An Evolutionary Psychological Analysis of Intuitions about the Fairness of Wealth Disparity
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Overview

From an evolutionary perspective, moral intuitions regulate interchanges in ways that provide benefits to all parties. According to evolutionary theory, it is impossible for a moral intuition to evolve that benefited some at the expense of others—there is no fitness to holding an intuition that allows you to be exploited by others.

Moral Foundations Theory of Jonathan Haidt (Graham, et al., in press) posits five moral intuitions—Harm/Care, Fairness/Reciprocity, Ingroup/Loyalty, Authority/Respect, and Purity/Sanctity—each with its own evolutionary history. This paper focuses on moral intuitions of *fairness*, more specifically perceptions of fairness about economic transactions that result in wealth disparity.

The richest 1% of U.S. households currently owns more wealth than the combined wealth of the bottom 90%. This top 1% owns 50.9% of all stocks, bonds, and mutual fund assets; the top 10% own 90.3% of these assets. The combined net worth of the 400 wealthiest persons in the U.S. in 2007 is as much as the poorest 50% of American households. Income inequality in the U.S. is greater than it is in Egypt (Eskow, 2011). Research has indicated that Americans greatly underestimate the current degree of wealth inequality in the U.S. They accept a degree of wealth inequality as fair, but their ideal view of wealth distribution is far more equitable than even their underestimate of wealth disparity (Norton & Ariely, 2011).

Interestingly, although academics tend to be liberal, and liberals tend to favor economic equality, evolutionary economists and psychologists have consistently patronized the "folk economics" of non-academics, suggesting that people who define economic fairness as an equal distribution of wealth are using an outdated fairness module that evolved during from the hunter-gatherer stage and is therefore inappropriate for modern economies. Although evolutionary economists and psychologists make a valid point about a possible misfit between evolved economic intuitions and modern economies, it does not necessarily follow that modern economic practices are necessary or desirable. As members of the investor class, academics may have a vested interest in defending modern economic practices. We need evolutionary economics research that does not simply rationalize the interests of any group.

The current paper suggests that people might be able to accept some wealth disparity if the *methods* for acquiring wealth meet three fairness criteria. I hypothesize that most people would judge a method of wealth acquisition to be fair if all parties (a) participate voluntarily without duress; (b) are not deceived; and (c) believe that the value of what they receive is roughly equal to or greater than the value of what they exchange for it. The following common practices that often favor the wealthy over people with little wealth are analyzed and found to fail one or more of the three fairness criteria: taxation, inheritance, lending with interest, fractional reserve banking, exotic financial derivatives, and insurance. Because most of these practices are accepted as normal and fair, further research is needed to see how many and what kinds of people might question their fairness when presented with analyses of how they violate the three fairness criteria. A remaining open question is whether society actually does require these modern economic practices that fuel wealth disparity, which itself impacts negatively on happiness, social relations, mental health, drug use, physical health, life expectancy, violence, and social mobility (Wilkinson & Pickett, 2009).

Evolutionary Theory Behind Perceptions of Fairness

According to anthropologist Alan Fiske (1992), human relationships can be exhaustively classified into one of four types: communal sharing, authority ranking, equality matching, and market pricing. Each type applies most naturally to certain relationships and prescribes a specific way of distributing resources. Communal sharing (CS) occurs primarily between family members who share and share alike. Authority ranking (AR) occurs in hierarchies where more dominant individuals have preferential access to resources. Equality matching (EM) occurs between unrelated individuals who directly exchange goods and services of equal value. Market pricing (MP) involves transactions of abstract symbols representing cost/benefit values. Although Fiske developed his taxonomy of relationship types from a cultural perspective, he recognized the evolutionary origins of CS in kin selection, AR in primate dominance hierarchies, and EM in reciprocal altruism. Evolutionary psychologist Steven Pinker (2002) elaborated on Fiske's model, recognizing equality matching as the natural basis for intuitions about the fairness of economic transactions.

Reciprocal altruism (Trivers, 1971) is a phenomenon in which people are willing to extend help to others when they are likely to receive roughly equal benefits in return. (Trivers described *direct* reciprocity, in which the return comes directly from the person helped; more recent treatments of this topic have considered *indirect* and *network* reciprocity). In the relatively small hunter-gatherer bands that constitute 99% of our species' evolutionary history, reciprocal exchanges between individuals were limited primarily to a few "services" (e.g., protecting each other from predators) and the non-cumulative material resource, food.

