even though Levitt and Dubner were arguing a method whose intention was to reduce global temperatures, environmentalists labeled them global warming deniers. “The critics are implying that we dismiss any threats from global warming; but the entire point of our chapter is to discuss global-warming solutions, so obviously that’s not the case” (Levitt, 2009). Levitt and Dubner’s suggestion may have merit or may not, but creating an alternative solution that would not necessitate that the West cut its emissions is moralistically vilified.

Political gridlock has led many to take action in their own lives to mitigate their own impact on climate change. However, the effect of these measures, which are appealing intuitively, is very difficult to gauge, as documented by Harford (2011: 167–177). In London, the carbon footprint of driving a car with the typical 1.6 passengers is probably better for the environment (per person) than the effect of riding a bus with its typical 13 passengers (Harford, 2010). It is better to throw an old light bulb in the trash and replace it with an energy efficient light bulb than to wait for the old one to burn out. A single error of forgetting to turn off one’s work computer for a night can wipe out all the carbon-conscious behaviors over the course of a day. As Harford argues, this is an issue because there are no prices, so only with difficulty are there approximately accurate estimates of their environmental impact.

Perhaps the most ineffective and best documented case of these private measures is the locavore movement. While locavores have a number of reasons for arguing local is better,¹³ one of these reasons is to curtail global warming:

By choosing local produce, you can reduce fuel consumption and global warming pollution associated with transporting food, help lift your local agricultural communities, strengthen the local economy, and protect the environment—all by eating fresher, tastier fruits and vegetables. (Natural Resources Defense Council, 2007)

The concept of food miles has become common as a measure of how far one’s food has traveled. But this measure has been rejected as a useful concept by those who have investigated the issue. Systematic economic analysis offers little support for the environmental claims of locavores (Chi et al., 2009; Cowen, 2012; Desrochers and Shimizu, 2012; Glaeser, 2011; Lusk and Norwood, 2011; McWilliams, 2009):

When we survey the expansive literature supporting the food-miles approach, one thing becomes evident: the prevailing arguments for stressing food miles is driven less by concrete evidence than by a vague quest to condemn globalization. In this respect, buying local is a political act with ideological implications. (McWilliams, 2009: 30)¹⁴

Food miles represents the same anti-globalization sentiments Caplan observes among voters in the United States.

Compared to production and other factors, transportation does not take up a significant amount of the carbon expended to get food to plate. Other factors frequently outweigh the carbon expended by sending ships across the globe. This is severe enough for locavorism to actually be counterproductive. Locavorism also dismisses economies of scale, which may allow large commercial firms to have smaller carbon footprints per unit; buying local “causes an increase in the quantity of inputs demands, which increases carbon intensity, and an increase in the price of commodities and food products” (Sexton, 2009). Many such instances are summarized by Ridley (2010):

Getting food from farmer to the shop causes just 4 per cent of all its lifetime emissions. Ten times as much carbon is emitted in refrigerating British food as in air-freighting it from abroad, and fifty times as much is emitted by the customer travelling to the shops. A New Zealand lamb, shipped to England, requires one quarter as much carbon to get on to a London plate as a Welsh lamb; a Dutch rose, grown in a heated greenhouse and sold in London, has six times the carbon footprint of a Kenyan rose grown under the sun using water recycled through a fish farm, using geothermal electricity and providing employment for Kenyan women. (pp. 41–42)

Eating local may be counterproductive in reducing carbon emissions for private individuals seeking to do so.

Measures which may have a positive effect on locavores’ desire to reduce carbon emissions are less emotionally appealing than calls to eat local. McWilliams (2009) calls instead for reducing consumption of land animals as a method an individual may pursue to cut carbon; politically, he endorses judiciously regulated free trade and ending perverse subsidies. Cowen (2012: 179–181) is more skeptical that individual measures may have a discernible impact and instead favors a carbon tax (as does Harford [2011: 180–196]). But, setting the Pigouvian tax correctly makes this merely a measure of prudence, not a moral cause to fight for.

