

VI Mises Seminar

Sestri Levante 10-11 October 2009

Entrepreneurship as Social Value

EDWARD PETER STRINGHAM, Ph.D.*

edward.stringham@trincoll.edu

Shelby Cullom Davis Endowment, Trinity College, 300 Summit Street, Hartford, Connecticut, U.S.A.

Abstract:

How should a market economy compensate and encourage entrepreneurial innovation? Most economists focus exclusively on external motivators such as money as a positive incentive and punishment as a negative incentive, as the means of rewarding productive and discouraging unproductive behavior. But Adam Smith highlighted another important motivating factor and constraint, people's internal moral beliefs. This article offers reasons why people who want to encourage innovation should embrace focusing internal moral beliefs. Although money motivates at the margin money, many entrepreneurs are driven by a desire to do good for society (they are motivated by more than just money). Many others eschew business, because they believe that they cannot do good by going into business (they forgo money through means they consider immoral). But if economists such as Mises are right about the beneficence of entrepreneurship, advocates of markets should address the moral arguments about entrepreneurship. The more than people hold the internal moral belief that business entrepreneurship is a good thing and that engaging in predation through crime or politics is a bad thing the more that markets will be advanced. After discussing possible sources of internal moral beliefs, the paper describes how internal moral beliefs may help strengthen a market economy in the short and long run.

Keywords: cooperation, moral rules, moral preferences, side constraints, self-government, self-command

* The author thanks Michael Bauwens, Peter Boettke, Jack Estill, Gerald Gunderson, Emily Schaeffer, Bryan Skarbek, David Skarbek, Nick Snow, Alex Tabarrok, Tyler Watts, Mark White, and Bart Wilson for helpful comments and suggestions.

1. Introduction

Entrepreneurship is probably the most important driving force behind an innovative economy. The entrepreneur who invests resources to come out with products that consumers want benefits himself, but also benefits consumers and his workers too. As economists such as Ludwig von Mises explained the profit and loss mechanism provides discipline and material incentives to encourage entrepreneurs to do a good job (and not do a bad job). Any policy that taxes success and rewards failure will be counterproductive, since entrepreneurs should be rewarded for creating value not destroying it. But in addition to material compensation, entrepreneurs can be compensated in another important way, a way that is ignored by almost all economists. Murray Rothbard wrote that an individual's goal is not to maximize just monetary income, but to maximize psychic income which is monetary income plus subjective benefits of different endeavors. Entrepreneurs may be motivated by monetary concerns, but they may also be motivated by other concerns too. Whole Foods Market Inc. founder and CEO John Mackey maintains that many entrepreneurs get into business to help people (by inventing something, creating new products, or serving existing customers well) and that monetary rewards are an added benefit. The profit and loss system is still of utmost importance, because it helps guide entrepreneurs to do as good of a job as possible, but the motivating factors of people include things other than money.

Money motivates at the margin, but it does not rule the world. Many people who (in my opinion, mistakenly) believe that business enterprise is not a force for good, go out of their way to enter the not-for-profit world. Certain professions such as medicine, academia, politics, or law are flooded with people who think the only way they can work to do good is by not working in business. But this is not necessarily an ideal allocation of resources if many well meaning and otherwise bright people are avoiding working in potentially productive areas (especially if bright people are working in value destroying sectors such as politics).

One way to change this state of affairs would be to increase the "net" compensation for entrepreneurship by helping entrepreneurship to become held in a higher social regard. The monetary benefits of entrepreneurship could stay the same, but the psychic benefits going to entrepreneurs would increase. Rather than being viewed as "evil big business," the capitalists would be viewed as "do gooders" on a mass scale. Such a change admittedly requires large scale shifts societal views about the benefits of entrepreneurship and making money in general, but whether these shifts are large or small they can be beneficial at the margin. And there is evidence that not everyone despises all businessmen as much as the typical Marxist. For example, in a recent music video the music performer Madonna includes Bill Gates in the same category as Mother Theresa and the Dalai Lama, which is a potentially

good sign. I will argue that advocates of markets will do well to recast entrepreneurship in a more positive light. In contrast to Milton Friedman who says that under markets, people working for private enterprise “can do good—but only at their own expense,” I will argue that we should highlight how entrepreneurship is inherently a way to “do good.” By recasting entrepreneurship in a more positive social light, it will at the margin make entrepreneurship more rewarding.

To proceed with my argument I will compare my position with the more popular position held by most economists (including most economists who advocate a free market economy). Following Thomas Hobbes, most economists focus on changing legal arrangements to solve prisoners’ dilemma situations and encourage cooperation (Barzel, 2002, Hirshleifer, 2001; Tullock, 1972). Eliminating unwanted behavior is a matter of imposing optimal fines, the “price of an offense” (Becker, 1968, p.262), to alter the costs and benefits of different choices. Buchanan (2003, p.183) argues there must be “an agency that will in some fashion, offer incentives, positive and negative, that will lead participants to respect behavioral constraints.” This approach assumes that people are knaves and then seeks to design political and legal institutions that will elicit cooperation even amongst amoral egoists (Brennan and Buchanan, 1985). Notably absent from these scholars’ discussions are appeals to morality. As Oliver Wendell Holmes (1897, p.459) wrote, “A man who cares nothing for an ethical rule which is believed and practised by his neighbors is likely nevertheless to care a good deal to avoid being made to pay money and will want to keep out of jail if he can.” According to this view, one must assume that people are bad and use the threat of force to make them behave positively.

Yet, Adam Smith heavily emphasizes the importance of another type of constraint: the internal moral constraint.¹ These are the rules that people choose to follow independent of what the law says; they are chosen from within. Manners, politeness, honesty, and trustworthiness are the most obvious examples of internal constraints that people adopt independent of external rules. But in areas with external constraints (such as laws against force or fraud), are external constraints the only factor influencing behavior, or do internal moral constraints have an influence too?

¹ Adam Smith (1759, p.449) used the terms “self-government” and “self-command,” and modern psychologists refer to the somewhat parallel notions of “self-regulation” and “self-control” when discussing various types of choices, including moral ones (Duntley and Shackelford, 2008). Wight (2005, p.56) writes, “Smith champions the concept of voluntary self restraint, brought about by a personal commitment to moral responsibility.” Modern economists who talk about the importance of voluntary self-restraint or internal moral constraints include Röpke (1960), Buchanan (1994), Rabin (1995), White (2004), and Wight (2005). Some economists, such as North (1994, p.360), recognize that “self-imposed codes of conduct” exist, but believe their effectiveness is ultimately limited relative to the importance of external constraints. For an overview of economists’ treatment of ethics in a market economy, see Wight (2003) and Zak (2008).

