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Economists' Views about Parameters, Values, and Policies: Survey Results in Labor and Public Economics

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1. *Introduction*

WINSTON CHURCHILL is supposed to have complained that whenever he asked Britain's three leading economists for advice about economic policy, he received four different opinions—two from John Maynard Keynes. The image of economists in disarray about economic policy is firmly embedded in the popular mind, enhanced, no doubt, by the tendency of many journalists to seek out extreme opposing views on controversial issues. But is the popular image justified? Richard Alston, James Kearl, and Michael Vaughan (1992), who conducted a large-scale (464 respondents) survey of economists in all fields, concluded that there is considerable consensus among economists, but the questions in their survey dealt primarily with positive economics, not economic policy. The seven questions that were clearly about policy—unconditional "should" questions—had a mean entropy score of 0.83, which indicates a very high level of disagreement.[2]

In a survey of 50 leading health economists, Victor Fuchs (1996) found considerable disagreement (mean entropy 0.77) regarding major issues of health policy. The extent of disagreement was particularly striking when compared with the high level of agreement (mean entropy 0.52) among the same economists about the determinants of health and the determinants of

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[2] Each question allowed three possible answers: disagree, agree, or agree with proviso. The highest possible entropy score is 1.0, indicating that respondents were evenly split among the three answers. A score of zero indicates that all respondents chose the same answer.

health expenditures. Furthermore, the small disagreement that did exist regarding the positive questions seemed to play no role in explaining policy differences. This result is at variance with Milton Friedman's view (1953) that policy differences can usually be explained by differences in judgments about positive economics.

This paper reports the results of surveys of specialists in labor economics and public economics at 40 leading research universities in the United States. We ascertained their opinions of economic policies in their areas of specialization and measured the extent of agreement or disagreement. We also attempted to determine the extent to which policy disagreement is related to differences in estimates of relevant economic parameters, and differences in values. We used the respondents' opinions regarding their 95-percent confidence intervals[3] for the economic parameters to determine how often the average best estimate, or most commonly occurring estimate, falls within these intervals. We also compared their individual uncertainties with the collective uncertainties as reflected in variation across respondents in the best estimates of the economic parameters.

2. *Description of Surveys*

Four main types of questions were used in both the labor economics and public economics surveys: a) policy opinions to be answered on a continuous scale from "strongly oppose" to "strongly favor"; b) quantitative best estimates and 95-percent confidence intervals for economic parameters; c) values questions (answered on a continuous scale) regarding income redistribution, efficiency versus equity, and individual versus social responsibility; and d) political party identification. The two surveys, which are reproduced in the Appendix, are very similar in form, but nearly all of the policy and economic parameter questions are specialty specific. Two policy questions, one about increasing AFDC payments and one about eliminating the cap on OASI payroll taxes, and two economic parameter questions about the Marshallian and Hicksian labor supply elasticities for men aged 25–54, were included in both surveys.

The surveys were distributed in the summer of 1996 to economists specializing in labor economics and public economics on the faculties of the universities with the 40 leading economics departments in the United States. The 40 leading economics departments were identified from Loren Scott and Peter Mitias's (1996) ranking of departments, which is based on publication records of the faculty. Specialists at these universities were identified from listings in the American Economic Association directory, college catalogs, the 1996 *Prentice-Hall Guide to Economics Faculty,* and by personal knowledge. All labor economists and public finance economists in the economics departments at universities with a top-40 economics department were sent a questionnaire. In addition, questionnaires were sent to many labor and public finance economists at the business schools and public policy schools at these universities.[4] A

[3] Respondents were asked to specify lower and upper limits of a 95-percent confidence interval and were told that these limits need not be symmetrical around the best estimate. The term "subjective probability interval" might be more appropriate than "confidence interval," but we use the latter term in the paper because that was the one used in the survey.

[4] The labor economics survey was sent to all self-identified labor economists in a number of different departments at these universities; the public economics survey, however, was mailed to all public economists in economics departments

separate covering letter for each survey explained the general purpose of the survey and promised anonymity to the respondents. Fuchs' secretary at the National Bureau of Economic Research kept track of the responses in order to facilitate the sending of a follow-up request after two months. A total of 65 replies (response rate 39 percent) was received for labor economics, and 69 replies (response rate 66 percent) for public economics. There was no significant difference between the responders and nonresponders with respect to university rank in either survey.[5] Every question provided a "no opinion" option; the percent responding "no opinion" or not providing an answer to each question is reported in the survey results.

In the labor economics questionnaire, we implemented a "split-ballot" experiment in which the order of the policy and economic parameter questions was randomly reversed in half the questionnaires. Except for one question—the desirability of increasing AFDC benefits—the order of the questions had a statistically insignificant effect on the mean responses to the policy and parameters questions. Respondents were less likely to support an increase in AFDC benefits if the questions on the parameters preceded the policy questions, even if we conditioned on covariates such as views concerning redistribution. The response rate was lower, however, if the economic parameters preceded the policy questions. We interpret the results of the split-ballot experiment as providing mild support that the questions elicited views that were not easily manipulated, although the response rate is higher if less technical questions are asked first.

3. *Major Conclusions*

Before discussing the survey results in detail, we summarize our major conclusions. First, both surveys reveal a great deal of disagreement among economists about policy proposals in their areas of specialization. Only one of the 13 proposals (a 25-cent per gallon increase in the gasoline tax) elicited a strong consensus either in favor or in opposition. Second, policy positions are usually more closely related to differences in values than to differences in estimates of what we judge to be relevant economic parameters. This is clearly evident for both surveys in simple correlations among the different types of variables and in multiple regression analyses. Third, the average best estimates of the economic parameters agree well with the ranges summarized in surveys of the relevant literature, but the individual best estimates are usually widely dispersed around the averages. Moreover, economists, like experts in many fields, reveal considerable overconfidence in their estimates of the economic parameters. For most questions, a large proportion of the individual confidence intervals does not include the average best estimate or even the value that is covered by the largest number of confidence intervals. Many confidence intervals are small relative to the dispersion of the individual best estimates. Finally, although the

and to only a subset of economists outside of economics departments. This may explain the larger set of economists who were sent the labor economics survey, as well as the lower response rate on the labor than the public economics survey.

