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Edward L. Glaeser

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The Divergence of Human Capital Levels Across Cities
Edward L. Glaeser
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ABSTRACT

Does bounded rationality make paternalism more attractive? This Essay argues that errors will be larger when suppliers have stronger incentives or lower costs of persuasion and when consumers have weaker incentives to learn the truth. These comparative statics suggest that bounded rationality will often increase the costs of government decisionmaking relative to private decisionmaking, because consumers have better incentives to overcome errors than government decisionmakers, consumers have stronger incentives to choose well when they are purchasing than when they are voting and it is more costly to change the beliefs of millions of consumers than a handful of bureaucrats. As such, recognizing the limits of human cognition may strengthen the case for limited government.

Edward L. Glaeser
Department of Economics
315A Littauer Center
Harvard University
Cambridge, MA 02138
and NBER
eglaser@harvard.edu

Paternalism and Psychology

Edward L. Glaeser[†]

INTRODUCTION

An increasingly large body of evidence documenting bounded rationality and non-standard preferences has led many scholars to question economics' traditional hostility towards paternalism.¹ After all, if individuals have so many cognitive difficulties then it is surely possible that government intervention can improve welfare. As Christine Jolls, Cass Sunstein, and Richard Thaler write: “bounded rationality pushes toward a sort of anti-antipaternalism—a skepticism about antipaternalism, but not an affirmative defense of paternalism.”² Even if these authors stop short of endorsing traditional hard paternalism, such as sin taxes and prohibitions, Sunstein and Thaler are enthusiastic about soft or libertarian paternalism, where the government engages in “debiasing,” changing default rules and other policies that will change behavior without limiting choice.³

In this Essay, I argue that the flaws in human cognition should make us more, not less, wary about trusting government decisionmaking. The debate over paternalism must weigh private and public errors. If errors are thought to be exogenous then there is little reason to believe that these errors will be greater among public or private decisionmakers, but if psychological errors are understood to be endogenous, then there are good reasons why we might think that public decisionmaking is likely to be more flawed than private decisionmaking. In Part I of this Essay, I review the evidence supporting the view that psychological errors are the endogenous market phenomena that respond to both “demand” and “supply.” On the supply side, purveyors of influence have the capacity to change popular opinion. On the

[†] Fred and Eleanor Glimp Professor of Economics, and the Director of the Taubman Center for State and Local Government and the Rappaport Institute for Greater Boston. Daniel Benjamin, Jeffrey Miron, Richard Posner, Cass Sunstein, Cornelius A. C. Vermeule IV provided extremely helpful comments.

¹ Following the Stanford Encyclopedia of Philosophy's definition, I take paternalism to mean “the interference of a state or an individual with another person, against their will, and justified by a claim that the person interfered with will be better off or protected from harm.” *Stanford Encyclopedia of Philosophy*, online at <http://plato.stanford.edu/entries/paternalism>.

² Christine Jolls, Cass R. Sunstein, and Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 *Stan L Rev* 1471, 1541 (1998).

³ Richard H. Thaler and Cass R. Sunstein, *Libertarian Paternalism*, 93 *Am Econ Rev* 175, 175 (2003).

demand side, human beings have some capacity to limit errors, especially with the time and incentives to acquire advice and information.

In Part II, I present three simple models that show how endogenous cognitive errors increase the advantage of private decisionmaking over public decisionmaking, which suggest that recognizing the limits of human cognition push us away, not towards, paternalism. In these models, as the bounds to human rationality increase, the quality of government decisionmaking decreases even faster than the quality of private decisionmaking.

The first model hinges on the fact that consumers face stronger incentives to get things right than government decisionmakers do when making decisions about unrelated individuals. In the second model, the supply of error comes from a private firm that is trying to increase demand. If the cost of persuading one government bureaucrat is less than the cost of persuading millions of consumers, then government bureaucrats will be more prone to error than private consumers.

The final model looks at the electoral process and again relies on the fact that individuals have stronger incentives when making consumption decisions than when taking part in an election to choose a leader who will make consumption decisions for them. In this model, there is an advantage from public decisionmaking. When information isn't highly correlated, and a majority is better informed than a minority, then the tyranny of the majority can have benefits (these would disappear with enough consumer heterogeneity). However, as people become more and more prone to error, the tyranny of the majority induces everyone to make the wrong decision.

These examples are far from definitive. In some cases the governments may make better decisions. Still, once errors are seen to be endogenous, the lack of incentives in politics and among politicians and the small numbers of public decisionmakers suggest that government decisionmaking is likely to be particularly erroneous. While there are surely some empirical cases of paternalism that have been successful, across a wide range of settings, the models' basic implication of faulty government decisionmaking cannot be rejected. Over and over again, paternalism has been abused by governments responding to special interests or to seek to aggrandize their own authority.

In Part III of the Essay, I turn to soft paternalism. While I generally share Sunstein and Thaler's view that soft paternalism is less damaging than hard paternalism and that in many cases some form of paternalism is inevitable, I respectfully disagree with their view that this type of paternalism "should be acceptable to even the most ardent libertarian."⁴ Soft paternalism is neither innocuous nor obviously benign.

If abused by a less than perfect government, soft paternalism can make decisions worse just like hard paternalism. As George Loewenstein and Ted

⁴ Id at 175.

O'Donoghue argue, soft paternalism towards an activity essentially creates a psychic tax on that activity that provides no revenues, which can be much worse than hard paternalism.⁵ Hard paternalism in the form of tax rates or bans is easy to monitor and control; soft paternalism is not. Soft paternalism often relies on stigmatizing behavior like smoking, drinking or homosexuality, and this can and has led to dislike or hatred of those individuals who continue to engage in the disapproved activities. Moreover, soft paternalism will surely increase support for hard paternalism, as it seems to have done in the case of cigarettes.

Finally, persuasion lies at the heart of much of soft paternalism and it is not obvious that we want governments to become more adept at persuading voters or for governments to invest in infrastructure that will support persuasion. Governments have a strong incentive to abuse any persuasion-related infrastructure and use it for their own interests, mostly keeping themselves in power.

In Part V of this Essay, I consider some simple rules for guiding the implementation of paternalism and for limiting governmental errors related to cognitive limitations. If experience reduces errors then there is a case for policy conservatism. The possibility for wild errors in democratic elections suggests the value of institutions that provide for "cooling-off." The ability of entrepreneurs to persuade suggests an examination of political (and governmental) advertising. Finally, since cognition has more problems with complex decisions, there is a case for more single-issue debates or even elections.