Modern economists are often reluctant to discuss or appeal to moral constraints since they run contrary to many of the basic assumptions of homo economicus, rational self-interested man.² Since economists typically ignore they usually attribute the cooperation they observe to external constraints. But the relative influence of external versus internal constraints is an empirical question. Many or almost all of the observed differences in cooperation might be attributable to differences in people's internal constraints. Furthermore, whether changes in external constraints or appeals to internal constraints are more effective in influencing behavior is also an empirical question. People who focus solely on external constraints are more likely to believe that changes in laws and regulations (as opposed to changes in morality) are the only way to eliminate opportunistic behavior.³

But various studies indicate that internal constraints may be not only important, but one of the most powerful methods of inducing cooperation. Not everyone behaves morally, but many people do, even in the absence of external constraints. For example, Ariely (2008) finds that starting experiments by asking subjects to think about the Ten Commandments subsequently makes them more likely to tell the truth, a finding obviously inconsistent with the assumptions of homo economicus. Although some people clearly behave much less morally than others, this paper will offer reasons why economists might benefit from studying internal moral constraints.

Such study could provide economists with a better idea of when and why people cooperate, for example, and perhaps suggest ways to utilize internal constraints. For instance, in the short run, if people can associate with others who share similar sets of moral beliefs (and can avoid associating with people who do not) the total amount of cooperation may increase. In the long run, although most economists focus on changing external constraints, working to influence internal moral constraints might be a better means of eliciting cooperation. A society in which nobody is honest or respects the property rights of others is unlikely to become a successful market economy no matter how many laws exist. Instead of hoping that an external group can “force people to cooperate” (Holcombe, 1987, p.108), a better approach may be to try to bring about changes in internal constraints. Rather than attempting to devise an optimal vector of punishments, advocates of a market economy might better advance their cause by openly studying the moral prerequisites of a free society.

² Notable exceptions are those economists who accept the homo economicus assumptions, but then ask whether self-interested man would choose to have a conscience (Frank, 1987). But, in this perspective morality is not guiding or constraining self-interested man; he is choosing morality for self-interested rather than deontological reasons.

³ Consider the popularity of the phrase, “There ought to be a law,” which, as of April 2009, appears on 293,000 webpages.

The article is organized as follows. Section 2 discusses why economic theorists might be wrong to exclusively focus on external constraints. Section 3 discusses the relative importance of internal moral constraints. Section 4 discusses potential sources of moral constraints and ways they may be utilized to elicit cooperation. Section 5 concludes.

2. The limits of external constraints and why inducing cooperation from amoral egoists may be easier said than done

How is cooperation best elicited? Most law and economics scholars focus on changing law (external constraints) above anything else. In the words of Stigler (1970, p.526), “All prescriptions of behavior for individuals require enforcement.” Such scholars would view attempts to rely on people’s morality or self-restraint as futile. For example, Sowell (2002, p.29, 31) describes “human beings as tragically limited creatures whose selfish and dangerous impulses can be contained only by social contrivances,” writing that “man’s nature inherently could not coincide with the social good but must be deliberately subordinated to it.” The idea is that rules must be exogenous rather than endogenous. Buchanan (1994, p. 124) refers to this as “the standard elementary textbook view,” but argues that such “presumptions can be challenged empirically.” This section offers reasons why economists’ exclusive emphasis on external constraints may be misplaced.

To many, questioning the efficacy and importance of external constraints is akin to questioning the law of demand or the need for prices. I will maintain, however, that just because one accepts basic price theory does not mean that one must ignore internal moral constraints or believe that people respond to changes in punishments in the same way as to changes in market prices. Economists may be mistakenly conflating two types of external constraints that should be distinct. Historically, when economists talked about external constraints they referred to items like budget constraints, but law and economics scholars introduce another type of external constraint into economic analysis: legal constraints. In simple law and economics models, these external constraints are functionally equivalent: making someone pay \$1 to buy an apple is little different than fining someone \$1 for stealing an apple.⁴ Since legal rules are akin to prices, government can attain its desired outcome by determining and imposing the vector of optimal “prices” (through fines or punishments) to make amoral men act in a moral way. Government simply needs to fine or punish any unwanted behavior so that it disappears.

Despite the precision of these models, the analogy between budget constraints and legal constraints is far from exact. In particular, government may not be in a good position to calculate and charge the

⁴ If the probability of punishment is less than one, the severity of punishment should increase so that the expected value equals the desired price (Stigler, 1970, p.527).

optimal vector of prices to eliminate unwanted behavior. Williamson (1998, p.20) describes how most people assume “that efficacious rules of law regarding contract disputes are in place and are applied by the courts in an informed, sophisticated, and low-cost way.”⁵ In the real world, transaction costs, knowledge problems, and agency problems make using law difficult. Government may not have perfect information (Hayek, 1945) about all potential problems, and even if it did, the costs of external enforcement are often significant (Barzel (2002). It may be too costly or impossible for parties engaging in exchange first to specify all of the necessary contingencies in a contract and then to have government enforce them. In addition, government might know about the high likelihood of unwanted behavior occurring (for example, crime in prison), yet still have a limited ability to stop it. Forcing amoral or immoral people to act in certain ways is not necessarily easy.⁶

2.1. The limits of external constraints: Why punishments and fines are not like market prices

In basic law and economics models, inducing amoral people to act in certain ways is simply a matter of government adjusting the marginal payoffs of various choices. The idea is that individuals will respond to changes in punishments (including fines) just as consumers respond to changes in price. But some fundamental differences exist between market prices and punishments. The first stems from the fact that with market prices, the buyer must pay (or make a promise that the seller accepts) before the transaction takes place, whereas punishments or fines are levied *ex post*. The practical difference is that sellers can always easily raise a price to a point at which buyers cannot afford it (the law of demand necessarily holds), but can raise the punishment as high as possible and still not see the unwanted behavior decrease to zero. For example, the *ex post* fine could be billions, but it may be impossible to get those convicted to pay (Becker, 1980), or the *ex post* punishment could be death, but individuals who heavily discount the future or believe that death will make them martyrs will not be deterred. Therefore, while the law of demand should always hold in consumer markets, there is no *a priori* reason why the “law of demand” must be applicable to punishment. As an empirical matter, the results of studies on ability of government to effectively deter crime are unambiguously mixed (Donahue, 2007; Klick and Tabarrok, 2005; McCrary, 2002).

⁵ Williamson (1998), Ellickson (1991) and others (Stringham and Boettke, 2006) criticize what they call the legal centralism of most law and economics models.

⁶ In a world with perfect information, zero transaction costs, and other, often heroic, assumptions, the solutions are simple. The world envisioned by legal centralists has many parallels to the perfect competition view of the world. Whether or not these parallels are useful for positive analysis, using them for policy recommendations is extremely problematic.

