CHAPTER 9

Perceptions of fairness in the crucible of tax policy

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1 Introduction

The dramatic changes in U.S. tax laws in the 1980s naturally lead one to inquire into the forces that shape and change tax policy. Two views are often implicit in informed discussions of tax policy; at the risk of simplification, these may be termed the "idealist" and the "political" view.

According to proponents of the idealist view, major changes in tax policy are driven by deep-seated normative theories or ideologies about the tax system. The 1981 tax changes were based on incentive-based supply-side theories whose antecedents range from Andrew Mellon to Arthur Laffer to the optimal-tax theorists. The 1986 tax reform, on the other hand, traces its origins to Robert Haig, Henry Simons, Joseph Pechman, Richard Musgrave, and other "tax reformers." A possible future major shift toward consumption-based taxation would owe its allegiance to the tradition of Irving Fisher and Martin Feldstein. Proponents of this view of the formation of tax policy adhere to the dictum of John Maynard Keynes that practical men are the slaves of "defunct economists."

The political view of tax policy emphasizes special interests, influential committee chairmen, and the pursuit of political advantage by catering to the latest reading of volatile public opinion. Birnbaum and Murray (1987) highlight the full apparatus of lobbyists and special interests in the formation of tax policy. But the best single statement of the pursuit of political advantage through tax policy comes from maneuvers between President Bush and the Democrats in the winter of 1992. Dan Rostenkowski, Chairman of the House Ways and Means Committee, described

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how public opinion is used for political advantage: "We do focus groups and take polls . . . and you can bet that we'll be in the 92 percentile when we get our bill out."[1]

This is one cynical view of the role of public opinion in tax policy. But there is an alternative perspective that suggests that deep-seated public opinions and attitudes may have a more profound role to play in the formation of tax policy, perhaps akin to the influence of ideologies. Perceptions of fairness in tax policy can influence actual tax policy in a number of ways. First, there may be deep-seated preferences over how progressive the tax system should be. These preferences could in turn be translated through the political system, operating perhaps as constraints on the political actors in the system. Second, the public may have characteristic perspectives or perceptual "windows" on taxation which also affect the formation of tax policy. For example, some economic psychologists have suggested that status-quo bias, "framing" of alternatives, and "mental accounts" are important determinants of public attitudes toward economic phenomena.[2] These characteristic perspectives may profoundly influence the actual course of tax policy.

This paper explores whether the public has deep-seated attitudes and perceptions that influence the formation of tax policy. It draws on a wide variety of studies by economists, tax lawyers, accountants, and psychologists, as well as on some original survey research. We begin by first assessing the extent of public knowledge about the tax system and how well-founded public opinions are. We then turn to the topic of progressivity and review several surveys and experiments designed to uncover public preferences toward distribution of the tax burden. Some evidence is also presented about perceptions of the desirability and incidence of corporate taxes.

One area in which there appear to be distinct differences between the preferences and attitudes of the public and those of economists is that of tax incentives and tax preferences. These attitudes are explored through the use of a survey, a discussion of perceptions of implicit taxation, and a case study of a controversial tax incentive. The paper concludes with some suggestions of how public attitudes do in fact influence the formation of tax policy.

To this point, the term "public" has been used rather loosely. This is intentional. The broad public that influences tax policy includes the average

[1] As quoted in the *Sacramento Bee* (14 February 1992, p. A-4). Despite Rostenkowski's claims, the Democratic bill did not survive a White House veto and failed to carry a majority in the House on the override vote.

[2] I refer here to the work of Kahneman, Thaler, and Tversky. For a good introduction to this work, see Thaler (1992).

taxpayer as well as the high-paid lobbyist or tax attorney. If there are deep-seated attitudes that influence tax policy, they should be held by a wide range of participants in society.[3]

2 How deep is public knowledge about taxation?

Attitudes about the tax system and perceptions of fairness will naturally be influenced by what the public actually knows about the tax system. The tax system is one of our most complex social contrivances and, realistically, one can only expect there to be limited knowledge about it. Biases, however, may arise with incomplete information or incomplete knowledge. Moreover, the public may not have the conceptual apparatus to address certain policy questions. Each of these defects – bias and inadequate conceptual frameworks – appears to be present in public attitudes and perceptions about taxation.

The first bias concerns awareness of actual rates of taxation. A number of independent experiments have concluded that taxpayers underestimate either their tax liabilities or marginal tax rates. Enrick (1963, 1964) conducted several surveys during an August–December period in which respondents were first asked to estimate the federal taxes they paid and then to look up their actual taxes. Taxpayers appeared to underestimate their taxes; in fact, the number of taxpayers underestimating their taxes was roughly twice the number overestimating their taxes. Roughly 45% of taxpayers made errors of greater than 10% in estimating their tax liability.

Lewis (1978) found that British taxpayers tended to underestimate *marginal* tax rates. He asked the following question to a sample of 200 Bath residents: "In the first column please put what you think the income tax rates are for people in each income bracket: this means if people in each income bracket earned an extra pound how many pence do you think would go in income tax?" He found that mean estimates of marginal tax rates were 11% below those prevailing at the time. His results appear in the first three columns of Table 1. However, individuals were more accurate in assessing marginal rates close to their own brackets.

Finally, in a Canadian survey, Auld (1979) also found substantial underestimates for taxpayers in higher income brackets. However, at lower incomes they overestimated their taxes. The discrepancies reported were

[3] Although we will typically include tax attorneys and accountants in our definition of the public, we will make a distinction between views of economists *qua* economists and those of the general public. This is quite common in the economic psychology literature, which (for example) will comment on the differences in perception by the public of transactions that are identical in the economic sense but are "framed" differently.