I. THE ENDOGENEITY OF ERROR

The new case for paternalism is based on two different psychological phenomena: bounded rationality and self-control problems. The literature on self-control and hyperbolic discounting argues that people would want to refrain from certain actions if they only could.⁶ The bounded rationality literature argues that people face severe cognitive limitations and often make bad decisions.⁷

This Essay focuses on paternalism and bounded rationality, because bounded rationality is quite common and provides a clearer case for real

⁵ George Loewenstein and Ted O'Donoghue, "We can do this the easy way or the hard way": *Negative Emotions, self-regulation and the law*, (unpublished paper 2005), online at <http://www.people.cornell.edu/pages/edo1/LoewOD.pdf>.

⁶ See, for example, David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q J Econ 443, 445–46 (1997) (noting that hyperbolic discount functions place constraints on consumers because current preferences may change, and thus consumers may make poor decisions); H.M. Shefrin and Richard Thaler, *An Economic Theory of Self-Control* (NBER Working Paper 208, July 1977), online at <http://nber.org/papers/w0208>.

⁷ See, for example, Gilles Saint-Paul, *Cognitive Ability and Paternalism*, (IZA Discussion Paper No 609, 2002), online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=343883.

paternalism than self-control problems do.⁸ Limits to knowledge and reasoning are quite common. Thaler describes a striking number of examples, like the Winner's Curse, that illustrate the human tendency towards forms of biases and errors.⁹ Opinion polls suggest striking examples of erroneous beliefs. For example, according to the World Values Survey, 71 percent of Americans and 17 percent of the French believe in the devil.¹⁰ One of these groups is wrong.

Following Bruno Frey and Reiner Eichenberger,¹¹ I now argue that cognitive errors endogenously reflect the actions of suppliers of beliefs and the cognitive effort of individuals.

A. The Supply of Error

In the laboratory, there is an enormously rich tradition of showing that individuals are extremely subject to social influence, and errors easily result for external stimuli. Solomon Asch is a pioneer in this area who shows that individuals will report that a shorter line is longer when planted confederates declare that they think the shorter line is longer.¹² Asch's basic result has been reproduced hundreds of times throughout the globe,¹³ and with many different types of questions. Opinions can be manipulated by peers.

Opinions can also be manipulated in other ways. For example, Linda Babcock, George Loewenstein and Samuel Issacharoff show that debiasing techniques can be used to eliminate self-serving biases in negotiations.¹⁴ Gregory Pogarsky and Linda Babcock illustrate anchoring effects in an experiment on judgment.¹⁵ Edward McCaffery, Daniel Kahneman and Mat-

⁸ Self-control problems offer a more limited scope for intervention for two reasons. First, if paternalism is motivated by self-control, these paternalistic interventions always involve trading off the welfare of people at one point in time with people at some other point in time, and this requires tricky social welfare decisions. Second, the first-best response to self-control problems is always to increase the availability of technologies or contracts that facilitate private self-control, which cannot really be called paternalism because these policies increase, rather than decrease, the choice set.

⁹ See generally Richard H. Thaler, *The Winner's Curse: Paradoxes and Anomalies in Economic Life* (Princeton 1994).

¹⁰ Edward L. Glaeser, *Psychology and the Market*, 94 *Am Econ Rev* 408, 408 (2004).

¹¹ See generally Bruno S. Frey and Reiner Eichenberger, *Economic incentives transform psychological anomalies*, 23 *J Econ Behav & Org* 215 (1994).

¹² Solomon E. Asch, *Social Psychology* 451–73 (Prentice-Hall 1952). There is some debate as to whether this result reflects people changing their mind or just saying that they change their mind. Compelling recent evidence suggests that people really do change their mind as a result of this social influence. See Gregory S. Berns, et al, *Neurobiological Correlates of Social Conformity and Independence During Mental Rotation*, *Biological Psych* (forthcoming 2005).

¹³ See generally Rod Bond and Peter B. Smith, *Culture and Conformity: A Meta-Analysis of Studies using Asch's (1952b, 1956) Line Judgment Task*, 119 *Psych Bull* 111 (1996).

¹⁴ Linda Babcock, George Loewenstein, and Samuel Issacharoff, *Creating Convergence: Debiasing Biased Litigants*, 22 *L and Soc Inquiry* 913, 922 (1997).

¹⁵ Greg Pogarsky and Linda Babcock, *Damage Caps, Motivated Anchoring, and Bargaining Impasse*, 30 *J Legal Stud* 143, 148–50 (2001).

thew Spitzer illustrate the power of framing in an experiment meant to replicate jury decisions.¹⁶ More generally, there is widespread agreement in the experimental literature that even modest changes in framing can create wildly different results.

Outside of the laboratory, there is also substantial evidence suggesting that suppliers are able to manipulate beliefs. In the legal sphere, competent attorneys are paid well to change the beliefs of juries. Firms spend large amounts of money on advertising and other forms of belief manipulation. While some of this manipulation can be seen as correcting errors (that is, informing the consumer), not all advertising is strictly informative. In the pre-modern era, false advertising was common (touting the miraculous advantages of patent medicine for example), and presumably firms would not have spent on this unless it was having an effect.

Is there strong evidence that attempts at belief manipulation are successful on a large scale outside of the laboratory? Unfortunately, there have been few compelling natural experiments, although anecdotes with some evidence showing the power of indoctrination are common. For example, Bruce Sacerdote and I examine the connection between education and religiosity across countries.¹⁷ In the former Warsaw Pact countries, where attacking religious beliefs was a stated curricular aim, the levels of religious belief are extremely low and the negative connection between education and religious beliefs is remarkably high.¹⁸ Schools seem to have been able to convince students that Christianity is false.

Matthew Gentzkow and Jesse Shapiro examine the role of the media in forming beliefs in the Middle East.¹⁹ There is a remarkable difference of opinion across the Islamic world in beliefs about facts surrounding September 11, 2001. According to the Pew Research Institute, only 7 percent of Americans do not believe that Arab terrorists destroyed the World Trade Center. Eighty-nine percent of Kuwaitis believe that Arab terrorists did not destroy the World Trade Center.²⁰ Gentzkow and Shapiro show that, in the Middle East, exposure to CNN increases the tendency to think that Arabs destroyed the World Trade Center whereas exposure to Al-Jazeera decreases the tendency to think that Arabs destroyed the building.²¹ Education has a weakly positive impact on the belief that Arabs destroyed the building, but

¹⁶ Edward J. McCaffery, Daniel J. Kahneman, and Matthew L. Spitzer, *Framing the Jury: Cognitive Perspective on Pain and Suffering Awards*, 81 Va L Rev 1341, 1359 (1995).