[5] In the labor economics survey, the mean departmental rank (standard error in parentheses) was 17.9 (1.3) for the responders and 16.8 (1.2) for the nonresponders. In the public economics survey the corresponding figures were 17.3 (1.4) and 16.2 (1.7). Alston, Kearl, and Vaughan (1992) reported a much lower response rate (29 percent) for economists in the 10 leading graduate programs than for other members of the American Economic Association (40 percent).

confidence intervals in general appear to be too narrow, for most questions there is a significant positive correlation between the width of individual confidence intervals and the absolute deviation of individual best estimates from the median best estimate: Respondents whose best estimates are farther from the median tend to give wider confidence intervals for those estimates.

4. *Policy Proposals*

Table 1 summarizes the responses to the policy questions, which were marked on a continuous scale from "strongly oppose" (given a value of zero) to "strongly favor" (given a value of 100), with the neutral mark in the center of the scale given a value of 50. The most striking result is the extensive disagreement among economists about policy proposals in their specialty. The median standard deviations of the policy evaluations are 28.5 for labor economics and 29.3 for public economics. Both are more than half the maximum possible standard deviation of 50, which would result if half the respondents were at one extreme and half at the other. If replies were distributed uniformly across the entire range, the standard deviation would be 28.9, which is close to the observed values. The median interquartile ranges are 43.6 for labor economics and 45.0 for public economics, almost half the maximum possible range of 100. In theory, the standard deviation and the interquartile range could be large even though all the respondents opposed or favored a policy proposal.[6] In practice, however, for only one of the 13 questions (an increase in the gasoline tax) are at least 75 percent of the respondents either in favor of or opposed to the policy proposal. We conclude that economists in these two fields do not hold strong consensus views about many policy issues.

Some of the dispersion in policy opinions could result from differences in respondents' interpretation of the policy proposals. It is worth noting, however, that the question that is probably most open to varying interpretations—the public economics question on mandatory individual-directed investment accounts as a privatized alternative to Social Security—has the smallest standard deviation and interquartile range. (This question relates to policy proposals that are currently being developed, and where many of the details remain to be specified.) Other questions that appear less open to alternative interpretations, such as those about raising the minimum wage or increasing the gasoline tax, show substantial variation in opinion.

Measured by the mean or median response, labor economists are opposed to increasing AFDC benefits (Q1), eliminating affirmative action (Q3), and eliminating job training (Q5). They are in favor of eliminating the OASI cap and reducing the payroll tax rate (Q2) and are essentially indifferent about increasing the minimum wage (Q4) and increasing unionization (Q6). The public economics respondents oppose increasing AFDC benefits (Q1) and adopting a value added tax (VAT) (Q3). They favor increasing the gasoline tax (Q2), state (rather than local) finance of public education (Q6), and mandatory savings accounts (Q7); they are indifferent about eliminating the OASI cap (Q4) and expanding individual retirement accounts (IRAs) (Q5).

The greatest differences of opinion among labor economists, measured by the standard deviation and the inter-

[6] For example, if half of the respondents scored a proposal at 51, and the other half scored it at 100, then the interquartile range would be 49, and the standard deviation would be 24.5, even though all of the respondents would favor the proposal.

TABLE 1
SUMMARY OF RESPONSES TO POLICY QUESTIONS
(Labor Economics N = 65; Public Economics N = 69)

POLICY QUESTIONS	Mean	St Dev	Median	Percentile			% NO+NA
				25th	75th	75th-25th	
LABOR ECONOMICS							
1. Increase AFDC Benefits	39	28	40	10	56	46	3
2. Eliminate OASI Cap	68	25	70	50	89	39	6
3. Elimate Affirmative Action	39	33	29	8	65	57	2
4. Increase Minimum Wage	53	30	50	37	76	39	2
5. Eliminate Job Training	38	30	37	10	61	51	2
6. Increase Unionization	46	27	48	24	65	41	11
Median		28.5				43.6	
PUBLIC ECONOMICS							
1. Increase AFDC Benefits	38	29	38	9	58	49	3
2. Increase Gasoline Tax	73	31	84	62	95	34	0
3. Adopt VAT	41	27	41	16	61	45	1
4. Eliminate OASI Cap	51	31	53	20	81	61	4
5. Expand IRAs	52	31	52	25	80	54	1
6. State Education Financing	56	29	61	36	81	45	0
7. Mandatory Savings Accounts	63	24	69	50	81	31	6
Median		29.3				45.0	

quartile range, are over elimination of affirmative action and elimination of job training. In public economics, the differences of opinion are greatest for elimination of the OASI cap and expansion of IRAs.

One possible explanation for the substantial differences in policy views is that different respondents interpret our policy questions to mean different things. For some questions, such as the mandatory investment account question on the public economics survey, this is a plausible explanation for our finding. Other questions, however, are relatively well defined, and ambiguities in interpretation seem less likely to arise. Parametric changes in existing, long-standing policies like the gasoline tax or the minimum wage are much less open to vagaries of interpretation.