The relative scarcity of hunted and gathered food and the absence of storage methods (there were no refrigerators in the Pleistocene) implies the unlikelihood of some individuals possessing significantly more stored food resources than others (although dominant individuals might have had privileges of eating before others). This contrasts with agricultural and pastoral societies where grains can be stored and herds of animals kept. Therefore, exchanges of food and services in the hunter-gatherer phase of human evolution could not result in highly disparate accumulated food resources. Nobody accumulated food resources.

In theory, some material goods (e.g., tools, weapons, pots) could be accumulated in a hunter-gatherer band. Yet the nomadic nature of many hunter-gatherer groups would have disallowed the accumulation of more material goods than could be comfortably transported. Although more dominant individuals might have had first choice of parcels of land in a particular camping area and therefore in a loose sense "own" property, the parcels were small and temporary for nomadic groups. Intellectual property was impossible. If an individual came up with a good idea, a good trick, say, for locating a game animal, the behavior could be copied at no cost for any other member of the group who observed the behavior.

The upshot is that, if our most basic intuitions concerning fair exchanges evolved during the 99% of our history in the hunter-gatherer stage, these intuitions could not even begin to grasp transactions that resulted in great disparities in accumulated resources because there were essentially no accumulated resources.

I need to insert a cautionary note before continuing this line of reasoning about intuitions concerning moral fairness. Much has been written recently about the egalitarian nature of hunter-gatherer groups. Indeed, in terms of resources, such groups had to be egalitarian because it was impossible for one individual to accumulate more resources than another. This does not imply, however, that hunter-gathers were not selfish in the sense of being uninterested in gaining an advantage in resources if they were able to. It was just that they were unable to. Mutual protection and relatively equal sharing of limited resources constituted an evolutionarily stable strategy in which all parties benefited. Reciprocal altruism is still nonetheless a selfish strategy in which individuals gained by exchanging equally. Natural selection would have disfavored tendencies to give more than receive because this would have been self-defeating. Tendencies to take more than give back were subject to the artificial selection of punishment from the tribe in the form of shunning and banishment. The viable strategy is egalitarian exchange.

The advent of agriculture and pastoralism allowed the previously unfulfillable readiness to acquire more resources than other individuals to be fulfilled. Once resources such as stored grain, herd animals, and relatively permanent housing structures existed, it became possible for individuals to take the resources without exchanging anything in return. Anthropologists often suggest that such exploitative behavior was typically inflicted by one group on an outside group rather than within a group. Exploitative behavior within a group would destabilize it and make it vulnerable to attacks from outside groups. At least initially, then, primitive moral intuitions about fairness within the group were probably different from intuitions toward outsiders. "Fair" within the group was an exchange in which all parties expected to benefit equally. Feelings toward outsiders might not have even included fairness. Therefore, killing, enslaving, and stealing, when directed toward outsiders, did not arouse feelings concerning the fairness of these exploitative behaviors, at least not to the degree felt toward in-group members. If these behaviors had been perceived as grossly unfair, the feelings of unfairness would have inhibited killing, enslaving, and stealing. Historically, we know that this is untrue.

To recapitulate, members of the earliest human groups—hunter-gatherer bands—were essentially unable take more than they gave back, simply because there was so little to take and hoard. They may have wanted to grab a greater than an equal share of something, and even occasionally stolen an extra share of food, or someone's tool, or someone's mate, but it would have been impossible to accumulate vastly more resources than others had because so little could be stored away in nomadic hunter-gatherer groups. If tendencies toward reciprocal altruism evolved during this period of hunting and gathering, our ancestors would have felt that transactions resulting in relatively equal shares were fair. However, these feelings did not necessarily generalize toward individuals in groups outside of one's own group. Evidence indicates that inter-group conflict was part of the history of hunter-gather groups, even though significant resource accumulation still was not possible. But with the advent of agriculture and herding animals, it became possible for individuals within a group to increase their wealth significantly by raiding other groups. If our ancestors had any feelings at all that taking from other groups without giving back was unfair, these feelings were certainly not strong enough to inhibit this behavior. Much of the history of humankind after agriculture has been the history of wars.

As human societies became larger and more diverse, there must have been tipping points at which individuals or coalitions of individuals no longer felt inhibited by their primitive moral intuitions about fairness to refrain from gaining more wealth than others *within* these larger societal units. And the individuals who possessed characteristics that enhanced wealth acquisition—superior strength, cunning, oratory powers, social networking, and so forth—were able to accumulate a disproportionate amount of wealth compared to those who lacked these characteristics. From the framework of egalitarianism, the resulting wealth disparity would likely be seen as unfair. But successful exploiters apparently did not see it as any less fair than raiding out-groups. Any qualms they might have had clearly did not inhibit them from acquiring disproportionate wealth. In fact, a new "meritocratic" concept of fairness could have arisen at these tipping points: Any person who is talented enough to accumulate disproportionate wealth deserves it (cf. Rubin, 2003). Life is fair when differences in wealth are proportional to differences in the talents required for accumulating wealth.