The second major difference between market prices and government punishments or fines is that countless buyers and sellers set the former, whereas the legal system centrally administers the latter. As economists such as Mises (1920) and Hayek (1945) have pointed out, prices constantly adjust according to market conditions, and no central authority is in charge. Asking government to calculate and impose the right vector of “prices” for all possible crimes is a formidable task. Whether those fines need to be updated daily to deal with changing societal conditions or vary from person to person to deal with individual circumstances is entirely unclear (Stringham, 2001).

2.2. The limits of external constraints: Incomplete contracts and imperfect enforcement

Matters become more complicated when one recognizes that many important aspects of markets are not easily enforceable. Barzel (2002) describes how third party enforcement is possible when units of a good are homogenous and easily observable. But exchange often involves goods with bundles of attributes that are not easily specified or verifiable by third parties (Bernstein, 1992). For example, a hotel can sign a contract with guests saying that it promises to provide them with rooms. However, the friendliness of the staff, cleanliness of the room, comfort of the beds, quality of the linens, toiletries, and décor, and other attributes are subjective, important, and cannot be specified easily in contracts or enforced by third parties. Courts and regulators can only enforce minimum standards of quality, but most of what is important goes way beyond the minimum. In labor contracts this truth is even more evident. Work effort, dependability, timeliness, business acumen, politeness, social skills, honesty, and hygiene can determine how effective someone is at their job. Unless government has the ability to easily observe and enforce these attributes, then external constraints are unlikely to ensure wanted behavior.⁷

Even if government had the ability to observe all variables, external constraints might not be that important because relying on external enforcement is costly (Clay, 1997, p.503). In a zero transaction cost world, parties would sign contracts for every agreement, and if disputes arose government would adjudicate the matter. But unforeseen contingencies as well as the costs of writing and enforcing contracts make matters less simple (Tirole, 1999), and businesses cannot rely on government courts reviewing and adjudicating all their dealings.

Even though people make scores of unenforceable agreements, much cooperation exists. In his classic study, Macaulay (1963) documents how businesses usually engage in exchange without formal contracts

⁷ One can observe evidence of this in government agencies, such as the Department of Motor Vehicles, where many workers only do the minimum required by law. If inducing people to be more customer-oriented were simply a matter of law, one would expect bureaucracies with tons of rules to have higher output than the private sector. Of course, they do not. The problem is best summed up in an old saying from the Soviet Union: “We pretend to work. They pretend to pay” (Schiller, 1999, p.110).

and solve potential disputes without lawyers or courts. He writes, “law suits for breach of contract appear to be rare.” Evidence of Macaulay’s findings surrounds us. For example, an owner of multi-million dollar paving and grading business recently told me, “In the 20-plus years of I have owned this company, I have hardly ever signed contracts with my subcontractors. We only dealt with people we knew and trusted” (Personal interview, Los Gatos, California, January 12, 2006). My experience working at an equity trading desk in 1997-1998 was similar. We were involved in thousands upon thousands of trades, but when we or our trading partner made an error filling an order, we would always settle the issue (determine who should eat the cost) without taking it to a third party. In one’s personal life, unenforceable agreements are nearly ubiquitous. Consider the dozens of agreements that one makes in a given day. What percentage involve actual contracts, what percentage result in conflict, and what percentage are taken to court? How practical or costly would it be to rely on external constraints every time one made an agreement?

In the unrealistic world with zero transaction costs and perfect police and courts, it would not matter if one signs a contract with Mother Theresa or Joseph Ponzzi. The morality of one’s counterparty would be superfluous since courts would easily rectify any problems. In the real world, however, the market is too big and too complex for the government to police all of it (Stringham, 2005). Government is unaware of many factors, and as such they cannot be enforced using external constraints. As a practical matter, contracts are imperfect, courts are imperfect, and enforcement is imperfect. Little evidence indicates that government has the ability to manipulate the amoral into cooperating as economic models suggest.⁸

3. The Relative Importance of Internal Moral Constraints

3.1. Reasons why internal constraints exist

By ignoring internal moral constraints, economists may be underestimating their actual importance. Economic analysis commonly assumes that people only cooperate for self-interested reasons. The first and most common type of analysis assumes people only cooperate for fear of external constraints (Gunning, 1972). A second type of analysis, however, recognizes that external constraints may be lacking and documents reasons why parties may find it in their interest to follow through on their promises (Telser, 1980; Klein and Lefler, 1981). Mechanisms such as reputation bonds (Stringham, 2003) or creatively sequenced exchange (Leeson, 2007) can create incentives for contracts to be self-enforcing. As important as this research is, people may also cooperate for other reasons.

⁸ Even many libertarians, who do not favor government enforcement of contracts, are still caught up in this worldview in which third party enforcement is tantamount. For example, the Tannehills (1970) spend a lot of time describing how private police and courts will solve various problems. Yet, in many ways they invoke a deus ex machina solution that assumes that third party enforcement is necessary and efficacious, two tenets of the legal centralist worldview.

Indeed, people may cooperate out of a greater sense of justice—that is, they adopt internal moral constraints. Although this view is at odds with strict neoclassical economics, Adam Smith held a similar one. In his *Theory of Moral Sentiments*, Smith described reasons why people adopt what I here call internal moral constraints. Smith (1759, p.235) believed, for example, that if we do something that our moral faculties judge as wrong: “Those vicegerents of God within us, never fail to punish the violation of them, by the torments of inward shame, and self-condemnation; and on the contrary, always reward obedience with tranquility of mind, with contentment, and self-satisfaction.” Smith considers these constraints as internal with the only punishments being shame or self-condemnation. Most people do not want to have to think about the questions, “How can you live with yourself?” and “How can you sleep at night?” Thus, I suggest that most people will not commit crimes such as murder even if they could get away with them. Of course, not all people care about morality; obviously many people, such as psychopaths, do not. But just because some people lack internal moral constraints does not mean that everyone does or that everyone cooperates only because of fear of worldly punishment.

As an empirical matter, the vast majority of people profess to believe in one type of morality or another (Kosmin and Keysar, 2006), and people may act cooperatively because they believe in certain moral deontological rules. People adopt morality for different reasons: a concern with eternal salvation, a belief that aggression is against the nature of man, or a belief in karma or some new age sense of justice. Although the motivations differ, the manifestation of these beliefs may be the adoption of internal moral constraints that respect others.

One of the most notable recent economist to highlight the importance of internal moral constraints is James Buchanan. Although his earlier writings focused more on external constraints, some of his later writings indicate that he has moved away from that more Hobbesian, worldview (Buchanan, 2004). Buchanan (1994, p.132) writes:

Much of human activity takes place in a setting described as ‘ordered anarchy,’ by which I refer to the simultaneous presence of apparent order and absence of formal laws governing behavior. How is such ordered anarchy possible?...The answer suggested by my argument here is that interacting parties choose to constrain their separate choices in such a fashion as to create non-intersecting and therefore nonconflictual outcomes.