¹⁷ Edward Glaeser and Bruce Sacerdote, *Education and Religion* (NBER Working Paper No 8080, Jan 2001), online at <http://www.nber.org/papers/w8080>.

¹⁸ *Id* at 28–29.

¹⁹ Matthew A. Gentzkow and Jesse M. Shapiro, *Media, Education and Anti-Americanism in the Muslim World*, 18 J Econ Persp 117, 121–28 (2004).

²⁰ *Id* at 120.

²¹ *Id* at 125 (“Most strikingly, those who watched only Al Jazeera are significantly *less* likely to believe these reports than those who watched neither network.”) (emphasis in original).

this effect is reversed if education is primarily Arabic. This evidence supports the idea that individuals believe, at least in part, what they hear.

Alberto Alesina and I report that 60 percent of Americans believe that the poor are lazy, but only 26 percent of Europeans share that view.²² By contrast, 60 percent of Europeans think that the poor are trapped in poverty, but only 29 percent of Americans share that opinion.²³ In reality, the American poor generally work harder than their European counterparts and have a lower probability of exiting from poverty.²⁴ While these differences in beliefs do not reflect differences in reality, they do reflect the impact of 100 years of relatively leftist indoctrination in European schools and relatively rightist indoctrination in American schools. Alesina and I provide documentation of the substantive differences in what European children and American children are taught about the nature of poverty.

If one major source of cognitive errors is the supply of beliefs, then errors will not be random, but they will in part reflect the costs and incentives faced by belief suppliers. While the suppliers of beliefs may not be perfectly rational, they certainly increase advertising when returns rise and decrease it when costs rise. There is abundant evidence on the importance of returns in driving advertising expenditures. For example, advertisers disproportionately spend to reach high-spending segments of the market. The role of costs and benefits for suppliers suggests that we should expect more errors when belief suppliers face high returns from moving opinion and less error when the costs of manipulating beliefs are high.

B. Self-Correction of Errors

As Frey and Eichenberger emphasize, a second source of endogenous error is the effort that consumers can take to correct errors.²⁵ Human beings are not irrational automata and with motivation, they should be able to reduce cognitive errors. Vernon Smith and James Walker present a simple model where costly effort can reduce error and summarize the experimental literature on incentives and decisionmaking.²⁶ They conclude, “[s]ome studies report observations that fail to support the predictions of rational models, but as reward level is increased the data shift toward these predictions.”²⁷

²² Alberto Alesina and Edward Glaeser, *Fighting Poverty in the U.S. and Europe: A World of Difference* (Oxford 2004).

²³ *Id.* at 184.

²⁴ *Id.* at 60-68.

²⁵ Frey and Eichenberger, 23 *J Econ Behav & Org* at 223-27 (cited in note 11).

²⁶ Vernon L. Smith and James M. Walker, *Monetary Rewards and Decision Cost in Experimental Economics*, 31 *Econ Inquiry* 245, 246-50, 251-59 (1993).

²⁷ *Id.* at 259.

Amos Tversky and Ward Edwards, for example, show that paying subjects five cents for right answers increases the accuracy of predictions.²⁸ In a variation of the Asch conformity experiment, Robert Baron, Joseph Vandello, and Bethany Brunzman show that increasing the stakes decreases conformism by 50 percent when the task is easy.²⁹ Confirming another prediction of the hypothesis that incentives improve accuracy, Smith and Walker also show that the variance of outcomes across people declines as stakes increase.³⁰

The Smith and Walker survey omits many more nuanced elements of the relationship between incentives and anomalies; Colin Camerer and Robin Hogarth present a more balanced survey that argues “the extreme positions, that incentives make no difference at all, or always eliminate persistent irrationalities, are false.”³¹ Still, they conclude that “the presence and amount of incentive does seem to affect average performance in many tasks, particularly judgment tasks.”³² Perhaps the right view is that there is a modest body of experimental evidence suggesting that in many cases errors decline as incentives grow stronger.

But there are many reasons to think that incentive effects will be much stronger in the real world than in the laboratory. In experiments, individuals have few tools with which to improve their reasoning, and their only real method of responding to incentives is to think harder. Outside of the lab, people have access to advisers, books, the internet and more time. Their willingness to spend time and money to use these resources will surely depend on the stakes involved in the decision.

Just as the large expenditure on advertising is our best evidence that beliefs can be supplied, the existence of substantial industries specializing in advice and information suggests that in many contexts people are really interested in knowing the truth. For example, 6.8 million people subscribe to Consumer Reports,³³ one potential source of information that can undo supplier-created biases in consumer spending. There is a large, thriving industry of management consultants that provide information to firms and

²⁸ Amos Tversky and Ward Edwards, *Information Versus Reward in Binary Choices*, 71 J Exp Psych 680, 683 (1966).

²⁹ Robert S. Baron, Joseph A. Vandello, and Bethany Brunzman, *The Forgotten Variable in Conformity Research: Impact of Task Importance on Social Influence*, 71 J Personality & Soc Psych 915, 921 (1996). They find the opposite result in cases where the task is hard. Id at 921. One potential explanation for this finding is that when the task is easy, a little mental energy can create much more accurate decisionmaking. When the task is hard, it may be that imitating the crowd is the best strategy available.

³⁰ Smith and Walker, 31 Econ Inquiry at 258 (cited in note 26).

³¹ Colin F. Camerer and Robin M. Hogarth, *The Effects of Financial Incentives in Experiments: A Review and Capital-Labor-Production Framework*, 19 J of Risk and Uncertainty 7, 8 (1999).

³² Id at 8.

³³ See 2005 *Consumers Union Annual Report*, online at <http://www.consumerreports.org/cro/aboutus/annualreport.htm>.

self-help books. No one would claim that these resources eliminate all errors, but they do provide tools with which a motivated consumer can reduce error.

A particularly important way in which consumers are able to reduce error is through experience. John List investigates the endowment effect in a trading card Prof: I'm not sure this is correct. If costs are falling, then wouldn't revenues be rising and therefore implicate the same result?³⁴ Another example is that in at least one opinion poll a majority of respondents in the United States thought that Saddam Hussein was personally behind the World Trade Center attacks.³⁵ Even more strikingly, in a Pew Poll in 1998, 63 percent of respondents thought that the United States spends more on foreign aid than on Medicare (only 27 percent gave the right answer).³⁶ My claim is not that all voting decisions are wildly erroneous, but rather that theory predicts that errors will be more likely in voting than in private decisions, and that there is some evidence that supports this prediction.