It is easy to imagine that people with the talent for acquiring disproportionate wealth would easily accept the concept of meritocratic fairness because such a view of fairness is self-serving. Yet meritocratic fairness might also be acceptable by persons toward the lower end of the spectrum of wealth, as long as they were not desperately destitute. Poorer individuals might experience envy toward persons with the talent to acquire disproportionate resources. If they believed that talents for acquiring wealth are either inborn or acquired by the accidental conditions of one's birth, they might think it is unfair that they were born without such talents or opportunities while others were (Johnson, 2011). At the same time they could grudgingly accept that it is fair that talented individuals acquire more wealth. This might be especially true if they believed that they could somehow improve their own talents and acquire greater wealth, they might be even more likely to accept a meritocratic view of fairness. (This does not imply that meritocracies actually exist—see McNamee & Miller 2004.) Ultimately, the degree to which a meritocratic conception of fairness seems valid to persons at different parts of the spectrum of wealth is an empirical question.

Even if a certain number of less-wealthy individuals accept concept of meritocratic fairness, they might still have strong intuitions about which "talents" for acquiring disproportionate wealth are acceptable. A talent for obtaining resources by brute force, threats of violence, stealing, and fraud would probably strike victims of these behaviors as unacceptable. So would discrimination (McNamee & Miller 2004). Talents for intelligence, ingenuity, and perseverance would probably be seen as acceptable. Again, which talents for acquiring wealth are themselves seen as fair to persons at different parts of the spectrum of wealth is an empirical question. Below are some predictions inspired by evolutionary theory about what people will regard as acceptable versus unacceptable methods for acquiring wealth that result in wealth disparity.

A basic assumption of this paper is that people will find a method for acquiring resources acceptable if the acquirer is treating them the way they want to be treated. In a sense, this means that people will accept wealth acquisition methods as long as the acquirer is not violating the Golden Rule, an ancient moral principle that probably evolved out of Pleistocene reciprocity (Shermer, 2004). I hypothesize that there are at least three specific economic transactions that most people would regard as violations of the Golden Rule and therefore object to: (a) having something taken from them against their will by force, violence, or threat of violence; (b) having something taken from them by deception; or (c) having something taken from them without receiving something perceived to be the same or higher value.

Stated in positive form, I hypothesize that most people would agree that an acceptable method of acquisition is one in which all parties (a) participate voluntarily without duress (force, violence or threats of violence); (b) are not deceived; and (c) believe that that value of what they received is roughly equal to or greater than the value of what they exchanged for it. Research is needed to assess the degree to which people from all backgrounds would accept these three fairness criteria as necessary and sufficient to define a fair way to acquire wealth.

Research is also needed, however, to address a separate question, which is "What are the causes of agreement or disagreement on whether a specific exchange represents a violation of the fairness criteria (a), (b), or (c)?" I am interested, in particular, in several commonly accepted methods of wealth acquisition that I believe may violate (a), (b), and/or (c). I think it would be worth investigating initial attitudes about the fairness of these common economic transactions as a function of the research participants' personality and social status, and then reassess attitudes after research participants are presented with descriptions of how these transactions might violate one or more fairness criteria. I would like to study attitudes toward the following common economic transactions: taxation, inheritance, lending with interest, fractional reserve banking, exotic financial derivatives, and insurance.

Taxation

On the issue of taxation, we already know that people talk about just versus unjust taxes. Some people regard all taxation as unjust because it violates criterion (a). Residents of the United States (and most countries) do not have a real choice about whether or not to pay taxes. If you fail to pay taxes, the government will seize your property and/or imprison you. Some people may object only to certain taxes as unjust because they (and other people they care about) are not receiving something of equal benefit for the taxes they are paying. To them, certain taxes would be a violation of fairness criterion (c). It is an undeniable fact that every citizen does not receive in return for the taxes they pay something of equal value. The straightforward prediction would be that those who believe they (and other people they care about) are receiving less than what they give up in taxes will see taxation as unfair, while those who believe they (and people they care about) are receiving their money's worth (or more than their money's worth) will see no problem with the system of taxation.