Table 1. *Perception of and preference for marginal rates in the United Kingdom*

Taxable-income bands (£)	Actual marginal rate (summer 1977)	Estimates (mean)	Preferences (mean)
0–6,000	35%	32%	23%
6,000–7,000	40	36	26
7,000–8,000	45	40	28
8,000–9,000	50	44	32
9,000–10,000	55	47	34
10,000–12,000	60	52	38
12,000–14,000	65	57	42
14,000–16,000	70	62	47
16,000–21,000	75	68	51
Over 21,000	83	75	56

Source: Lewis (1978, table 1).

so large that Auld raised the question of whether income was accurately reported by the participants.[4]

A second form of bias concerns the relative visibility of taxes. The public is more aware of some taxes than others. As a general rule, income and property taxes are more visible than payroll or indirect taxes. Cullis and Lewis (1985) conducted a survey of 900 adults in the United Kingdom. One of their questions was: "Do you know where the government gets the money to pay for services?" Respondents were given a free response and then probed for additional ones. Although 93% mentioned the income tax only 56% mentioned taxes on goods, despite the importance of the VAT (value-added tax) in the British tax structure.[5]

The relative visibility of income taxes and property taxes (often paid in a few installments directly by the taxpayer) may explain why they are always the two most disliked taxes in yearly surveys of the Advisory Commission for Intergovernmental Relations (ACIR).[6] It also explains why conservatives who wish to limit government are suspicious of value-added

[4] In an errors-in-variable framework, if both income and taxation were reported subject to independent random errors then a regression of tax liability on income would yield a flatter slope and higher intercept than the true tax schedule relating taxes to income. This is precisely what is found.

[5] Cullis and Lewis also report similar findings in other studies on taxpayer awareness.

[6] Attempts to explain the survey results in terms of predicted economic incidence have not been very successful; see e.g. Fisher (1985).

taxes, despite their general preference for consumption taxes as opposed to income taxes.

Lawmakers appear to be aware of visibility in the design of tax law. Coop and McGill (1992) note the tendency in recent years for tax increases to be hidden in terms of "bubbles" and phase-outs of deductions and exemptions, as opposed to statutory rate increases. On the other hand, tax decreases proposed for the middle classes have been highly visible, taking the form of credits against income taxes.

Whereas taxpayers may underestimate rates and be overly conscious of "visible" taxes, they may simply not have well-informed views on complex issues. Keene (1983, p. 374) worries that "survey researchers have begun to try to measure the unknowable and untappable." Keene reviews three surveys taken in the late summer and early fall of 1982 by reputable pollsters about the desirability of the flat tax. Depending on the precise questions, support for the flat tax ranged from a high of 62% to a low of 27%. Keene argues that these wide differences are not totally due to the wording of the questions but arise because opinion in this area is not firm, at least with regard to responses to questions by pollsters.

The apparently straightforward notion of tax progressivity is actually fairly complex and can pose problems for taxpayers. Consider taxes as a function of income, $T = T(y)$. There are at least three different measures pertinent to measuring the tax burden:

Measure 1: Taxes increase with income - $T(y)$ is monotonically increasing.

Measure 2: Taxes paid as a share of income rise with income - $T(y)/y$ is increasing in y.

Measure 3: The tax on incremental income, or marginal tax rates, increases with income - $T'(y)$ is increasing in y.

In a 1963 preface to a re-publication of their classic book *The Uneasy Case for Progressive Taxation,* Blum and Kalven note that when they started their project they were determined to probe public attitudes toward progressive taxation. They report that they were warned off by colleagues in the social sciences.[7] In their initial experiments they found that respondents had difficulty distinguishing between measure 1 and measure 2. Blum and Kalven (1963, p. x) viewed this as a mathematical barrier. Recent evidence by Roberts, Hite, and Bradley (1992) confirms this conjecture.

Many writers on progressivity often make another mathematical mistake in believing that a tax structure must satisfiy measure 3 if it is to satisfy measure 2 as well. Yet increasing tax burden with income does not

[7] Blum and Kalven were at the University of Chicago Law School. Chicago economists were among the least receptive to survey approaches.

require rising marginal rates throughout the tax code: a flat tax with an exemption has constant marginal rates above the exemption, but taxes paid rise as a share of income. Even Blum and Kalven, who were clearly aware of this distinction, spent most of their book discussing measure-3 as opposed to measure-2 progressive taxes.

Another example of extended confusion of marginal and average rates was the "bubble" introduced in the 1986 Tax Reform Act. To maintain a top 28% statutory rate, lawmakers phased out the personal exemption and the benefits of being taxed at the lower 15% rate for taxpayers above certain incomes. For example, a married couple would have a 33% marginal tax rate between $78,400 and $162,770 while income above this latter amount would be taxed at the 28% rate. This was immediately attacked as unfair, even though the average tax rate would monotonically increase to 28% for those taxpayers in the bubble. It is always difficult to separate confusion from political posturing, but it did seem that large numbers of congressmen and citizens fell into the former category.[8] This bubble was burst in the 1990 tax law, but new bubbles emerged in the tax code.

Finally, the 1986 Tax Reform Act provides an interesting test case of how public opinion compares with expert views. In April of 1989, the American Institute of Public Opinion asked the following question: "Do you think the 1986 tax reform bill has made for a fairer distribution of the tax load among all taxpayers, one that is less fair, or hasn't made much difference from the previous system?"[9] The response (in percentages) for the total population and college-educated were as follows.

Respondents	More fair	Less fair	No difference	Don't know
Total	13	39	32	15
College-educated	20	46	25	9

It is clear that, on average, those with opinions felt that 1986 law made the tax system less fair. In fact, the 1986 law did lower rates but simultaneously broadened the base. Most experts felt that tax reform made the system more fair. Steuerle (1992, p. 122) wrote: "In the end, tax reform was probably mildly progressive or at least distributionally neutral." Expert opinion clearly differed from public opinion on this issue.[10]

[8] The bubble could, of course, create adverse incentive effects, but this was not the cause of perceived unfairness.

[9] The source is *Index to International Public Opinion*, 1989–90, "Economic Affairs," p. 85. Polls taken just before passage of the law did indicate mild support.

[10] Gravelle (1992) argues that the wealthy may benefit because some of the capital-income increases were transient, and that the rich may gain utility from more preferred portfolio positions.

This review suggests that we should be cautious in assessing public attitudes. There may be biases, lack of firm opinions, conceptual barriers to understanding, and a general lack of awareness of key events. However, there are better and worse ways of trying to measure attitudes and perceptions. Sophistication in survey research has increased since the initial pilot experiments of Blum and Kalven in the early 1950s. What does this more recent work reveal?