In this view, internal constraints are potentially more important than external constraints. Such a view contrasts with some of the earlier work by public choice economists, who often explicitly assumed that external constraints are the only possible constraints on human behavior (Buchanan, 1972, 1975; Hogarty, 1972; Tullock, 1972, 1974). Hogarty (1972), for example, argued that in the absence of legal constraints, the world would look like the boys’ society in William Golding’s *Lord of the Flies*, a prison

camp during the Civil War, or an experiment in which brown rats bit each other.⁹ But an interesting feature of *Lord of the Flies* or experiments finding that rats bite each other is that not only do the subjects lack external constraints, they also lack internal constraints, which may be the more important factor.

3.2. Evidence that internal constraints are important

Although no formal body of literature on internal constraints exists, various sources provide evidence of their importance. Research from neuroeconomics, experimental economics, behavioral economics, psychology, anthropology, and casual observation indicates that internal moral constraints are important. Let us consider a sample of this evidence.

An examination of history shows that many societies function well even though external constraints are largely absent. For example, Ellickson (1991) describes how cattlemen and ranchers in rural California resolve disputes without any knowledge of or regard for formal law. Ellickson attributes the cooperation to strong norms, such as the desire to be a good neighbor.¹⁰ Powell and Stringham (2009) review many studies documenting people who seem to get along independent of formal rules, but judging to what extent cooperation is motivated by pure self-interest versus moral concerns is often difficult in historical case studies.

Ideally, one could peer into subjects' brains to discover why they cooperate. Neuroeconomics, which uses magnetic resonance imaging (MRI) to record brain activity as subjects make choices, attempts to do just this. McCabe, Houser, Ryan, Smith, and Trouard (2001) have subjects play trust and reciprocity games in which they can either keep a sum of money or pass some of it on (at which point the amount of money passed on is multiplied) to an anonymous counterpart, either human or computer depending on the experiment, who in turn can keep the money or pass it back. The researchers find that the majority of subjects "consistently attempted cooperation with their human counterpart." The MRIs show that certain parts of the brain light up when people cooperate with others but not when they interact with computers. This is consistent with the idea that people are not always making selfish calculations; sometimes they may think about the moral way to interact with others. The same part of the brain does not light up among people who do not cooperate. Such findings suggest that people may have built in tendencies (whether learned or genetically programmed) to want to cooperate.¹¹

⁹ For a critical evaluation of Hogarty's analysis, see Storr (2005).

¹⁰ Posner (1996) discusses the importance of norms in depth, and Gneezy and Rustichini (2000) provide evidence that introducing fines can actually undermine norms.

¹¹ Other research in neuroeconomics shows similarly interesting relationships between hormones such as oxytocin and what can be interpreted as virtuous behavior (Kosfeld, Heinrichs, Zak, Fischbacher, and Fehr, 2005)

Research in experimental economics provides a plethora of evidence about people cooperating without external constraints. Even with anonymous interaction and no external constraints attempting to induce cooperation, Smith (1998, p.11) writes that “the data strongly reject the game theoretic hypotheses that in a single interactive play of the game subjects will overwhelmingly play noncooperatively.” Smith (2008, p.250) provides a comprehensive summary of the findings in experimental economics and describes how cooperation is common even “in games without a punishment option.” Extending this line of research, Powell and Wilson (2008) set up an experiment in which they did not even give their anonymous subjects the option to engage in productive exchange; subjects could merely do nothing, defend, or plunder. Still, the researchers find that in the absence of rules predation is not ubiquitous.

It is important to know whether people act in ways consistent with morality because of selfish reasons (it pays to be honest) or because they just think it is right. Research in behavioral economics provides insight into this question. In one study, Ariely (2008, p.195) pays subjects for the number of test questions they answer correctly. After administering the test a number of times he figures out the number of correct answers that subjects can reasonably get. He then gives subsequent subjects (chosen from the same pool of students) the opportunity to grade their own tests, shred their answers, and report their scores. Ariely finds that when this second group is given the opportunity to cheat, the number of reported correct answers increases to an unreasonable level. Subjects in group three also grade their own exams, but before the experiment begins he asks the subjects to list as many of the Ten Commandments as they can. Suddenly the subjects do not cheat (their scores are identical as the subjects in group one). Ariely finds similar results when students must indicate that they understand that the study falls within their university’s honor system. No changes in external constraints occurred, so what made the students behave more honestly? Were they concerned with Adam Smith’s impartial spectator? Bateson, Nettle, and Roberts (2006) conduct another experiment in which they place a picture of a pair of eyes above an “honesty box used to collect money for drinks in a university coffee room.” They find that this results in people giving three times as much. Such findings are clearly inconsistent with the assumptions of homo economicus and consistent with the hypothesis that people often have regard for moral constraints. How elastic are these responses, and what are the triggers of internal constraints? A very large amount of research could be done on this subject.

The anthropologist Henrich and more than a dozen collaborators conducted behavioral experiments in 15 small scale societies around the world, to investigate the extent to which they act according to the assumptions of economic man. Henrich et al (2001, p.78) write, “We found, first, that

the canonical model – based on pure self-interest – fails in all of the societies studied.” Regardless of where they were from, people were much less likely to behave opportunistically than standard theory predicts. But, as could be predicted, some people cooperated more than others. One of their most interesting findings is that “the higher the degree of market integration” in a society, “the greater the level of prosociality expressed in experimental games.”¹²

These academic studies confirm what most people (except many economists and paranoiacs) already know: not everyone is out to get everyone else. Of course, exceptions exist, and certain people are more likely to lack internal moral rules. But this fact actually helps prove the point about the relative importance of internal and external constraints. Consider a place with lots of external constraints but also lots of conflict, prisons. Although prisons are much more policed than the general population (a ratio of 1 prison guard to 3 prisoners is common [Mears, 2004], whereas overall in the United States the ratio of policeman to civilian is 1 to 350 [Dantzker, 2005, p.12]), the rate of crimes such as sexual assaults is upward of 100 times higher inside prisons than outside them.¹³ Obviously the many external constraints are not enough. A good social scientist would respond that the populations are not similar, but that is precisely the point. Whether they explicitly think about it or not, I posit that most people already consider the importance of internal moral constraints. Would the typical person rather encounter members of a prison gang with lots of police around or members of the Society of Friends (the Quakers) with no police around? I don’t know about you, but I would feel much more comfortable around the Quakers. The difference is not external, but internal, constraints.

