

The Political Psychology of Redistribution

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Edward J. McCaffery and Jonathan Baron*

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Abstract

Welfare economics suggests that the tax system is the appropriate place to effect redistribution from those with more command over material resources to those with less—that is, in short, to serve “equity.” Society should set other mechanisms of private and public law, including public finance systems, to maximize welfare—that is, in short, to serve “efficiency.” The populace, however, may not always accept first-best policies. Perspectives from cognitive psychology suggest that ordinary citizens can react to the purely formal means by which social policies are implemented, and thus may reject welfare-improving reforms.

This Article sets out the general background of the problem. We present the results of original experiments that confirm that the means of implementing redistribution affect its acceptability. Effects range from such seemingly trivial matters as whether or not tax burdens are discussed in dollars or in percent terms, to more substantial matters such as how many different individual taxes there are, whether the burden of taxes is transparent or not, and the nature and level of the public provision of goods and services. The findings suggest a deep and problematic tension between the goals of equity and efficiency in public finance.

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Introduction

How should society redistribute wealth? In particular, what role should tax systems play in redistribution?

The two welfare theorems of neo-classical economics suggest a certain, definitive answer. The first theorem holds, in essence, that free markets reach welfare maximizing or, equivalently, pareto optimal allocations of resources. The second theorem holds that a suitable distribution or redistribution of initial entitlements can lead to different positions along the social optimum or, equivalently, paretian frontier.¹ Practitioners of law and economics, most extensively Louis Kaplow and Steven Shavell, have used these two theorems to develop a comprehensive agenda for law reform.² The answer to optimal redistribution has two parts. One, laws should be arranged so as to maximize social welfare, that is, broadly, to serve “efficiency.” Two, the tax system should be used to redistribute social resources so as to maximize the sum of individual well-being, that is, again broadly, to serve “equity.”³ The two-part approach satisfies a paretian constraint: the greater social

¹ See for example ROBIN W. BOADWAY AND NEIL BRUCE, *WELFARE ECONOMICS*, (Oxford, UK: Basil Blackwell, 1984); JOSEPH E. STIGLITZ, *ECONOMICS OF THE PUBLIC SECTOR*, 3RD EDITION (New York: W.W. Norton & Company, 2000), 60–61. For a more general discussion of the two welfare theorems and an application to income tax policy, see Kyle Loque & Ronen Avraham, *Redistributing Optimally: Of Tax Rules, Legal Rules, and Insurance*, 56 TAX L. REV. 157 (2003)

² LOUIS KAPLOW AND STEVEN SHAVELL, *FAIRNESS VERSUS WELFARE*, (Cambridge, Mass: Harvard University Press, 2002).

³ Kaplow and Shavell first proposed that the tax system be used as the exclusive means for redistribution in *Why The Legal System Is Less Efficient Than the Income Tax in Redistributing Income*, 23 JOURN. LEGAL STUD. 667 (1994); see also *Should Legal Rules Favor the Poor? Clarifying the Role of Legal Rules and the Income Tax in Redistributing Income*, 29 J. LEGAL STUD. 821 (2000). Economists had long been making similar arguments. See, e.g.

pie facilitated by the first step can be used in the second step's redistribution to assure that no one is harmed by any reform.

Kaplow, Shavell and other scholars toiling in this vein of welfare economics have devoted their efforts principally to the field of private law — matters of property, contracts, torts and so on. Our research project follows from the insight that the analysis can apply to public finance as well. Public finance concerns the economic actions of the government, most importantly, its tax and spending functions.⁴ The two-part approach to welfare economics suggests that government fiscal actions should be limited to allocative ones that wealth-maximize, on the one hand, and redistributive ones that move around social wealth,⁵ on the other. The larger social pie enabled by government intervention (or non-

Arnold C. Harberger, *On the Use of Distributional Weights in Social Cost-Benefit Analysis*, 86 J. POL. ECON. S87 (1978). For criticisms of the Kaplow-Shavell argument, see Chris William Sanchirico, *Deconstructing the New Efficiency Rationale*, 86 CORNELL LAW REV. 1003 (2001); Chris William Sanchirico, *Taxes versus Legal Rules as Instruments for Equity: A More Equitable View*, 29 J. LEGAL STUD. 797 (2000); Loque & Avraham, *supra*; Ronan Avraham, David Fortius, & Kyle Logue, *Revisiting the Roles of Legal Rules and Tax Rules in Income Redistribution: A Response to Kaplow & Shavell*, 89 IOWA LAW REVIEW 1125 (2004); for one among several replies by Kaplow and Shavell, see Louis Kaplow and Steven Shavell, *Should Legal Rules Favor the Poor? Clarifying the Role of the Income Tax in Redistributing Income*, 29 J. LEGAL STUD. 821 (2000).

⁴ See for example Richard Musgrave, *PUBLIC FINANCE IN THEORY AND PRACTICE*. (1959); STIGLITZ, *supra*

⁵ It is compelling to consider that tax or other “redistributive” programs are better understood as setting the normatively appropriate *initial* distribution of material resources, as opposed to their redistribution. See for example LIAM MURPHY AND THOMAS NAGEL, *THE MYTH OF OWNERSHIP: TAXES AND JUSTICE* (New York: Oxford University Press, 2002); David Duff, *CANADIAN JOURNAL OF LAW AND JURISPRUDENCE*, JANURAY 2005. For ease of exposition, however, we follow convention and write about the distributive prong of the optimal welfare economics approach as being “redistributive.”

intervention) can be redistributed through the tax system to meet the paretian constraint.

More specifically, allocatively-oriented government fiscal interventions ought to be limited to correcting for market failures, where, by definition, the free market, on its own, has failed to reach a pareto optimum allocation of resources. Within the spirit of neo-classical economics, government fiscal actions can only increase welfare if there is such a market failure, and only then if the government action is well designed.⁶ Failures can occur, for examples, in the case of public goods, where there are informational or other asymmetries leading to sub-optimal private ordering, or where excess market power exists in the private sector. In such cases, government intervention can increase net social welfare. Using the second welfare theorem and prong of the Kaplow-Shavell analysis, “equity” or fairness can then be served by redistributing via the tax system from the greater social pie.

This optimal welfare economics approach depends on a simple, stark contrast between the allocative and redistributive functions of government, with efficiency norms serving as the sole guide to the former. Importantly, whatever one chooses as an optimal distribution of end-state resources to serve the equity goal — whatever the social welfare function is, in more formal terms — collective well being can only but improve by following the two prongs.

So it is in theory.

But we do not live in theory.

We ask whether optimal welfare-enhancing public finance systems can obtain in the real world, where mere mortals dwell.

There are many impediments standing between theory and practice. Kyle Loque and Ronen Avraham, in work addressing the Kaplow-Shavell approach, raise questions of

⁶ See Coase on Baumol.

whether all goods are truly commensurate with money.⁷ Richard Bird and Eric Zolt, in this volume, raise questions about the practical administration and political feasibility of redistributive taxes in developing countries, suggesting that redistribution can best be effected by the “transfer” prong of a tax and transfer system (a result to which our research lends support, as discussed below).⁸ Christine Jolls, in work that like ours takes a behavioral economics approach, has suggested that optimism and other biases, such as the use of “mental accounts,” related to our invocation of the *isolation effect*, discussed below, mean that non-tax systems are often *better* at redistributing than tax systems are.⁹

We are concerned in this Article with a related but distinct impediment, one lying in the minds of ordinary citizens. Cognitive psychology or “behavioral economics” in the tradition of Daniel Kahneman and Amos Tversky has long demonstrated that people do not always perceive economic and other matters in a logically consistent fashion.¹⁰ We all suffer from many “heuristics and biases” in our perceptions of a wide range of common phenomena: Everybody likes her glass half-full, no one likes it half empty. Our research projects lie at the intersection of behavioral economics and public finance. We ask, specifically, What if misperceptions characterize the general understanding of public finance systems? Will citizens accept pareto-improving reforms, however alien they might appear to be? Or does the *form* of public finance systems matter, such that citizens will choose

⁷ Logue & Avraham, *supra*

⁸ Richard M. Bird and Eric M. Zolt, *Redistribution via Taxation: The Limited Role of the Personal Income Tax in Developing Countries*, UCLA LAW REVIEW; see also Louis Kaplow, “Optimal Transfers,” Draft Manuscript, on file with authors.

⁹ Christine Jolls, *Behavioral Economics Analysis of Redistributive Legal Rules*, 51 VAND. L. REV. 1653 (1998).

¹⁰ See for example Daniel Kahneman and Amos Tversky (Eds, CHOICES, VALUES, AND FRAMES. New York: Cambridge University Press, 2000.

more or less efficiency, and/or more or less redistribution, depending on the purely formal properties of tax and spending systems? In other words, absent citizen education or other institutional reforms, can we trust the system to get the level of redistribution down “right”?¹¹

The answers to these questions lie at the heart of what we mean by the “political psychology of redistribution.” We argue that public finance systems have a psychological dimension, in that ordinary citizens will react, inconsistently, to their appearances. Sometimes, as in the case of preferring more redistribution when tax systems are discussed in percent than in dollar terms, as under the “metric effect” discussed below, the rhetorical manipulation may seem trivial. Other cases are more troubling. For example, widespread cognitive psychological tendencies can lead people to prefer hidden to transparent taxes, even if the former are less efficient; in such a case, the first prong of the optimal welfare economics approach cannot be followed, and real wealth is left on the table, an homage to our cognitive illusions. In other cases, people will accept more redistribution with the public provision of goods and services, even if that provision is not itself efficient; in such cases, the second prong of the welfarist approach cannot be followed independently of the first prong, and equity is pitted against efficiency. In a wide range of cases, the extent of redistribution the government brings about will depend on the form of public finance systems, contrary to the stark logic of the optimal welfare economics approach.¹² Reform-

¹¹ We hasten to add that we are not stating, by fiat, what this “right” level of redistribution is. We follow the standard economics approach of remaining agnostic on this question. *See, e.g.* [sources cited in Loque and Avraham, *supra*, including Kaplow and Shavell]. Rather we mean that the overall system may not effect the level and type of redistribution that citizens themselves desire, because of framing and other effects.

¹² Thomas Griffith makes a related but different point in a recent article, Thomas D. Griffith, *Progressive Taxation and Happiness*, 45 BOSTON COLLEGE L. REV. 1363 (2005). Griffith argues that people oppose progressive

ers must therefore pay attention to the polity's psychological tendencies, as will successful politicians, for better or for worse.

These possibilities raise troubling issues for normative welfare economics in the public sphere. In this Article, drawing largely on our original experiments, we set out the problems. We also note, with more or less conviction, some paths towards a better future.

Method

To both illustrate and substantiate our main concerns, we have conducted a series of experiments over several years, testing for how ordinary subjects perceive matters of tax and public finance. The results we discuss here cluster around a common theme: the nature and extent of redistribution that people support depends on the purely formal properties of public finance. If we were to measure the degree of inequality in society by some constant, objective measure, such as Gini coefficients,¹³ this measure would vary with such factors as the size of the public sector, what goods and services it provides, how many tax systems are in place, and so on — all in contrast to strict logical necessity, and counter to the spirit of the two-part approach to welfare enhancing reforms. Put yet another way,

taxation *even though* these very taxes make them happy, because they misestimate the effects of declining marginal utility and positional status. Griffith's arguments track the concept being explored by Daniel Kahneman, of a distinction between people's *decision* versus *experienced* utility, whereby people systematically used the "wrong" weights, on their own lights, in reaching decisions. *See* [citations to Kahneman on point]. This is an example of dynamic inconsistency. The inconsistency we find and explore is, in contrast, *static*, and all concerns what Kahneman would call "decision" utility: we find that people are inconsistent in making decisions in the present tense.

¹³ Explain and citation.

individual preferences over end-state distribution or redistribution are not invariant to the purely formal properties of the relevant choice sets.