Inheritance of Wealth

The ultimate goal of life, from an evolutionary perspective, is passing on one's genes to the next generation, primarily through one's own children (who share half of each parent's genes), but also through the offspring of one's siblings, cousins, and so forth. We can reasonably predict that parents would want their children (and perhaps other younger relatives) to inherit the wealth they accumulated during their lifetimes because this would help insure the survival and further transmission of their genes (Hartung, 1976). From a parent's perspective, it is only fair that they be able to invest in kin by designating their children or other relatives of their choice as recipients of the wealth they accumulated in a life time (Smith, Kish, & Crawford, 1987).

From the prospective of someone outside the family, however, inheritance may appear to be an unfair method of acquiring wealth. After all, children who receive wealth from their deceased parents do not have to give their parents anything to receive the inheritance. Granted, some children do provide their parents with many beneficial things before receiving the inheritance and therefore in some sense have earned it. And some parents who are unhappy with their children's behavior do reduce their inheritance or cut them out of their will. Yet in many cases, it seems that the children have to do nothing beyond being children in order to receive their inheritance. This is a violation of fairness criterion (a). Couple this with the fact that wealthy parents leave more wealth to their offspring than poor parents, and we have all of the ingredients for potential perceptions of unfair acquisition (McNamee & Miller, 2004). Without working any harder or smarter than middle- or lower-class children, children of the Rockefellers, etc. acquire enormous amounts of wealth without earning it. A specific prediction would be that rich parents would see nothing unfair about inheritance, while parents with little wealth would look at the transfer of wealth in rich families as unfair.

Perceptions of fairness of inheritance could, of course, be moderated according to how the wealthy parents *acquired* their wealth. If the parents accumulated their wealth in acceptable ways, onlookers might be more inclined to say that they are entitled to pass their wealth on to their children. Let us therefore look at other forms of acquiring wealth that may violate fairness criteria (a)-(c), beginning with lending with interest.

Lending with Interest

The heart of reciprocal altruism is repaying assistance with comparable assistance. If I ask my neighbor if he will help me paint my house, and he says, "Sure, as long as you help me paint my house and my fence and detached garage, too," this would not be an equitable exchange. Yet paying back more than you receive is precisely what happens every time a loan is repaid with interest. There is a long history of condemnation of lending with interest in the three major monotheistic religions, perhaps reflecting an unconscious recognition of the fairness criterion (c) underlying reciprocal altruism. However, Deuteronomy 23:19-20 prohibits charging interest only on loans to one's in-group; charging interest to foreigners is permissible. Again, feelings about fairness differ for transactions with one's own group versus transactions with outsiders.

Historically, requiring interest on loans has also violated both fairness criteria (a) and (b). Despite libertarian arguments that borrowing goods or money is voluntary, the destitute can be desperate for food and housing and therefore really have no choice but to borrow in order to stay alive. Borrowing with the condition of repaying with interest is therefore done under great duress. In many cases where borrowers are unable to repay with interest, they enter into *debt-slavery* or *debt-bondage*, a condition in which the borrower is obligated to provide labor and services to the lender for an indefinite period of time. Fairness criterion (b) has been violated when lenders have taken advantage of the numerical illiteracy of borrowers, who are unable to grasp how badly compound interest on high-interest loans will drive them into deeper debt.

All-in-all, the practice of lending money and requiring interest on repayment has served the wealthy at the expense of the have-nots. Because Jews were forbidden by law during the Middle Ages from owning land for farming and from joining guilds to enter skilled trades, they had little choice but to play the unpopular roles of tax- and rent-collectors for wealthy lords. And because Catholic doctrine forbade charging interest on loans to fellow Christians, Jews were also disproportionately employed in money lending. Jews therefore became scapegoats for the ire of peasants even as the rich lords became wealthier (Usury, 2011).

As noted earlier, a libertarian counter-argument to the view that lending money unfairly favors the wealthy over the poor is that a person who has legally and fairly acquired wealth ought to be able to lend the wealth, with interest, in voluntary transactions with borrowers. Whatever the merit of this counter-argument, it has become irrelevant in the modern banking system, which operates under a system called fractional reserve, which we consider next.

<u>Fractional Reserve Banking</u>

In a brief history of banking, Rothbard (1995) observes that during the Renaissance times, banking was conducted by merchants who extended credit to customers who were unable to pay full price for the goods offered by the merchants. In some merchant families, the credit portion of their operation overtook their mercantile activities, and the family became a private bank, lending their profits and savings and collecting interest. But eventually private banking became commercialized, and investment banks began lending money they did not actually have on hand in the form of bank notes. It is one thing to lend cash or other tangible goods to be repaid with interest, but banks were now lending money that they created out of nothing by entering numbers into credit account books. As they collected interest on these loans, banks were accumulating wealth in exchange for "virtual money" rather than actual cash or property, receiving something for nothing (unless you count the labor of writing numbers in a ledger). Eventually in the U.S. the Federal Reserve put a limit on the amount of virtual money that participating banks were allowed to create out of nothing, requiring that a fraction of the banks' assets include actual cash. This is where we get the term *fractional reserve*. Currently banks must have 10% cash reserves on hand, which means that 90% of the money they control is virtual.