5. *Estimates of Economic Parameters*

Table 2 presents the summary findings on the economic parameters that were included on our questionnaire. Most of the quantitative parameters we inquired about, such as the elasticity of labor supply, are discussed in economics graduate courses and textbooks; a few, such as the markup on private annuity contracts, are more esoteric. At least for questions like the labor supply and labor demand elasticities, we would expect economists in these fields to have given these parameters a good deal of thought. In general, the mean and median best estimates of the various economic parameters accord quite well with the ranges established in surveys of the relevant literature. There is frequently great variability, however, in the best estimates of the parameters across members of the profession. We begin the discussion by considering the labor supply questions common to both surveys, and then highlight specific parameters in each survey.

Common Questions. We asked labor and public economists about both compensated (Hicksian) and uncompensated (Marshallian) labor supply elasticities. The labor economists were

TABLE 2
SUMMARY OF BEST ESTIMATES OF ECONOMIC PARAMETERS
(Labor Economics N = 65; Public Economics N = 69)

ECONOMIC PARAMETERS	Mean	St Dev	Median	Percentile			% NO+NA
				25th	75th	75th-25th	
LABOR ECONOMICS							
7. Employer's Share of Payroll Tax	25.6	28.2	20.0	5.0	33.0	28.0	15
8. Total Labor Demand	–0.63	0.47	–0.50	–1.00	–0.30	0.70	17
9. Net labor Demand	–0.42	0.39	–0.30	–0.50	–0.20	0.30	31
10. JTPA–>Youth Earnings	3.9	6.0	2.0	0.0	6.0	6.0	12
11. JTPA–>Male Earnings	3.6	4.6	2.0	0.0	5.0	5.0	12
12. JTPA–>Female Earnings	7.0	5.5	7.0	2.0	10.0	8.0	12
13. % Δ Teen Employment	–2.1	4.1	–1.0	–3.0	0.0	3.0	3
14. Marshall (men) Supply	0.10	0.27	0.00	0.00	0.10	0.10	14
15. Marshall (women) Supply	0.45	0.57	0.30	0.10	0.70	0.60	15
16. Hicks (men) Supply	0.22	0.28	0.18	0.08	0.28	0.20	32
17. Hicks (women) Supply	0.59	0.44	0.43	0.20	0.80	0.60	35
18. % Union Wage Effect	13.1	4.1	15.0	10.0	15.0	5.0	6
19. % Productivity Effect	3.1	6.9	0.0	0.0	10.0	10.0	11
20. % M/F Discrimination	21.4	18.0	17.5	10.0	30.0	20.0	2
21. Prefer Structural Modeling Over Random Assignment	27	26	21	5	49	44	5
PUBLIC ECONOMICS							
8. % Δ Investment	11.7	10.7	10.0	5.0	15.0	10.0	35
9. Gas Demand (Hicks)	–0.53	0.39	–0.40	–0.70	–0.30	0.40	14
10. Wage Tax–>ΔGDP Growth	0.35	0.49	0.20	0.01	0.50	0.49	16
11. Marshall (men) Supply	0.08	0.17	0.05	0.00	0.10	0.10	17
12. Hicks (men) Supply	0.26	0.26	0.20	0.10	0.30	0.20	23
13. % IRA–>Net Savings	20.7	15.9	20.0	10.0	30.0	20.0	14
14. Current/Fair Annuity Price	1.36	0.39	1.30	1.20	1.50	0.30	35
15. % Δ Test Scores	0.18	5.83	0.00	–2.00	2.00	4.00	20
16. % Corporate Tax on Capital	41.3	29.2	40.0	20.0	65.0	45.0	16
17. Savings Rate w/o SS	8.2	2.7	8.0	6.0	10.0	4.0	13
18. Top 1% Wealth	35.5	18.5	30.0	20.0	50.0	30.0	3
19. PSS/SS Administrative Cost	2.61	2.67	1.50	1.00	3.00	2.0	22
20. 1986 Tax Change–>% Δ GDP	2.03	3.60	1.00	0.20	3.00	2.80	30
21. 1993 Tax Change–>% Δ GDP	0.46	2.81	0.00	–0.50	1.00	1.50	51

asked about these parameters separately for prime-age men and women (Q14–Q17); the public finance economists were asked identical questions for prime-age men (Q11 and Q12). The similarity between the public finance and labor economists is striking. The typical respondent in either field believes the male uncompensated labor supply elasticity is close to zero (median of 0.00 for labor economists and 0.05 for public finance economists), while the compensated elasticity is small (0.20 for both labor and public finance economists). The responses in both surveys are consistent with much of the empirical research in labor economics, surveyed, for example, in Mark Killingsworth (1983) and John Pencavel (1987), which finds small wage and income effects for male labor supply.

Also consistent with the literature, the labor economists tended to report larger compensated and uncompensated labor supply elasticities for women than for men. For example, the median com-

pensated female labor supply elasticity was 0.43, twice as high as the median estimate for men. There was also substantial dispersion across labor economists in their best estimates of the female labor supply elasticities. The interquartile range of the compensated female labor supply elasticity was 0.60, some three times as great as the corresponding interquartile range for men.

Labor Economics. The median best estimate of the output-constant wage elasticity of labor demand (Q9) is exactly equal to Daniel Hamermesh's (1993) "best guess" (-0.30) based on his comprehensive review of the literature. The mean and median best estimates of the total wage elasticity of labor demand (Q8) are also well within the range identified in Hamermesh's survey. Additionally, the median labor economist reported that a 10-percent increase in the minimum wage would be associated with a 1-percent decrease in teenage employment (Q13), which coincides with Charles Brown, Curtis Gilroy, and Andrew Kohen's (1983) preferred estimate of this parameter based on time-series data. Economists with a relatively high estimate of job loss due to a minimum wage increase might be expected to be less supportive of raising the minimum wage.