There are three connected elements supporting our general conclusions: prior theory, the experiments themselves, and real-world observations. In sum, prior theory generated hypotheses, our experiments (in the main) confirmed them, and a look to reality bore out their significance.

Theory

We draw on two bodies of theory: behavioral economics and public finance in a welfare economics tradition.

Behavioral economics has important roots in the work of Herbert Simon on “bounded rationality.” Kahneman and Tversky advanced the field considerably beginning in the 1970s; the field reach full flower with the award of the Nobel Prize in Economics to Kahneman in 2002. Researchers such as Richard Thaler have applied the insights to standard consumer or financial settings.¹⁴

The key finding of behavioral economics is that ordinary people are inconsistent in their judgment and decision-making. They react to the *form* of a choice or decision problem, even where the substance is held constant. Preferring a half-full to a half-empty glass is a canonical example of a *framing effect*. Other common traits are *loss aversion*, the *endowment effect* or *status quo bias*, *overgeneralized heuristics*, and so on.¹⁵ In each instance, people can be found to reach inconsistent decisions, violating the simplest axioms of the rational

¹⁴ citations. See, for example, Richard Thaler, *THE WINNER’S CURSE: ANOMALIES AND PARADOXES OF ECONOMIC LIFE*. New York: Free Press, 1992.

¹⁵ See, e.g., Jonathan Baron, *THINKING AND DECIDING*, 3RD EDITION.

choice model, such as *preference invariance* or even *transitivity*.¹⁶ A simple application of loss aversion is penalty aversion. People will act to avoid penalties but not necessarily to obtain bonuses, in rhetorically different presentations of the same underlying facts. So, as Thaler found, in a real-world experiment, when a gas station charged a “penalty” for using credit cards (\$2 versus \$1.90, say), people paid cash; when a gas station across the street gave a “bonus” for using cash (\$1.90 versus \$2.00), people used credit cards.¹⁷

In our research, we have come to see that many findings in the heuristics and biases literature have a common element, which we (and others) call an *isolation* effect (also called a focusing effect).¹⁸ People tend to focus on a narrow choice problem before them, ignoring relevant information and otherwise failing to integrate their logically connected judgments and decisions into a coherent whole. An early example of this in the literature is Thaler’s “mental accounts.” Thaler found that many, perhaps most, people treat the source of funds as relevant to their use, although money is fungible. Thus people who are normally frugal

¹⁶ Transitivity holds that if $a \succ b$ then $b \prec a$.

¹⁷ Thaler, R. H. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, 1, 39–60.

¹⁸ McCaffery, E. J., & Baron, J. (2003). The Humpty-Dumpty blues: Disaggregation bias in the evaluation of tax systems. *Organizational Behavior and Human Decision Processes*, 91, 230–242.

Idson, L. C., Chugh, D., Bereby-Meyer, Y., Moran, S., Grosskopf, B., & Bazerman, M. (2004). Overcoming focusing failures in competitive environments. *Journal of Behavioral Decision Making*, 17, 159–172.

Jones, S. K., Frisch, D., Yurak, T. J., & Kim, E. (1998). Choices and opportunities: Another effect of framing on decisions. *Journal of Behavioral Decision Making*, 11, 211–226.

Legrenzi, P., Girotto, V., & Johnson-Laird, P. N. (1993). Focusing in reasoning and decision making. *Cognition*, 49, 36–66.

Read, D., Loewenstein, G. L., & Rabin, M. (1999). Choice bracketing. *Journal of Risk and Uncertainty*, 19, 171–197.

and even risk averse would spend lottery proceeds on luxury items or binge purchases. In doing so, they viewed their windfall gains in isolation, and failed to integrate their newfound wealth with all their liabilities and assets.

This isolation effect is central to our findings on the political psychology of redistribution. We have found that subjects are hard pressed to integrate multiple tax systems, in the *disaggregation bias* discussed below, or to integrate the tax and spending dimensions of public finance to achieve constant levels of redistribution, in the *privatization* effect we also discuss. The seemingly harmless tendency to separate out matters in one's mind can lead to disturbing anomalies in one's acceptance of global public finance systems, as we shall see.

Public finance in a welfare economics tradition provides the second prong of our approach. We draw on an understanding of current public finance systems in advanced democracies such as the United States, and on basic economics principles of incidence and efficiency analysis in our experimental designs. The relevant ideas are set out below as they relate to individual experiments. It is important to note that taxes, however much hidden, have real effects, and that these effects have implications for actual welfare. Taxes can be more or less efficient, creating more or less "deadweight loss," and the gains from efficiency generate real resources to be used.

Experiments

We followed a similar procedure in all our experiments.

About 50–200 subjects, depending on the study, completed a questionnaire on the World-Wide Web. Subjects were paid \$3 or \$4 each. Subjects came to the studies through postings on various Web sites or Usenet news groups, or through prior participation in

other studies. Subjects were paid by check (after some minimum amount was accumulated), and they had to register their address and (for U.S. residents) their social security number in order to get paid, but they identified themselves only with their email address after they registered, and the email address was stored separately from the data, to assure privacy and anonymity.

Consistent with standard methods in cognitive psychology, our experimental designs were all within-subject.¹⁹ We are generally testing whether or not the very same people, asked the same question in different ways, react differently — whether they like their glasses half full, dislike them half empty. In our cases, the null hypothesis is simply that subjects should be consistent — and we find repeatedly that they are not, with strong statistical significance. Problems such as selection bias, common to across or between-subject analysis, standard in public opinion research, are not of much concern to us. Our interest is in the existence of inconsistencies and their nature. In most cases, we found inconsistencies heavily tilted in one direction, and consistent with the predictions of prior theory: subjects prefer policies described as “bonuses” to the self-same policies described as “penalties” or hidden to transparent taxes, tended to be affected by starting points, and failed to integrate their judgments across relevant fields of data. In such cases, we can assert with some confidence that these biases are likely widespread in the population — all the more so because they predict features actually evident in the U.S. tax system, as discussed below. As it happens, our subject pool is roughly representative of the adult U.S. population in terms of income, age, and education,²⁰ but not in terms of sex, because (for unknown reasons) women predominate in our respondent pool.

¹⁹ Baron, 2000.

²⁰ See for example Babcock et al. 2003.

Within-subject inconsistency is especially germane to the subject of redistribution. Unlike the case with the first prong of the welfare economics analysis, where some policies can be shown to increase or decrease the social pie in an objectively observable manner, there is no universally agreed on benchmark for the “right,” “just” or “fair” degree of redistribution. We do not impose such a benchmark in our experiments. Rather we mean to show that the *same* people, asked about what level of redistribution they support in differently framed but substantively equivalent choice problems, reach inconsistent results. This means that if society were to base the appropriate level of redistribution on some aggregation of individual preferences (as in common voting procedures), these preferences themselves would be affected by the choice setting: specifically, in terms of our findings, how large the government sector happened to be, what goods and services it provided, how many tax systems there were, and so on. Generally, and consistent with other researchers, we find that the average subject favors some redistribution — that is, some taking from the rich to give to the poor, in blunt terms.²¹ A general finding of the polling literature on point is that subjects fall into three roughly equal pools: those favoring no progression (that is, flat taxes), those favoring moderate progression, and those favoring steep progression, with the moderate middle holding the swing vote.²² But, again, calculating the “correct” or even “desired” level of redistribution is not our concern. Rather we show that what even *counts* as “moderate” redistribution depends on the form of public

²¹ See for example Lewis, Steurle book, and

Hite, P.A. and Roberts, M.L. (1991). An experimental investigation of taxpayer judgements on rate structure in the individual income tax system. *Journal of the American Taxation Association*, 13, 47-63.

²² citations, as to Hite and Roberts.

finance systems.

In terms of precise methods, the studies were programmed in Java-Script so that one case was presented on one Web page or screen, and subjects were required to answer all questions appropriately before proceeding to the next screen. After a brief introductory description and explanatory page, in which we gave pertinent background, subjects saw between 24-32 individual screens asking for their responses. Although our experiments typically considered complex subjects in a realistic manner, it is important to stress that the screens that subjects saw presented the material in clear, simple formats. We recorded the time spent on each response, and we usually eliminated subjects who went noticeably faster than everyone else (outliers, usually 2–3%). Many of our experiments have had internal checks to assure that subjects understand the questions, and answer in the appropriate range. We have found that an overwhelming percent of our respondents acted reasonably within objective parameters.

Reality

The final aspect of our analysis is to show that our conclusions from experiments can explain real-world anomalies. Our experiments are designed to reflect such anomalies, so this should be possible. We do not take off-the-shelf findings from the psychology of judgments and decisions. Rather, we look for extensions of that approach that fit the problems we see outside the experimental laboratory. One danger of this approach is that “the problems we see” are affected by our own political leanings. Thus, for example, we worry about redistribution, so many of our experiments concern it. In our defense, we point out that others are free to use our methods to study other problems. Moreover, we do not typically use experiments to support our prior political judgments; rather, we look for alternative

explanations of problems that bother us.

Results

This Section canvasses seven broad sets of results that show how the form of public finance systems affects the understanding of and support for redistribution.

Metric Effect

We begin with a rather simple, and seemingly minor, application of our general theme.

Throughout our experiments, we found interesting interactions between subjects' perception of or desire for progressivity — a norm of expecting the better able to pay more, in absolute and/or percentage terms — and other effects. These might relate to some basic ambiguity or uncertainty over what “progression” even means. For example, subjects gave systematically different answers based on whether the question was asked using dollars or percents, in what we call a *metric effect*.²³ Subjects consistently wanted more progressivity when the matters were framed in percent rather than in dollar terms. There is a sort of progressivity illusion under dollars, because the high income pay more even under a “flat” percentage tax. At a constant 20% rate, for example, a \$100,000 household pays \$20,000 in taxes, whereas a \$20,000 household pays \$4,000. The tax *appears* progressive when stated in dollar, not in percent, terms. This can be seen as an example of an isolation effect, because the subjects seem to have a norm, to tax the rich more than the not-rich, but they react quickly to the salient optics of the choice set, failing to translate their judgments back into a single consistent metric. The effect is analogous to the finding that subjects, even

²³ McCaffery and Baron 2003 and in press.

experienced clinical psychology professionals, make different decisions when considering risk data in probability or frequency metrics.²⁴ In tax, this metric effect can lead to much confusion.

The first two tables come from an experiment in which we asked subjects about their attitudes about both the level of taxation, as in Table 1, and the slope of its distribution, as in Table 2.²⁵ There were four types of taxpayers: single persons, married equal-earner couples with incomes presented on a per person basis (Equal 1), married equal-earner couples with incomes presented per couple (Equal 2), and married one-earner couples, all with and without children. The experiment was concerned primarily with how subjects accommodated for marriage and children, but it also gives a good look at the metric effect.

We asked subjects simply to fill in blanks for how much they thought each household/couple ought to pay, at four income levels: \$25,000, \$50,000, \$100,000 and \$200,000. Sometimes we asked the subjects to use dollars, others times percents. Table 1 gives the mean responses across all income categories for the various household types, with the answers given in dollars converted into percent — that is, with the metric effect eliminated from the presentation of the results.

Note that the levels are consistently and significantly higher when the answers were given in percent.

²⁴ See generally Daniel Kahneman, & Amos Tversky, “Variants of Uncertainty,” in DANIEL KAHNEMAN, PAUL SLOVIC & AMOS TVERSKY, EDS., *JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES*, (Cambridge: Cambridge University Press, 1982) 509-520; Paul Slovic, J. Monahan, & D.G. MacGregor, *Violence Risk Assessment and Risk Communication: The effects of Using Actual Cases, Providing Instruction, and Employing Probability versus Frequency Formats*, 24 *LAW AND HUMAN BEHAVIOR* 271, (2000).

²⁵ McCaffery & Baron, *Framing and Taxation: Evaluation of Tax Policies Involving Household Composition*, 25 *JOURNAL OF ECONOMIC PSYCHOLOGY* 679-705 (2004).