II. ANTIPATERNALISM AND THE ENDOGENEITY OF ERROR

Jolls, Sunstein and Thaler argue that “bounded rationality pushes toward a sort of anti-antipaternalism—a skepticism about antipaternalism,”³⁷ and that “issues of paternalism are to a significant degree empirical questions, not questions to be answered on an a priori basis.”³⁸ On one level this claim is unobjectionable. What public policy debate is not ultimately empirical?

After all there have always existed plenty of grounds, like market failures and externalities, for government intervention in the economy. Bans on alcohol or drugs can be justified on the basis of externalities alone; the attractiveness of these policies has always depended on empirical evaluation of the magnitude of these externalities. Many examples of soft paternalism, such as the Surgeon General's warning on cigarette packages, can be seen as information dissemination and there is always a public-good aspect to information. Almost all policies have some justification even without any modern insights from psychology, and as soon as any such justification exists, then the policy debate is always an “empirical matter.”

³⁴ Gentzkow and Shapiro, 18 J Econ Persp at 117 (cited in note 19) (“[Seventy-eight] percent of respondents in seven Muslim countries said that they do not believe that a group of Arabs carried out the September 11, 2001, attacks on the World Trade Center.”)

³⁵ Id at 117 (citing a Washington Post opinion poll in which 69 percent of Americans responded that they believed that Saddam Hussein was either “somewhat” or “very” involved in the September 11, 2001, terrorist attacks).

³⁶ *How Americans View Government: Deconstructing Distrust*, (Pew Research Center for the People & the Press Mar 10, 1998), online at <http://people-press.org/reports/print.php3?ReportID=95>.

³⁷ Jolls, Sunstein, and Thaler, 50 Stan L Rev at 1541 (cited in note 2).

³⁸ Id at 1545.

As such, I cannot dispute Jolls, Sunstein, and Thaler's view that paternalistic policies are an empirical matter. I do however dispute the view that a richer model of psychology should increase our enthusiasm for government intervention. With boundedly rational voters and politicians, democracy is no guarantee against political catastrophe. Moreover, as the three models in this Part emphasize, when cognitive errors are in some sense endogenous, then economic theory pushes us to think that private decisions will often be more accurate than public decisions.

In these models, I consider a paradigmatic example of paternalism: replacing private decisionmaking with decisionmaking by a public decisionmaker. I do not consider any form of mixed decisionmaking, and I ignore many subtle ways in which the government can influence private decisions. In all three cases, I assume that individuals make mistakes because of erroneous beliefs not unusual preferences. I assume standard preference, because standard preferences provide us with a clear answer about what an individual would like to maximize.³⁹ The point of these models is to ask whether private or public decisionmakers are more likely to get things right when there are endogenous errors. To the extent that the government makes bad decisions, this will compromise all forms of paternalism, even those that are libertarian or asymmetric.⁴⁰

The key decision in the model is a binary choice over an activity—smoking perhaps—that yields benefits B and which carries long run personal costs, perhaps to health. To allow some scope for paternalism, the true cost of this activity is $C + \varepsilon$, which is greater than B . Individuals only know this true cost with probability P . With probability $1 - P$, the individual believes that the cost is only C , where $B > C$. In all cases, I assume that individuals maximize expected utility based on occasionally erroneous beliefs. Expected social welfare based on the true costs, which I will treat as the welfare criterion, is $(1 - P)(B - C - \varepsilon)$.

A paternalistic policy takes the form of allowing a governmental decisionmaker to decide whether everyone undertakes the activity or not. Since I assume that everyone faces the same costs and benefits, there are none of the usual losses from imposing uniform choices on heterogeneous individuals. These losses will generally increase the advantages of private decisionmaking.

With probability π the government agent knows the true cost of the activity and with probability $1 - \pi$, the government believes that the cost is

³⁹ In the case of hyperbolic discounting, government actions that restrict behavior at some future date might appeal to the individual at the initial time period, and might appeal to the individual at the end of his life, but any such restrictions will at the very least disadvantage the person at the point that his decisionmaking is being restricted.

⁴⁰ See, for example, Colin Camerer, et al, *Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism"*, 151 U Pa L Rev 1211 (2003).

C. Governmental decisionmaking increases welfare if and only if $\pi > P$, and indeed without further information, it would be impossible to know on theoretical grounds whether private or public decisionmaking is better. But when the probability of error is endogenous, theoretical predictions lose their neutrality and theory begins to suggest that private decisionmaking will be less erroneous than public decisionmaking.

Model # 1: Consumers face stronger incentives to correct errors that directly impact their well-being than do government bureaucrats.

This first argument assumes that P and π are the result of information acquisition or other actions meant to reduce error. Both the private individual and the governmental decisionmaker have access to a technology which determines the probability with which the individual knows the true cost of the action. The private individual can pay a cost $K(P)$ and the public decisionmaker can pay a cost $K(\pi)$ to increase the probability that they know the truth. The cost of information is increasing and convex and the problem has an interior solution. I assume that before investing in the information acquisition, both private and public individuals believe that the true cost of the action is $C + \varepsilon$ with probability one-half and $C - \varepsilon$ with probability one-half. The real cost continues to be $C + \varepsilon$. Given these assumptions, the private decisionmaker will invest to the point where $K'(P) = .5(C + \varepsilon - B)$.

In the case of a governmental decisionmaker, the problem is symmetric except that the government decisionmaker does not care as much about the individual's well-being as the individual himself does. The government decisionmaker invests in knowledge to maximize β times individual welfare minus the costs of cognition, where $\beta < 1$. While government bureaucrats may be strongly altruistic, few advocates of paternalism would really argue that a government decisionmaker would be willing to pay the same personal costs to make a citizen's life better as that citizen himself would. With this assumption the government will set $K'(\pi) = .5\beta(C + \varepsilon - B)$, and the government will be less likely to learn the truth than the private decisionmaker.

One natural measure of the degree of limited cognition is the size of ε , which captures the degree to which people's beliefs about costs differ from the true beliefs about costs. As ε increases, the accuracy of private decisionmaking relative to public decisionmaking, or $P - \pi$, will increase as long as $K''(\pi) > \beta K''(P)$, which will always hold if $K'''(\cdot)$ isn't overwhelmingly positive or if the distance between P and π isn't too great. The private response to an increasing possibility of extreme error will be greater than the public response to that error because the private individual's welfare is more directly tied to the magnitude of mistakes.