The mean and median best estimates of the effect of JTPA job training on earnings also agree well with commonly accepted estimates in the literature. For example, a number of studies surveyed by Robert LaLonde (1995) find that the proportionate payoff to job training is greater for women than for men. The median estimate among labor economists of the earnings effect is 7 percent for adult women and 2 percent for adult men (Q11–12). Estimates in the literature tend to be quite small for disadvantaged youth; the survey median of 2.0 for youth (Q10) may overstate the typical estimate in the literature. Those reporting larger estimates of the payoff to job training would be expected to oppose eliminating the JTPA program.

In the job training field, many labor economists are currently engaged in a productive debate on the efficacy of experimental and nonexperimental methods (see James Heckman and Jeffrey Smith 1995, for example). With this in mind, we asked a methodological question (Q21) about job training, namely, whether respondents would give more credence to results coming from studies that employ randomized assignment or structural modeling. Three-quarters of respondents favored random assignment, but a significant minority strongly preferred structural modeling.

The median estimate of the effect of unions on wages is 15 percent (Q18), which agrees extremely well with H. Gregg Lewis' (1963, 1986) literature reviews and reanalyses. There is a notably tight range of best estimates for this parameter, with the 25th percentile at 10 percent and the 75th at 15 percent. The median best estimate of the effect of unions on productivity (Q19) is zero, while the mean is slightly positive. The interquartile range is a sizable 10 percentage points. Given the controversy in the literature over the effect of unions on productivity, such as the views spanned by Richard Freeman and James Medoff (1984) and Barry Hirsch and John Addison (1986), this is a reasonable result.

The questionnaire contained a policy question concerning views toward permitting unions to form if a majority of workers sign cards supporting a union. Allowing card signings would most likely increase union representation, so economists who believe unions have a positive effect on productivity should be more likely to favor card signings.

The presumed magnitude of the union wage effect, however, could have two offsetting influences on normative views toward unions. On the one hand, a larger union wage effect might be expected to increase the allocative distortion associated with unions. On the other hand, a larger union wage effect would imply a greater redistributive effect of unions toward workers. Thus, the magnitude of the union wage effect is expected to have an ambiguous impact on support for card signings.

The typical economist attributes about one-fifth of the male–female wage gap to employer discrimination. We would expect economists who report a larger proportion due to discrimination to more strongly oppose the elimination of affirmative action.

Another feature of the averages of the best estimates is that they may be internally consistent even though many of the individual economists' responses may not be. For example, in the static tax incidence model, the share of a payroll tax borne by employers is determined by the ratio of the labor supply elasticity to the sum of the labor supply plus labor demand elasticities. The average of the median labor economists' best estimates of the uncompensated labor supply elasticities for men and women is 0.15. Thus, the collective wisdom of the profession would imply that 23 percent (0.15/0.65) of the burden of a payroll tax is borne by employers. This implied estimate is quite close to the 20 percent median best estimate of the employer's share of the payroll tax (Q7).

Public Economics. In addition to the questions about labor supply elasticities described above, respondents to the public economics survey were also asked about several other parameters that might affect their policy views. They were asked for their best estimates of the compensated price elasticity of demand for gasoline over a horizon of two to five years (Q9). The median response on this question was -0.40, which is bounded by Carol Dahl's (1986) finding, in her survey of empirical studies on gasoline demand, of -0.3 as the short-run demand elasticity and -0.55 as the long-run elasticity. More than half of the respondents suggested a best estimate for this elasticity of between -0.3 and -0.7.

The price elasticity of demand for gasoline should play a role in a respondent's assessment of the desirability of raising the gasoline excise tax, although the direction of the effect is complex. If the only objective in taxing gasoline is to raise revenue with a minimum of behavioral distortion, then higher elasticities, which correspond to higher deadweight losses from the tax, should be associated with less support for higher taxes. If gasoline taxes are designed to offset externalities associated with gasoline consumption, however, then a higher price elasticity of demand could be associated with greater support for raising the tax, since it suggests that a given tax increase will have a greater impact on gasoline consumption.

We asked several questions about the taxation of capital income and its effect on investment and economic growth. The median estimate of the economic growth effect over the next decade of replacing all capital income taxes with wage taxes (Q10) was a 0.2 percentage point annual growth increase. Respondents displayed substantial dispersion in their best estimate of this parameter, however. The 25th percentile response was 0.01 percentage points, and the 75th percentile response was 0.50 percentage points. This spread reflects substantial dispersion in the results that emerge from computable general equilibrium models that are used to study the effects of fundamental tax reform,

such as Alan Auerbach (1997) and Eric Engen, Jane Gravelle, and Kent Smetters (1997). Because our question asked about average growth effects over the next decade, the responses are likely to indicate what respondents believe about the transitional effects of tax reform as much or more than their views about steady-state effects.

Allowing firms to expense their capital outlays, rather than depreciate them as under current law, and making up the resulting revenue shortfall by raising the statutory corporate income tax rate, is generally recognized as a pro-investment policy. The median best estimate of the resulting increase in plant and equipment investment (Q8) is 10 percent, with an interquartile range of 5 to 15 percent. There is currently a substantial empirical controversy, summarized for example in Jason Cummins, Kevin Hassett, and R. Glenn Hubbard (1995), on the effect of investment tax credits and depreciation incentives on corporate investment. Our survey results suggest that most respondents are persuaded by those who argue that investment incentives affect investment outlays. Those who believe that reducing the tax burden on new investment has a large effect on such investment should be more likely to support policy reforms that shift the tax burden from capital income to labor income or consumption, such as replacing the current income tax with a value added tax.