	Single	Equal 1	Equal 2	One-earner
Answer in dollars:				
No child	14.7	14.0	13.8	13.4
Child	12.4	13.3	12.5	11.9
Answer in percent:				
No child	17.5	17.6	17.3	16.5
Child	15.1	17.4	15.2	14.7

Table 1: Mean responses (in percent) to questions about fair taxes.

Table 2 shows that the *slope* of desired progression is also higher when the question is asked in percent. There is a “progressivity” illusion, of sorts, when the values are given in dollars.

	\$25,000	\$50,000	\$100,000	\$200,000
Dollars	9.3	11.7	15.2	16.8
Percent	9.2	13.0	18.8	24.6

Table 2: Mean fair taxes (in percent) as a function of income.

We see in Tables 1 and 2 that people support both higher and more steeply progressive taxes when they are thinking about taxes in percent as opposed to dollar terms. This finding suggests that the “optics” of progressive marginal rates introduce instability into popular perceptions of tax systems. Candidates who favor progressive taxes ought to talk in percent terms, those who favor flatter taxes in dollar terms, and so on. Paul Slovic and his colleagues found just such selective use of metrics by experts in seeking to influence

public opinion.²⁶

Penalty Aversion and the Schelling Effect

The metric effect might lead to instability in tax systems, or to an undue premium on rhetoric as opposed to reality in political portrayals of public finance, as we discuss later. There are more troubling applications of cognitive psychology to redistribution.

People do not like “penalties,” they do like “bonuses.” But in standard economics, these are simply two sides of the same coin: a bonus is the absence of a penalty, a penalty the absence of a bonus. The problem abounds in tax. A child bonus is a childless penalty, a marriage bonus is a singles penalty, and so on. We hypothesized that subjects would have a more positive impression of a policy stated in its “bonus” than in its “penalty” frame. Further, following a classroom demonstration from Thomas Schelling,²⁷ and drawing on our own knowledge of the metric effect just discussed, we suspected that this penalty aversion would be exacerbated by progressive rates. Schelling asked his students if they thought that there should be a larger child bonus for the rich or for the poor. Students rather predictably answered for the poor. But Schelling next pointed out that this rule presumed a childless default; if we start with the assumption that people have children, what is needed is a childless penalty to achieve the same result. Should a childless penalty be steeper for rich or for poor? Students predictably, and quickly, reversed their preferences, opining that the penalty should be higher on the rich, in what we dub the *Schelling effect*, an interaction of penalty aversion and a certain progressivity illusion. There is also, once again, an isolation effect, because subjects were thinking about the extent of the bonus in

²⁶See Slovic et. al, *supra* note –.

²⁷ Schelling 1981.

the bonus frame, and the magnitude of the penalties in the penalty frame, not noticing that there were bonuses and penalties in all cases.

We found several instances of both penalty aversion and the Schelling effect, involving penalties and bonuses for marriage as well as for children (or childlessness).²⁸ We presented items like the following:

A married couple with one income of \$25,000 pays \$3,000 in taxes. The same income earner, if not married, would pay a surcharge of \$2,000. A married couple with one income of \$100,000 pays \$30,000 in taxes. The same income earner, if not married, would pay a surcharge of \$6,000.

For each item of this sort, another item had exactly the reverse situation, in which the taxes of the unmarried earners were \$5,000 and \$36,000, respectively, and the *bonuses* were \$2,000 and \$6,000, respectively.

We asked the subjects both about the fairness of the bonus or penalty, and about its allocation or magnitude. The results confirmed our hypotheses. In every case, far more subjects showed the predicted pattern than the reverse. That is, first, they judged bonuses as fairer than penalties, even though they were identical but simply described using different baselines (married or single, with or without children). Second, like Schelling's students, they judged the bonus as too high for high income and too low for low income, but they judged the surcharge (penalty) as too low for high income and too high for low income. We thus confirmed the existence of both penalty aversion and the Schelling effect in tax.

²⁸ McCaffery and Baron, 2004, *supra*.

Tax Aversion

Penalty aversion is related to classic biases such as loss aversion; penalties seem like losses measured or evaluated from a status quo baseline, whereas bonuses seem like gains from a *different* status quo baseline. We suspected that people are also affected simply by what things are called, without any change in reference point. Labeling the very same monetary charge as a “tax” versus a “fee” or the like changes neither the starting point nor the ending point in terms of an individual’s finances. For some people, however, and for some kinds of programs, we hypothesized that the label “tax” would be enough to arouse a negative reaction, with everything else held constant. The word “tax” itself implies a burden.

We did an experiment to assess the effect of simply calling something a tax.²⁹ We asked how people thought payments should be made for various services: primary and secondary education, basic health care, services of a fire department, social security (basic pensions), and more, a total of 15 different goods and services. We contrasted cases in which a service was funded by government through a tax with otherwise identical cases — in their beginning and ending financial states — where the users of the service paid its provider directly without the government’s acting as an intermediary. We also asked subjects about various factors: the status quo in their home jurisdiction; whether the services are provided more efficiently by government or others; the subject’s perceived self-interest; the extent to which the rich should pay more; whether people differ greatly in their use of the service; and the extent to which they involve public goods.

Questions differed in whether the way of raising funds was called a “tax” or a “pay-

²⁹ McCaffery & Baron, *Heuristics and Biases in Thinking about Tax*, NATIONAL TAX ASSOCIATION ANNUAL PROCEEDINGS (2003).

ment,” and in whether the distributive properties of the tax/payment were lump sum (same for everyone), progressive (based on ability to pay), or based on use of the service in question.

We found that labels mattered. Subjects reacted differently to levies called a tax than to those called payments, even where the economics were identical. In this particular experiment, which combined tax and spending programs, we found no overall preference for or against taxes. But particular goods or services differed in whether subjects favored taxes to pay for them. In some cases, such as social security, subjects may have considered that the very nature of the “service” varied with the payment mechanism. Those significantly favorable for tax were fire, education, and social security. Least favorable were phone service and theft insurance. Regressing across factors that we asked subjects about, we found that the *status quo* — how the good or service was paid for in the subjects’ local jurisdiction — was highly significant. Thus subjects seem to accept “taxes” as compared to user fees for items *already being paid for by taxes*, and to prefer user fees to taxes where there were presently no taxes in place. Hence “tax aversion” might better be understood as a “no new taxes” heuristic, as we have heard it said.³⁰

In other experiments reported below, we found that subjects have an aversion to the income tax, even when they favor redistribution in general.³¹ We also found, consistent with much polling data, that, given a general, abstract choice, subjects prefer to cut both taxes

³⁰ “No new taxes” was the famous pledge of the elder George Bush, 41st president of the U.S.; his alleged violation of the pledge is said to have cost him re-election. We have also been informed by experts who advise on global tax reform that citizens often vehemently oppose user fees for services that they perceive as “free,” that is, paid through general taxes. Thanks to Richard Bird for discussions on point.

³¹ See the Hidden Tax Bias, reported below.

and spending to fairly low levels; when confronted with particular spending programs, however, they are unable to make aggregate cuts.³² A recent experiment by Catherine Eckel, [] Grossman and [] Johnston³³ has shown that there are different reactions to an extraction labeled as a “tax” and an unlabeled exaction. Eckel and her colleagues set up an “dictator” game for subjects, where individuals were handed an envelope containing a set amount of money, and given the chance to contribute some, all or none of it to a specific charity. In all cases, the subjects were given \$15, and told that the charity had been given \$5. In half the cases, the subjects were told that they had *started* with \$20, which had been taxed with \$5 given to the charity; in the other cases, nothing was said. When subjects were told that they had been “taxed,” the researchers noted a “crowding out” effect: subjects reduced their voluntary contributions to offset the tax.³⁴ When the same values were simply taken from their pay in an unlabeled manner, and sent to charity, crowding out did not obtain. In sum, labels matter, and “tax” tends to be a bad one.

Hidden Tax Bias

If people are tax averse, especially vis a vis new taxes, then governments have an incentive to hide taxes in various ways. One is to call them something else: “user fees,” “surcharges,” and so on. Another is to make taxes indirect or hidden — nominally paid by some third

³² This is a general finding of our “starve the beast” experiments, reported below. For general polling data reaching similar conclusions, see [complete citation].

³³

Eckel, C., Grossman, P., & Johnston, M. R. (2005). An experimental test of the crowding-out hypothesis. *Journal of Public Economics*.

³⁴ Andreoni etc. on “crowding out” hypothesis.

party. We hypothesized that people would prefer such hidden taxes in part because they would not think through to the next step, in which they bore the true incidence of the tax, a clear instance of an isolation effect.

When a business pays a tax, the money must come from somewhere. Much of what economics teaches us about the effects of taxation is fairly obvious to anyone who asks how various actors, such as managers, would react to a tax.³⁵ But people seem not to think this far or this many steps ahead. If “hidden” taxes are also relatively regressive — compared to subjects’ own subjective preferences — there is reason to believe, as we continue to explore below, that people, having desired such taxes in the first place, will *not* adjust more transparent taxes to offset the regressivity, in part (but only in part) because they have not thought through to understand the relative regressivity in the first place.

As a fact of the matter, taxes can be partially or fully hidden.³⁶ In the former case, the incidence of the tax is known or easily knowable, but hidden from the payor’s direct view: the employer’s “share” of social security contributions works this way. In the latter case, the ultimate incidence of the tax is not easily known or knowable; in fact, leading experts debate who, exactly, bears the real incidence of the tax. Corporate or business taxes of all forms are examples of fully hidden taxes. Now standard findings in prospect theory³⁷ and the endowment effect³⁸ predict that subjects will prefer such hidden taxes to direct levies: they will not feel as if they are “losing” wealth because they never felt they that

³⁵ Of course, the question of the ultimate incidence of the corporate tax is among the hardest practical questions facing public finance. *See, e.g.,* Arnold C. Harberger [complete citation].

³⁶ McCaffery, UCLA 1994, reprinted in Sunstein, editor, 2002.

³⁷ Kahneman & Tversky 1979.

³⁸ Kahneman, Knetsch, & Thaler 1990.

were entitled to it in the first place. Behavioral economics suggests that hiding taxes is a good move for a government that wants to maximize its revenue while minimizing its subjects' hedonic pain.

We carried out several experiments to test some of these hypotheses.³⁹ Consistent with the general behavioral economics literature, we expected subjects to focus on what was being asked in the most direct way, ignoring indirect or longer term effects. We expected subjects to prefer hidden to transparent taxes, and to ignore negative indirect effects unless these were made salient. The principal experiment we report also involved an attempt at educating subjects, a theme to which we return in conclusion.

We examined two dimensions of government action, taxing and spending. We looked at *raising* money (Raise) and *payment* (Pay) for four different types of insurance, such as health and life insurance, that could be provided either privately or by the government. We compared raising money by an income tax, on the one hand, with raising it by a payroll or a business tax, on the other. We hypothesized that both because of tax aversion and their greater salience (lesser hidden-ness), people would tend to oppose an income tax until they thought about its redistributive effects, from rich to poor — as our educational prompting led them to do. We suspected that subjects might, conversely, favor a business tax until they thought about its effects on workers and consumers as well as managers and owners — again, as our prompts suggested.

We compared payment through tax deductions, on the one hand, with payment through tax credits or direct payment, on the other. Given a *progressive* income tax structure, paying through tax deductions is, *ceteris paribus*, *regressive*: the higher income get more benefit. We hypothesized that people would favor deductions until they thought about its redis-

³⁹ McCaffery & Baron, 2004

tributive effects, helping the rich more than the other two methods.