Multiple commentators have also referred to buying local as an act of conspicuous consumption:

Locally sourced food has surely brought considerable benefits to many individuals and communities, and for the consumer at least, it allows for an easy gesture. In this sense, buying local has evolved into a ‘lite green’ act of conspicuous

consumption that offers environmentalists otherwise deeply involved in a commercialized life an easy way to register their discontent with the excesses of modernity. (McWilliams, 2009: 30)

Potter (2010) identifies it as one of the primary examples of conspicuous authenticity (pp. 130–133). He documents an arms race among locavores limiting the radius of the origins of their food; one family sought to have zero impact on the environment. These extremes, Potter notes, “are totally disconnected from any actual environmentally sound agenda.”

There has been work done estimating willingness-to-pay for local foods. While it is difficult to directly disentangle to what extent this willingness-to-pay is rational (e.g. the belief that local foods are of superior quality) rather than means-ends irrational reasons, this is the data we have available. Darby et al. (2008) estimates a utility function to determine the premium that may be obtained for local products over products from elsewhere in the United States. There are four estimates, two for grocery stores and two for direct markets, with an estimate for both a deterministic and a stochastic measure of compensating variation. This is reproduced in Table 1.

Table 1. Willingness-to-pay estimates (\$/Package) for local over US Foods.

Estimate	WTP per Package
Grocery stores (deterministic)	US\$0.67
Grocery stores (stochastic)	US\$0.48
Direct markets (deterministic)	US\$1.18
Direct markets (stochastic)	US\$0.92

This is Table 6 from Darby et al. (2008).

A literature review was also performed by Park and Gómez (2012) on percent price premiums on a number of several different goods. The authors collect the results of several estimated price premiums for local produce. They also perform their own survey and provide these results. The literature review is provided in Table 2, and the survey is provided in Table 3.

Table 2. The willingness-to-pay for various local products.

Product	Premium
Colorado potatoes	9%
Ohio strawberries	27%
Michigan greens	36%
South Carolina produce	27%
South Carolina animal products	23%
Florida fresh produce	50%
Pennsylvania applesauce	31%

This is Table 1 from Park and Gómez (2012).

Table 3. Survey of willingness-to-pay for various local products.

Product	Premium
2% milk	16%
Blueberries	9%
Spring mix	21%
Ground beef	21%
Apples	0%

This is Table 2 from Park and Gómez (2012).

The mean of the percent increase in willingness-to-pay for the products in the meta-study is 29%. Upon inclusion of the willingness-to-pay of the products in the Park and Gómez study, the mean is 22.4%. To simplify, the price premium placed on local goods is assumed to be 20%.

This can be used to estimate the total price premium paid by locavores who purchase all food locally.¹⁵ Zepeda and Nie (2012) have identified various characteristic that increase the likelihood of someone to purchase local food. Among those is a tendency for these consumers not to be poor.¹⁶ Finally, per the 2010 weights, the relative importance of food and beverages is 14.79% for all urban consumers (CPI-U) and 16.40% (CPI-W) for wage earners and clerical workers (Bureau of Labor Statistics, n.d.). Suppose that the moderately affluent locavore makes US\$60,000 per year and spends a 20% price premium on local foods over the baseline food and beverage weight of 15% of her budget. Or

$$WTP = \text{income} \times \% \text{ of income spent on food} \times \text{price premium}$$

$$WTP = \text{US\$60,000} \times (0.15) \times (0.20)$$

Under these assumptions, the consumer spends US\$1800 on local. This is a non-trivial portion of economic decision-making in such individuals' lives.

Those with a concern for the environment take action in their private lives to curtail the effects of global warming, even while rejecting the alternative solutions that may be less costly. Of the many ways they have tried reducing their carbon footprint, buying local has an extensive literature detailing its ineffectiveness—or even counterproductiveness—in achieving the ends locavores hope to achieve. The documentation of its close connection with moralizing and distaste for the modern global economy is widespread. Multiple social commentators have independently determined that locavorism is a modern example of conspicuous consumption. Ultimately, the price paid for partaking in such irrationality is not cheap, sometimes in

the magnitude of thousands of dollars per year. The act of buying local to reduce carbon footprints contradicts the near-neoclassical demand curve for irrationality.