4. Potential sources of internal constraints and ways they can be used to elicit cooperation

4.1. Sources of internal constraints

Internal moral constraints appear to be important. But where do they come from, and can they be influenced? Several hypotheses consider the source of internal constraints. Adam Smith (1759, p.233) wrote that our moral faculties may be founded upon “reason, upon original instinct, called moral sense, or upon some other principle of our nature.” For authors such as Thomas Paine, what I am calling internal constraints are embedded in human nature. He wrote:

¹² A few explanations are possible for such findings, but they are consistent with McCloskey's (2006) hypothesis that markets "improve our ethics" as well as with the hypothesis that markets require ethics.

¹³ The Bureau of Justice Statistics reports that among the 1,598,316 people in state and federal prisons in 2007, “the estimated number of incidents nationwide totaled 165,400 (65,100 nonconsensual sexual acts with other inmates and 100,300 incidents of unwilling sexual contact with staff)” (West and Sabol, 2008, p.1; Beck and Harrison, 2007, p.5). Yet, although “total population age 12 or older was 247,290,210” the Bureau of Justice Statistics estimates the number of rape/sexual assaults in 2006 to be 272,350 (Rand and Catalano, 2007, p.3).

Great part of that order which reigns among mankind is not the effect of government. It has its origin in the principles of society and the natural constitution of man. It existed prior to government, and would exist if the formality of government was abolished. The mutual dependence and reciprocal interest which man has upon man, and all the parts of civilised community upon each other, create that great chain of connection which holds it together. (1791. p.84)

Modern authors, such as Ridley (1997) use sociobiology to suggest that humans have innate tendencies to want to cooperate rather than cheat. True, people might cooperate only for self-interested calculating reasons (Axelrod, 1984), but they might also cooperate because doing otherwise would be against their ingrained constitution. If a higher power or our genetic makeup predetermines our internal constraints, then they are outside human choice.

Other authors maintain that external factors can influence (although not enforce) internal constraints. Exposure to certain moral ideas may cause people to internalize them. For example, Röpke (1960, p.104) wrote that the main sources of “self-discipline, a sense of justice” and “firm ethical norms,” are “family, church, genuine communities, and tradition.” Rabin (1994, p.27) also argues that experiences such as “Sunday School and general moral socialization” can prime moral constraints. Psychological research indicates that adult psychopaths and children who have yet to be socialized are more likely to believe in the necessity of external controls. Responsible people, in contrast, realize that they must constrain their own choices. Debates about eating fattening foods, drinking alcoholic beverages, or consuming drugs have many similarities to those on morality. On one hand are people who believe that government must regulate, tax, or prohibit certain choices, and on the other hand are people who believe that individuals should be taught to control themselves (Leitzal, 2007).

Along with socialization, religion is another potential source of internal constraints. Those concerned with the afterlife or cosmic justice may consider how different actions will affect how they are treated later on. Adam Smith (1759, p.233) highlighted the importance of religion when he wrote, “That the terrors of religion should thus enforce the natural sense of duty, was of too much importance to the happiness of mankind, for nature to leave it dependent upon the slowness and uncertainty of philosophical researches.” Smith described how people would look to God to enforce justice. Smith (1759, p. 235) wrote, “Hence we are naturally encouraged to hope for his extraordinary favour and reward in the one case, and to dread his vengeance and punishment in the other.” If one were to model this with game theory, a person’s subjective perceptions of the payoffs include those in the afterlife or influenced by God. People who are concerned about such matters should be less likely to commit immoral acts even if they could get away with them. To authors such as John Locke, the importance of religion was tantamount. Locke (1689, p.47) wrote, “Promises, covenants, and oaths, which are the bonds

of human society, can have no hold upon an atheist.” Kosmin and Keysar (2006, p.xvi) report that 91 percent of Americans profess a belief in God, so religious beliefs likely affect the choices of many people. Yet, even people who do not accept traditional religion often believe in some sense of justice, so whether one believes in a humanist philosophy, karma, or something else, it still may be possible to adopt internal moral constraints.

4.2. Utilizing internal moral constraints when they are fixed

Recognizing that people have internal constraints (and that some people have stronger ones than others) provides people with more options and requires spending fewer resources on enforcement compared to assuming that everyone lacks morals. Buchanan describes how being part of a community where people have strong internal constraints is quite beneficial. Buchanan (1994, p.133) writes, “A community that contains a larger number of members who exhibit a sense of fair play, mutual respect, and reciprocal understanding has less need of formal laws, and can avoid many of the social costs of enforcement by comparison with a community with a larger share of ‘natural criminals.’” Not only does this have implications for an economy as a whole (the more people have internal constraints, the better), but individuals may be able to benefit personally if they can form individual relationships or opt into communities that utilize internal constraints. If people know they are dealing with others who have similar internal moral constraints, more trusting and less legalistic relationships become possible.

First, let us consider how paying attention to internal constraints is important at the individual level. Homo economicus assumptions notwithstanding, casual observations suggest that almost everyone recognizes the importance of internal moral constraints when dealing with others. How many people would not care if they found evidence that someone with whom they were interacting lacked morals? How many people would want to take a chance on dealing with someone whom they know to be untrustworthy? In much of the economic literature on game theory, people interact with others not of their choosing, and many problems can stem from this. But Tullock (1985; 1999) points out that people usually choose with whom they interact, which translates into much more cooperation than standard theory predicts. Heiner (2002) and Osborne (2005) hypothesize that people may be able to garner information about the trustworthiness of others in their early stages of interaction and thus reduce the likelihood that they will have to deal with cheats.

Although people do not come with labels about their trustworthiness, many proxies can provide information about a person’s internal moral constraints. For example, when a banker reviews a loan, he could, but need not, ask “Are you a moral person? Do you believe in fulfilling promises that you make?” Instead, the banker can simply look at a person’s credit score. Of course, reliable but amoral borrowers

(people who have no qualms about cheating the bank but pay their loan to maintain a good credit score) may exist, but my sense is that many people repay their loans because they consider it a moral responsibility.

Beyond individual relationships, the creation of informal or formal communities that rely on internal moral constraints may be beneficial. For example, in the nineteenth century when London stockbrokers transformed their former main trading venue, a coffeehouse, into a private club, now called the London Stock Exchange, they adopted as their motto, “My word is my bond” (Stringham, 2002). Previously they risked dealing with traders of unknown characters and all sorts of “riff-raff” (Jenkins (1973 p.44), but only trustworthy members were admitted to the club. Similar examples exist all around us: private colleges, country clubs, and firms have selection criteria and background checks to try to ensure that their members are upstanding.¹⁴ People do not want to constantly worry about others stealing their wallet, so many people opt into exclusive clubs where others have similar sets of internal moral constraints.