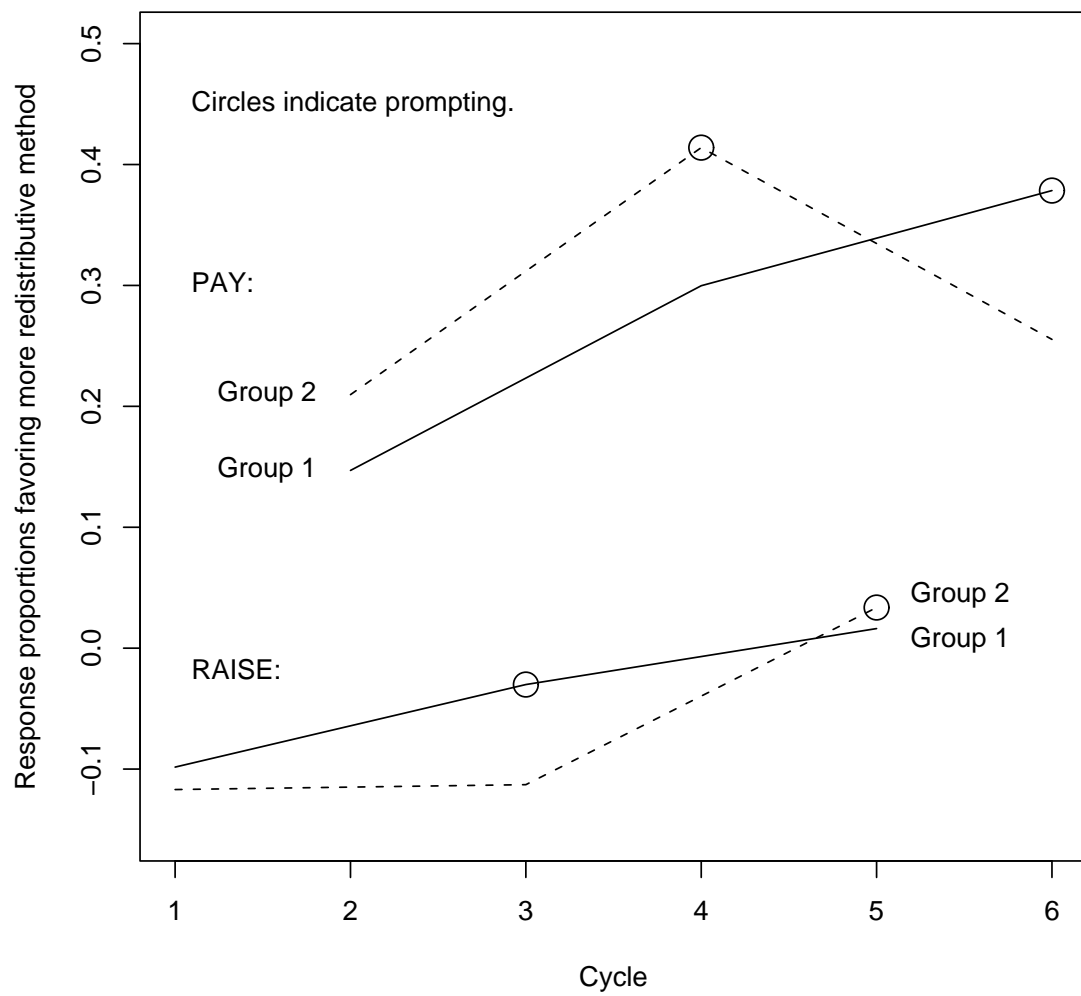
Subjects were sorted into two groups. Each group received six screens about each of the four types of insurance, with the Raise questions in the odd positions (1, 3, 5) and the Pay ones in the even ones (2, 4, 6). All subjects saw the same baseline condition on screens 1 and 2, followed by two educational prompts. The order of the prompts was counterbalanced: Group 1 got a prompting screen in position 3 (for Raise) and 6 (for Pay); Group 2 in 5 (for Raise) and 4 (for Pay). The educational prompting consisted of asking questions about the incentive and distributive effects of the options, and explaining the distributive consequences of using deductions. The intent was to get subjects to consider that income taxes are progressive, while payroll and business ones are not; and that paying through the income tax is regressive, whereas direct payments or tax credits are not.

Our main hypotheses concerned attitudes toward raising the money through income taxes (vs. payroll or business) and attitudes against paying through deductions (vs. direct payments or tax credits). We call these “favorable” attitudes, because they are favorable toward redistribution — a point of view that most subjects adopted. Once again, an income tax is redistributive when it is being used to raise revenues, but not when it is being used to subsidy private spending.

Figure 1 shows the proportion of favorable attitudes as a function of the sequence of trials, separately for Pay and Raise, and separately for the two groups of subjects, which differed in where the debiasing came in the ordering, as shown. In general attitudes were more favorable in the debiasing conditions than in the most comparable control conditions. But this debiasing effect is very slight.

What is most striking is that subjects did not support raising the money through an income tax, on the whole. The income tax is the least hidden of all taxes. Contrary to our

Figure 1: "Favorable" attitudes as a function of where debiasing occurred.



initial hypothesis, subjects preferred direct payments or credits to using the income tax system to pay for services even before the debiasing condition, although they were happy enough to virtually altogether abandon the income tax as a spending system after that debiasing. Indeed, what is most striking in Figure 1 is that subjects were *inconsistent* when it comes to redistribution, favoring it in the Pay condition but not overall in the Raise one, but *consistent* in opposing the income tax — they do not like the income tax as a vehicle to raise or to spend money. An aversion to the income tax, *per se*, seems to trump a desire for redistribution.

Disaggregation Bias

Our next two results concern the splitting of things into parts, where the isolation effect is in full view, and the subject matter of redistribution is central. These effects work with the hidden tax bias just discussed, because they suggest that subjects will not generally counteract the effects of relatively regressive tax and spending systems or decisions in the remaining, salient, income tax system. We begin with the tax system writ large.

One of the striking features of the U.S. tax system in the last half century has been the rise of social security and medicare contributions, or payroll taxes.⁴⁰ Such taxes now account for roughly 80 percent as much income as personal income taxes. The facts that the payroll tax is flat, even regressive, has led to an increasing number of criticisms, and suggestions that the system should be integrated with the income tax.

But it should not matter, were people fully rational, that any particular tax in a multi-tax system is regressive. Any level of progressivity in the payroll tax, for example, can be counterbalanced by changes in the income tax. As long as a policymaker has full degrees

⁴⁰ textitSee generally Poterba, Deborah Geier, [complete citations].

of freedom in one tax having the same base as another tax, she can effect the same global distribution of tax burdens as if she had control over the whole. It should not matter that taxes are split in two.

Yet it does matter. In a strong confirmation of the isolation effect — and compelling evidence for the relevance of the political psychology of redistribution — our experiments showed that subjects were apt to focus on the one tax they were asked to evaluate, not factoring in a parallel tax easily available to their recall.

In our basic experiment on point,⁴¹ we simply asked subjects to fill in the blanks. After an initial page in which we gave instructions, stipulating that the bases of the “income” and “payroll” taxes were identical, we presented a series of screens. Sometimes we listed a payroll tax, other times an income tax. For each tax, we had four levels and rates of graduation, across households with \$20,000, \$40,000, \$80,000, \$160,000, and \$320,000, including one 0 (no tax) option. In half the cases, we asked subjects to set a total distribution; the other half, we asked them to set only the “other” tax. In half the cases, we asked for the answers in dollars, in the other half in percent. This generated 32 screens (2 taxes given x 4 levels and rates x 2 (other/total) x 2 (dollars, percent)). There was no rational reason why the bottom-line responses — the overall tax system — - vary at all. But they did.

Table 3 lists the mean tax rates, across income levels, converted into percent and total (where we were asking in dollars and/or about the “other” tax alone), to get the presentation here into a common metric:

Table 3 reveals that both frames (other versus total, dollars versus percent) and the starting points mattered. The overall level or magnitude of taxation was, as hypothesized,

⁴¹ Edward J. McCaffery and Jonathan Baron, *The Humpty Dumpty Blues: Disaggregation Bias in the Evaluation of Tax Systems*, 91 *ORG. BEHAVIOR AND HUMAN DECISION PROCESSES* 230-242 (2003).

Given rates on:					Response:				Mean
					Dollars		Percent		
\$20k	\$40k	\$80k	\$160k	\$320k	Total	Other	Total	Other	
Payroll tax given, Income tax response									
0	0	0	0	0	14.97	14.60	17.56	16.90	16.01
0	5	10	15	20	14.89	21.13	17.60	23.68	19.32
5	10	15	15	15	15.25	21.68	17.20	24.28	19.60
10	10	10	5	5	15.28	18.84	17.55	22.51	18.54
Income tax given, Payroll tax response									
0	0	0	0	0	15.66	13.24	17.02	16.15	15.52
0	5	10	15	20	15.44	20.35	17.13	22.01	18.73
0	8	16	24	32	16.00	24.13	17.79	27.36	21.32
10	10	10	10	10	14.75	18.71	16.92	22.11	18.12
Mean:					15.28	19.09	17.35	21.87	

Table 3: Total taxes in percent.

higher when responses were in terms of the other tax than when they were in terms of the total tax ($t_{45} = 7.42$, $p = .0000$), with the interesting exception of the case in which the given tax was set at 0: what we call the aggregation frame mattered. (Ten subjects did not respond differently at all when they were asked for total tax or the other tax. The results were essentially the same when these subjects were removed from the analysis.) The level of taxation was also higher when responses were in percent than in dollars ($t_{45} = 4.22$, $p = .0001$): what we call the metric frame mattered.

Subjects were insufficiently responsive to changes in the given rates. They anchored on whatever rates they were given and did not adjust enough to make all the rows the same. In particular, total taxes were lower when the given rate was zero than when it was not (for the first and fifth row vs. the mean of the others, $t = 6.65$, $p = .0000$; and t was almost as high when the ten non-responders were removed).

Table 4 shows graduation, the other broad component of a tax system (along with magnitude), which we define as the slope of the percent tax as a function of income step, with each income step (i.e., each doubling of income) defined as one unit. This is logically independent of the level of taxation, shown in the prior table.

Once again, the frames mattered. Subjects could have — and to be consistent, should have — adjusted what they could to produce the same level of graduation in each instance. They did not. Graduation rates were higher for percent than for dollars ($t_{45} = 5.78$, $p = .0000$), showing the effect of the metric frame. Subjects were also, as hypothesized, insufficiently sensitive to the extent to which the given, “other,” tax was graduated: the aggregation frame mattered. Subjects appeared to focus only on what they were asked to judge. The clearest comparison to illustrate this effect is between the 6th and 8th rows of the table, where the overall rate of the given income tax was the same, despite the dif-

Given rates on:					Response:				Mean
					Dollars		Percent		
\$20k	\$40k	\$80k	\$160k	\$320k	Total	Other	Total	Other	
Payroll tax given, Income tax response									
0	0	0	0	0	3.73	4.47	5.99	5.99	5.05
0	5	10	15	20	3.89	7.38	5.85	9.20	6.58
5	10	15	15	15	3.83	5.75	6.03	7.16	5.69
10	10	10	5	5	3.80	2.70	6.05	5.43	4.50
Income tax given, Payroll tax response									
0	0	0	0	0	4.46	3.74	6.11	5.61	4.98
0	5	10	15	20	4.26	6.53	5.85	8.33	6.24
0	8	16	24	32	4.30	9.20	5.76	10.95	7.55
10	10	10	10	10	3.76	3.31	5.67	5.68	4.60
Mean:					4.00	5.39	5.91	7.30	

Table 4: Graduation (tax change for each step) as a function of aggregation frame

ference in its graduation (and compare Table 3, where, even after adjustment, the level of taxation in these two conditions is about the same); yet subjects favored a far less graduated overall tax system when the given income tax was flat, in Row 8, then graduated, in Row 6 ($t_{45} = 5.77, p = 0.0000$).