Fair trade coffee

Certain retailers now offer goods (especially coffee) labeled as “fair trade.” These goods cost more, but they promise to provide better wages for the impoverished farmers growing the coffee:

Today, Fair Trade is a global effort. Consumers can enliven developing countries, relieve exploitation and promote environmental sustainability by purchasing Fair Trade-labeled tea, cocoa, fruits, vegetables, herbs, spices, sugar, honey, wine, flowers, grains and rubber products. (Fair Trade USA, 2010)

One commentator has referred to this as “expressing convictions at the mall” and “latte activism,” a way to act on one’s beliefs outside the political sphere (Giridharadas, 2009). But when these convictions are anti-market and anti-globalization, they lead to actions inconsistent with the meaning and benefits of markets. The actions do not achieve the stated ends—helping the poor receive a just wage—of purchasing fair trade coffee, but individuals are willing to pay for them.

The limits of fair trade are well documented (Berndt, 2007; Henderson, 2008; Claar and Haight, 2015; Sidwell, 2008). The extra money goes to coffee grown in middle-income countries, not poor countries, with no mechanism of getting the money to the workers at the lowest rung of the latter. The preeminent fair trade organization, Fair Trade USA, requires that farmers form cooperatives to participate and these cooperatives receive the funds, not the farmers directly. Many of the labor market protections that Fair Trade USA advertises it enforces on participants are duplications of the regulations already in place in these countries. Other regulations are too vague to enforce with reliability. The gains actually made available for farmers are either “eaten up by the co-operative bureaucracy” or “absorbed in administrative and investment costs,” depending on how it is thought of (Haight and Henderson, 2010). The extent to which the money reaches individual farmers is impossible to determine, since Fair Trade USA refuses to share this information and provides anecdotal data instead (Griffiths, 2010). Ultimately, if fair trade has an impact on the lives of Latin American coffee growers, fair trade is shifting production from desperately poor areas such as Africa to middle-income countries that are less in need.

While the connection between the suspicion of free trade and the belief in fair trade is straightforward, it may be more surprising that some scholars have already labeled fair trade coffee conspicuous consumption:

Think of fair-trade products as a type of luxury good. Many people consume luxury goods in order to signal their fabulousness to others. Fair-trade consumers have their own sense of what fabulousness entails: a firm commitment to conservation, poverty alleviation, and the empowerment of developing-world producers - or maybe they simply like the labels. (Boudreaux, 2011)

Highly agreeable and conscientious consumers now try to buy recycled computer-printer paper at a 40 percent premium above virgin paper, or purchase shade grown Fair Trade Coffee at \$12 a pound rather than Wal-Mart generic coffee at \$3 a pound. Conspicuously ethical consumption is certainly one potent way to improve the world [...]. (Miller, 2009)

One scholar in the marketing literature has explicitly lamented that it is now commonplace to seek status through supposedly “ethical consumption,” which includes fair trade (Allison, 2009). While interpreting the true motives of consumers will always present difficulties, fair trade is an equally strong example as those that Potter provides.

A number of studies already exists which measure willingness-to-pay for fair trade coffee. One American survey estimates a premium of US\$0.2164 per pound (Loureiro and Lotade, 2005). A more recent survey suggests 75% of Americans are willing to pay an extra US\$0.50 per pound, while 50% are willing to pay an extra US\$1 (Hertel et al., 2009). Using a hedonic method, other researchers found the premium to be roughly 11% (or .0258 Euros per gram) in the British market, and argue that their studies and related “environmental/fair trade products” are consistently between 5% and 15% (Galarraga and Markandya, 2004). At the high end, this premium was found to be 38% in Sweden also when using hedonic pricing methods (Schollenberg, 2012). Lastly, a Belgian survey measured that the average willingness-to-pay is 10%, while 10% were willing to pay the current premium of 27% (De Pelsmacker et al., 2005). The FAS branch of the USDA has published data that in 2000 (FAS/USDA, 2000), Americans averaged purchasing 7.9 pounds of coffee per year. Assuming US\$0.20 per pound as average willingness-to-pay, this is US\$1.58 per person. This is the smallest WTP of the estimates found in this article, but keep in mind this is a single good. Moreover, when scaled to 300 million people (as is correct to do; remember this is the *average* WTP among everyone), this amounts to US\$474 per million dollars per year if all consumers expressed their WTP.¹⁷

Local currencies

Various localities have created local currencies designed to keep money in the communities. Among these are the Berkshares, the Ithaca Hours, the

Detroit Cheers, the Lewes Pound, the Totnes Pound, and the many Local Exchange Trading Systems (LETS) (see Pacione, 1997; Swann and Witt, 1997). There are various stated reasons for using local currencies, and a consistent theme is that avoiding buying goods from outside the community will increase the community's wealth.