3 Direct evidence on attitudes toward progressivity

There have been several serious studies of preferences for income-tax progressivity. In addition to examining knowledge of the tax system in the United Kingdom, Lewis (1978) also surveyed preferences for marginal rates. Hite and Roberts (1991) and Porcano (1984) conducted surveys in the United States. The most illuminating contrast is between the Lewis and the Hite and Roberts studies.[11]

In 1977, Lewis surveyed 200 Bath residents about their knowledge concerning marginal tax rates and their preferences for marginal rates. The question used to ascertain knowledge was discussed in Section 2; the question for preferences was: "In the second column please put what you think would be fair income tax rates for each income tax bracket. There are no right or wrong answers, just put what you think is fair. This means how many pence do you think ought to go in income tax for each extra pound earned for people in each of the income brackets presented?" The survey was conducted in the summer of 1977 after a presentation of a summer budget, so Lewis thought that marginal tax rates may have been fresh in people's minds.

The results from Lewis's survey are shown in Table 1. Actual marginal rates ranged from 35% to 83%. Preferred marginal rates were lower, ranging from 23% to 56%. Preferred rates were 27% below estimated rates and 35% below actual rates. (The latter number is larger because taxpayers underestimated rates.) These percentages were relatively uniform across brackets. In a separate question, 65% of taxpayers agreed that individuals with higher incomes should pay a higher percentage of their incomes in tax than should individuals with lower incomes. Note that this is a question concerning average tax rates.

The clear conclusion from Lewis's study is that these U.K. taxpayers believed strongly in income-tax progressivity. "Fair" marginal rates

[11] The sample that Porcano used was small (approximately 80) and contained many students. Moreover, he was primarily interested in the type of rules used to assign the tax burden as opposed to detailed information on marginal rates. The Hite and Roberts work was more comprehensive on the topic of rates. In any case, the rates chosen in Porcano's work were close to those in the Hite and Roberts study.

were about 35% below those actually prevailing at the time. Nonetheless, even preferred rates of taxation were fairly high, reaching 56% marginal rates.

In a carefully executed and comprehensive study, Hite and Roberts (1991) received responses to an eight-page questionnaire booklet from nearly 600 individuals out of a total sample of 900. Their respondents closely corresponded to the overall population of the United States in terms of age and income. Among the topics they examined were: preferred average rates, preferences over alternative tax structures, differences in preferred rates when dollar amounts were used instead of percentages, sensitivity of progressivity to revenue requirements of the government, and the relation of self-interest to reported rates. The survey was conducted subsequent to the Tax Reform Act of 1986.

Table 2 contains some of their most important results. Preferred average tax rates for married couples ranged from 2.36% for the lowest bracket to 27.16% for the highest bracket. However, there was a large standard deviation for the responses in each category. For example, at the highest income level, the standard deviation was approximately 14, indicating wide dispersion in preferences.

The respondents were also asked to comment on the fairness of alternative rate schedules. There were five different schedules. Schedule A was the statutory rate structure after the 1981 act; schedules B and C were drawn from earlier periods of progressive rates; schedule D was the rate structure that emerged from the 1986 Tax Reform Act; and schedule E was a flat tax with an exemption. One difficulty in comparing these rate schedules is that they appear to raise different amounts of revenue. For example, statutory rates for schedules B and C are higher at all levels of income than for schedule A.

The bottom part of Table 2 reports the results of respondents asked to judge the fairness of these alternative rate structures and to choose the most preferred one. By a slim plurality, the flat-rate structure (alternative E) was chosen by 34% of the respondents. However, this meant that 66% chose progressive rate structures. Respondents were also asked if each schedule was fair; responses were measured on a scale of 1 (strongly agree) to 5 (strongly disagree). Only alternative A, a progressive tax schedule, received an overall mean response below 3.

In other results in the study, the degree of progressivity (based on relative tax burdens) was not sensitive to the revenue requirements of the government. Self-interest did play a role, as higher-income individuals advocated lower top tax rates than did lower-income individuals. When respondents were asked for assessments in dollars rather than rates, the effective rates (converted from the dollar responses) were substantially lower, reaching a top limit of only 20.1%.

Table 2. *U.S. attitudes toward progressivity*

Family income[a] ($)	Preferred average rate (%)	
	Mean	Standard deviation
5,000	2.36	4.82
10,000	4.74	5.65
15,000	8.31	5.73
20,000	11.67	5.91
25,000	13.87	5.94
30,000	16.08	6.79
40,000	19.11	8.17
50,000	23.67	10.45
100,000	27.16	14.20

	Choice of rate structures				
Income ($)	A	B	C	D	E
5,000	0%	0%	0%	0%	0%
10,000	14	18	23	15	20
20,000	18	24	31	15	20
30,000	28	37	40	28	20
100,000	45	59	66	33	20
Most preferred by:	33%	4%	1%	28%	34%
Fairness[b]	2.97	3.96	4.22	3.20	3.41

[a] With no children.
[b] 1 = strongly agree; 5 = strongly disagree.
Source: Hite and Roberts (1991, tables 1 and 2).

What is most striking is the difference in desired progressivity between the studies of Lewis and of Hite and Roberts. As a means of comparison, consider alternative tax schedules B and C in Table 2. These two are the closest to the preferences expressed by the British taxpayers, yet only 4% of the Hite and Roberts sample chose these as the most preferred! It is true that these rates raised more revenue than others. But depending on whether dollars or percentages were used, top average rates in the Hite-Roberts study were still between 20% and 27%, substantially below the average rates implied in Lewis's survey.

What can account for these differences? One obvious difference is the country. Perhaps British taxpayers prefer more graduated rate schedules

than U.S. taxpayers. A second possibility is that the structure or progressivity of other taxes in the economy may affect responses to surveys about income-tax progressivity. For example, if non-income taxes in Great Britain are less progressive than non-income taxes in the United States, then British taxpayers may prefer a more progressive income-tax structure even though their overall preference for progressivity is the same. No evidence is available for this conjecture.

A more likely possibility concerns the structure and level of tax rates at the time the survey was taken. Lewis's survey was conducted during a time of high marginal rates in the United Kingdom, before the rate reductions of the 1980s. There is a nagging suspicion that the same survey conducted in 1992 would show a preference for distinctly lower rates among British taxpayers, particularly since the top marginal tax rate was reduced to 40% in the 1980s.