This experiment revealed several biases. The *metric effect* is manifest in the fact that the mean levels, in Table 3, and the slopes, in Table 4, are all higher in the percent columns than in the dollar ones. The *disaggregation bias* is evident in the fact that the “other” columns in Table 4, for both dollars and percent, are higher than the “total” columns. And an *anchor and adjustment* process is evident in the significant variation across the rows, and their correlation with the left-hand, “off-stage” tax. The disaggregation bias suggests, counter to stark logic, that ordinary people will have a difficult time accepting a steeply progressive tax system, even if it is simply to compensate for other relatively regressive elements of public finance that are, as it were “offstage.” The wider series of experiments we conducted in this vein⁴² revealed several matters of interest to real-world tax system design. For example, subjects seem willing to consider higher taxes if there are more smaller taxes; negative tax brackets in one tax to offset positive brackets in others (as under the earned income tax credit in U.S. law)⁴³ are salient and disfavored; and the total progression of a tax system may be a function of its size and constituent parts. We pick up several of these themes in the next series of experiments.

⁴² McCaffery & Baron *Humpty-Dumpty*, *supra* note — .

⁴³ Internal Revenue Code of 1986, 26 U.S.C. Section 32; see Lawrence Zelenak, this volume.

Privatization Effect

Just as tax systems can be combined or torn asunder, so too can the two broad functions of government, that is, the allocative and redistributive functions. Recall the two-part welfare economics analysis that forms a rational choice baseline for our analysis. In choosing whether or not and to what extent to intervene in the economy, the government can relentlessly pursue an efficiency or wealth-maximizing agenda. Then the government can use the tax system to achieve whatever level of end-state distribution it considers fair or just. Specifically, decisions such as whether or not to have public provision of a good or service should be decided on the basis of efficiency alone, to make the “pie” as big as possible. In the limiting case, the government would do *nothing* in affecting allocative matters, because private markets are efficient. But then the government can still redistribute through the tax system, which would serve a pure, “zero sum,” redistributive tax and transfer function. Not only are the two functions logically separate, but, by thinking about them differently, social welfare can be maximized while the paretian constraint is met.

But do people think in a way consistent with this approach?

When governments raise taxes by a progressive tax scheme and then pay for services that cost the same to rich and poor alike, the net effect is to redistribute income, a “cross-subsidy” through the provision of the good. The rich pay more, the poor less, both income classes benefiting the same. This is a paradigm example of the “bundling” together of two distinct governmental actions, allocative (providing the good or service in the first place) and redistributive. Were government simply to “privatize” or otherwise cut government services, without continuing the redistribution effected through the tax and spend program, a greater burden would fall on those who are relatively poor. But, logically, the

government can continue to redistribute resources through the tax system without the provision of the good or service. The disaggregation effect just described — and the more general isolation effect — suggests, however, that subjects will not support a consistent level of redistribution, independent of government provision of goods or services.

We asked subjects to imagine that their national government could provide five basic services, spending equal amounts on each: defense, education, health care, social security, and “everything else.”⁴⁴ We presented 16 cases in which government provided all possible combinations of the first four. In each case, we asked the subjects to choose the fairest level of progressiveness, giving the option of choosing negative taxes for the poor. Using actual government statistics, we divided taxpayers into three groups, each supplying a third of the national income (hence there were far more taxpayers in the bottom third), and listed the median income for each group. The baseline, a flat-percent tax, had a tax level of 25% for each group. Each cut of a good or service lowered the baseline by 5%. Subjects could adjust progressivity up or down. Consistent with the prior research on disaggregation effects, we anticipated that subjects would not maintain the same level of redistribution — would not fully take into account or integrate the effects of the service cuts on household welfare — and hence choose less overall redistribution with fewer services. We were correct.

Six subjects always chose the least progressive distribution, which was equal percentage rates for all three groups — a flat percent tax — and 2 subjects always chose the most progressive. The mean choice was 3.42, on a 1–6 scale with 6 being the most progressive. This amounts to a difference in tax rate of 24.2% (in absolute percent terms) between the

⁴⁴ Jonathan Baron and Edward J. McCaffery, “Masking Redistribution (Or its Absence),” in Edward J. McCaffery and Joel Slemrod, editors, *BEHAVIORAL PUBLIC FINANCE*, (Russell Sage Press, New York, forthcoming).

high and low income groups.


We calculated, for each subject, the mean effect of each cut on progressiveness, first ignoring the effect of cuts on out-of-pocket cost. The mean effects (in the change in percent difference between high and low groups) were, respectively, 1.1% for defense ($t_{77} = 1.70$, $p = 0.0931$), -0.1% for health care (n.s.), 0.4% for education (n.s.), and -0.4% for social security (n.s.), where a positive effect indicates less progressiveness with the cut than without it. The mean of these effects was not significantly positive, and the four services were not significantly different. Thus subjects basically maintained the same degree of progressiveness *without taking into account the effect of the cuts on out-of-pocket cost*. In other words, they continued to view the remaining, residual tax system in isolation of the privatization effects they were witnessing.

But cuts do affect out-of-pocket costs, at least for three of the goods of interest: health care, education, and social security, both in the experiment and in the real world. A more relevant analysis of the data therefore includes the effects of these cuts in public services on net — after public tax and spending — household welfare. Do subjects use the tax system to compensate for the effects of public spending cuts? If so, they would increase the progressiveness of taxes for these three goods. An attempt to make such compensation may account for the difference between the three goods and defense. But do subjects compensate enough?




We found that for all three of the cost-yielding cuts (health care, education, social security), subjects corrected far less than would be required even to get close to maintaining constant redistribution across conditions (minimum $t = 12.45$, $p = .0000$). While some subjects attempted to offset the cost-increasing effects of cuts, on average the attempt fell far short of what is needed.

Table 5: Mean responses and inferred responses for presence and absence of health care, education, and social security

No cuts

Top	33.6%	
Middle	22.5%	
Bottom	11.4%	

Three cuts, raw responses

Top	18.9%	
Middle	7.5%	
Bottom	−3.9%	

Three cuts, responses plus out-of-pocket cost

Top	23.4%	
Middle	19.5%	
Bottom	26.1%	

Table 5 shows the mean response of subjects, using the same type of graph they saw, in the absence of any cuts and in the presence of three cuts. The lowest panel represents the results of including out-of-pocket costs. Table 5 gives an excellent look at the isolation effect or disaggregation bias, playing out in a unified tax and spending system. Subjects preferred at least moderate progressivity in the baseline, global condition — the top panel — with government provision of all five sets of goods and services. With three major private-cost items removed from the mix of public goods — in the second, middle, panel — subjects continued to choose a tax system reflecting moderate progressivity, even accepting a negative tax bracket for the poor. But when realistic private replacement costs were built back in, showing a global tax and out-of-pocket effect, the overall system now looks regressive, in the bottom panel. Compared to the subjects' own chosen baseline, the bottom-line reflects a steep cut in costs (taxes plus out-of-pocket) for the upper income level, a slight drop for the middle income level, and a dramatic (230%) *rise* in effective burdens on the lowest income level. By focusing on the “optics” of taxes alone, or disproportionately, a preference reversal in the bottom-line effects — what really matters — followed.

Note that aversion to progressivity cannot explain the results, given that subjects (on average) consistently chose progressive taxes. Nor can ignorance of the financial effects of public spending cuts explain the results. Subjects made many errors on the test question we asked them, about the extra cost per household caused by cuts. But the most common error seemed to be to simply count the number of cuts, including defense cuts, which (by specification) should have had no effect on household spending. Yet 95% of the subjects gave the correct answer *or higher*. Moreover, the mean answer to the test question was 2.53 on a scale from 1 to 4, where the mean correct answer is 2.5. Subjects did not un-

derestimate the effects of public spending cuts on net household costs. The results were essentially unchanged when we examined only the subjects who estimated cost correctly or overestimated it, on the average.

What *can* explain the results is the disaggregation bias or isolation effect. Subjects looked only (or primarily) at the tax system when adjusting it. They did not adequately factor in the effect of public spending cuts. The result is that effective progressivity decreased as the number of cuts increased — disappearing altogether with enough “downsizing” of government.⁴⁵

The Starve-the-Beast Phenomenon

Our final example is more dynamic and systematic than the preceding ones – it shows government policy over time can have effects. Specifically, we examined the “starve the beast” strategy proffered by some current reformers: the idea being to cut taxes now, as a means of cutting spending later.⁴⁶ This example allows us to pull together many of the effects found in isolation above.

Politicians, social scientists, and citizens disagree sharply about the appropriate size

⁴⁵ Our results lend additional credence to the work of Richard Bird and Eric Zolt, in this volume. Bird and Zolt find as a general matter that expenditure programs are more important to redistribution, on net, than are tax systems. The fact that subjects seem to have a difficult time redistributing outside of expenditure programs supports this finding. Of course it also makes more problematic the choice of ethically appropriate redistribution in the first place, even — especially? — if this is to be determined by some aggregation of individual preferences.

⁴⁶ For some related discussions, see William Gale, Tax Notes, Daniel Shaviro [complete citation listed in web page in tex file]

of government. The issue captures perhaps the major fault line between parties in two-party democracies. Some argue that big government is bad, but that people can be led to support it because they do not think about long-term issues and thus desire overly generous present programs (Buchanan & Tullock, 1962). Others argue that government is if anything too small, because of pressure for low taxes, which appeal to citizens on the basis of narrow — and myopic — self-interest.

A common element between the two extremes is that there is a disconnect between the present and the future: an at least implicit understanding that citizens will fail to integrate their beliefs and actions over time. Anti-government partisans fear that citizens will want programs now, neglecting their long-term costs, and then will be reluctant to cut these programs later: social security and medicare in the United States are leading case studies for such critics. Pro-government partisans fear that citizens will support tax cuts now, ignoring the long-term effects of any resulting deficit (or diminished surplus) on the ability of the government to continue to provide public goods and services in the future. Both of these sets of attitudes stand in stark contrast to the “rational choice” or “rational expectations” model of politics, where citizens properly integrate their actions over time. Thus, Barro (1974) has argued that government deficits may not even matter, because forward-looking citizens in an overlapping generations framework will rationally save today in anticipation of increased taxes tomorrow; conversely, surpluses today can lead to greater private debt in anticipation of lower taxes tomorrow.

Standard findings in cognitive psychology, most notably prospect theory and the endowment effect (Kahneman & Tversky 1979, Kahneman, Knetsch & Thaler 1991), support the popular understanding that timing matters. Once a government program is in place, it will become part of the status quo, and can be hard to cut. Thus the thumb is on the side

of continued government growth. On the other hand, citizens are averse to taxes, a phenomenon that itself has cognitive psychological dimensions. People react disproportionately to salient taxes and fail to consider the off-setting benefits of government programs (McCaffery & Baron, 2004); people are also likely to code a tax increase as a loss, making it hard ever to raise taxes.

A potentially psychologically-savvy political strategy used by those who favor smaller government has come to be called “starve the beast,” a term usually attributed to David Stockman, the budget director in U.S. President Ronald Reagan’s administration. The idea is to cut taxes before cutting spending, then use the resulting deficit as a political argument to reduce spending, or to reject new spending. Most commentators agree that this strategy has been used by both Reagan and the current U.S. president George W. Bush. In both cases, large deficits have resulted from fiscal policies. Although spending was not cut concurrently with taxes, government may have grown less than it would have without the tax cuts, because the baseline for future judgments was changed.

Can the starve the beast strategy gain public support? We test three hypotheses about why citizens might accept tax cuts in the absence of spending cuts. In our experiments, we present people with information about current levels of taxation and spending, and we ask them to adjust both levels to what they would prefer.

First, people might simply not be bothered by deficits. They might prefer lower taxes and higher spending.⁴⁷ When people are asked to adjust rates of taxation and spending, they will tend to choose lower levels of taxation and higher levels of spending.

⁴⁷ Robert Barro has argued that government deficits may not even matter, because forward-looking citizens in an overlapping generations framework will rationally save today in anticipation of increased taxes tomorrow;⁴⁸ conversely, surpluses today can lead to greater private debt in anticipation of lower taxes tomorrow.