Depositing and withdrawing money from bank accounts is such a common activity that most people are unlikely to see how banking violates fairness criteria (b) and (c). If we are given a paycheck for $5,000 in exchange for our labor and deposit the check in our bank, we assume that the bank actually keeps that $5,000 representing our labor on hand and that we can withdraw it at any time. In reality, if all depositors tried to withdraw their deposits from banks at once, they would find that only 10% was available. This could be regarded as a type of fraud, which violates fairness criterion (b). Fairness criterion (c) states that fair exchanges involve giving and receiving goods and services (or money representing goods and services) of roughly the same value. But when banks lend virtual money, money they do not actually have (90% of their assets) and receive in return actual money (i.e., money representing what someone earned through exchange of material goods or services) plus interest, they are receiving something for virtually nothing.

The lending out of virtual (non-existent) money is but one example of the way in which financial firms collect something for nothing, a violation of fairness criteria (b) and (c). Financial firms also strive to collect something for nothing by speculation, using exotic financial derivative instruments. The world of financial derivatives is one of the most bewildering subjects for people without a degree in finance (i.e., most of us). The next section seeks to demystify exotic derivatives, explaining how they may involve a violation of fairness criteria (b) and (c).

Exotic Financial Derivatives

The ordinary person on the street has no trouble understanding a simple exchange of tangible goods and services (or the money representing goods and services) or even investing by purchasing stock in a company. This is because the value of what is being exchanged is determined by the market (the people who are interested in and able to make the exchange). But a financial derivative is an abstract concept whose value is determined by some other financial variable. Particularly difficult to grasp is the class of derivatives called *exotic derivatives*. The term *exotic derivative* was made popular by Berkeley professor Mark Rubinstein, who acknowledged that the he may have been inspired by what is called an "exotic bet or wager" in gambling on horse races (Palmer, 2010). An "exotic wager" is a bet placed on an outcome that is almost impossible to predict accurately (e.g., correctly identifying the first-, second-, and third-place finishers in the race), but that returns an extremely high payout if successful. For example, successfully predicting the first three finishers in the 2010 Kentucky Derby returned over $100,000 for each one-dollar bet.

The comparison between investing in exotic derivatives and gambling on horse races is apt. In both cases, the investor or gambler is not making a direct trade, exchanging something of value for something of roughly equal value, as fairness criterion (c) requires. Rather, the investor or gambler gives up money (or in many cases just virtual money), hoping that future outcomes will be favorable such that gains can be made on the losses of others who have entered into the venture. One difference, though, between investing and gambling is that the investor can risk virtual money or others' money in the venture, while people at the track generally bet with their own money. When the investor loses, the loss can affect many more people than when the gambler loses.

One of the more infamous exotic derivatives that helped fuel the 2008 economic crisis is the *credit default swap*. The credit default swap combines aspects of exotic derivatives with insurance (which has its own questionable fairness issues, discussed below). Unlike ordinary insurance, in which a person pays premiums that guarantee a payment if one's own property is damaged or lost, a credit default swap is "insurance" that anyone (not just the lender or borrower) can take out on any loan such that a payment is received if the borrower defaults on the loan.

Although it could be seen as self-protection for a lender if the borrower defaults or for a borrower who is unable to make payments, for speculators outside of the lender-borrower relationship the credit default swap is a gamble that the borrower will default. It is like taking out an insurance policy on your neighbor's house and hoping that the house will burn down so that you can collect the insurance money.