Preferences for progressivity may be context dependent. Note that in both studies, preferred rates were somewhat below actual rates. Preferences seem to be heavily influenced by the current structure of rates. A study of Swedish taxpayers provides evidence in favor of this hypothesis. Wahlund (1989) discusses survey evidence during a period in which marginal income rates decreased in Sweden; preferred marginal rates decreased along with actual rates. The idea that the current economic environment can influence perceptions and opinions has become an important theme in research in economic psychology. Tversky and Kahneman (1991) discuss a number of experiments in which individual choices are biased by the status quo. The current initial position appears to matter substantially in a wide range of choice situations. Moreover, the variability of rate structures in the United States itself suggests that preferences may be malleable. After all, as recently as 1980 the top marginal rate on income in the United States was 70%.[12] It is hard to believe that this could have been sustained for very long with only 4% approval (the sum of alternatives B and C).

Another possible approach to measuring attitudes toward tax progressivity would be to begin with the assumption that the public believes that individuals in similar circumstances should be treated similarly and not face rates of taxation which are too disparate. Granting this strong assumption, can we find reliable measures of individuals in "similar circumstances"?

Recent discussion and debate about the composition of the middle class suggests that this may be a difficult task. The Congressional Budget Office

[12] Steuerle (1992, pp. 24–7) discusses the changes in average and marginal rates in the era before 1980, emphasizing the sharp increase in effective marginal rates on wealthier individuals in the late 1970s.

(CBO) uses a rule of thumb that the middle 60 percent define the middle class which, for a family of four, thus ranges from $19,000 to $78,000 in annual income. From their survey, Hite and Roberts found that 90% of respondents felt that they were middle-class or below, indicating a smaller percentage of individuals who describe themselves as higher than the middle class.[13] Political definitions by congressional staffers are even more variable: one staffer suggested the 20th–95th percentile ($19,000–$137,000) while another specified a much narrower range of $20,000–$50,000.[14] Taking the CBO range as a compromise, historically we have had a wide range of tax rates applying to the middle 60 percent of the income distribution.[15]

A second alternative to measuring individuals in similar circumstances is to rely on the research by several European economists on "individual welfare functions." In this literature, subjects are asked to respond to the following question:

> Taking into account your own situation with respect to family and job, you would call your net family income (including fringe benefits and with subtraction of social security premium) per year
>
> | | | |
> |---|---|---|
> | excellent | if it were above | _____ |
> | good | if it were between | _____ |
> | amply sufficient | if it were between | _____ |
> | sufficient | if it were between | _____ |
> | barely sufficient | if it were between | _____ |
> | very insufficient | if it were between | _____ |
> | bad | if it were between | _____ |
> | very bad | if it were below | _____ |

The nine verbal qualifications ("very bad," etc.) were placed on a 0–1 scale by assigning the numbers 0.11, 0.22, ..., 0.89 in ascending order.[16] Let the income for each category be given by z_i. It is then assumed that there is a function $U(z)$ that maps income levels onto the 0–1 interval.

Specifically, a functional form of $U(z)$ is specified such that the logarithm of income follows a cumulative normal distribution, with mean u and standard deviation σ. From the answers to each questionnaire, the mean and standard deviation of the welfare function can be estimated for each individual. The results of responses yielding over 12,000 individual welfare functions have been reviewed by Van Herwaarden, Kapetyn, and Van Praag (1977).

[13] Peggy Hite provided me with this unpublished information from their survey.

[14] "Definition of Middle Class Varies Widely," *Washington Post* (9 January 1992).

[15] Steuerle's work (1992, table A.3) contains marginal and average tax rates for families of four at one-half median income, median income, and twice median income.

[16] This procedure can be justified under the very strong assumption that individuals try to convey as much information about their welfare ranking as possible. This leads to equal division of the intervals. See Van Praag and Kapetyn (1973).

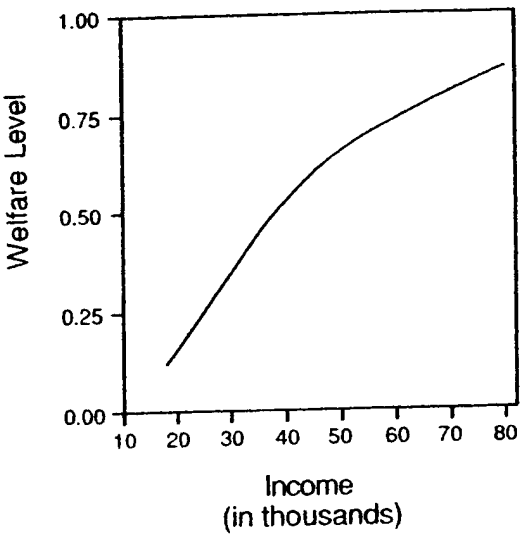

Figure 1. Individual welfare function.

From their results, it is possible to specify ranges over which individuals may consider themselves in similar circumstances. Suppose the middle class is defined to be those in the range between "very insufficient" and "good." Under this definition, the middle class spans those who struggle (but are not desperate) to those who are comfortable (but not affluent). This definition includes the range between 22% and 89% on the welfare scale. With a choice of parameters, we can then find the ranges of incomes that fall in this category. The value for the parameter u depends on the units of measurement; $\exp(u)$ is the income level that gives a utility level of 0.5, or halfway in the satisfaction scale. Fix this income level at \$37,403, which is the average family income in 1990.

The value of β, which determines the spread in the distribution, varies somewhat in the reported research. It tends to be highest for those individuals with a volatile income history or in a peer group with wide variation in income. Because the studies were performed in Belgium and the Netherlands, which have more stable income distributions than the United States, we chose a high value of 0.61 that corresponds to the mean reported for those working independently.[17] With these parameters, the welfare function is plotted in Figure 1. Recall that we are considering individuals to be similar if they are within the range of "very insufficient" and "good"; this corresponds to 0.22–0.89 on the welfare scale. Carrying out the calculations for these parameters yields a range for this definition of "similarly situated individuals" of \$23,300–\$79,226. This is very close

[17] Van Praag and Kapetyn (1973, p. 49). The results are not that sensitive to other values of σ, such as that associated with an overall mean of 0.51.

to the 60-percent range of the Congressional Budget Office. But it also corresponds in Belgium and the Netherlands to very progressive income taxation for those taxpayers falling within this definition of similarly situated individuals.[18]

In summary, large numbers of individuals consider themselves to be of the middle class, and individual welfare scales can also be interpreted to suggest that individuals over a wide range of incomes consider themselves to be in similar circumstances. But historically we have witnessed large differences in the progressivity of the tax system within this group. The idea of a coherent middle class does not seem to be useful in explaining tax policy. At least in the United States, the term "middle class" refers primarily to class characteristics and a shared sense of values. There are, however, clear differences in economic well-being within this group. It is these perceived differences in well-being, rather than an abstract notion of a middle class, which are more likely to drive tax policy.