We asked one question (Q18) about the concentration of capital ownership: what fraction of net worth is held by the richest one percent of households? The median response, 30 percent, is close to the estimated value of 28.6 percent from the 1992 Survey of Consumer Finances reported in James Poterba and Andrew Samwick (1995). There was substantial variation in the answers to this question, however, with an interquartile range of 30 percentage points. This was also the question with the lowest nonresponse rate; only three of sixty-nine survey respondents did not answer. The concentration of wealth could affect respondents' views on switching from capital to wage or consumption taxation, since it determines the concentration of the gains or losses from such a policy reform.

When we formulated our question on the concentration of wealth holdings, we regarded it as a straightforward factual question that would not be affected by issues of estimation strategy or model specification that could arise in answering many of the other questions. Subsequent comments, however, suggest that even this question was ambiguous for many respondents. Some respondents might include pension assets in net worth, while others might exclude them; some might include the value of Social Security wealth. The appropriate definition of net worth to use could depend on the underlying economic question that the respondent thought motivated our survey question. For example, if the goal is to assess the adequacy of retirement saving for many households, it might be appropriate to consider pensions, Social Security, and perhaps even the present discounted value of Medicare benefits in defining household net worth.

The range of interpretations that respondents could place on this ostensibly straightforward question underscores a crucial limitation of our survey. Because our questions are incomplete in many respects, different respondents may interpret them in different ways. This problem affects our questions about economic parameters as well as our questions about policy reforms. The resulting "interpretation noise" could reduce the observed relationship between responses on economic parame-

ter questions and views about policy issues.

We also asked about the effect of recent tax changes on economic activity. The median response indicated that, had the Tax Reform Act of 1986 (TRA86) been allowed to remain in force as passed, the steady-state level of GDP would have been 1 percent higher than under the previous tax system (Q20). TRA86 reduced inter-asset differences in effective tax rates, and it lowered marginal tax rates on labor income for a substantial number of higher-income households.[7] Reflecting the lack of consensus on some of the underlying parameters which determine the effects of such a policy, however, the interquartile range for the responses to this question is large: 0.2 percentage points to 3.0 percentage points. The response to this question can be contrasted with the responses regarding the 10–year growth rate effects of eliminating capital income taxes. The median response in that case, a 0.2 percent per year effect, would yield just over 2 percent higher GDP after 10 years.

In contrast to the results for TRA86, the median response to a question on how the Budget Enforcement Act of 1993 (BEA93) would affect economic growth (Q21) was zero. BEA93 raised tax rates on a small set of high-income taxpayers, unlike the broad-based changes in tax rates that were enacted in 1986. The interquartile range of 1.5 percentage points for the responses regarding the 1993 legislation was smaller than the range of 2.8 percentage points for the 1986 legislation. Comparing the best estimates of the consequences of either tax bill with the observed effects of these tax reforms is difficult, since there is no way to hold constant all of the other factors that affect actual growth rates.

One specific question (Q13) concerned the impact of Individual Retirement Accounts (IRAs) on national saving. Because IRAs were restricted by the 1986 Tax Reform Act, our question focused on the effect of IRAs in the 1981–86 period. Most public economics respondents believe that IRAs had a positive effect on national saving, with the median estimate of the effect equal to roughly 20 percent of IRA contributions. The question asks about the addition to *national*, not personal, saving, and it is therefore net of any reduction in other personal saving or other government saving.[8]

Previous research has produced varying estimates of the impact of IRA saving on personal and national saving. Several studies by Steven Venti and David Wise (1990, 1996) suggest that most IRA contributions in the 1981–86 period represented additions to national saving. Poterba, Venti, and Wise (1997) summarize much of this work. Other studies, notably those by Engen, William Gale, and J. Karl Scholz (1996) and Gale and Scholz (1994), suggest that IRAs may have reduced national saving or, at most, had a small positive saving effect. The survey findings indicate that the median respondent holds a view that is between these two sets of empirical findings. It is of some interest that even though the median respondent believes that IRAs raise national saving, the respondents are not strongly supportive of expanding IRAs.

[7] Auerbach and Joel Slemrod (1997) provide a comprehensive survey of the academic research that has focused on the economic effects of TRA86. They conclude that it has been difficult to discern the consequences of the reform in part because of the complexity of the reform itself, and in part because many of the behavioral elasticities that determine the effect of tax changes may be small.

[8] It is possible that some respondents interpreted this question as referring to private rather than national saving.

Our survey included three questions that bear on the current Social Security reform debate. The first (Q14) asked about the price of individual annuity contracts available in the private market relative to the actuarially fair value of these contracts. If the current price of annuities is high relative to their actuarial value, government-provided Social Security is generally viewed as more attractive, since it offers individuals a real annuity. Benjamin Friedman and Mark Warshawsky (1990) present evidence that the ratio we asked about was between 1.3 and 1.5 in the early 1980s. The survey responses are close to this range, with a median of 1.3, and an interquartile range of 1.2 to 1.5.

Our rather specialized question on annuity valuation resulted in a 35-percent nonresponse rate, comparable to the nonresponse rates on our questions about expensing corporate investment and the effects of TRA86. The highest rate of nonresponse (51 percent) was to the question on the effects of the 1993 tax legislation. The nonresponse rates tended to be lower on questions that would be discussed in an undergraduate field course in public economics.

The second question that we asked about Social Security concerned the ratio of the administrative costs from a system of mandatory private saving accounts to those from the current pay-as-you-go defined benefit system (Q19). There are many current proposals to create systems of mandatory private saving accounts as part of Social Security reform, patterned to various degrees on the experiences in other countries (see Edward Gramlich 1996 for an overview). The greater the ratio of administrative costs from a system of individual accounts relative to the current system, the less attractive the reform options appear. This is a highly speculative question, since it is not clear how the experience of other nations would generalize to the United States, or how the U.S. historical experience applies today. Thus it is no surprise that there is wide dispersion in the responses. The median estimate is a cost ratio of 1.5 to 1, but the 25th percentile response was 1 to 1, and the 75th percentile response was 3 to 1. Some responses indicated much larger values, as indicated by the difference between the mean and median responses on this question (2.6 versus 1.5) and the standard deviation of responses (2.7).