While each of the local currencies has its own peculiarities, they all emphasize the value of keeping money in the community. The organization coordinating Berkshares convinces consumers to use them by getting merchants to accept them with a 5% discount,¹⁸ but the stated motivation for doing so is mercantile:

By accepting BerkShares merchants are helping to establish markets for locally made products, providing an incentive for the growth of home-based industries and creating opportunities for those underemployed and unemployed to turn latent skills into business ventures. (Berkshares, Inc., n.d.)

As is the case with the Ithaca Hours:

Ithaca HOURS is our local currency. It keeps money local, building our local economy. It builds community pride and connections. (Ithaca Hours, Inc., n.d.)

And the Lewes Pound:

Money spent locally circulates within, and benefits the local economy. Money spent in national chains doesn't. The Lewes Pound encourages demand for local goods and services. In turn this builds resilience to the rising costs of energy, transport and food. (The Lewes Pound CIC, n.d.)

Similar statements can be found regarding the Detroit Cheers (Bello, 2009) and LETS (Croft and Rowell, n.d.). The Green Party, in fact, has local currencies as part of their official 2010 platform to increase economic justice and sustainability (Green Party of the United States, n.d.). Keeping money in the community is a key aspect of why these local currencies are in the place.

Of course, this goes against economic orthodoxy. At best, the benefits of these local currencies are sociological, but the economic benefits do not exist (Harford, 2008). Money exiting the community, even if it gets channeled through corporations, will eventually return to the community through the basic logic of supply and demand. At worst, a sudden change may result in mild disinflation should the total quantity of money in the community fall. However, the supply side effects of the local currencies may be larger and perverse. In keeping out outside firms, resources are misallocated from

their most efficient uses. In doing so, worker productivity is diminished and the community is made poorer, as worker productivity is the driver of long-run economic growth.

There may be many reasons for wanting to buy local goods. One may value the presence of local businesses for the sake of it (i.e. “small is good”) or because the local business may be perceived to give friendlier service. But these are purposes apart from the belief that buying local will have such benefits. The purpose of the local currencies is to shift more production to local, above and beyond what is in individuals’ underlying interests, out of the false belief that doing so is beneficial for the community. It is in this sense that it is means-ends irrational.

WTP is muddled in these cases, made worse by the presence of the discount to encourage the use of the local currencies. It is best thought of as restricting available consumption bundles from some optimum. The prevalence of large corporations demonstrates their benefits, and eliminating their goods and services from consumption bundles is evidence of loss. The loss of income which results from failing to partake in gains from trade is economically equivalent to WTP. In Appendix 3, I estimate this to be US\$462 per person under one set of assumptions.

In all three of these examples, consumers use resources out of their own pockets to support solutions to globalization that are no more rational than protectionism. The underlying psychology driving individuals to protectionism is the same underlying psychology driving individuals to be willing to pay for these initiatives. Locavorism, under one parameterization, costs thousands of dollars per year per person. Surveys and models suggest that fair trade goods will trade at a 5%–15% premium, perhaps more, and the average American is willing to pay at least US\$0.20 extra per pound of coffee. Local currencies represent individuals consciously taking measures to avoid the productivity-enhancing division of labor out of a belief that outside businesses seep wealth out the community (and into the pockets of an outgroup). The near-neoclassical demand curve for irrationality does not hold when consumers are confronted with globalization in private markets.

Other examples of willingness-to-pay for irrationality on private markets

The willingness-to-pay for other means-ends irrational behaviors that do not directly deal with globalization may also be documented. The best example is the failure to vaccinate children.¹⁹ Fears of vaccination go back to when vaccinations first appeared. Historically, these fears never had any

merit (Poland and Jacobson, 2011). Distrust of vaccines has seen a recent increase, resulting in jumps in the incidences of diseases that had long been defeated by modern medicine (Gangarosa et al., 1998). This distrust is justified with poor reasoning (Jacobson et al., 2007). Per the naturalistic fallacy, among the reasons for the distrust for vaccines is that they are not “natural” (Offit, 2011: 116–117; Poland and Jacobson, 2001). As satirist Christian Lander has written,