4 Perceptions of the corporate income tax

When asked their opinions about corporate taxes, the public on average sees no harm, and indeed sees virtue, in raising them. The results of two polls illustrate this nicely. In October of 1985, the Gallup Poll asked whether individuals approved or disapproved of "Raising more tax revenues from corporations and less from individuals."[19] The responses were: approve, 77%; disapprove, 11%; no opinion, 12%. In terms of public opinion about taxation, this response is as one-sided as (although opposite to) the responses to questions about whether personal income taxes should be increased.

In April of 1987, after decisions had been made to levy additional taxes on corporations in the 1986 Tax Reform Act, the Harris Poll attempted to determine which taxes the public would prefer to see raised in order to close the deficit.[20] Their specific question was: "Now let me ask you about some of the possible federal taxes that have been proposed as a way to reduce the federal deficit. In answering, please assume that there would be a guarantee that the money collected from the taxes would have to go towards reducing the deficit and would not be used for new spending programs. How much would you object to (each item read) – a great deal, some but not a lot, only a little, or not at all?" The alternatives and responses were as follows.

[18] Pechman (1987) provides a description of the very progressive personal income-tax system in the Netherlands.

[19] *The Gallup Poll, Public Opinion* (1985, p. 145).

[20] *Index to International Public Opinion* (1987, p. 112).

Alternative	Object a great deal	Object not a lot	Object only a little	No objec-tions	Not sure
A 20 cent a gallon tax on gasoline	60%	14%	12%	13%	1%
Putting a 10 percent federal income tax surcharge on the current taxes individuals pay	59%	15%	15%	10%	1%
A national sales tax of 2 percent on all purchases, excluding purchases of drugs or food	36%	19%	22%	22%	1%
A $5 a barrel tax on oil imports into the U.S.	31%	22%	19%	25%	3%
Increasing excise taxes on tobacco and alcoholic products	22%	11%	12%	54%	1%
Putting a 10 percent income tax surcharge on the current taxes corporations pay	20%	17%	19%	41%	3%

Individuals would object most strongly to increased gasoline and income taxes, but view increased taxes on corporations as a minor nuisance – less objectionable even than increased sin taxes.

Not only do individuals feel that the corporate tax burden can probably be raised, they also become outraged when they learn that corporations pay no corporate income taxes to the government. Birnbaum and Murray (1987, p. 12) describe the public outcry following the publication of a Citizens for Tax Justice study by Robert McIntyre in 1984 that 128 out of 250 of the largest corporations paid no federal income taxes for at least one year between 1981 and 1983. They note that "In a particularly embarrassing revelation, the study showed that among the corporate freeloaders was W. R. Grace & Company, whose chairman, J. Peter Grace, had headed a commission for President Reagan that concluded that wasteful government spending was 'sending the country down the tubes for future generations of Americans.'"

This quote from Birnbaum and Murray inadvertently reveals some of the source of anger when corporations do not pay federal income taxes. Note their use of the word "freeloader"; this clearly personalizes the corporation, placing it on the same moral plane as an individual. It is a moral failing of a corporation not to pay taxes – a defect in its character. This anthropomorphic language is used in many contexts, for example, "greedy, environmentally polluting corporations."

But as economists always point out, taxes may be levied on corporations but ultimately individuals somewhere bear the burden. This burden may fall on the owners, managers, or workers of the corporation, or may be passed on through a wide variety of channels to other individuals in the economy. Ultimately, the burden does fall on individuals. Yet much public discussion ignores this point. Incidence is a very subtle concept. Unless probed, the public will assume that taxes are paid by the entity on which they are levied. Even important public documents ignore the incidence of the corporate tax when it is clearly relevant. As Gravelle (1992) points out, the pamphlet explaining the 1986 Tax Reform Act issued by the Joint Committee on Taxation contains tables showing the change in the tax burden without including any effects from the corporate tax, despite the fact that 1986 law shifted the nominal burden to corporations.[21]

We often do hear, in public discussion and commentary, the idea that corporations "shift" the tax. In order to obtain some information on public views of tax incidence, as part of a survey (detailed in Section 5) I asked the following question of 150 students in an introductory macroeconomics course:[22]

> Who do you think really ends up paying the taxes that are assessed on corporations?
>
> (a) Owners, that is, shareholders of corporations.
> (b) All investors in the economy.
> (c) Consumers, because corporations simply raise prices.
> (d) Workers, because corporations reduce wages.

The responses were: (a) 9%, (b) 30%, (c) 55%, (d) 6%.

Surprisingly, the respondents did not see the owners of corporations bearing the tax; rather, to the extent that they believed capital bore the tax, they shared the Harberger perspective that it was passed on to all capital in the economy. The most frequent answer was that consumers bore the tax in terms of higher prices.

Note that these respondents were forced to identify the party on whom the tax truly falls, and were not permitted to say simply that the corporation pays the tax. In daily life, however, they are not forced to draw these

[21] Difficulties in agreeing on the incidence of the corporate tax may have been the reason behind this exclusion.

[22] The question was added to both versions of the survey described in Section 5. The percentage responses from both versions were quite similar. About half of the students had taken a prior introductory microeconomics course, but incidence of the corporate tax is not a topic typically covered in that course. It should be noted that UC-Davis students are not representative of the larger public. One potential bias is that most students do not work full-time and so may not be sensitive to taxes passed on as lower wages. A high percentage of UC-Davis students do, however, work part-time.

connections. Separate mental compartments are more likely the rule: In one compartment, corporations can be attacked as freeloaders for not paying taxes; in the other compartment, it is recognized that corporations shift the burden.