The final Social Security question that we asked concerned private saving. There has been a long-standing empirical debate concerning the effect of the current pay-as-you-go Social Security system in the United States on national saving; Martin Feldstein (1974) represents an early contribution to this debate. We asked respondents to estimate what the personal saving rate, which is currently about five percent of disposable income, would have been in the absence of a Social Security program (Q17). The responses clearly indicate that most public finance economists believe that the current Social Security program has reduced personal saving. The median response to our question suggested a private saving rate of eight percent of disposable income if there were no Social Security; this implies a three percent of disposable income saving reduction due to this program. These results represent an implicit rejection of the "Ricardian equivalence" view of budget deficits and unfunded Social Security programs suggested in Robert Barro (1974).

We asked one question that bears on the choice of state versus local financing for public education: How would average student test scores be affected by centralizing school finance at the state

level (Q15)? Several recent empirical studies have suggested that state versus local financing affects student performance, but the studies, such as Caroline Hoxby (1995) and Fuchs and Diane Reklis (1994), reach conflicting conclusions. The median response indicated that state funding would have no effect on test scores; the 25th percentile response was a −2.0 percentage point change, and the 75th percentile was a +2.0 percent change. These responses are consistent with relatively little clear evidence on this issue. Even though the small existing literature makes it unclear how respondents formed their views of how state financing affects student outcomes, the response to this question does have a strong predictive value in explaining respondents' views about how to finance schools.

One question where there remains substantial disagreement concerns the fraction of the corporate income tax that is borne by capital income (Q16). This is a question that is at the core of a substantial body of research in public economics, beginning with Arnold Harberger (1962), and subsequently including a number of computable general equilibrium studies. The median response is that 40 percent of the tax is borne by capital, but the interquartile range spans 45 percentage points, from 20 to 65 percent. The responses suggest that public finance economists believe that the corporate income tax is borne by both capital and labor, but that there is significant disagreement about the precise division.

Textbook discussions also suggest substantial uncertainty in the allocation of the corporate tax burden. Anthony Atkinson and Joseph Stiglitz (1980), for example, draw on earlier studies and suggest that capital's burden is from 0.62 to 1.6 times the revenue collected with a corporate income tax. Harvey Rosen (1995) is more agnostic, and simply writes that "the economic consequences of the corporation tax are among the most controversial subjects in public finance." Part of this disagreement may reflect different views about key parameters that affect the burden of corporate income taxes, such as the degree of openness of world capital markets and the interest elasticity of saving. It is also possible that many recent studies have focused on the efficiency gains of shifting from current corporate income tax rules to alternative rules, and that as a result, the incidence questions that once received greater attention are no longer as salient for public finance researchers.

6. *Values and Political Party Identification*

Our survey asked respondents to answer four questions about personal value judgments. Responses to these questions were scored on a continuous scale from zero for the extreme left to 100 for the extreme right. Table 3 presents the summary findings. There is considerable difference among the respondents with regard to values, but the differences are smaller than for the policy questions.[9] The median standard deviation is 23.7 for labor economics and 21.4 for public economics, somewhat less than for the policy questions. The median interquartile range is 27.3 for labor economics and 26.0 for public economics, much less than for the policy questions.

One of the assumptions that underlies our analysis is that differences

[9] The wording of the values questions (different from the "strongly oppose–strongly favor" wording of the policy questions) may help explain the smaller extent of disagreement.

about policy may depend on differences in values, such as preferences for redistribution, as well as on differences in predictions about the consequences of policies even when values are identical. Such differences in consequences would plausibly depend on the economic parameters we have inquired about. Our assumption presumes that it is possible to distinguish value judgments, such as "equity versus efficiency," from positive questions about economic parameters, such as the elasticity of demand for gasoline. Some would argue that it is not possible to draw this distinction. In this alternative framework, someone who believes that behavioral elasticities are very large, so that the efficiency cost of redistribution is very large, would place a low value on equity, because it is so costly to obtain. This alternative view interprets value judgments as simply policy views about "meta-policies."

We are not persuaded by this alternative view of our values questions, but we also find it difficult to devise empirical tests that would distinguish between our view and the alternative one. One potentially informative result is that the correlations among the responses to the four values questions in our survey, and between the values questions and policy questions, are much higher than the correlations among the responses to different policy questions. This does not support the view that responses to "values" questions are simply aggregates of views on individual policies.

The findings in Table 3 show that the average responses to the values questions fall mostly in the middle of the range. In both surveys only one of the four questions—increase redistribution with lump-sum transfers—has the mean and the median more than 10 points above (in this case) or below the neutral mark. In public economics the median (but not the mean) score for social versus individual responsibility is also more than 10 points away from the neutral mark, in favor of individual responsibility.

The responses to the values questions are similar in the two surveys, with one significant exception: the public economics respondents place a higher value on efficiency than do the labor economists. This can be inferred from the difference in their responses to questions 22 and 23. The former asks about income redistribution, while the latter asks the same question under the assumption that redistribution could be accomplished without any efficiency loss. When each respondent's response to Q22 is subtracted from their response to Q23, the mean difference for public economics is 16.41 (1.36), while the mean for labor economics is 11.55 (1.92). The difference between the means is significant at the 95 percent confidence level. A difference between the two groups of specialists can also be seen in the responses to Q24 concerning the efficiency–equity tradeoff. The mean response for public economics is 55 (3.00), while for labor economics it is only 48 (2.90). The difference between the means is significant at the 90 percent confidence level.