For a few years now, [affluent Westerners] have been resisting the idea of getting their children vaccinated against the diseases that brought suffering to millions and were wiped out by modern medicine. Their logic follows a number of paths. The first is a need to get back to our natural state, specifically the one that is vulnerable to the diseases that killed off many of our ancestors. (Lander, 2010: 139)

Much of today’s concerns with vaccines centers around a belief in the relationship between vaccination and autism. The study that appeared originally in the top medical journal *The Lancet* was fraudulent. This has been known for many years (Offit, 2008). *The Lancet* eventually retracted the article altogether (The Editors of *The Lancet*, 2010). Following the original article, an extensive literature discredited any connection between autism and vaccinations. The mainstream scientific community studying autism approves of this literature. For instance, on its website, the Autism Science Foundation (2012) has compiled the scientific literature for parents interested in reading the science, introducing it by stating, “There is no data to support an autism vaccine link. There never has been. Vaccines don’t cause autism.”

Even with the original article discredited, vaccination rates are falling in many places. Rates of vaccinated children within parts of the states of Washington, Oregon, Vermont, and California have fallen below the critical levels of 85%–95% that prevent outbreaks from occurring (*The Economist*, 2012; see also Rho, 2013). Parents are incurring a real risk by failing to vaccinate. Bearing this risk is equivalent to expressing a willingness-to-pay for satisfying the irrationality of rejecting the work of modern science. Parents thereby reveal that they value holding this belief more than eliminating an actuarial risk to the lives of their children. *To be clear, the WTP estimates derived here apply to people living in the United States, not in poorer areas of the world where refusing vaccination would be an even costlier decision.*

There is already a literature on parents’ willingness-to-pay for the value of a statistical life of their children. Many of these diseases do not often kill children, but there is a literature on the value of statistical illness profiles, with estimations for a profile of 1 year of sickness with recovery. There have

also been studies determining the increased morbidity of those who are not vaccinated. By putting these measures together, we can construct estimates of parents' willingness-to-pay.

Hunt and Ortiz (2006) have reviewed the literature on parents' revealed preference for the value of the statistical lives of children. They summarize this in terms of Euros and also provide the ratio of the value of statistical lives of the children versus the parents. Among their findings is that parents are willing to pay more for their children's safety than their own safety. Of the nine studies they examined, the range of the valuation of the statistical life spanned 78,000 Euros to 11.7 million Euros.²⁰ Unfortunately, most of the studies have their own idiosyncrasies which prevent a clean way to average them together. On the other hand, the ratios of WTP for statistical lives of children to WTP for statistical lives of parents range are 0.6:1, <1:1, 1.1:1, 2:1, 2:1, and 6:1. I provide estimates of WTP based on ratios of 1:1, 1.5:1, and 2:1.

A 45-year-old individual with a 5% discount rate and an income of US\$42,000 is willing to pay US\$2.21 to avoid a 1/1,000,000 chance of 1 year of sickness (with no risk of mortality) at some point in the future (DeShazo and Cameron, 2008). Inflating this to 2014 dollars yields US\$2.43.²¹ This result appears to be robust for the purposes here.²² For a point of reference, Viscusi et al. (2005: 729) puts the median estimate of the value of a statistical life at US\$7.0 million. In these terms, 1 year of sickness with certainty but no risk of mortality is US\$2.43 million. After adjusting for the range of ratios of WTP for children, this works out to US\$2.43 million, US\$3.645 million, and US\$4.86 million.

Recent morbidity in United States of pertussis (whooping cough) was 4.18 per 100,000 in 2008 (CDC, 2008b). Writing in *Pediatrics*, Glanz et al. (2009) calculates that individuals are 23 times more likely to catch pertussis without vaccination. The morbidity in the United States of invasive pneumococcal disease (after the introduction of the PCV7 vaccine in 2000) fell to 23.4 per 100,000 as of 2005 of children under 5 (CDC, 2008a). Glanz et al. (2011) calculates that the parental refusal of the PCV7 vaccines results in 6.5 times higher likelihood of hospitalization from invasive pneumococcal disease. The hospitalizations due to varicella (chickenpox), after the vaccine was introduced fell to 1.3 per 100,000 by 2001 (Davis et al., 2004). Glanz et al. (2010) calculates refusal of the vaccine will result in a varicella infection requiring medical care to increase ninefold.²³