Obviously, this model is a simplification; there are many factors that could reverse the results. The government might have access to better learning technologies and there might be returns to scale in learning. If govern-

mental information acquisition was spread over enough consumers, this would represent a real advantage, albeit one coming from the well-accepted public-good aspect of information, not from paternalism per se. Still, the existence of better incentives at the private level does suggest one advantage of private decisionmaking in the face of endogenous error and that the magnitude of this advantage may increase as the degree of error rises.

Model # 2: If error comes from the influence of firms or other interested parties, and if it is cheaper to persuade a small number of bureaucrats than a vast number of consumers, then government decisionmaking will be particularly flawed.

Now, I assume that the size of errors is not a function of individual effort but rather of the effort of firms to spread error. I assume that there is a firm that receives benefit J for each individual who undertakes the activity and there are N individuals in the market whose decisions are either private or made by a bureaucrat. To model the endogeneity of error, I assume that the firm can pay to increase the amount of error, that is, $1 - P$ or $1 - \pi$. The critical assumption is that the cost of persuasion is also increasing in the number of people who are to be persuaded.

The assumption that it is cheaper to sway a limited number of governmental decisionmakers than it is to move the beliefs of millions is supported by the much greater magnitude of spending on consumer advertising relative to political spending. For example, the Federal Election Commission reports that total funds raised during the 2004 election for both houses of Congress and the presidency came to slightly under \$2 billion.⁴¹ The Center for Responsive Politics reports that total lobbyist spending in 2000 was \$1.03 billion.⁴²

As large as these numbers may be, they are dwarfed by consumer spending. Indeed, Advertising Age reports thirty companies alone spent more than \$1.555 billion on consumer advertising in 2004, and ten companies had advertising budgets bigger than all spending on the 2004 campaign.⁴³ The health sector as a whole spent \$209 million on lobbying in 2000, but Pfizer spent \$2.96 billion on advertising last year and Johnson and Johnson spent \$2.17 billion.⁴⁴ These numbers reflect only spending, not the marginal cost of changing opinions, but the much greater spending on

⁴¹ FEC Press Release, *2004 Presidential Campaign Financial Activity Summarized* (Feb 3, 2005), online at <http://www.fec.gov/press/press2005/20050203pressum/20050203pressum.html>; FEC Press Release, *Congressional Campaigns Spend \$912 Million Through Late November* (Jan 3, 2005), online at <http://www.fec.gov/press/press2004/20050103canstat/20050103canstat.html>.

⁴² Center for Responsive Politics, *Lobbyists Database*, online at <http://www.opensecrets.org/lobbyists/index.asp>.

⁴³ 50th Annual *100 Leading National Advertisers*, 76 Advertising Age June 27, 2005 & Supp), online at <http://www.adage.com/images/random/lna2005.pdf>.

⁴⁴ Id at 6.

consumer advertising supports the idea that it is more expensive to move millions of consumers than a small number of politicians.

I model this assumption by assuming that cost of persuading N people equals $g(N)h(1-P)$ and the cost of persuading one bureaucrat equals $g(1)h(1-\pi)$. Both functions $g(\cdot)$ and $h(\cdot)$ are increasing, and the function $h(\cdot)$ is, again, convex. In the case of private decisionmaking, the firm sets $NJ = g(N)h'(1-P)$. As long as $g(N)/N > g'(N)$ (which would be true if $g(N) = gN^\alpha$ with $\alpha < 1$ for example) then the amount of persuasion increases with the size of the market. In the case of public decisionmaking the firm sets $NJ = g(1)h'(1-\pi)$. Convexity ensures that $P > \pi$. The higher costs involved in persuading large numbers of consumers implies that the amount of error will be lower.

As \mathcal{E} rises, the gains from private decisionmaking increase because private decisionmakers are less likely to err, and this accuracy is worth more if \mathcal{E} increases. If $g(N) = gN^\alpha$ then decreases in g represent greater bounds on consumer rationality, because as g falls, it is easier to persuade people of falsehoods. The relative accuracy of private decisionmaking will increase as g falls as long as $N^\alpha h''(1-P) > h''(1-\pi)$, which will always hold if P and π are close or if $h''(\cdot) \leq 0$. As g falls, the difference in error between the government decisionmaker and the private decisionmaker will increase, which suggests that the relative costs of governmental decisionmaking increase as the limits to rationality increase.

One caveat to this argument is that in a divided system of government, imposing paternalistic policies requires the approval of a number of different decisionmakers (the courts, the legislature, the executive). Divided government will tend to increase the costs of influence and reduce the errors from government decisionmaking, and the fans of divided government will understand this advantage.

Model # 3: Consumers have more incentives when making private decisions than they do when voting.

I now compare private decisionmaking and information acquisition to voting in an election. Private decisionmaking is the same as in Model # 1. Public decisionmaking is determined by an election, where there are two candidates who do not engage in information acquisition, but rather just run for office. One candidate thinks that costs are greater than B and the other of whom thinks that costs are less than B . The elected candidate will implement the policy (allow the activity or don't) that corresponds with these beliefs.

There are a large number of individuals, again initially believing that the true cost of the activity is either $C - \mathcal{E}$ or $C + \mathcal{E}$, each with probability one-half. In a paternalistic society where the government will make the decision, an individual will only improve his decisionmaking to the extent that he believes that his vote will influence the election. I let q denote any individual's belief that his vote will decide the election. While the model

certainly allows for the possibility that people overestimate the probability that their vote will decide the election, I will assume that q is a small number that is closer to zero than to one.

The expected return from investing in information is zero if the individual isn't the median voter, and the benefits are the same as they would be if the individual is making his own private decision if that person is the median voter. Therefore, the individual will invest in information up to the point where $K'(P) = .5q(C + \varepsilon - B)$. This first-order condition can be compared with $K'(P) = .5(C + \varepsilon - B)$, which is the first-order condition in the case of private decisionmaking. Even if an individual thinks that he or she has a 5 percent chance of influencing the election, which would represent a wild amount of error in most elections, the incentive to invest in the electoral setting is one-twentieth the incentive to invest in the private setting. As such, the quality of decisionmaking should be much lower when people are casting ballots than when they are buying commodities.