This mental dichotomy provides the best explanation of the poll and survey findings. Based on the Harris poll, the public loves to raise corporate taxes. However, if forced to think through the ultimate incidence, a majority (at least of students) believes the tax falls on consumers, and fewer than 40% believe it falls primarily on capital income. One could possibly argue that these responses on tax incidence do support a preference for corporate taxation. The evidence could be read that the corporate tax is viewed as a mixture of a tax on capital income and a value-added or sales tax. This might even be viewed as strongly preferable to an income tax. But the general animosity toward nonpaying corporations (as witnessed by the reaction to McIntyre's study and the popularity of corporate minimum taxes), coupled with the strong poll results in favor of increased corporate taxation, suggest that the public compartmentalizes its views: entities should pay taxes even if they ultimately pass them on.

5 Economists versus the public

Economists generally do not have strong opinions *qua* economists on the subject of progressivity. In general, different rate structures will produce different distributions of after-tax income and different values of excess burdens. There may be some rate structures that dominate others on both grounds – that is, producing more equal incomes and less excess burden – but, in general, different distributional preferences will lead to different rate structures. Economists can provide only limited guidance on this issue.[23] While economists may be somewhat more sensitive to excess burden, in principle there need not be any major conflicts between the public and economists regarding progressivity.

With respect to the tax base and, in particular, to tax subsidies and preferences, there do appear to be sharp differences in perspectives. To understand these differences, it will be useful to review two basic principles that economists tend to carry into the analysis of tax subsidies and preferences.

The first principle is that government funds should be allocated efficiently. If the government wishes to subsidize a particular investment activity, then the direct or tax-subsidy program should be designed so that competition will lead to equal pre-tax rates of return for alternative activities

[23] Slemrod (1983) provides an accessible and balanced discussion of the lessons and limitations of optimal income-tax theory.

within this class of investments. For example, if the government wishes to produce more energy conservation, the pre-tax rate of return on all conservation investments should be equal. If not, it would be possible to re-allocate funds toward projects with a higher rate of return in order to produce more energy conservation. To accomplish the goal of efficient promotion of energy conservation, direct subsidies or tax credits should be made available to all parties on an equal basis. If some parties are arbitrarily denied benefits then rates of return will generally not be equalized.

The second principle is that purchasers of tax-favored securities do not generally benefit to the full extent of the nominal tax subsidy. Competition among purchasers tends to "compete away" at least a portion of the security's tax benefits, leading to lower pre-tax yields. The classic example is tax-exempt bonds. If certain classes of bonds are exempt from tax then investors will bid for these bonds, which increases their price and lowers their pre-tax yield. This reduction in yield is called *implicit taxation*. As an example, suppose that the yield on taxable bonds were 10% and the yield on (identical) tax-exempt bonds were 7%. The rate of implicit taxation in this case would be 30%. Investors with tax rates of 30% would be indifferent between purchasing the taxable and tax-exempt bonds; investors with higher tax rates would prefer the tax-exempt bonds; and investors with lower tax rates would prefer the taxable bonds. The same basic principle applies also to other tax-favored securities.

These two principles of economic analysis – efficiency and implicit taxation – are not generally held by the public; in particular, they collide sharply with the "entity" view that all entities should pay tax. To illustrate the collision with the economic efficiency principle, an experiment was conducted with 150 students in a class on economic principles.

Students were given descriptions of two programs designed to stimulate investment, together with questions about these programs. The descriptions and programs are reproduced here as Figure 2 and Figure 3. One program, "Investment First," involved direct subsidies of 10% for any investment. The second program, "Investment Credit," offered a tax credit of 10% for any investment. The students were given information about a fictitious firm, Lincoln Computer, that paid $2 million in taxes last year and planned to invest $10 million. Under the subsidy program, it would therefore receive a payment of $1 million; under the tax-credit program, it would receive tax credits of $1 million. The students were asked to express their opinion on the desirability of these programs on a scale of 1 to 5 (strongly approve to strongly disapprove). They were then told that the program was successful and the company would double its investment; this would lead to a subsidy of $2 million and zero taxes under the tax-credit plan. Students were then asked whether their impressions

Please read the following paragraphs and then answer the questions that follow. There are no "right" or "wrong" answers—we are just asking for your opinion.

The U.S. government wishes to increase productivity by increasing investment spending by firms. The government proposes a new plan "Investment Credit" which will subsidize investment spending in the following manner: for each dollar of investment spending, the government will reduce the firm's taxes by ten cents. That means for every dollar spent, the true cost to the firm is only ninety cents because it receives a ten cent tax rebate.

The Lincoln Computer firm paid $2 million dollars in taxes last year. It plans to expand rapidly and increase its investment. It is currently planning to invest $10 million next year. Under the "Investment Credit" plan, the firm would thus reduce its taxes to $1 million.

Questions:

1. What are your general feelings about the "Investment Credit" plan?

   a. Strongly approve
   b. Approve
   c. Indifferent
   d. Disapprove
   e. Strongly Disapprove

2. Under the current plan, Lincoln Computer pays $1 million in taxes if it invests $10 million. Suppose the investment credit program was successful in stimulating investment and Lincoln doubled its investment to $20 million and thus reduced its taxes to zero. Would your impressions of the program:

   a. Become more favorable?
   b. Remain the same?
   c. Become less favorable?

Figure 2. Stimulating investment via tax subsidy.

of the program became more favorable, remained the same, or became less favorable.

Before discussing the results, it is important to note that these programs are absolutely identical for the corporation described. The only difference is that in the case of the subsidy there are two separate accounts with the government - tax payments and direct subsidies - while there is only one account for the investment credit program.

The results of the survey appear in Table 3. Confronted with the initial data, the respondents mildly approved of both programs, with near identical mean responses of 2.62 and 2.64 for the subsidy and credit program, respectively. This placed the mean responses between approve (2) and indifferent (3). (The small difference between the two mean responses was statistically insignificant.) On the other hand, when the firm doubled its investment, the responses diverged dramatically. The mean for the subsidy

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The Lincoln Computer firm paid $2 million dollars in taxes last year. It plans to expand rapidly and increase its investment. It is currently planning to invest $10 million next year. Under the "Investment First" plan, the firm would thus receive a $1 million dollar payment.