The estimated cost of refusing vaccination follows

$$WTP = WTP \text{ to avoid 1 yr sickness} \times \text{premium for child} \times \\ \text{increase in probability of 1 yr of sickness}$$

See Table 4 for the derived estimates of willingness-to-pay. For instance, WTP for refusing the invasive pneumococcal disease vaccine under the 1.5:1 assumption is

$$WTP = (\text{US\$}2,430,000) \times (1.5) \times (6.5 - 1) \left(\frac{23.4}{100,000} \right)$$

The partial effect of other vaccines cannot always be confidently estimated, but they too have discernible effects; in one recent outbreak of the measles in the United States, 89% cases (105 out of 118) were of unvaccinated people (CDC, 2011). The financial magnitudes of the diseases for which data are available are far from trivial, even if every vaccination is not evaluated.

Table 4. WTP for Refusing Vaccinations of Children.

Disease	Ratio of Value of child's to parent's statistical life in terms of WTP		
	1:1	1.5:1	2:1
Percussis (whooping cough)	US\$2,234	US\$3,351	US\$4,464
Invasive pneumococcal disease	US\$3,127	US\$4,690	US\$6,255
Varicella (chicken pox)	US\$253	US\$379	US\$506

Using the median assumption that parents value the statistical life of their children 50% more than they value their own lives, the cost implicit in not vaccinating for these three diseases is US\$8,420. As pointed out earlier, as many as ten percent of families exhibit this willingness-to-pay—and they do so repeatedly should they have more than one child. Under the influence of retracted evidence, thousands of parents retreat to the naturalistic fallacy, rejecting modern medicine they deem to be artificial.

Conclusion

Contrary to the near-neoclassical demand curve, individuals demonstrate a willingness-to-pay for irrational means. All four examples discussed in this article are off the demand curve Caplan specifies. These examples are graphed in Figure 2 for a point of comparison.²⁴

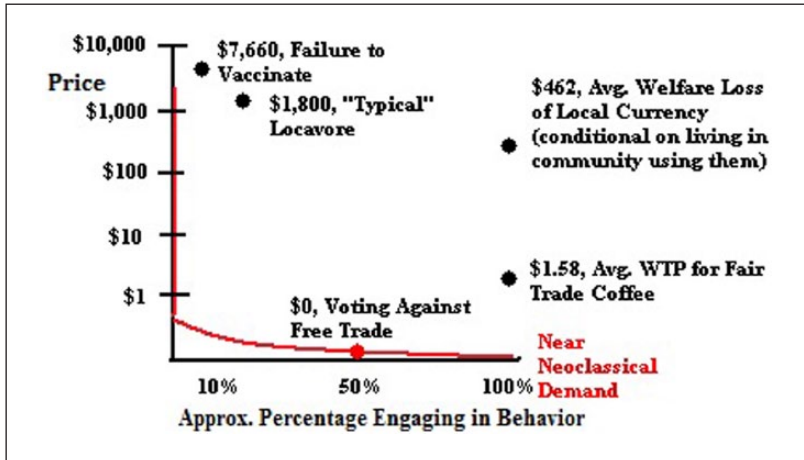


Figure 2. Near-neoclassical demand for irrationality with falsifying counterexamples.

Once we look critically at what leads people to form these opinions, rational irrationality can be seen in all facets of life. Humans have an innate intuitive sense of how economies and the natural world function, and when the modern world comes into conflict with that intuition, they moralize against it. This explains why citizens reject free trade and why they as consumers are also willing to pay to reject globalization and fail to vaccinate their children. These are not marginal cases. Individuals are spending thousands of dollars per year on such things.

One solution Caplan calls for is more economic education. This article is consistent with such a prescription. But in addition to that, both economists and intelligent laypeople are urged to popularize the mainstream positions from economics and the natural sciences taken in this article. Economic education may struggle to sway the median voter; it may only move those with roughly correct priors regarding economic questions towards a more consistent, factual worldview. On the other hand, for each and every person convinced to vaccinate their children, the world is made better off. Some may dismiss these prescriptions, but they may have far more practical effect. Convince 300 individuals that free trade is good, the chance this changes trade policy is vanishingly small. Convince 300 individuals to vaccinate their children, and society tangibly improves. When it comes to persuasion on private markets, unlike politics, everyone is the marginal decision-maker for the irrationality present in their own lives.