The degree of error depends on the correlation of information signals across people. If information signals are perfectly correlated so that if everyone invests the same amount in knowledge, then either everyone learns the truth or no one learns the truth, and private decisionmaking is always worse than election-based decisionmaking. If information signals are independent, then there is at least one potential advantage from electoral decisionmaking: the tyranny of a well-informed majority. If information is independent— $P > 0.5$ —then enforcing uniformity will have positive effect, because the median voter will vote for the right policy and this will ensure that everyone follows this policy. Naturally, this discussion omits the costs of enforcing uniformity on a population with heterogeneous preferences, which would generate more costs from paternalism.

Of course, with independent information, when P is less than one-half, enforcing uniformity will ensure that everyone does the wrong thing. As q goes to zero, this will ensure the wrong decision for everyone all of the time. Again, as the limits to rationality rise, the disadvantages of government decisionmaking increase. As above, reducing incentives for undoing biases is more costly when these biases are bigger. The one advantage of government decisionmaking—enforcing the wise majority's views on the foolish minority—disappears as psychological errors grow and the majority itself is likely to be misinformed.

Further Observations: The preceding three arguments gave three settings where it is clear that errors should be greater when the state makes decisions than when private individuals make decisions. This tendency appears to increase when psychological problems increase. There are other factors that support this view. Because elections are complex events that combine a host of different issues, individuals should be expected to have more problems eliminating psychological errors. It should also be cheaper to influence an election than to change the minds of consumers, because the

complexities of an election probably make it easier to confuse voters. Elections do not always deliver candidates that are bad for voters, but there is certainly every reason to believe that errors in a complicated electoral situation without incentives will be worse than decisionmaking in a setting where incentives are much stronger.

The previous arguments suggest that there are sound theoretical reasons for believing that paternalistic governmental decisionmaking will generally lead to bad outcomes. Is this implication wildly at odds with the evidence? Have paternalistic innovations generally been great successes? Paternalism does seem to have had successes. For example, the 50 percent reduction in cigarette smoking per capita since the Surgeon General's warning in 1965 can be seen as a successful paternalistic intervention (especially of the softer kind).

But the fight against cigarettes must be put in the context of the other significant paternalistic crusades both in the United States and elsewhere. Paternalism has been used to justify government actions and rhetoric towards alcohol, drugs, homosexuality, religion-related activity, slavery and even loyalty to the government itself. The nineteenth century crusade against alcohol brought prohibition, which appears to have had only a modest impact on alcohol abuse while supporting a large, violent underground alcohol-based economy.⁴⁵ The fight against other drugs is more defensible, but the advocates of marijuana legalization argue that the costs of this government policy far exceed the benefits. Governments have attacked homosexuality for centuries and often used paternalistic rhetoric for doing so.

The track record of American pro-religion paternalism is generally free of the religious genocide that has shown elsewhere, but it is still disturbingly full of odd restrictions on behavior, intolerance between religious groups and even violent outbursts. Slavery itself was frequently defended by Southern apologists as a paternalistic institution needed to protect African-Americans from the harsh realities of the market place: "southerners from social theorists to divines to politicians to ordinary slaveholders and yeomen, insisted fiercely that emancipation would cast blacks into a marketplace in which they could not compete and would condemn them to the fate of the Indians or worse."⁴⁶

Most disturbingly, governments are often persuaded that service to themselves is indeed the highest of callings, and as a result for paternalistic reasons people should be induced to serve and be loyal to the government. In the United States, this form of paternalism has been pretty benign at least by world standards (pledges of allegiance, jailing critics of World War I).

⁴⁵ Jeffrey A. Miron and Jeffrey Zwiebel, *Alcohol Consumption During Prohibition*, 81 *Am Econ Rev* 242, 242 (1991).

⁴⁶ Eugene D. Genovese, *The Slaveholders' Dilemma: Freedom and Progress in Southern Conservative Thought 1820-1860* 61 (South Carolina 1992).

Places with fewer checks and balances, like Nazi Germany or Soviet Russia, turned to paternalistically justified pro-state policies with awful results. Some paternalistic policies have had positive benefits, but much of the time, paternalism has been pretty harmful. Social welfare may be well-served by a general bias against paternalistic interventions.

III. AGAINST SOFT PATERNALISM

In the previous Part, I questioned the view that psychology should make us more confident about paternalistic governments. In this Part, I specifically question the use of “soft paternalism,” which I will take to mean government policies that change behavior without actually changing the choice sets of consumers. Typical examples of soft or libertarian paternalism include “debiasing” campaigns, default rules and other interventions which change beliefs and attitude without impacting formal prices faced by consumers. While there are many differences across these forms of intervention, I do not have the space to treat them separately, and I will focus on the forms of soft paternalism that change beliefs.

In this Part, I review seven arguments against soft paternalism. I do not mean these arguments to suggest that soft paternalism is worse than hard paternalism, although this is certainly possible. I also do not mean these arguments to suggest that soft paternalism is always wrong. I certainly accept that view that in many cases some form of paternalism will be inevitable. Because soft paternalism is both unstoppable and occasionally useful, the relevant policy question is whether soft paternalism should be generally encouraged or generally discouraged, not whether soft paternalism should be banned altogether. The point of the following arguments is that there are many reasons to suspect that soft paternalism can be quite harmful, and that academics should not blindly rush to endorse soft paternalism as a tool.

Argument # 1: Soft paternalism is an emotional tax on behavior which yields no government revenues.

Many examples of soft paternalism make people think that a particular behavior is particularly harmful. As Loewenstein and O’Donoghue emphasize, creating an impression of danger is quite similar to a tax.⁴⁷ It will hopefully lower the amount of the activity, and decrease the enjoyment of those who continue the activity. Government “education” programs about cigarettes or safe sex have the result of convincing people that smoking or unsafe sex are dangerous, which presumably lowers the enjoyment of those

⁴⁷ Loewenstein and O’Donoghue, “We can do this the easy way or the hard way”: *Negative Emotions, self-regulation and the law* at 15 (cited in note 5).

who continue to smoke or engage in unsafe sex.⁴⁸ The Surgeon General's warning has acted to stigmatize smoking, and as Loewenstein and O'Donoghue argue, similar campaigns against obesity have the effect of turning eating into an exercise that produces shame and guilt.⁴⁹

These forms of soft paternalism can be seen as non-revenue increasing taxes. They make behavior seem unattractive and reduce the utility levels of those who continue to use the product. While sin taxes produce revenues for the government, among those whose behavior is unchanged, soft paternalism creates pure utility losses with no offsetting transfer to the government. For this reason, Loewenstein and O'Donoghue are surely correct that even if government chooses its soft paternalism policies perfectly, they will still involve deadweight losses that can easily be larger than the losses from standard hard paternalism.