Questions:

1. What are your general feelings about the "Investment First" plan?

   a. Strongly approve
   b. Approve
   c. Indifferent
   d. Disapprove
   e. Strongly Disapprove

2. Under the current plan, Lincoln Computer receives $1 million for the $10 million investment. Suppose the subsidy program was successful in stimulating investment and Lincoln doubled its investment to $20 million and received a $2 million dollar payment. Would your impressions of the program:

   a. Become more favorable?
   b. Remain the same?
   c. Become less favorable?

Figure 3. Stimulating investment via tax credit.

response was 1.94, indicating that the opinion of the program improved slightly. However, the mean for the investment credit program was 2.44, indicating that the program was viewed much less favorably than at the lower level of investment. The difference in these means was significant at the 0.01 level.

Thus, the fact that the firm receiving the investment credit paid no taxes was clearly troubling to the respondents. Entities should pay taxes. Subsidies equal to taxes paid were not as troubling. These results are similar to the phenomenon of "mental accounts" and "framing" discussed by Thaler (1992).

The entity view accounts for the outrage against individual or corporate taxpayers who have true income but pay no tax. This view is not totally irrational, and public outrage may have some merit given the phenomenon of tax arbitrage. With differing marginal tax rates, opportunities for

Table 3. *Response to survey* ($N=150$)

	Investment-stimulating programs	
	Subsidy	Credit
Initially favored by:	84	66
Mean responses		
Question 1 (1–5 scale)[a]	2.62	2.64
Standard deviation	(1.00)	(0.95)
Question 2 (1–3 scale)[b]	1.94	2.44
Standard deviation	(0.64)	(0.68)

[a] 1 = strongly approve; 5 = strongly disapprove.
[b] 1 = more favorable; 2 = same; 3 = less favorable. Difference between the two listed means is statistically significant at the 0.01 level.

borrowing and lending, and tax-favored investments, there are strategies that higher-bracket individuals can engage in to reduce their tax. The classic example is for high-income individuals to borrow from lower individuals to purchase tax-exempt bonds or other tax-favored assets. Interest deductions are taken against a high tax rate and the proceeds from the investment are sheltered. As Steuerle (1985) emphasizes, these opportunities were ubiquitous before the Tax Reform Act of 1986, and still exist in many forms today. They also are exacerbated by inflation, since nominal rates do not rise to the extent necessary to offset tax arbitrage.

The average taxpayer knows that these strategies exist, and senses that sophisticated taxpayers are taking advantage of them while the average taxpayer has much fewer opportunities for similar actions. Corporations are examples of sophisticated taxpayers that can take advantage of tax arbitrage possibilities. Reaction against this phenomenon can partly explain the entity view of taxation. Nonetheless, as our experiment illustrates, even an efficient subsidy plan with no element of tax arbitrage would meet public disfavor. The political response to this disfavor will be policies that limit the subsidy, such as the various incarnations of the minimum tax. These limitations can interfere with economic efficiency.

A recent television commercial for a tax-exempt-bond fund illustrates an example of neglecting implicit taxation. The commercial shows water (income) being poured into a vessel, but leaks in the vessel (taxes) prevent the water level (wealth) from rising; the tax-free-bond fund plugs up the

holes, allowing the water level to rise. However, the flow of water into the vessel is depicted in the commercial to be as rapid with the tax-free fund as with taxable funds. To be accurate, the flow of water should be decreased for the tax-free account.

Probably the best evidence concerning the difficulty the public has with the concept of implicit taxation comes from an article by a noted tax lawyer. Bittker (1980) agonizes over the different perceptions of what he terms "equity theorists" and "efficiency theorists" over tax preferences. Equity theorists, including himself, generally believe that tax-favored investments lead primarily to horizontal inequities between those who purchase them and those who do not. As an example, purchasers of tax-exempt bonds do not pay tax whereas purchasers of taxable bonds do pay tax. Efficiency theorists argue that yields on tax-exempt bonds fall sufficiently for horizontal inequalities to be eliminated, and that all that remains is a preferred borrowing rate (thus economic inefficiency) for states and municipalities that can issue tax-exempt securities. However, horizontal inequities will remain if the tax rate of some investors exceeds the market rate of implicit taxation. Bittker emphasizes that the efficiency view of tax subsidies was not held by the equity theorists.

The reason this article is especially interesting is because Bittker is in the same tradition as Stanley Surrey and part of the general tax-reform movement. Bittker argues that the moral thrust toward tax reform based on equity considerations alone is sharply diminished once the efficiency view of tax subsidies is understood. It is also clear that the equity-based tax-reform movement, dominated by lawyers, did not really focus on implicit taxation. For example, in his famous book *Pathways to Tax Reform,* Surrey (1973) discusses the minimum tax as a corrective to tax expenditures that allow individuals or corporations to dramatically reduce their tax. No mention of the concept of implicit taxation can be found in the chapter of his book that deals with the minimum tax. However, it is clearly relevant to Surrey's discussion of whether the minimum tax should be flat or progressive and other aspects of vertical equity. A full treatment of vertical equity must recognize implicit taxation.

An excellent example of both the entity view of taxation and the lack of understanding of implicit taxation comes from a notorious episode in modern tax history: the case of "safe-harbor" leasing, a provision of the 1981 Economic Recovery Tax Act. The investment incentives in the 1981 law - accelerated depreciation and investment credits - were very extensive, and effectively reduced the tax rate on equipment to zero *if* these credits and deductions could be used. Many large corporations, however, did not have positive taxable income and so could not take advantage of these benefits. Moreover, small start-up firms would also be limited in

their use of these benefits. The tax benefits that could not be used were effectively "dead souls."[24]

The Reagan Administration's solution to this problem was to liberalize leasing rules so that corporations which could not utilize these benefits could effectively sell them to other corporations. The merits of this policy were sharply debated among tax experts.[25] Many tax experts who were critical of the law focused on two points. First, corporations with persistent tax losses would have a zero effective tax rate on investment in any case, and so did not need further subsidies. Second, the market could have excessive transactions costs.

But it was clear that the public was perturbed primarily by those corporations that *purchased* tax credits, not by the ones that sold them, and by "profitable" corporations that engaged in leasing. The Joint Committee on Taxation (1982, p. 22) noted the controversy created when General Electric purchased so many credits that it obtained a refund on past taxes. Occidental Petroleum sold tax benefits because they had domestic losses that prevented them from taking depreciation and credits in spite of their positive worldwide income.