Second, people might think excessively or even exclusively about the short term. They neglect the fact that deficits must be covered in the future. More generally, they engage in a kind of optimism bias (Kahneman & Lovallo, 1993; Camerer & Lovallo, 1999): believing matters will all work out in the end. In this case, they would favor budget deficits in the short term and respond differently when asked about the future than when asked about the present.

Third, people might think differently about tax cuts and spending cuts because public discussion tends to focus on taxation as a single large category and, eventually, on spending as a set of specific programs. When spending is presented as a single total category, people will prefer spending cuts to match tax cuts. When, however, the spending cuts are unpacked, people will oppose cuts in spending on particular programs. Such an effect would be analogous to the “identified victim” effect (Jenni & Loewenstein, 1997; Small & Loewenstein, 2003; Kogut & Ritov, 2004). Deficits result. We test this by asking about spending in the abstract and cuts in particular programs.

We also ask whether responses to the adjustment question are influenced by the starting point. Do people have an idea government size in mind? Or are they influenced by the status-quo? If people do not adjust to the same ideal level, then once deficits (or surpluses) are in place, people will not be inclined to remove them immediately.

In our first experiment, we presented people with hypothetical government budgets in which taxes and spending vary independently, leading to deficits, surpluses, or balanced budgets. We asked people for their preferences about taxes and spending, in the long term and short term. We compared their preferred levels to the starting levels they were given. We also asked whether they would adjust completely so as to maintain a constant balance and size of government, or, conversely, whether they under-adjust, in which case they will

fail to correct surpluses and deficits. They will prefer levels of taxing and spending that fail to fully correct existing deficits or surpluses.

A second experiment tested the hypothesis that people prefer spending cuts in the abstract but not in particular. We told subjects that only certain categories of the budget could be cut, and we asked how they would change the levels of spending in each category. The three levels of taxing and spending were combined to produce nine combinations. At the end of each of case (depending on the subject's group, which was randomly chosen), the subject was asked, "What would you do to the spending levels in each of the following categories in this case? (Remember, these aren't the only categories.)" After each of the categories, the subject could choose "Decrease," "No change," or "Increase."

Figure 2 shows subjects' preferred levels of taxation and spending as a function of the starting levels of each. Three features of the results are of interest.

First, subjects preferred lower taxes, reflecting once again a general tax aversion ($t_{74} = -4.58, p = 0.0000$). In the high (25%) and medium (20%) initial tax conditions, subjects lowered the tax rate. In the low (15%) initial tax condition, they supported a slight (non significant) tax increase, although it is worth noting that the introductory page had set a current condition default at 20%, so subjects might indeed have taken this as a tax cut.

Second, subjects generally favored a surplus over a deficit. Preferred levels of taxation were higher than preferred levels of spending by an average of 1.3% ($t_{74} = 4.90, p = 0.0000$, across subjects). There was no significant difference between short-term and long-term. The optimism-bias hypothesis receives no support. Nor did any other hypothesis holding that people prefer deficits. No subject showed a significant pro-deficit inclination by a within-subject t test across the 18 cases.⁴⁹ The surpluses were created because the subjects

⁴⁹With the p-level corrected for multiple tests using the step-down resampling procedure of Westfall and

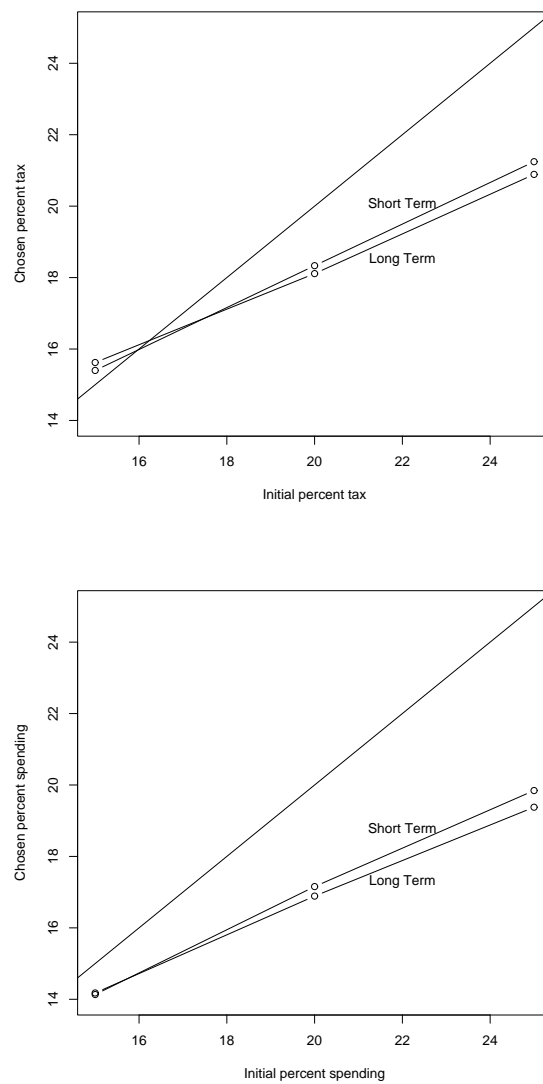


Figure 2: Preferred levels of taxation and spending, Experiment 1. (Diagonal lines represent no change from starting point.)

cut spending, *here presented in an abstract, general way*, by more than they cut taxes.

Third, subjects adjusted their responses to the current balance of spending and taxation, although it was trivial not to do so — subjects easily could have maintained a constant level of tax and spending independent of the artificially set initial conditions. But they did not. Responses depended on both the starting levels of spending ($t_{74} = -3.69$, $p = 0.0004$; in a regression with taxation minus spending as a function of current spending, current taxation, and their interaction, with the coefficients tested across subjects) and taxation ($t_{74} = 3.56$, $p = 0.0007$, and no significant interaction between current taxation and spending). But subjects did not go far enough to maintain a constant level of taxes, spending, or the balance between them, showing an *anchor and under-adjustment* effect. The upshot was that their preferences led to significant surpluses when surpluses were already present, or even when the budget was balanced ($t_{74} = 5.05$, $p = 0.0000$), but, when deficits already existed, they were maintained ($t_{74} = -3.62$, $p = 0.0005$). The under-adjustment hypothesis is supported.

This experiment revealed that subjects are generally tax averse but are *also* deficit averse. Given free rein, they generally support cutting taxes, but aim to balance the budget by cutting general levels of spending. They are not naively optimistic. But they are influenced by initial conditions, however thinly framed or presented.

The second experiment was similar, except that we removed the short-term condition, because we found no short term/long term divergence, and we added a new condition in which subjects made particular judgments about category spending. We attempted to approximate the major categories of spending in the U.S. federal budget. In this way, we tested the identified-victim explanation, which is that people oppose particular budget

Young, 1993, as implemented by Dudoit and Ge, 2003).

cuts, although they are happy with spending reductions in the abstract.

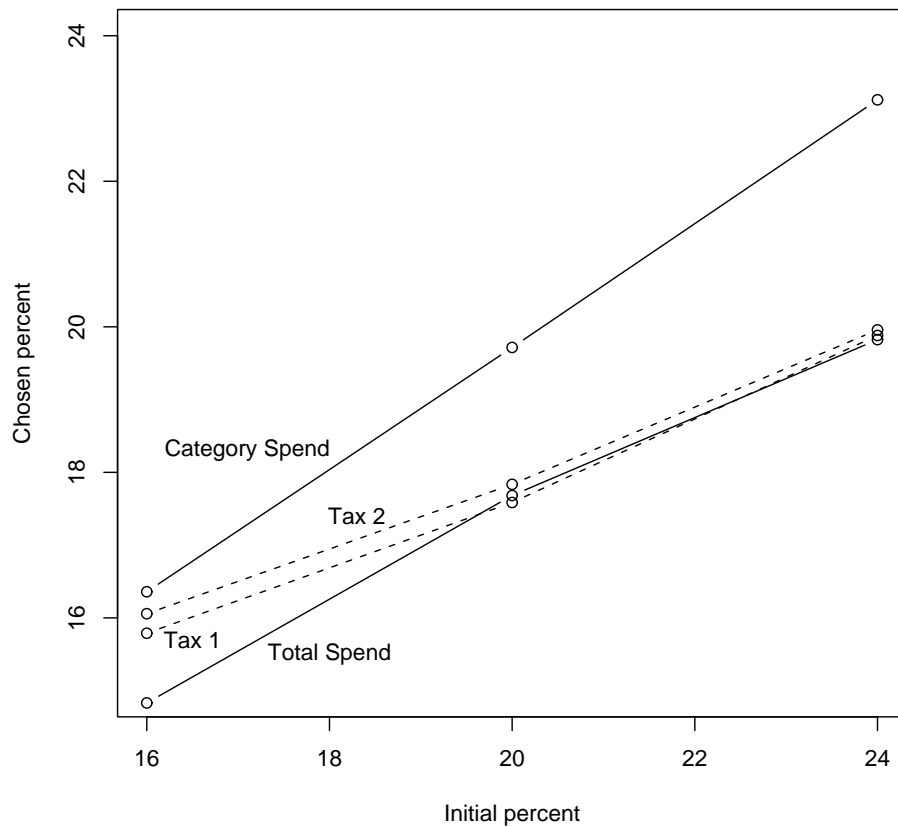


Figure 3: Levels of taxation and spending implied by judgments, Experiment 2. Taxation questions are dashed lines; Spending questions are solid lines.

Figure 3 shows the mean judgments for the four conditions. Tax1 and Total Spend are from the trials with the direct questions about spending as well as taxation. Tax2 is the taxation question from the trials with category-spending questions, and Category Spend is the level of spending inferred from the answers to the category-spending questions.

In Tax1 and Total Spend, subjects want less spending and less taxation on the whole,

especially when the level of each is high. As in Experiment 1, there is some attempt to adjust toward a constant level, but not enough to remove the influence of the starting point (which would make the lines horizontal). Because of this under-adjustment, all deficits and surpluses remained incompletely corrected. On the whole, however, subjects favored neither surpluses nor deficits, although they did favor reductions in both spending and taxation. (All positive results described in this paragraph were highly significant by t tests across subjects; $p < .0001$.)

Tax1 and Tax2 did not differ significantly. Total Spend and Category Spend, however, differed significantly ($t_{86} = 5.44$, $p = 0.0000$). Although subjects did adjust Category Spend somewhat by reducing spending more when initial spending was higher ($t_{86} = -3.31$, $p = 0.0014$), the amount of adjustment (change in from the starting point in Figure 3) was 7% of the amount in Total Spend. Moreover, the Category Spend and Tax2 judgments together implied higher deficits than the starting point on the average ($t_{86} = 5.78$, $p = 0.0000$). Subjects wanted to cut taxes ($t_{86} = -6.00$, $p = 0.0000$) but did not want to change spending significantly, *when, and only when, they were faced with questions by category*.