Argument # 2: Soft paternalism can cause bad decisions just as easily as hard paternalism.

The first argument against soft paternalism is that if soft paternalism can impact behavior (and I have no doubt that it can) then this has just as much possibility of creating social losses as traditional hard paternalism. After all, government education programs will change behavior, just like taxes. These education programs seem to have just as much possibility of being erroneously calibrated, and therefore causing inappropriate decisions, as sin taxes. Libertarian paternalism is attractive to people who value freedom as an object in and of itself, but it should not be particularly attractive to people who think that the big problem with hard paternalism is government error. There are many reasons to think that government decisionmaking involves considerable error and standard economic analysis tells us that these errors will be just as costly to social welfare with soft paternalism as they would be with hard paternalism.

Argument # 3: Public monitoring of soft paternalism is much more difficult than public monitoring of hard paternalism.

Hard paternalism generally involves measurable instruments. The public can all observe the size of sin taxes and voters can tell that certain activities have been outlawed. Rules can be set in advance about how far governments can go in pursuing their policies of hard paternalism. Effective soft paternalism must be situation specific and creative in the language of its message. This fact makes soft paternalism intrinsically difficult to control and means that it is, at least on these grounds, more subject to abuse

⁴⁸ These campaigns seem to have been effective, but their success was not the result of merely informing people about the truth. There was little new scientific evidence in the Surgeon General's warning, and opinion polls on cigarettes suggest that most people overestimate the risks from smoking. W. Kip Viscusi, *Do Smokers Underestimate Risks?*, 98 J Polit Econ 1253, 1259 (1990).

⁴⁹ Loewenstein and O'Donoghue, "We can do this the easy way or the hard way": *Negative Emotions, self-regulation and the law* at 4 (cited in note 5).

than hard paternalism. It is hard to limit soft paternalism because it is so difficult to determine whether a politician or public statement violated linguistic boundaries.

One recent example of this phenomenon is the debate over gay marriage and the “sanctity” of traditional marriage. According to recent polls, 53 percent of Americans believe that homosexuality is wrong and less than 50 percent believe that homosexuality is an acceptable alternative lifestyle.⁵⁰ Given that emotions about homosexuality appear to be stronger than emotions about 401(k) plans, homosexuality is one of the most popular targets for soft paternalism. The debate about same-sex marriage may be partially about policies with real effects towards homosexual unions, but it is at least as much an example of soft paternalism. Opponents of same-sex marriage want to deprive gays and lesbians of the word “marriage,” which is seen as giving societal sanction to homosexual unions. By contrast, the supporters of gay marriage want to end the long standing soft paternalism that stigmatizes homosexuality.

Surrounding this debate over gay marriage is a steady barrage of language against homosexuality that is itself a form of soft paternalism. It is difficult to set rules that would control this language and it is even a matter of debate whether some political speeches are actually hostile to gays. It would be much easier to discuss the appropriate size of a tax on homosexual marriage than to determine the rules that should restrict political language on traditional marriages.

Argument # 4: While hard paternalism will be limited by public opposition, soft paternalism is particularly attractive because it builds public support.

A natural check on hard paternalism is the opposition of those who regularly engage in a taxed or regulated behavior. Cigarette smokers generally oppose politicians who favor tobacco regulations and drinkers were eager to get rid of prohibition. Any politician who favors hard paternalism must weigh the perceived benefits of these policies against the cost of alienating this potentially large group of voters.

By contrast, soft paternalism—if effective—will build support for the politician who opposes the targeted activity. Even soft paternalism that creates too much fear against an activity will increase the popularity of a leader if that leader is strongly identified with the fight against this particular behavior.⁵¹ As a result, we should expect more abuse of soft paternalism than hard paternalism.

⁵⁰ Pew Research Center Press Release, *Republicans Unified, Democrats Split on Gay Marriage: Religious Beliefs Underpin Opposition to Homosexuality* (Nov 18, 2003), online at <http://people-press.org/reports/pdf/197.pdf>.

⁵¹ Of course, if soft paternalism takes the form of demonization of those who engage in this behavior, then this certainly has the possibility of creating a backlash. However, since political leaders

Argument # 5: Soft paternalism can build dislike or even hatred of subgroups of the population.

The previous arguments focused on the reasons why soft paternalism is likely to be abused. This argument focuses on an unfortunate side effect of soft paternalism: building dislike and even hatred within the population. Much of the most effective soft paternalism involves broadcasting the message that a given behavior is bad or reflects self-destructive weakness. Individuals who don't engage in this behavior and who are exposed to these messages will come to think that people who do engage in this behavior are unattractive human beings. This will create societal divisions and possibly lead people who engage in this behavior to become increasingly uncomfortable in social situations.

There are many examples of this dynamic. Public campaigns against smoking have led many people to think that smoking is a self-destructive habit and that these people are weak and probably insensitive to those around them. Public campaigns about recycling and environmentalism have led many people to see the failure to recycle as a moral failing appropriately treated with moral opprobrium. The costs that smokers and non-recyclers face are real and potentially quite costly.

A particularly striking example of this occurs in the welfare context. For decades, right wing politicians have tried to stigmatize welfare recipients, particularly with stories about welfare cheats (like Reagan's welfare queen).⁵² These stories were certainly justifiable as a form of soft paternalism, inducing people to want to work by stigmatizing government handouts. Is it obvious that making the more fortunate members of society think that the destitute are morally deficient is good policy?

Argument # 6: Soft paternalism leads to hard paternalism.

By its nature, soft paternalism builds support for hard paternalism. Successful soft paternalism will tend to create social dislike for the activity in question, and reduce the number of people who engage in the activity. Both of these factors will mean that hard paternalism becomes an increasingly attractive option to the electorate (or to courts). In any reasonable political economy model, changing beliefs in a way that convinces voters that a behavior is socially harmful will eventually lead to public support for more regulation.

The modern history of cigarette regulation shows this dynamic in action. The first major government policy towards cigarettes was a classic example of soft paternalism. The Surgeon General's Report in 1964 simply warned, "cigarette smoking is a health hazard of sufficient importance in

will have the ability to control the content of soft paternalism, they will be able to design it in a way that will enhance their electoral chances.