Only allowing in members is in one sense a privately created external constraint, but once one is inside the college, country club, or stock exchange, even private rules within the club exist, as a practical matter almost all of the interaction takes place without reliance on formally enforced rules (whether public or private). Rather than figuring out determining how to create and enforce contracts for the countless numbers of deals that people make within the club (consider how many trades a stockbroker can make in a given day), one can simply focus on determining whether those admitted to the club have an upstanding moral character. These clubs may be formal, with membership requirements (Stringham, 2002), or completely informal, lacking any formal membership requirements or written rules (Stringham, 2003).

Rather than designing laws based on the assumption that all people lack internal moral constraints, cooperation may be better elicited simply if people were allowed to associate with others who hold similar moral views (and to choose not to associate with those who do not). A short implication of this is that cooperation will likely increase with freedom of association, and cooperation will likely decrease if the law forces people to deal with others against their will. Regulations that mandate forced association or restrict voluntary associations undermine private mechanisms for utilizing internal moral constraints.

¹⁴ Certain clubs, such as the diamond bourses described by Bernstein (1992), also have religious aspects, which is another way to help ensure that members have similar internal moral constraints.

4.3. Influencing internal moral constraints in the short run and long run: The economist as social engineer or the economist as preacher?

Assuming they are fixed, internal constraints are important in the short run, and they are potentially even more important in the long run if they can be influenced. To the extent that moral socialization or economic, ethical, or religious teaching can strengthen internal moral constraints, then helping people do just this could be very important. How much influence is possible is an open question, but the vast majority of parents and educators already implicitly recognize that they need to shape children's internal constraints. Psychologists have documented in depth how self-regulation and self-control are important traits that can be developed (Baumeister and Vohs, 2004), and internal moral constraints are likely quite similar. No one assumes that one can successfully raise children in a box or skip teaching them how to make responsible choices or respect others.¹⁵ If one must be taught how to be a responsible human being, then education and socialization become of utmost importance.

For thousands of years, many religious adherents have focused on spreading commandments such as: "Thou shalt not steal," "Thou shalt not lie," and "Do unto others as you would have them do unto you." It is not difficult to imagine or observe what societies look like when the vast majority of people do not accept those principles.¹⁶ They are crucial for any civil society. But how much have people focused on teaching the slightly more advanced ethical norms conducive to a complex market economy? Although billions of people profess belief in the Ten Commandments, it is less obvious to them that the implications of these commandments may include: "Thou shalt respect other people's private property" and "Thou shalt follow through with one's word in contracts." For good or bad, many religious figures do not focus on those ideas (and sometimes actively argue against them [Woods, 2004]), but perhaps economists and others who advocate a free society should. Since economic theory is relatively new to the world, should economists spend time studying and teaching the internal moral constraints that help advance markets? Maybe it is a mistake to assume that society can adopt a market economy without explaining its ethical underpinnings.

Of course, those who follow Stigler (1982), who criticized "the economist as preacher," would balk at such an idea. But one must remember that Adam Smith was not only an economist but also a moral

¹⁵ Some parents do engage more in micromanagement or "helicopter parenting," in which they attempt to make or constrain their children's choices, but psychologists criticize this because eventually children will be in positions where they cannot rely on their parents (Fine and Kotkin, 2003, p.262). The parallels with legal centralism are many, except the helicopter parent is replaced by the helicopter state.

¹⁶ Crampton (2002) finds evidence that countries where the general public holds views antithetical to markets are more likely to adopt policies at odds with economic freedom, and numerous studies, such as Boettke (1994), Gwartney, Lawson, and Block (1996), and Powell (2008), provide evidence of what happens in countries that lack economic freedom. Boettke (2001, p.248) makes the case that culture determines whether market institutions take hold.

philosopher who taught about the beneficence of markets. Furthermore, although almost all economists believe that trade is mutually beneficial, the same is not true of the general public (Blendon et al, 1997, p. 114). As a result, many people do not have what might be considered the proper respect for business. Given that the public has such different views on trade and many other basic economic subjects (Caplan 2007), perhaps economists should spend more time following George Orwell's (1939, p.375) recommendation: "The restatement of the obvious is the first duty of intelligent men." Economists who aim to reform society through changes in rules and regulations may be focusing their efforts in the wrong place. Reformers may be more effective at strengthening markets if they embrace studying and discussing the importance of internal moral constraints.¹⁷

5. Conclusion

Internal moral constraints are important, yet most economists underemphasize or ignore them. The typical law and economics scholar focuses on devising a series of government regulations, punishments, or fines to manipulate amoral egoists into cooperating. These scholars may be overemphasizing the importance and efficacy of external constraints. Government enforcement is far from perfect, but despite the less than ubiquitous nature of external constraints, much cooperation occurs. Some of this may be attributable to amoral people deciding that they can gain more by cooperating than cheating, but much may be attributable to people's internal moral constraints.

Economists who wish to better understand the world may benefit from studying the relative importance of internal constraints. Given that comparatively little research has been done on this topic, many potential research questions present themselves. Future research could attempt to shed light on the importance of internal constraints compared to external constraints, to devise measures of internal moral constraints, to investigate how differences in internal constraints (between individuals or groups) lead to different market outcomes, and to examine the various factors that influence internal moral constraints, such as upbringing, religion, or socialization. Experimental economics could also be used to study whether certain external factors trigger or strengthen internal moral constraints.

Learning about when and why people have strong internal constraints may also have important normative implications. In the short run, cooperation might be strengthened as people form relationships or communities with others who have similar internal moral constraints. To the extent that better measures of internal moral constraints can be found, people might actually be able to utilize them, just as bankers utilize credit ratings. In the long run, the entire market economy might be strengthened if

¹⁷ Philanthropist Pierre Goodrich advocates this strategy; his *Liberty Fund Basic Memorandum* explicitly discusses the importance of moral reform for a free society.

we can determine how to positively influence internal constraints. In the past century, and the past few years especially, reformers enamored with external constraints have expanded the number of rules and regulations tremendously. However, little evidence shows that these external constraints can achieve their aims (Stigler, 1975; Stringham, Boettke, and Clark, 2008). Rather than devising regulations under the assumption that everyone lacks ethics, it might be more productive to recognize that internal moral constraints exist and to find ways in which they can be utilized or strengthened. Perhaps we should follow Adam Smith, and embrace studying and talking internal moral beliefs as a way of encouraging entrepreneurial innovation.