Credit default swaps and other exotic derivatives violate fairness criterion (c) because the speculator is not exchanging goods, services, or money for something of equal value. Rather, the speculator is hoping that the money used the purchase the credit default insurance will be less than the money received from the insurance company when borrowers default on a loan. In other words, the speculator is hoping to taken in more money than given out when others suffer misfortune. Defenders of credit default swaps might point out that speculators ought to be free to risk their money on an uncertain future, just like in any form of legalized gambling. However, there are complications with exotic derivatives. First, the "money" used to purchase the derivatives can be virtual, based on non-existent cash, which violates fairness criterion (b). Second, "insurance" on other people's loans provides incentives to help those loans fail. If I have a fire insurance policy on my neighbor's house, I might encourage my neighbor's son to play with matches. If I am heavily invested in credit default swaps, I might use my influence encourage subprime lending (Simpson, 2008). Third, if a financial firm pays rating agencies to issue a safe AAA rating to mortgage-backed securities while knowing that default on the mortgages was likely, sells the risky securities (which then fail), and collects money from credit default swaps, fraud has occurred, a violation of fairness criterion (b). This is apparently what happened in the 2008 economic crisis (Ferguson, 2010). Adding to the unfairness of the 2008 economic crises was the fact that the issuer of the credit default swaps, AIG, spent all of the money they collected from the buyers of the credit default swaps and therefore could not pay the buyers. As a result, the government used taxes collected from citizens who had nothing to do with AIG's financial problems to bail out the insurance company, a violation of fairness criterion (c) for taxpayers. This brings us to the problems of insurance, generally.

Insurance

Insurance is such a fundamental and pervasive part of modern life that the fairness of the concept of insurance is rarely questioned. Arguments obviously exist about the fairness of the size of insurance premiums, what should be covered in an insurance policy, and how much an insurance company should pay for damage to a house, auto accidents, medical procedures, prescription drugs, etc. But few people would deny the need for insurance altogether. Surely it is wise to pool our resources so that if one of us suffers a loss, resources from the group can be used to assist the person who suffered the loss. This kind of mentality may be based on the evolutionarily primitive principle of reciprocal altruism, in which the collective is expected to help the individual in need, with the expectation that the person in need will pay back the favor some day when someone else in the group needs help. But with formal insurance plans, there are important differences from the mutual aid that arises from reciprocal altruism.

Without formal insurance, help is assembled on an as-needed basis. A family loses their home (or incurs medical expenses, or whatever), and community members take up a collection to assist the family. But with insurance, wealth is pooled ahead of time for future emergencies. An insurance company collects premiums on a regular basis, creating a pot of money. Some of that money is used to pay the salaries of the insurance company employees, who sell policies, investigate claims, keep records, and so forth. The company will also attempt to make money on the premiums they collect by investing and speculating. Poor decisions, such as those made by AIG, result in a depletion of capital, inability to pay claims, and collapse of the company—but not before the top executives leave with millions of dollars they keep for themselves.

The inherent problem with an insurance arrangement is that maintenance of fairness criterion (c) is practically impossible (Johnson, 2003). Insurance is based on the idea that not all buyers will to get back what they put into the system. The only "product" they are guaranteed to receive (assuming the company does not fail) in return for paying their regular premiums is peace of mind—the knowledge that if they should wreck their car or their house should burn down or they should require an operation, money from the insurance company will be there to defray their expenses (policies do not always cover the full cost of financial needs). They may pay into the system for years without receiving insurance benefits. Or when they do receive benefits, it amounts to less than what they have put into the system. It has to be this way. There is not enough money in an insurance system to pay everyone. If we are all paying only $500 per year for home insurance and all of our $200,000 homes burn down simultaneously, there will not be enough money to cover all of us.

So, with insurance, violation of fairness criterion (c) is an inherent necessity: Many people get back less than they put in, a rare few get back exactly what they put in (which negates the need for insurance), and a few get back more than they put in. Furthermore, fairness criterion (a) is violated when people are *required* to buy insurance. Recent U.S. legislation requires everyone to buy health insurance if it is not included in an employee plan. You cannot own a motor vehicle without insuring it. You cannot buy a house without purchasing homeowner's insurance. Unless you have enough equity in the house, you must also pay for private mortgage insurance (PMI), a policy that protects the lender—not you—if you cannot make payments on your house.
Where else in the market (outside of government taxes and fees) are people forced to buy a "product" (insurance) for the privilege of buying another product like an automobile or home? Elsewhere, stores offer, but do not force us to buy, warrantees on the products we purchase.

The often coercive nature of insurance, coupled with the fact that most people are not likely to get back what they put into the system, strongly encourages insurance fraud. Fraud, a violation of fairness criterion (b), should not be surprising, given that nobody wants to receive less than they give. In fact, many people would like to receive more than they give. That includes providers of insurance as well as the customers. Consequently, insurance is a battle of self-interest, in which false claims are made on 10-15% of the premium dollar and insurance companies encourage claims adjusters and examiners to deny claims to save the company money. Insurance is as much an antagonistic attempt to gain at the expense of someone else as it is a cooperative method of protecting all of the participants (Johnson, 2003).