Figure 4 shows category-spending changes as a function of category, both for the actual changes, calculated on the assumptions given to the subjects, and changes under an “equal” condition in which each of the six categories was assumed to be a sixth of the spending listed (92% of all spending). It is apparent that subjects were willing to cut some spending, but their favorite target for cuts was foreign aid, which amounted to a small proportion of the budget. However, despite the strong desire to cut foreign aid, analysis of the data on the assumption that all categories were equal in spending (as shown in Figure 4) does not change the main result. Although spending cuts were greater when analyzed this way, spending was still substantially greater than in Total Spend, the condition in which

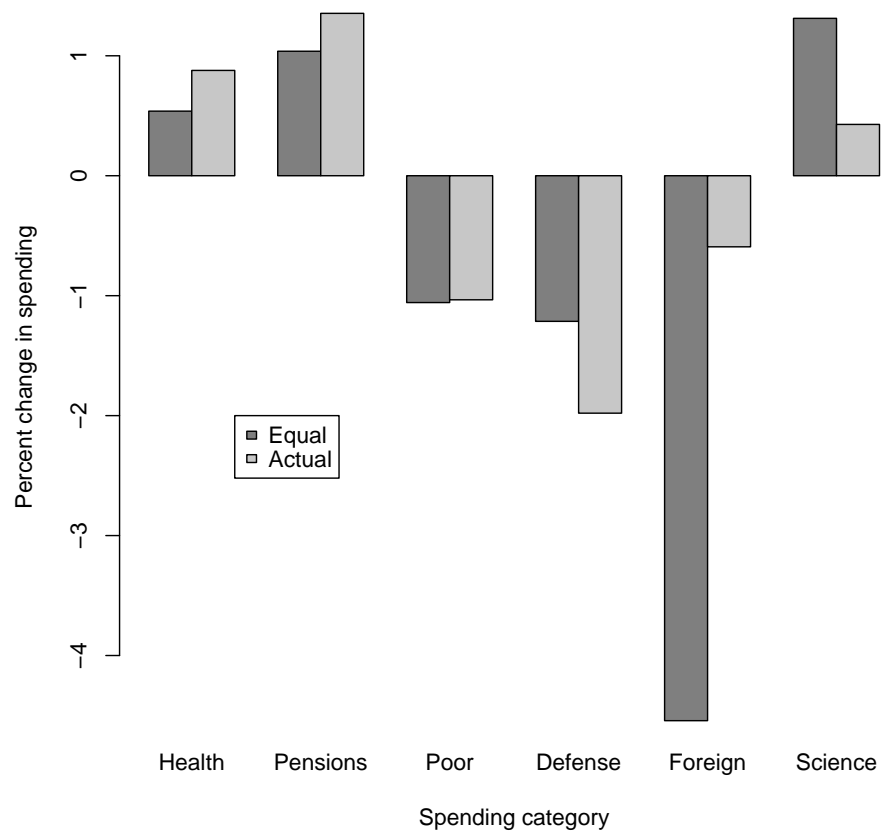


Figure 4: Category-spending changes, in percent of spending, calculated as if all categories were equal parts of the budget, or the actual percents given to the subjects.

spending cuts were made globally (mean difference 1.69 as opposed to 2.28 in the original analysis, $t_{86} = 4.22$, $p = 0.0001$), and the overall deficit was also greater (mean difference 1.49 as opposed to 2.09; $t_{86} = 3.77$, $p = 0.0003$). Thus, it appears that one primary source of the reluctance to cut particular categories is the identification of the categories.

In sum, we found no support for two hypotheses about why starve-the-beast might gain political support. People do not favor deficits, even in the short term. We found strong support, however, for the hypothesis that people favor spending cuts in general but not in particular.

Why it Matters

Why do these various heuristics and biases in understanding and accepting redistributive public finance programs, grouped under the common label of isolation effects, matter? We realize that there is still much work to be done in connecting our findings to actual tax systems, which are the product of complex and multi-layered political processes.⁵⁰ But we have a strong belief that there is indeed much relevance. Actual public finance systems do show a tendency towards hidden taxes, the income tax does not compensate for the relative lack of progressivity in other tax systems, privatization seems to affect redistribution, deficits appear to matter, and so on.

We address in this Section the prescriptive challenges, in moving from the *is* of cog-

⁵⁰ textitSee generally SVEN STIENMO, *TAXATION AND DEMOCRACY: SWEDISH, BRITISH AND AMERICAN APPROACHES TO FINANCING THE MODERN STATE*, (New Haven: Yale University Press, 1993) for a discussion of the role that popular democratic input may or may not have in formulating tax policies. We discuss some of these issues at greater length in Edward J. McCaffery and Jonathan Baron, *Thinking About Tax*, PSYCHOLOGY, PUBLIC POLICY, & LAW (forthcoming).

nitive bias in the understanding of tax to any compelling *ought*.⁵¹ There is a tendency to think that, if tax and other public finance systems appeal to popular perceptions, that is a good thing — there is a psychic gain from putting the pain of tax in its most pleasing light. We believe that this is wrong — dangerously wrong — for several reasons.

One, psychologically pleasing taxes have real effects. In particular, they can be inefficient, violating the first prong of the optimal welfare economics analysis. The corporate tax as an example of a hidden tax is a leading case on point. Although the tax seems to please people — specifically in this sense that it does not strike them as a “tax,” or at least not one that they pay — a corporate tax has *real* effects on prices and other allocative decisions. If the distorting costs of the tax are higher than those of any alternative equal revenue raiser then, *ceteris paribus*, society is paying a real cost, in terms of welfare, for its psychic preferences. The first prong of the optimal welfare economics approach cannot be followed, because the people will not accept efficiency-enhancing reforms.

Two, and perhaps worse, equity can suffer — it can be pitted against efficiency in a tradeoff not mandated by the optimal approach. This is, of course, the central subject matter for the articles in this journal: redistribution. Psychically pleasing taxes may not – and we have found, generally *will not* be, as progressive as subjects themselves desire taxes to be, in the abstract. If the isolation or disaggregation effect were not so widespread, this equity effect may not matter all that much, although the efficiency losses noted in the prior paragraph would still obtain. Society could have as many regressive taxes or surcharges as it desired, as long as it had a single system, such as the income tax, in which to redistribute. But we have seen that ordinary subjects will have a hard time understanding

⁵¹ See generally DAVID HUME, A TREATISE ON HUMAN UNDERSTANDING [finish citation] for the classic statement of the difficulty in moving from a descriptive fact, an “is,” to a moral position, an “ought.”

extreme progressivity in any single system, viewed in isolation. This fact counsels against the earned income tax strategy, of using a negative income tax bracket to offset positive taxes elsewhere;⁵² the negative tax becomes salient and draws fire. The reformer concerned with redistribution need look at all tax systems, individually, because the polity will not adequately integrate them. The same tension is evident in the privatization effect. The two-part optimal welfare economics analysis suggests that efficiency, alone, should dictate whether or not the government provides a good or service. But because ordinary subjects once again have a difficult time integrating the effect of spending cuts, or government downsizing, on the residual tax system, bottom-line redistribution can suffer on account of even an efficiency-enhancing reform. The paretian constrain will not hold, the rich will get richer, the poor, poorer. This is troubling.

These two findings — that equity and efficiency can both suffer on account of prevalent heuristics and biases in the understanding of public finance systems — constitute the major ethical challenge that behavioral perspectives raise for analysis of the status quo, and traditional welfare economics, and they are thus our principal concerns. But thinking about public finance raises other concerns, still.

Three, the resolution of public finance matters can be fragile, and volatile, as equivalent frames can shift public opinion. Instability in public finance systems is itself, *ceteris paribus*, a bad — a welfare reducing phenomenon.⁵³ Note that the psychology suggests that preference shifts or reversals can obtain with *no* change in the underlying substance, so it is not a matter of people seeing the light, and adopting “better” resolutions of public finance systems. people will simply choose more progressivity if they can be led to think

⁵² See Lawrence Zelenak, this volume.

⁵³ See generally Martin Feldstein, *On Optimal Tax Reform* [complete, verify citation].

in percent terms, and less in dollar terms; they will choose policies that can be understood as bonuses, and then reject them when they come to see them as penalties. This back and forth, on purely formal grounds, is problematic. Worse, it leads to our next concern.

Four, given the importance of framing and related effects, politics will reward rhetoric over substance. “Great communicators” will be prized, not because they advocate “better” policies, but because they make their policies *sound* better to voters. In and of itself, this diverts political resources from the potentially welfare-enhancing study of substantive policy effects, to the purely formal rhetorical presentation of matters. And this leads, finally, to an especially great concern.

This is fifth, finally, and perhaps most disturbingly: a skilled politician or political party can manipulate public opinion and get a public finance system in place in conflict with prevalent democratic preferences. Suppose, that is, that some such politician or party wanted to reverse course, and reduce the degree of redistribution prevailing throughout public finance systems. Our research provides an eerie road-map for success. To wit, our findings, confirmed by others, suggest that a policy position to lessen social redistribution would likely lose in a straight up or down vote — because a majority of people favor at least moderate redistribution. But the (rhetorically) skilled politician could effect a collective preference reversal. She might first choose hidden taxes, with a regressive incidence, and raise money through a series of relatively flat surcharges not labeled as taxes. People would support these, and a surplus might even result. Larger surpluses might follow from selective “privatization” of government goods and services, reducing the need for taxes. Cuts could then be made to the most salient tax alone — the income tax — which tax could be brought to reflect moderate progressivity, even as its importance in the overall budget declined. Indeed, the politician could take this a step further, and separate out the topics of

tax and spending cuts, cutting taxes — again, the income tax — now, postponing spending cuts until later. The resulting deficit would curtail government growth, and could lead to replacement taxes less progressive than the initial baseline. And so on: we would wake up one day with a smaller government, less dependent on the single remaining progressive tax system, and that tax system would continue to have only moderate levels of progressivity. Over all, the series of steps would lead to dramatically less redistribution than the people themselves wanted, at the outset, and the cumulative changes would also fail to meet the basic paretian constraint.

Of course, the astute observer might notice that this is what has been done, under Republican party leadership, in the United States, beginning with Ronald Reagan in 1981.⁵⁴

What is to be Done?

We hope at least to have motivated readers and related researchers that the subject matter of how ordinary citizens perceive public finance systems is important, and that the stakes for collective social welfare can be large. In our work, we have only begun to think about systematic solutions to these problems. We discuss them here.

Consider, to get the analysis started, our final result, on “starving the beast.” Our research shows how the strategy might work to effect a preference reversal in the citizenry, getting the people to support deficits and spending cuts, against their own initial judgments. The key to the technique’s success is to match specific tax cuts today, which subjects will support, with the abstract, general idea of spending cuts, which subjects will also support today. If tax cuts today must be matched by specific spending cuts today, then

⁵⁴Steurele, CONTEMPORARY TAX POLICY.

the opposition to both specific cuts and deficits is likely to preserve the status quo. On the other hand, if the tax and spending decisions can be separated in time and (logical) space, then the specificity of the spending cuts can recede, and a disaggregation bias effect can take hold. Subjects will focus on the tax cuts alone, where a generic tax aversion will lead them to support cuts. A budget deficit results. Once this deficit is created, the preference for fiscal prudence causes people to want to raise taxes and cut spending. But these desires are not strong enough to reduce the deficit to zero, even when people are asked about the “long run.”

There is inconsistency here, and it does not seem to follow from a simple “optimism” bias.⁵⁵ It is not, that is, that subjects seem to have a naive belief that things will be better tomorrow, miraculously closing the deficits without the pain of tax increases or spending cuts. Rather it is a failure to properly anticipate the depth of the difficulty in making *specific* cuts tomorrow — the depth, that is, of the endowment effect. At a high level of generality, the starve-the-beast strategy works by pairing a specific (salient) tax cut with an abstract (non-salient) set of spending cuts.

This conceptualization suggests two broad ways for governments to avoid deficits. One is to keep everything abstract: to pass laws, as in the form of constitutional restrictions, about balanced budgets. Our experiments showed that in the abstract, subjects indeed support fiscal balance. Many state governments in the U.S. are indeed required to have balanced budgets each year, and the U.S. government has occasionally tried to bind itself in advance by various budgetary rules.

An alternative takes the opposite: to make everything concrete and specific. We could break taxes down into categories earmarked for particular services, as in the case of the

⁵⁵ The optimism bias is discussed in Jolls, *supra*, see also [other citations on optimism].

various wage taxes in the U.S. If citizens come to think of each tax as linked with a particular service, they may be less willing to cut taxes;⁵⁶ indeed, this could explain why the social security and medicare tax in the United States, now the largest tax for *most* American taxpayers, is also the one major federal tax that has *never* been cut.⁵⁷ This alternative would probably lead to a larger, more active government than the first method (binding in the abstract).