References

- Ariely, Dan. 2008. *Predictably Irrational: The Hidden Forces That Shape Our Decisions*. New York: Harper Collins.
- Axelrod, R. 1984. *The Evolution of Cooperation*. New York: Basic Books.
- Barzel, Yoram. 2002. *A Theory of the State*. Cambridge: Cambridge University Press.
- Bateson, M., D. Nettle, and G. Roberts G. 2006. "Cues of Being Watched Enhance Cooperation in a Real-World Setting." *Biology Letters*, 2(3): 412-4.
- Baumeister, Roy F., and Kathleen D. Vohs. (eds.) 2004. *Handbook of Self-Regulation*. New York: Guilford Press.
- Beck, Allen, and Paige Harrison. 2007. "Sexual Victimization in State and Federal Prisons Reported by Inmates, 2007." *Bureau of Justice Statistics Special Report*, December 2007, NCJ 219414.
- Becker, Gary. 1968. "Crime and Punishment: An Economic Approach." *Journal of Political Economy*, 76: 169-217.
- Becker Gary. 1980. "Privacy and Malfeasance: A Comment." *Journal of Legal Studies*, 9: 823-826.
- Bernstein, Lisa. 1992. "Opting out of the Legal System: Extralegal Contractual Relations in the Diamond Industry." *Journal of Legal Studies*, 21(1): 115–157.
- Boettke, Peter 1994. *The Collapse of Development Planning*. New York: New York University.
- Boettke, Peter 2001. *Calculation and Coordination: Foundations of a Market Economy*. London: Routledge.
- Blendon, Robert, et al. 1997. "Bridging the Gap Between the Public's and Economists' View of the Economy." *Journal of Economic Perspectives*, 11(3): 108-118.
- Brennan, Geoffrey, and James M. Buchanan. 1985. *The Reason of Rules*. Cambridge: Cambridge University Press.
- Buchanan, James 1972. "Before Public choice." In G. Tullock, ed., *Explorations in the Theory of Anarchy*, 27–37. Blacksburg, Virginia: Center for the Study of Public Choice.
- Buchanan, James 1975. *The Limits of Liberty: Between Anarchy and Leviathan*. Chicago: University of Chicago.

- Buchanan, James 1994. "Choosing What to Choose." *Journal of Institutional and Theoretical Economics*, 150 (1): 123-135.
- Buchanan, James 2003. "Politics as a Tragedy in Several Acts." *Economics and Politics*, 15(2): 181-191.
- Buchanan, James 2004. "Heraclitian Vespers." In J. Pitt, D. Salehi-Isfahami, and D. Echel, eds., *The Production and Diffusion of Public Choice Political Economy*, 263–271. Malden, MA: Blackwell Publishing.
- Caplan, Bryan. 2007. *The Myth of the Rational Voter: Why Democracies Choose Bad Policies*. Princeton: Princeton University Press.
- Clay, Karen. 1997. "Trade, Institutions, and Credit." *Explorations in Economic History*, 34: 495–521.
- Crampton, Erid 2002. "You Get What You Vote For: Electoral Determinants of Economic Freedom." *Journal of Private Enterprise*, 18(1): 32-56.
- Dantzker M.L. 2005. *Understanding Today's Police*. Monsey, NJ: Criminal Justice Press.
- Donahue, J.J. 2007. "Economic Models of Crime and Punishment." *Social Research*, 74(2): 379-412
- Duntley, Joshua, and Todd K. Shackelford. 2008. *Evolutionary Forensic Psychology*. Oxford: Oxford University Press.
- Ellickson Robert 1991. *Order Without Law: How Neighbors Settle Disputes*. Cambridge: Harvard University Press.
- Fine, Aubrey, and Ronald Kotkin 2003. *Therapists Guide to Learning and Attention Disorders*. Oxford: Academic Press.
- Frank, Robert 1987. "If *Homo Economicus* Could Choose His Own Utility Function, Would He Want One With a Conscience?" *American Economic Review*, 77: 593-604.
- Gneezy, U., and A. Rustichini. 2000. "A Fine is a Price." *Journal of Legal Studies*, 29(1): 1-18.
- Gunning, J. Patrick. 1972. "Towards a Theory of the Evolution of Government." In *Explorations in the Theory Of Anarchy*, Gordon Tullock, ed., 5-18. Blacksburg, VA: Center for Study of Public Choice.
- Gwartney, James., Robert Lawson, and Walter Block.. 1996. *Economic Freedom of the World, 1975-1995*. Vancouver: Fraser
- Hayek F.A. 1945. "The Use of Knowledge in Society." *American Economic Review*, 35(4): 519-30.
- Henrich, Joseph, et al. 2005. "'Economic Man' in Cross-Cultural Perspective: Behavioral Experiments in 15 Small-Scale Societies." *Behavioral and Brain Sciences*, 28: 795-855.
- Heiner, R.A. 2002. "Robust Evolution of Contingent-Cooperation in Pure One-Shot Prisoners' Dilemmas." Working paper, George Mason University.
- Hirshleifer, J. 2001. *The Dark Side of the force: Economic foundations of conflict theory*. Cambridge: Cambridge University Press.
- Hogarty, T. 1972. "Cases in anarchy." In Gordon Tullock (Ed.), *Explorations in the theory of anarchy* (pp. 51–64). Blacksburg, Virginia: Center for Study of Public Choice.
- Holmes, Oliver Wendell. 1878. "Path of Law." *Harvard Law Review*, 10(8): 457-478
- Holcombe Randall. 1987. *Public Sector Economics*. Belmont, CA: Wadsworth.
- Jenkins, Alan. 1973. *The Stock Exchange Story*. London: Heinemann.