Summary of Main Points and Directions for Research

The disparity of wealth in the United States is greater than anywhere else in the world. There are at least two possible perceptions of the fairness of this disparity. The simple view is that wealth disparity is inherently unfair because no individual should control significantly more resources than any other individual in the culture. Such a mentality might be traced back to Paleolithic times when the hunter-gatherer lifestyle made significant wealth disparity literally impossible. Ideologies such as Marxism and any political system that seeks to redistribute wealth from the rich to the poor are also based on this perception of fairness (Rubin, 2003).

A second possible perception of fairness does not condemn wealth disparity per se, recognizing that differences in talents and abilities in a modern society that is capable of producing excess wealth can result in a degree of wealth disparity. Instead of focusing on wealth disparity as the basis of fairness, the second approach focuses on the fairness of methods for accumulating excess wealth. It is hypothesized that the disposition toward reciprocal altruism that evolved during the hunter-gatherer era entails three criteria for evaluating the fairness of a transaction. In a fair transaction, all participants (a) participate voluntarily without duress (force, violence or threats of violence); (b) are not deceived; and (c) believe that that value of what they received is roughly equal to or greater than the value of what they exchanged for it. Research is needed to assess the degree to which people from different backgrounds would find these three fairness criteria to be necessary and sufficient for defining a fair method for acquiring wealth.

Modern economic systems include a number of practices that may violate one or more of fairness criteria (a)-(c). These include: taxation, inheritance, lending with interest, fractional reserve banking, exotic financial instruments, and insurance. These practices are so pervasive that many people probably accept them as integral, necessary aspects of modern economies and do not notice how they may violate fairness criteria (a)-(c). An empirical question is how many individuals from different backgrounds would change their minds about the fairness of these practices if presented with the lines of reasoning in this paper about the ways in which the practices may be unfair.

Research on Moral Foundations Theory (MFT; Graham, et al., in press) suggests some hypotheses about who would be most likely to perceive fairness in the two manners just described. This research indicates that liberals are primarily concerned with the moral issues of harm/care and fairness/reciprocity. While conservatives share those concerns, they also consider ingroup/loyality, authority/respect, and purity/sanctity to be equally important moral principles. This implies that liberals might be more likely to regard wealth disparity as something that should be reduced, and, in fact, analyses by Jones (2011) indicate that this is true. However, even though liberals are more likely than conservatives to see wealth disparity as unfair and something that should be reduced, Jones found that moral intuitions *themselves* were more powerful predictors of perceptions of unfairness. Higher levels of concern for harm/care and fairness/reciprocity were associated with a greater desire to reduce wealth disparity, while higher levels of concern for ingroup/loyality were associated with less desire to reduce wealth disparity.

Systematic research has yet to be conducted on who might be likely to accept wealth disparity as fair as long as the methods for obtaining wealth adhere to fairness criteria (a)-(c), but there is reason to think that conservatives may be more likely than liberals to endorse this vision of fairness. Both conservatives and liberals are concerned with fairness, but conservatives are more comfortable with the concepts of hierarchy and meritocracy (Pratto, Tatar, & Conway-Lanz, 1999).

More research is also needed to determine who would perceive fairness or unfairness in taxation, inheritance, lending with interest, fractional reserve banking, exotic financial instruments, and insurance. The analyses in this paper outline how these economic transactions might be perceived as violating fairness criteria (a)-(c), but surely people will differ in their perceptions of whether these transactions are fair. Jones (2011) notes that liberals regard taxing the rich to help the poor as fair, while conservatives see this as unfair. But Jones found that an even stronger predictor of attitudes about taxation than political orientation is the moral intuition of harm/care. Both conservatives and liberals with a strong sense of caring for the less fortunate and protecting them from harm are more likely favor redistribution of wealth through taxation. Note, however, that taxation affects wealth disparity after the fact. We badly need research on the perceived fairness of methods of *acquiring* wealth in the first place.

Professional Evolutionary Economists and Psychologists' Views on Fairness

One might predict that academic economists and psychologists, who tend to be liberal, would be attuned to fairness/reciprocity and therefore sympathetic to the suggestion that wealth-building through methods such as lending with interest and exotic financial instruments violates the fairness criteria described in this paper. Interestingly, in all comments I have located on this issue, academics have acknowledged that an ordinary person might see these transactions as unfair, but dismissed those perceptions because they are based on a Paleolithic sense of economic fairness that is irrelevant to our modern economic system. They claim that a fundamental error in our natural intuitions is to fail to take into account the concept of surplus wealth. The Paleolithic mind still seems stuck on the idea of a small, fixed amount of resources, barely enough to go around if everyone has an equal share. For example, when resident workers think about an influx of immigrant workers, they fear that the immigrants will take over some of the fixed number of jobs. They do not consider the possibility that hiring immigrants will allow organizations to expand and create more jobs so that there is enough work for everyone (Rubin, 2003).