The differences in the responses to the questions regarding efficiency and redistribution may reflect differences in the focus of the two fields. Public economics is centrally concerned with the tradeoffs between efficiency and equity, and with the design of policies to minimize deadweight losses, while these issues receive less attention in labor economics.

The four values questions are highly correlated with one another in both surveys. Of the twelve possible correlations, six in each survey, the median ab-

TABLE 3
SUMMARY OF RESPONSES TO VALUES AND POLITICAL PARTY IDENTIFICATION QUESTIONS
(Labor Economics N = 65; Public Economics N = 69)

VALUES QUESTIONS	Mean	St Dev	Median	Interquartile			% NO+NA
				25th	75th	75th-25th	
LABOR ECONOMICS							
22. Increase Redistribution	56	23	56	50	68	18	0
23. Increase Lump Sum	69	26	70	53	92	39	12
24. Efficiency > Equity	48	23	49	34	59	25	0
25. Social > Individual Responsibility	43	24	48	27	56	29	8
Median		23.7				27.3	
PUBLIC ECONOMICS							
22. Increase Redistribution	53	21	53	44	67	23	0
23. Increase Lump Sum Redistribution	71	19	74	60	84	24	1
24. Efficiency > Equity	55	24	57	37	72	35	9
25. Social > Individual Responsibility	41	22	37	26	54	28	16
Median		21.4				26.0	

POLITICAL PARTY IDENTIFICATION (%)	DEM	REP	IND	OTH	% NO+NA
LABOR ECONOMICS	56	14	27	3	2
PUBLIC ECONOMICS	57	18	23	2	6

solute value of the correlation coefficients was 0.71, with a range from 0.52 to 0.83.[10] The two income distribution questions are positively correlated with social responsibility and all three are negatively correlated with the efficiency–equity choice. Most respondents align consistently along a "left–right" political continuum defined as the left favoring more income redistribution, equity over efficiency, and social over individual responsibility. We formalize this pattern by defining a summary variable, LEFTVAL, which equals Q22 + Q23 + Q25 + (100 − Q24). To avoid multicollinearity, we include this summary variable as our key measure of a respondent's value judgments in our empirical analysis.

Political party identification is approximately the same in both surveys: slightly more than half the respondents are Democrats, about one-fourth are Independents, and about one-sixth are Republicans. Party identification is closely related to responses to the values questions. Democrats lean to the left (as defined above), Republicans lean strongly to the right, and Independents are slightly to the right of center. The mean scores for the four values questions in labor economics are Democrats 62, Republicans 32, and Independents 46. In public economics, the mean scores are Democrats 67, Republicans 28, and Independents 46. In light of the strong correlation between political party and LEFTVAL, and regression results showing a small, insignificant contribution of political party identification to the policy regressions (controlling for values), we do not devote further attention to analyzing political party identification.

7. *Correlations among Types of Variables*

Table 4 summarizes the Pearson correlation coefficients among the different types of questions within each sur-

[10] The correlations among the policy questions are much lower, and the two surveys differ. The median coefficient (absolute value) is 0.39 for labor economics and 0.20 for public economics.

TABLE 4
SUMMARY OF COEFFICIENTS OF CORRELATION AMONG POLICY OPINIONS, BEST ESTIMATES OF ECONOMIC PARAMETERS, AND VALUES

LABOR ECONOMICS				
CORRELATIONS BETWEEN:	Number of Coefficients	Median Coefficient[a]	Percent of Coefficients $p < 0.05$	Percent of Coefficients $p < 0.01$
Values and policy opinions	24	0.53	88	75
Values and economic parameters	56	0.18	30	16
Economic parameters and policy opinions	84	0.18	25	8
Theoretically related questions[b]	10	0.19	40	30
PUBLIC ECONOMICS				
CORRELATIONS BETWEEN:	Number of Coefficients	Median Coefficient[a]	Percent of Coefficients $p < 0.05$	Percent of Coefficients $p < 0.01$
Values and policy opinions	28	0.35	79	64
Values and economic parameters	56	0.15	18	7
Economic parameters and policy opinions	98	0.13	10	5
Theoretically related questions[b]	18	0.15	28	17

[a] Absolute values.
[b] E.g., "Effect of higher minimum wage on teenage employment" and "Increase minimum wage" in the LE Survey. (See Tables 5 and 6 for full sets of theoretically related economic parameters and policy opinions.)

vey.[11] We find that the relationship between values and policy opinions is much stronger than the relationship between values and economic parameters, or between economic parameters and policy opinions. We also find that the relationship between values and policy opinions is considerably stronger in labor economics (0.53) than in public economics (0.35). The difference between the distribution of coefficients in the two surveys is significant at the 95-percent confidence level. The difference between the surveys, however, appears to result from differences in the questions, rather than from differences between the two specialties when asked the same question. Of the eight (4 values × 2 policy questions) corresponding correlations, the public economics coefficients are higher in six cases. The median correlation coefficient for public economics is 0.57, but only 0.43 for labor economics.

The correlations between values and reported economic parameters, albeit small on average, are statistically significant more often than is likely to result from chance. There are two possible explanations. The estimates of economic parameters may be influenced by values and/or the respondents' estimates of parameters may influence their attitudes toward income redistribution, the tradeoff between efficiency and equity, and the like. This finding does raise questions about the salience of values and economic parameter estimates, and it provides potential support for the "alternative view" of values noted above.

The correlations between policy opinions and economic parameters are sub-

[11] Complete matrices of coefficients for all results summarized in this paper are available on request.

stantially weaker than those between policy opinions and values. Furthermore, even when the correlations are limited to those that are theoretically related (for example, the elasticity of labor supply and the elimination of the OASI cap), the coefficients, on average, tend to be only slightly higher and are not significantly different from the other policy–parameter correlations.