- Klein, B., and K. Leffler. 1981. "The Role of Market Forces in Assuring Contractual Performance." *Journal of Political Economy*, 89: 615–641.
- Kosfeld, Michael, Markus Heinrichs, Paul J. Zak, Urs Fischbacher, and Ernst Fehr. 2005. "Oxytocin Increases Trust In Humans." *Nature*, 435: 673–676.
- Kosmin, Barry, and Ariela Keysar. 2006. *Religion in a Free Market*. Location: Ithaca: Paramount Market Publishing.
- Klick, Jonathan, and A. Tabarrok. 2005. "Using Terror Alert Levels to Estimate the Effect of Police on Crime." *Journal of Law and Economics*, 48(1): 267-280.
- Kosfeld, Michael, Markus Heinrichs, Paul J. Zak, Urs Fischbacher, and Ernst Fehr. 2005. "Oxytocin Increases Trust In Humans." *Nature*, 435: 673–676.
- Orwell, George. 1939. *George Orwell: An age like this, 1920-1940. Volume 1*. Sonia Orwell and Ian Angus, eds. Boston: Godine Publisher.
- Leeson, Peter. 2007. "Trading with Bandits." *Journal of Law and Economics*, 50: 303-332.
- Leitzal, Jim. 2007. *Regulating Vice*. Cambridge: Cambridge University Press.
- Locke, John. 1689. "A Letter Concerning Toleration" In *The Works of John Locke: In Nine Volumes*, Vol. 5, 1-58. London: Rivington, 1824.
- Macaulay, Stuart. 1963. "Non-Contractual Relations in Business." *American Sociological Review*, I: 55-70.
- McCrary Justin. 2002. "Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime: Comment" *American Economic Review*, 92(4): 1236-1243.
- Mears, Daniel P. 2004. "Prisoner Abuse Is Avoidable" *The Hill*, June 16, 2004.
- McCabe, Kevin, Daniel Houser, Lee Ryan, Vernon Smith, and Theodore Trouard. 2001. "A functional imaging study of cooperation in two-person reciprocal exchange." *Proceedings of the National Academy of Sciences*, 20 98: pp. 11832-11835.
- McCloskey, Deirdre N. 2006. *The Bourgeois Virtues*. Chicago: University of Chicago.
- Mises, Ludwig. 1920. *Economic Calculation in the Socialist Commonwealth*. Auburn: Mises Institute, 1990.
- North, Douglas. 1994. "Economic Performance through Time" *American Economic Review*, 84(3): 359-368.
- Osborne, Jason. 2005. "Jungle or Just Bush." In *Anarchy, State, and Public Choice*, ed. Edward Stringham, 24-35. Cheltenham: Elgar Publishing.
- Paine Thomas. 1791. *Rights of Man*. London: J. M. Dent, 1906.
- Posner, Eric. 1996. "The Regulation of Groups: The Influence of Legal and Nonlegal Sanctions on Collective Action." *University of Chicago Law Review* 63: 63:133-197..
- Powell, Benjamin. 2008. *Making Poor Nations Rich*. Palo Alto: Stanford University.
- Powell, Benjamin, and Bar Wilson. 2008. "An Experimental Investigation of Hobbesian Jungles." *Journal of Economic Behavior and Organization*, 66(3-4): 669-686.
- Powell, Benjamin W., and Edward P. Stringham. 2009. "Public Choice and the Economic Analysis of Anarchy: A Survey." *Public Choice*, forthcoming.
- Rabin, Matthew. 1995. "Moral Preferences, Moral Constraints, and Self-Serving Biases." Working Paper, University of California at Berkeley.

- Rand, Michael and Shannon Catalano. 2007. "Criminal Victimization, 2006" *Bureau of Justice Statistics Bulletin*, December 2007, NCJ 219413.
- Ridley, Matt. 1997. *The Origins of Virtue*. New York: Viking.
- Röpke, Wilhelm. 1960. *A Humane Economy*. Wilmington, DE: ISI, 1999.
- Schiller, Bradley. 1999. *The Essentials of Economics*. Boston. Irwin/McGraw-Hill.
- Sowell, Thomas. 2002. *A Conflict of Visions*. New York: Basic Books.
- Smith, Adam. 1759. *The Theory of Moral Sentiments*. London: H. G. Bohn, 1853
- Smith, Vernon. 1998. "The Two Faces of Adam Smith." *Southern Economic Journal*, 65: 1-19.
- Smith, Vernon. 2008. *Rationality in Economics*. Cambridge: Cambridge University Press.
- Stigler, George. 1970. "The Optimum Enforcement of Laws." *Journal of Political Economy*, 78(3): 526-36.
- Stigler, George. 1975. *The Citizen and the State: Essays on Regulation*. Chicago: Chicago University Press.
- Stigler, George. 1982. *The Economist as Preacher*. Oxford: Basil Blackwell.
- Storr, Virgil. 2005. "Defining Anarchy as Rock 'n' Roll: Rethinking Hogarty's Three Cases. In *Anarchy, State, and Public Choice*, ed. Stringham, Edward, 113-122. Cheltenham: Elgar Publishing.
- Stringham, Edward Peter, and Peter J. Boettke. 2006. "The Failings of Legal Centralism for Helping Stock Markets in Transition." *Politická Ekonomie*, 10(1): 22-34.
- Stringham, Edward Peter. 2001. "Kaldor-Hicks Efficiency and the Problem of Central Planning" *Quarterly Journal of Austrian Economics*, 4(2): 41-50.
- Stringham, Edward Peter. 2003. "The Extralegal Development of Securities Trading in Seventeenth Century Amsterdam." *Quarterly Review of Economics and Finance*, 43(2): 321-344.
- Stringham, Edward Peter. 2002. "The Emergence of the London Stock Exchange as a Self-Policing Club." *Journal of Private Enterprise*, 17(2): 1-19.
- Stringham, Edward Peter. 2005. "The Capability of Government in Providing Protection Against Online Fraud." *Journal of Law, Economics, and Policy*, 1(2): 371-392.
- Stringham, Edward Peter, Peter J. Boettke, and J.R. Clark. 2008. "Are Regulations the Answer for Emerging Stock Markets? Evidence from the Czech Republic and Poland." *Quarterly Review of Economics & Finance*, 48(3): 541-566.
- Tannehill, Morris and Linda Tannehill, (1970) *Market For Liberty*. Lansing, MI: Linda and Morris Tannehill.
- Telser, L. G. (1980). "A Theory of Self-Enforcing Agreements." *Journal of Business*, 53: 27-44.
- Tirole Jean. 1999. "Incomplete Contracts: Where Do We Stand?" *Econometrica*, 67(4): 741-781
- Tullock, G., ed. 1972. *Explorations in the Theory of Anarchy*. Blacksburg, VA: Center for Study of Public Choice.
- Tullock, G., ed. 1974. *Further Explorations in the Theory of Anarchy*. Blacksburg, VA: University Publications.
- Tullock, G. 1985. "Adam Smith and the Prisoners' Dilemma." *Quarterly Journal of Economics*, 100: 1073-1081.
- Tullock, G. 1999. "Non-Prisoner's Dilemma." *Journal of Economic Behavior & Organization*, 39: 455-458.

- West, Heather, and William Sabol. 2008. "Prisoners in 2007" *Bureau of Justice Statistics Bulletin*, December 2008, NCJ 224280.
- Wight Jonathan B. 2003. "Teaching the Ethical Foundations of Economics." *Chronicle of Higher Education*, August 15: B7-B9.
- Wight, Jonathan. 2005. "Adam Smith and Greed." *Journal of Private Enterprise*, 21(1): 46-58.
- Williamson, Oliver. 1998. *The Economic Institutions of Capitalism*. New York: Simon and Schuster.
- White, Mark. 2004. "Can *Homo Hconomicus* Follow Kant's Categorical Imperative?" *Journal of Socio-Economics*, 33: 89–106.
- Woods, Thomas. 2004. *The Church and the Market*. Lanham, MD: Lexington Books.
- Zak, Paul, ed. 2008. *Moral Markets The Critical Role of Values in the Economy*. Princeton: Princeton University Press.