⁵² See Sherrilyn A. Ifill, *Weaving a Safety Net: Poor Women, Welfare, and Work in the Chicken and Catfish Industries 1 Margins* 23, 25–26 (2001).

the United States to warrant appropriate remedial action.”⁵³ At this point in time, remedial action meant soft paternalism and in both 1965 and 1969, Congress passed laws which required health warnings on cigarette packages in advertising.⁵⁴

The Surgeon General’s warning was associated with a remarkable turnaround in cigarette consumption which had been rising steadily over the twentieth century. In 1963, Americans on average smoked 2,772 cigarettes, or 7.6 cigarettes per day. In 2004, annual average cigarette consumption had fallen to 1,326 or 3.6 cigarettes per day.⁵⁵ While it would be foolish to attribute this entire decline to soft paternalism, it is also true that beliefs about the harmfulness of cigarettes have changed over time⁵⁶ and that across countries there is a negative correlation between beliefs about smoking and smoking prevalence.⁵⁷

During the initial period of declining cigarette consumption following the Surgeon General’s warning there was little change in the taxation of tobacco and certainly the most natural interpretation of the reversal of the trend in cigarette consumption is that soft paternalism worked. However, the change in beliefs about smoking was also accompanied by an increased desire to regulate and tax cigarettes.⁵⁸ Over time, in response to these popular beliefs, the courts and legislatures have increasingly taxed, fined and regulated cigarette consumption. This pattern is not unique to cigarettes. The road to prohibition of alcohol also began with advocates of soft paternalism who tried to change societal norms rather than banning alcohol by law.

Argument # 7: Soft paternalism complements other government persuasion.

Soft paternalism requires a government bureaucracy that is skilled in manipulating beliefs. A persuasive government bureaucracy is inherently dangerous because that apparatus can be used in contexts far away from the initial paternalistic domain. Political leaders have a number of goals, only some of which relate to improving individual well-being. Investing in the tools of persuasion enables the government to change perceptions of many things, not only the behavior in question. There is great potential for abuse.

⁵³ *Tobacco Use—United States, 1900–1999*, 282 J of the Am Medical Association 23 (Am Medical Association Dec 15, 1999), online at <http://jama.ama-assn.org/cgi/content/full/282/23/2202>.

⁵⁴ Federal Cigarette Labeling and Advertising Act of 1965, Pub L 89-92, 79 Stat 282 (1965), codified at 15 USC §§ 1331–1341 (2000); Public Health Cigarette Smoking Act of 1969, Pub L 91-222, 84 Stat 87, codified at 15 USC §§ 1331-1341 (2000). Data are available at <http://www.ers.usda.gov/Briefing/Tobacco/>

⁵⁶ George Gallup, *Smoking Level Declines as More Perceive Health Hazard*, The Gallup Poll 412 (Aug 31, 1981).

⁵⁷ David Cutler and Edward Glaeser, *What Explains Differences in Smoking, Drinking and Other Health-Related Behaviors?* (Harvard Discussion Paper No 2060, Feb 2005), online at <http://post.economics.harvard.edu/hier/2005papers/2005list.html>.

⁵⁸ Gallup, The Gallup Poll at 415 (cited in note 56).

As a hypothetical example, consider Daniel Benjamin and David Laibson's recommendation that soft paternalism be used to increase savings.⁵⁹ Assume that soft paternalism involved a public education campaign to induce people to think more about the future and make people aware that their own rosy scenarios will not necessarily occur. As Benjamin and Laibson suggest, from the point of view of fighting self-control problems, such a campaign might indeed have beneficial results.⁶⁰

But this public education campaign also offers many degrees of freedom that can be used in other, less benign ways. Perhaps the soft paternalism campaign would warn of inflation, and might suggest that other, less careful political leaders (that is, the opposition party) might print money and devalue nominal dollars. Perhaps the soft paternalism campaign might suggest that the stock market might fall, especially if non-business friendly leaders were elected. Perhaps the government might suggest that investing abroad is particularly perilous, given the unreliability of other countries (especially, say, France). All of these messages might be justifiable, but would also be pernicious.

While this example may seem extreme, recent public relations spending by the Department of Education for the No Child Left Behind Act ended up paying a columnist, Armstrong Williams, who regularly promoted both the devotion of both the President and the Secretary of Education Rod Paige to improving the quality of education for America's children. The commotion surrounding this expenditure should remind us that the ability of incumbents to ensure victory through the powers of office, which include the bully pulpit, is a constant risk in democracy. Advocating soft paternalism is akin to advocating an increased role of the incumbent government as an agent of persuasion. Given how attractive it is to use persuasion for political advantage, an increased investment in soft paternalism seems to carry great risks.

CONCLUSION

I will end this Essay by acknowledging that paternalism is here to stay and suggesting a few rules motivated by psychology for guiding paternalism and perhaps paternalism more generally. First, restricting paternalistic activities to areas, like particularly dangerous drugs or suicide, where there is strong evidence of self-harm, will minimize welfare-reducing policies. Second, given the value of experience in checking cognitive errors, sticking

⁵⁹ Daniel J. Benjamin and David I. Laibson, *Good Policies for Bad Governments: Behavioral Political Economy* at 14-16 (Boston Fed Reserve Conference Paper, May 2003), online at http://www.bos.frb.org/economic/conf/conf48/papers/benjamin_laibson.pdf.

⁶⁰ Id at 14 (describing the "Save More Tomorrow" campaign which enabled employees that opted into plans to increase their saving rate from 3.5 percent to 11.6 percent).

close to existing policies (conservatism) seems likely to reduce errors. Voters should be better at evaluating a new policy if it closely resembles policies that have been tried in the past. The same argument suggests that small scale experimentation is helpful, and federalism continues to have value in allowing for laboratories of democracy.

Another principle derived from psychology is that since beliefs, particularly political beliefs, are so prone to error, limits on direct democracy may increase social welfare. Institutions, like the Supreme Court and the Senate, which create cooling-off periods that allow for debate that is not tied to a general election may reduce errors of policy. Separation of powers, which require the suppliers of influence to convince a number of different governmental actors, may decrease the amount of public error. Simple debates, such as those surrounding single issue referenda, may also reduce errors.

Given that errors are greatly exacerbated by the suppliers of bias, situations with strongly interested parties who are likely to skew beliefs, are particularly dangerous. Free entry in the battle of ideas is a helpful check on this, but if one side has much more capacity of ability than the others, free entry may not be enough. Rules that prevent interventions (soft or hard) in areas where there are potential providers of bias that have extremely strong incentives, may reduce supplier-created bias.