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Notes

1. His examples outside of modern political markets are religious acts and behaviors of bureaucrats in Marxist regimes.
2. Caplan (2012) has stated in an informal context the empirical possibility of such irrationality appearing on the market. This article will more systematically make the case while demonstrating its close relationship to psychological factors.
3. Technically, he endorses behavioral genetics in these contexts, but these fields are closely related.
4. What is key to my argument is that one cannot *define* what individuals do on the market to be rational *because they are acting on the market*. Doing so would strip Caplan's theory of much of its empirical content.
5. In this article, I abstract from the question of how distinct rational irrationality and expressive voting are. The examples below were targeted specifically due to their parallels with Caplan's examples. If they can also be thought to be in parallel with expressive voting (as in, value-expressive consumption, cf. Johar and Sirgy, 1991), then this article provides further evidence that rational irrationality and expressive voting are empirically indistinguishable.
6. The fourth, make-work bias, which does not fit as cleanly, may have different psychological foundations, although Caplan does emphasize technological unemployment in this context.
7. As before, if any of these behaviors may also be thought of as being expressive, then so do Caplan's examples of voting behavior.
8. In addition to the 2003 article, see also Rubin (2002) for a more detailed exposition on political economy and modern evolutionary psychology. It should also be noted that the concept of folk economics was anticipated by Hayek (1978, 1988).
9. In addition to Pinker, see also Eberstadt (2009) for a reflection on the "curious reversal in moralizing" from the moralization of sex to the moralization of food.
10. See, for example, Foods4BetterHealth (2014).
11. A story closer to Frank's (1988)—the use of difficult-to-fake emotions to signal a willingness to cooperate—may also hold. However, a parallel problem arises.

If the person buys local to *consciously* signal willingness to cooperate, the person is being duplicitous. If the person who buys local is emotionally drawn to buying local out of the belief that it is good for society, and in doing so *happens* to signal willingness to cooperate, the person's expressed desires are means-ends irrational. Depending on how one phrases the question and thinks about human rationality, this may or may not be considered "rational." But again, if that is the case, it cuts against Caplan no more and no less than it cuts against my position.

12. Albeit, this was for the earlier publication that was more agnostic regarding the existence of global warming.
13. While these reasons are varied and some may be rational in the means-ends sense, nearly all are anti-globalization. The homepage of one website prominently features the statement that

You can support our regional economy by purchasing goods and products that are grown, crafted, and manufactured in our region. When you buy goods made by local workers and craftsmen your money stays in the community. The businesses you support in turn pay local workers, pay local taxes, use local services and contribute to the community in a variety of ways. (LocalGoods.org, n.d.)

Here, it is also perhaps worthwhile to note the presence of make-work bias found in the statement.

14. Though, it must be stressed again, this is all taking place on private markets.
15. It may be impossible to purchase all goods at only a 20% premium. This limitation is acknowledged, but some simplification must be made to calculate an estimate.
16. Using survey data, the authors break the respondents into four categories: adventurous, rational, conservative-uninvolved, and careless. The adventurous group includes those who are most likely to purchase local food. The rational group was likely as well. Within the adventurous group, the poor and the high middle income were statistically less likely than the middle income to purchase local food. Within the rational group, the low-middle income were statistically less likely than the middle income to purchase local food. The conservative-uninvolved and careless were less likely to purchase local food and income did not statistically have an effect on whether or not they would.
17. Although US\$0.20 per pound and 7.9 pounds of coffee per year sounds small at the individual level, keep in mind this averages in non-coffee drinkers. The amount would increase if the non-coffee drinkers were not included.
18. The presence of the selective discount suggests traditional signaling may also be at work here. This is possible, but may not be the entire story.
19. Other similar irrational behaviors include homeopathic medicine (see Shang et al., 2005; Vandenbroucke, 2005), detoxification (c.f. Chen and Chen, 1989; Ernst, 1997; Zeratsky, n.d.), and consuming raw milk (Headrick et al., 1998; Tauxe, 2011).