In modern societies like the U.S., we have a surplus of wealth, and our Paleolithic economic intuitions about fairness tell us that this surplus should be shared equally. But modern economic theorists claim that market pricing—not equality matching—represents the fair basis of exchange. Technological and informational innovation should be rewarded in proportion to its contribution to increasing the overall surplus of wealth. Free market advocates have acknowledged that the gap between the richest and poorest has increased in the U.S. but point out that this is only in relative terms; the absolute material well-being of the poorest segment of society has increased over time due to innovation. Fairness is not everyone having an equal slice of the pie; rather, fairness is receiving a larger piece of the larger pie created by innovation.

Economist Paul Rubin (2003) has provided perhaps the most thorough analysis of the potential shortcomings of "folk economics"—the intuitions that non-economists have about economic transactions. In his essay, Rubin repeatedly points to the inadequacies of folk economics. Citing Pinker (2002), Rubin claims that the evolved predisposition for equality-matching in non-economists makes it difficult for ordinary people to understand a number of realities of modern economic systems, including market pricing, insurance, specialized division of labor, and economic progress through technological innovation. He further suggests that people naturally attribute wealth inequalities to shirking and refusing to share what should be shared, rather than to differences in talent and innovation. As a consequence, says Rubin (2003), "is that for many economic problems, folk economics will get the wrong answer" (p. 164). Friedman (2004) likewise argues that economic irrationality can be explained in terms of evolved dispositions.

A final example of the deprecation of folk economics can be found in Matt Kennard's (2010) interview with evolutionary psychologist Steven Pinker. Kennard asked, "Do you think the economic organization we call capitalism is conducive to the human intuitions of fairness and reciprocity that you outline?" Pinker replied as follows:

> Probably not – these intuitions are probably tuned to face-to-face, tit-for-tat exchanges, not the complex web of highly indirect transactions that make up a market economy. People seem to have a sense, for example, that interest is inherently exploitative (since you don't get anything tangible for the interest payments), as are markups by middlemen (since they seem to be parasites), even though economies cannot function without them. The result has been economically ruinous policies such as the prohibition of interest, and recurring episodes of discrimination, expulsion, and genocides against middleman minorities such as the overseas Chinese in Indonesia, the Indians in Africa, and the Jews in Europe. I suspect that you meant the question as an indictment of market economies, but my answer is an indictment of human intuition! I think people should all take economics courses to understand how economies really function and get over the simplistic intuitions that evolution gave us (Kennard, 2010).

It has long been fashionable for academic behavioral scientists to document errors and biases in the thinking of persons who lack academic training (Krueger & Funder, 2004; Haselton & Funder, 2006). Krueger & Funder (2004) present in Table 1 of their article what they call a "partial list" of errors of judgment studied by social psychologists. This partial list contains 42 items! If human judgment is so biased and prone to error, one wonders who people get along at all in the world today. Krueger and Funder suggest several reasons why behavioral scientists might overemphasize judgmental error. One of them is the need for professionals to produce counter-intuitive findings to demonstrate knowledge beyond what ordinary people know by common sense. Another is to show that their discipline performs the useful function of identifying problems that need to be fixed. The deprecation of folk economics and intuitions about economic unfairness can be seen in this light. Rubin and Pinker both stress the problems caused by Paleolithic intuitions about fairness and a need to educate the populace about modern economic theory.

However, there is yet another reason that academics denigrate folk economics, noted by Jones (2011): "Finally, how much does where you stand on the issues of economic inequality depend on where you sit in the relative distribution of wealth? Psychologists don't seem to talk much about social class and other kinds of vulgar economic considerations, but they surely play a role. The poor and the rich probably diverge in their attitudes about redistributory policies for reasons quite apart from their morality." Simple translation: The poor would like the rich's wealth and the rich want to keep their wealth, issues of moral fairness be damned. Everyone has intuitions about equality matching fairness, whether they act on them or not. These intuitions may lead liberal academic economists and psychologists to sympathize with the underclass and support a degree of government-mediated wealth redistribution. At the same time, most professional academics are also part of the investor class with a vested interest in the financial industry and therefore see nothing unfair about making money through financial instruments. I leave it an open question whether academics decry folk economics because it is misguided or because it is an assault on their own privileged economic status. A world in which the majority sees the economic system as fair will be a happier world than a world where only an elite minority see it as fair. If we want a happier world, the question is whether the masses or the elite need to become educated into new ways of thinking about fairness and whether this education will lead to new economic practices.

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