General Electric surely benefited when it purchased the tax benefits, but only to the extent that they got them for a good price. If the market were perfect and sellers of benefits were much fewer than potential buyers, then $1 of benefits would sell for $1. The Treasury estimated that tax-benefit buyers paid only 85¢ for $1 of benefits, so in this case profits were made by the buyers. Purchasers of benefits paid a very high rate of implicit taxation in the stream of payments that constituted the safe-harbor lease. Yet more outrage was directed at buyers than sellers, and U.S. Senators questioned whether limitations should be made on purchases.[26]

The case of Occidental Petroleum was also revealing. If we were interested in stimulating domestic investment, why should we treat Occidental Petroleum differently than Chrysler? The fact that Occidental was profiable on a worldwide basis should be even more reason to subsidize them rather than Chrysler, because their profitability might indicate that they were highly efficient. But Occidental Petroleum attracted public outrage, while Chrysler was held up as a good example of safe-harbor leasing.

The Joint Committee also raised the issue that the public may find transactions unfair whenever nontaxable companies can make money by selling excess tax benefits. But, if columnists are a guide, more fun was made of potential purchasers of benefits. For example, it was suggested that a well-off journalist should be able to purchase tax credits from a

[24] With apologies to Gogol, I pursue this analogy in Sheffrin (1982).

[25] Steuerle (1985, pp. 142–4) discusses the alternative positions of tax experts on the issue.

[26] See comments by Senator Grassley in Senate Finance Committee (1981, pp. 70–1).

welfare mother.[27] Presumably the journalist would have had to pay $1 for $1 worth of tax benefits. Implicit taxation is generally overlooked in public discussions.

6 Is there feedback from perceptions of fairness?

An important final issue is whether feedback exists from perceptions of fairness in the economy and the tax system. The most obvious channel is through tax compliance. Perceptions of gross unfairness in the tax system may lead to a loss of faith in the system, increased cheating, and a general reduction in the level of compliance or increased administrative costs for the same level of compliance.

Although this certainly appears to be a plausible channel, existing research has not been fully successful in documenting and quantifying this effect. The essential problem is that the relationship between compliance and subjective attitudes toward the tax system is very subtle and works through a number of channels other than perceived fairness. Beliefs about tax morality and the perception of the honesty of others have also been found to be correlated with compliance.

In Sheffrin and Triest (1992) we review existing evidence on the relationship of subjective attitudes toward the tax system and compliance, and provide additional microeconometric evidence based on an analysis of survey data. With regard to the issue of perceived fairness, some surveys and experimental evidence find a link between perceptions of fairness and compliance, but others do not. In our econometric work, we used a framework in which responses to survey questions served as indicators of unobserved variables that determine compliance. The unobserved explanatory variables in our compliance model corresponded to measures of (1) attitudes toward compliance, (2) perception of the honesty of others, and (3) the probability of detection. The first variable was most closely related to perceptions of fairness, and included as an indicator a question concerning whether the government spends too much. From our experience with this study, we believe it would be difficult to isolate and separate precise effects of perceptions of fairness from other attitudinal variables in econometric or survey research. In particular, we found that the significance of some of the attitudinal variables in our equation explaining compliance were sensitive to the precise econometric assumptions necessary to identify structural parameters in the model.

But assuming there is a link between perceptions of gross unfairness and compliance, what would constitute "gross unfairness?" From the work

[27] Richard Cohen, "Tax Credits," *Washington Post* (29 November 1981, p. B1).

surveyed in Section 3, it appears that perceptions of gross unfairness would not arise from a tax schedule that was only modestly progressive. Perceptions of desired progressivity appear to be context dependent - that is, closely related to the current degree of progressivity. Recent surveys indicate only a moderate desire for progression. It is not clear whether a flat tax with an exemption level would be perceived as unfair; this would largely depend on the context in which it was introduced. Current surveys do not indicate an overwhelming public demand for progressivity.

The public does find it unfair when profitable entities pay little or no tax. There is no better polemical device for tax reform than to show entities paying little tax. That the public holds firmly to the entity view of taxation strongly implies that there are limits to the extent to which subsidy and incentive programs can operate through the tax system.

This in turn yields two important consequences. First, even if subsidies and incentives do operate through the tax system, they are not likely to operate fully efficiently in the sense of leading to identical pre-tax returns. Inevitably, the subsidies and incentives will run into limitations imposed by the entity view of taxation (such as the minimum tax), which effectively limit expenditures in ways that do not necessarily lead to economic efficiency. Even efficient subsidy programs with no possibility for tax arbitrage will encounter limits, leading to differences in pre-tax returns for identical activities; our experimental evidence with the "Lincoln Computer" company illustrates this point. This is an additional consideration that must be taken into account when weighing the merits of subsidies awarded through the expenditure process versus subsidies awarded through the tax system.

A second consequence is that as long as incentives and tax subsidies remain in the tax law (and it is unlikely they will ever fully disappear), the result will be continued complexity in the tax system. The minimum tax is a classic example of this phenomenon. Since its inception the minimum tax has undergone numerous changes and variations, both for individuals and for business. One of its purposes is to protect the entity view of taxation - taking away with one hand the subsidies and incentives given out by the other. Two-handed tax law will always be complex.

One overriding impression from this analysis of perceptions of fairness and progressivity is the public's limited knowledge and its tendency to view aspects of the tax code with separate mental compartments. Evidence of limited knowledge includes a tendency to underestimate rates, a dislike for more visible taxes, difficulties in understanding different notions of progressivity, and a general unawareness of implicit taxation. Taxpayers appear to use separate mental compartments for views on personal and corporate taxation, and seem also to use separate mental compartments

for their views on corporate tax incidence and the desirability of increasing corporate taxes.

These two factors imply that the public does not hold a single, comprehensive view of tax progressivity that applies to the entire tax system. Treating corporate taxes apart from individual taxes and failing to recognize implicit taxation places important limits on the public's grasp of overall tax progressivity. Could the public be educated to the nature of corporate and implicit taxation? One could perhaps imagine a public debate over corporate tax integration which would lead *some* of the public to begin thinking about corporate and individual taxation together. Currently, however, such recognition is far removed from the public consciousness.

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