20. The 78,000 Euro estimate came from a study measuring air pollution health risks. The high estimate was on automobile safety.
21. It is not clear from Deshazo and Cameron the exact date of the data which led to this result. I assumed the year of the manuscript.
22. For more on the sensitivity of these analyses, see Cameron and DeShazo (2013).
23. Chickenpox may be taken less seriously by laypeople because of their familiarity with it. However, the data cited here are approximately comparable to the other diseases because it is only including cases that were severe enough to require hospitalization. For these cases, Daley and Glanz (2011) note,

Depending on fate to soften the blow from an infection is also more dangerous than most people realize... [C]hicken pox can lead to severe infections of the skin, swelling of the brain, and pneumonia. Even when no complications arise, chicken pox is painful and triggers high fevers and itchy rashes. Vaccinated children who develop chicken pox (no vaccine is perfectly effective all the time) usually suffer much milder symptoms.

24. There are a few points of note for the demand curve presented in Figure 2. I present the “quantity” as the approximate percentage of individuals willing-to-pay for various “goods” in the United States. This does not seem too distant from the spirit of Caplan’s original market for irrationality graphs, especially when thought of in terms of demands for irrationality aggregated and reflecting specific policy opinions. Second, as noted in Figure 2, two of the estimates are average willingnesses-to-pay, which most naturally are placed as representative of 100% of the market, although each of these WTP would have its own demand curve.
25. Data Source: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis: *Velocity of M1 Monetary Stock (M1V)*; Federal Reserve Bank of St. Louis; <http://research.stlouisfed.org/fred2/series/M1V/>; accessed 7 July 2012.
26. Data are readily available for how many total Berkshares have been issued, but the current value of the quantity in circulation is difficult to find.

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Appendix I

Pinker’s list of the newly moralized

Advertising to children, automobile safety, Barbie dolls, “big box” chain stores, cheesecake photos, clothing from Third World factories, consumer product safety, corporate-owned farms, defense-funded research; disposable diapers, disposable packaging, ethnic jokes, executive salaries, fast food, flirtation in the workplace, food additives, fur, hydroelectric dams, IQ tests, logging, mining, nuclear power, oil drilling, owning certain stocks, poultry farming, public holidays (Columbus Day, Martin Luther King Day), research on AIDS, research on breast cancer, spanking, suburbia (“sprawl”), sugar, tax cuts, toy guns, violence on television, and weight of fashion models (Pinker, 2002: 276).

Appendix 2

Potter’s list of goods marketed as authentic

Italian cuisine; Chinese cuisine; Ethiopian cuisine; American cuisine; Canadian cuisine; Coca-Cola; Bailey’s Irish Cream; distressed jeans; distressed guitars; skateboards; skateboarding shoes; books; independent bookstores; typewriters; chainsaws; Twitter; crowdsourcing; blogs; comments on blogs; ecotourism; communist tourism; slum tourism; Al Gore;

John McCain; Sarah Palin; Barack Obama; Susan Boyle; Michael Phelps' mom; the Mini Cooper; the Volkswagen Beetle; botox; baseball; Samuel Adams beer; Russian vodka; English gin; French wine; Cuban chocolate; Cuba; Bhutan; organic coffee; organic produce; local grown produce; locally grown organic produce; the 100-mile diet; the 100-mile suit; urban lofts; urban lofts with no-flush toilets; and mud floors in suburban homes (Potter, 2010: 103).

Appendix 3

Willingness-to-pay calculations for irrationality in Berkshares

To estimate this, we can use the elasticity of income with respect to trade. According to Feyrer (2009), this elasticity is 0.5. The elasticity is defined as

$$\frac{\delta Y / Y}{\delta Trade / Trade} = 0.5$$

The variable of interest is δY , and we know or can estimate all the other variables. Y in 2007 was US\$5,446,543,000, using local gross domestic product (GDP) data of Berkshire County found in the BEA's Regional Economic Accounts. In the same year, trade in Massachusetts amounted to 6.27% of GDP, which we apply to Berkshire county (an underestimate). To determine $\delta Trade$, we assume that each Berkshare spent serves its stated purpose, which is to cut trade with the outside world, and that each Berkshare has the same velocity as M1 (in 2007,²⁵ $V1$ was 10.06). One estimate of the value of Berkshares in circulation²⁶ was US\$759,600. (Malone, 2007). We can therefore solve for δY :

$$\frac{\delta Y / \$5,446,543,000}{10.06 * (-\$759,600) / 0.0627 * \$5,446,543,000} = 0.5$$

Under these assumptions, δY (and WTP) equals US\$60,937,608. The 2007 population of Berkshire County was 131,883, so the loss per person equals US\$462 per person.