It may also be possible simply to confront people with the conflict in their opinions, as a device of argumentation. Advocates of larger government are often tempted to answer their opponents, who want to cut both taxes and spending, by saying, “OK. Where? Exactly what do you want to cut?” The usual answer, “government waste,” — an abstraction — may stop working after a while, given that practically every single politician elected to public office has been against waste. But then that would be rational, as politics seldom is.

These reflections lead to our final thoughts, on three broad approaches to mitigating the problems we have noted.

Individual-level Education

Perhaps the most common grounds for hope is to get individuals to become consistent in their judgment and decision making, through what is known as “debiasing” — public education being perhaps the best mechanism. Our experiments give some, but only rather little, grounds for hope here. The experiment on hidden taxes showed that people react somewhat to an explanation that “hidden” taxes are less progressive than the income tax, or to the fact that deductions under a progressive income tax have a regressive effect. But

⁵⁶ Garrett, 1998

⁵⁷ McCaffery & Baron, 2003

they do not react much to these explanations, and they seem more driven by a visceral opposition to the income tax. We also have little reason to believe that such debiasing would endure. In other cases, as in the work on disaggregation bias with multiple tax systems, our experimental designs made matters quite transparent. It was simply for subjects to be globally consistent, and yet they were not. These and other related findings give us reasons to doubt that individual level debiasing or education will eradicate the root problem.

This is not surprising. Situating heuristics and biases in a basically rational framework, we see that most such biases are handy rules of thumb or guides to action in most cases. Thus the isolation bias may reflect a prudential principle of paying attention only, or mainly, to what is before one. We know that experts can transcend or at least mitigate these biases in specific contexts.⁵⁸ But how to get the ordinary citizen to think better – more consistently – about public finance? The subject matter is complex, as we have seen, though all of our experiments concerned important issues, and we took pains to present the information simply. Thinking about the matters is an unfamiliar activity to all but a small handful of experts, and the precise questions (child care credit? private social security accounts? increased user fees?) are ever-changing. Perhaps worst of all, the stakes for the individual citizen are extremely low. This is so, not only, or even primarily, because the dollars and cents consequences of incremental decisions to ordinary citizens is low; it is also, or more

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Fong, G. T., Krantz, D. H., & Nisbett, R. E. (1986). The effects of statistical training on thinking about everyday problems. *Cognitive Psychology*, 18, 253–292.

Lehman, D. R., & Nisbett, R. E. (1990). A longitudinal study of the effects of undergraduate training on reasoning. *Developmental Psychology*, 26, 952–960.

Nisbett, R. E., Fong, G. T., Lehman, D. R., and Cheng, P. W. (1987). Teaching reasoning. *Science*, 238, 625–631.

so, because individual citizen input is limited to single votes in crude, multi-issue, winner-take-all elections. It is hard to expect that ordinary citizens, consumed enough with far more pressing matters, can or will become expert, consistent decisionmakers on complex economics subjects. More hope might lie, indeed, in better voting procedures.⁵⁹

On the other hand, “debiasing” might not be so hard if people could learn to think more like economists. Economics is complicated because it takes everything into account. It overcomes focusing by looking at indirect effects and hidden effects. But it also simplifies by integrating. Often the simplification is striking. Simple principles like “conservation of money” (analogous, perhaps to conservation of mass in Newtonian physics) can make public policy seem easier to understand, not harder. For example, such a principle would lead to immediate questions about how tax cuts will be covered, who will pay after privatization, and so on. It is not hard to learn that free lunches are rare. Why isn’t economics a requirement for high-school graduation?⁶⁰

System-level changes

Changing focus, another possibility for structural reform would leave individuals to be individuals, and look to implement system wide changes instead. We consider here two broad possibilities, the first anticipated by our discussion of “starving the beast,” above.

⁵⁹ See for example, Baron on Approval Voting, or Matsusaka on Initiatives.

J. Baron, N. Y. Altman, & S. Kroll Approval voting and parochialism. draft, 2004

⁶⁰ A quick way to make this happen is for Educational Testing Service to put economics questions on the SAT.

Institutional and constitutional constraints

One promising path for further exploration is to put in place constitutional or other legal constraints. The starving the beast analysis supports the wisdom of this: in times of cool, global reflection, consistent and sensible policy outcomes might prevail. Thus, for example, “balanced budget” amendments or rules create constraints, that, our research has found, most subjects would favor. Other ideas include requiring the government to produce “fiscal impact statements,” along the lines of environmental impact statements, to make the effects of various fiscal actions more transparent. A helpful analogy in tax policy is the “tax expenditure” budget championed by Stanley Surrey.⁶¹ This requires the government to list, as a form of expenditures, the various amounts of foregone revenue occasioned by deductions, exclusions, and credits in the Internal Revenue Code. Although there are inevitably questions and controversies in arriving at definitions and figures,⁶² the device has served a kind of consciousness-raising, a kind of debiasing by fiat. On the other hand, such informational mechanisms, alone, may not always produce results; one wonders if the annual statement of accrued social security benefits that American taxpayers receive each year does any more than confuse them.⁶³ This leads us back to the idea of tying government’s hands to some mast, as with constitutional constraints.

Role of Experts

Another possible way out of the problem is to take matters out of the hands of the legislature, as has been done in other areas such as environmental regulation and drug approval.

⁶¹ Citations, to Surrey, Shaviro, McCaffery 1994.

⁶² See for example Boris Bitkker, [other citations].

⁶³ See Howell Jackson in McCaffery and Slemrod, *supra*.

Legislators micro-manage tax, which leads to a complicated tax code built by accretion, like a coral reef. Could citizens come to trust a government agency that designed the tax code itself? The legislature would give it general guidance, as it does the Food and Drug Administration, and would be able to take away any powers given. Still, it might improve matters.

Arguably, large governments have been turning over more and more power to regulatory agencies. Breyer⁶⁴ has described such changes in France, and has advocated similar changes in the U.S. for risk regulation in particular. Sunstein⁶⁵ has shown in detail how this sort of idea might work. Central banks have essentially de-politicized the setting of interest rates. What may be crucial, however, is that citizens have sufficient understanding of the domains in question so that they can trust the regulators. Although we cannot expect everyone to be able to think like an economist, we can more reasonably expect that secondary education would lead people to understand, in the context of a few examples, what it is that economists try to do, and how⁶⁶

Competititon

Finally, a more fundamental — and perhaps more promising — idea is to look to the example of private markets. Here, too, ordinary actors, typically consumers, can easily be lead astray by individual heuristics and biases. Yet market forces serve as a kind of arbi-

⁶⁴Breyer, S. (1993). *Breaking the vicious circle: Toward effective risk regulation*. Cambridge, MA: Harvard University Press.

⁶⁵ Sunstein, C. R. (2002). *Risk and reason: Safety, law, and the environment*. New York: Cambridge University Press.

⁶⁶ Baron, J. (1993). Why teach thinking? – An essay. (Target article with commentary.) *Applied Psychology: An International Review*, 42, 191–237.

trage mechanism, lessening, if not altogether eliminating, the effects of individual biases.⁶⁷ Thus, for example, however irrational or inconsistent consumers might be on the demand side, the relentless logic of competition on the supply side will bring about marginal cost pricing in competitive markets. Likewise, financial markets, such as the stock market, ought, in the main, feature efficient pricing, as long as there are enough rational actors without liquidity constraints to set things aright.

In public finance, there is no such market. Politicians compete, of course, for votes and, increasingly, money. But they do not necessarily compete on the basis of wealth-maximization, to which private markets relentlessly head. Rather, as we have noted, politicians might compete on the basis of their purely rhetorical success. As we have noted elsewhere, “arbitrage” against heuristics and biases is a private good in private markets, but a public good in public ones. The private actor, noticing an anomaly in private markets, can thereby profit, and the invisible hand of competition works to effect marginal cost pricing. But in the public sphere, an actor who notices an inefficient tax or spending dimension — a violation of the first prong of the optimal welfare economics analysis — cannot thereby capture any gains for herself, or even her party. Public goods are predictably undersupplied. Thus, for example, one is hard pressed to find a major politician or political party campaigning against hidden taxes, such as the corporate income tax.⁶⁸

All this suggests using some of the private market’s answers in public finance. Indeed, the general hidden tax bias suggests that all taxes should be hidden, and the corporate tax in particular quite large. Yet this tax is limited in the United States and other advanced

⁶⁷ See eg Barberis and Thaler, and discuss; McCaffery and Baron.

⁶⁸ Indeed see Jennifer Arlen and Deborah Weiss, Yale Law Journal, 1994, for a discussion of why *no one* is seemingly opposed to corporate income taxes.

democracies. Why? Capital is fluid, and so any overly high corporate tax could lead companies to locate elsewhere. Indeed, competition might lead to the elimination of the tax, which is not necessarily a bad thing. In general, creating competition across fiscal units might push public finance in a more optimal direction. While there are, of course, many very complex issues of economics and institutional design, we note, finally, that it is disturbing in this regard that large fiscal powers, such as the United States, use their power to restrict competition along these lines — requiring, for example, effective corporate taxes among developed nations⁶⁹ — in a way that would be objectionable, indeed illegal, among private actors.

Part of the problem here is that competition among governments is limited and inconsistent. To some extent, government can compete for investment, including the location of plants that employ workers. This kind of competition is often destructive in several ways⁷⁰ But immigration policies several limit competition for citizens themselves. Greater competition among government under a regime of free immigration could lead to more people living in places with better systems of taxation overall. To some extent, the states of the U.S. compete in this way. And such competition occurs now among nations for illegal immigrants, who often risk their lives to escape nations that are very badly governed. Yet, it isn't clear that nations even benefit from expanding populations, or want the immigrants who want to come. Thus, competition among governments is probably not a long-term solution.

⁶⁹ See for example Ehud Kamar.

⁷⁰ Bazerman, M. H., Baron, J., & Shonk, K. (2001). *You can't enlarge the pie: The psychology of ineffective government*. New York: Basic Books.

Conclusion

Our subject matter in this article has been how ordinary people even think about redistribution through a tax and transfer system, and how this might interfere with a welfare improving, optimal tax and transfer policy.

We have presented evidence of several distortions in judgments about redistribution. Some are minor, such as the effect of presenting information as percent vs. dollars. Others are more serious:

- People dislike penalties and feel that they should fall more heavily on the rich, but the poor should get bonuses, so the preferred distribution depends on whether a difference is described as a penalty or bonus.
- Judgments are affected by whether or not something is described as a tax, even when the consequences are held constant.
- People prefer hidden taxes in part because they do not think through to the next step of who will actually pay them. When they are prompted to think about this, their support for hidden taxes declines.
- People prefer tax deductions to subsidies in part because they do not think about the regressiveness of deductions. When prompted to think about distributional effects, their support for deductions declines.
- When people are asked to make judgments about a distribution, they *isolate* what they are asked to distribution, ignoring the possibility of using to correct mal-distribution elsewhere.

- Similarly, people favor privatization despite its regressive effects, even when they favor progressive taxation.
- People favor lower taxes and lower government spending *in general*, but they are unwilling to cut *specific* programs anywhere near enough to constitute the general cuts they say they want.

We have focused on the focusing or isolation effect. People make judgments about what is in front of their noses. They ignore logically connected information and data that is offstage, as it were, however slightly. This natural tendency leads to instability, easy manipulation, and attempts to hide possible consequences of policies as a part of winning support for them. All too often, the result is that redistributive policies are undermined because people do not think about the distributional consequences of some policy change, such as privatization or the use of tax deductions.

Our work thus helps to understand some of the difficulties of making democracy work. In tax, everyone wants good outcomes, primarily, but democracy still does not quite produce them.

We have also suggested various ways to remedy these effects, such as education, and re-designing institutions, for example, by relying more heavily on expert regulatory agencies to design tax policy. Our hope is that, in the long run, better understanding of the imperfections of democratic government can bring it closer to perfection, as we can see no other alternative to democracy itself.