8. *Policy Proposal Regressions*

We now consider the relationship between respondents' views on policy questions and their responses to our questions about economic parameters and value judgments. We present parallel regression results from the labor economics survey and the public economics survey. The dependent variable in each specification is a respondent's answer to a question about the desirability of a particular policy reform. Respondent j's evaluation of policy i is denoted $POLICY_{ij}$. We relate this policy judgment to our summary measure of the four value judgments for respondent j, $LEFTVAL_j$, as well as respondent j's estimates of the economic parameters that may bear on analysis of policy i. We denote this set of policy-relevant economic parameters as $PARAMETERS_{ij}$. In some cases, there is only one relevant economic parameter. For example, when we analyze views about raising the gasoline tax, the only economic parameter that we include as an explanatory variable is the price elasticity of demand for gasoline. In this case, the basic regression specification would be

$$POLICY_{ij} = b_{0,i} + b_{1,i}*LEFTVAL_j + b_{2,i}*PARAMETER_{ij} + e_{ij}. \quad (1)$$

In other cases, such as the analysis of the value added tax or the desirability of expanding job training programs, more economic parameters are relevant. Therefore, we included these additional economic parameters as explanatory variables in the equation.

For each policy variable, we report three regression specifications. The first is the "full" specification, including LEFTVAL and economic parameters, as in equation (1). The second specification in each case omits the LEFTVAL variable and includes only the set of policy-relevant economic parameters. The third specification omits the parameters and includes only LEFTVAL. All equations are estimated by ordinary least squares. We report the R^2 for each specification and the p–values for the set of economic parameters included in the first two specifications.

There are more policy questions with large numbers of relevant economic parameters in the public economics survey than in the labor economics survey. The maximum number of relevant parameters on a labor economics policy question is three, for the policy question about the elimination of job training. There are three public economics questions with three or more relevant parameter questions. This may reflect the somewhat more complex nature of some of the policy questions in public economics.

Tables 5a through 5c report our findings for the labor economics survey. Several broad observations emerge concerning the set of regression findings. First, the R^2 values suggest that regression models that include both LEFTVAL and policy-relevant economic parameters can account for between one-fifth and one-half of the variability in policy positions. The lowest R^2 is for the policy question on eliminating the tax cap for the Social Security payroll tax, while the highest is for the policy proposal to raise the minimum wage. Second, the LEFTVAL variable has a statistically significant effect on the policy responses, even after control-

TABLE 5a
POLICY OPINION REGRESSION RESULTS: LABOR ECONOMICS

Independent Variable	Increase AFDC Benefits (1)	(2)	(3)	Eliminate OASI Cap (1)	(2)	(3)
LEFTVAL	0.95	—	0.95	0.32	—	0.30
	(0.13)		(0.13)	(0.16)		(0.16)
Female labor supply elasticity	−2.47	−3.79	—	2.90	1.49	—
	(7.63)	(10.64)		(9.02)	(9.24)	
Male labor supply elasticity	−22.75	−20.31	—	−29.74	−27.81	—
	(11.14)	(15.53)			(13.62)	(13.95)
Constant	−7.44	43.35	−13.70	54.93	72.77	51.29
	(8.62)	(7.11)	(7.53)	(10.66)	(6.32)	(9.23)
R^2	0.513	0.037	0.471	0.131	0.067	0.056
p-value for test of economic parameters	0.088	0.324	—	0.097	0.136	—

Note: Sample size is 63 for "Increase AFDC Benefits" and 61 for "Eliminate OASI Cap."

TABLE 5b
POLICY OPINION REGRESSION RESULTS: LABOR ECONOMICS

Independent Variable	Eliminate Affirmative Action (1)	(2)	(3)	Increase Minimum Wage (1)	(2)	(3)
LEFTVAL	−0.71	—	−0.88	1.05	—	1.06
	(0.18)		(0.18)	(0.14)		(0.13)
Percent of male/female wage gap discrimination	−0.55	−0.82	—	—	—	—
	(0.20)	(0.21)				
Percent change in teen employment from minimum wage increase	—	—	—	0.057	1.18	—
				(0.687)	(0.94)	
Constant	89.65	56.29	86.75	-4.68	55.41	−4.94
	(9.87)	(5.87)	(10.32)	(8.36)	(4.22)	(7.71)
R^2	0.363	0.197	0.284	0.507	0.025	0.507
p-value for test of economic parameters	0.008	0.000	—	0.934	0.211	—

Note: Sample size is 64 for both "Eliminate Affirmative Action" and "Increase Minimum Wage."

ling for policy-relevant economic parameters, in each of the regression models. Third, the findings with respect to economic parameters are more difficult to generalize. While some of these variables have statistically significant effects on policy views, in most cases the coefficient estimates are statistically indistinguishable from zero.

We find the strongest link between economic parameters and policy views for the question on affirmative action, where the respondent's estimate of the role of employer discrimination in explaining the male–female wage differential has a strong and negative effect on the reported desirability of eliminating affirmative action. The insignificant

TABLE 5c
POLICY OPINION REGRESSION RESULTS: LABOR ECONOMICS

Independent Variable	Eliminate Job Training			Allow Union Card Signings		
	(1)	(2)	(3)	(1)	(2)	(3)
LEFTVAL	−0.83	—	−0.87	0.76	—	0.81
	(0.16)		(0.15)	(0.15)		(0.14)
JTPA youth earnings effect	1.18	0.94	—	—	—	—
	(0.76)	(0.92)				
JTPA male earnings effect	−0.29	-0.76	—	—	—	—
	(1.33)	(1.61)				
JTPA female earnings effect	−1.27	-1.80	—	—	—	—
	(0.86)	(1.03)				
Union wage effect	—	—	—	−0.52	−0.32	—
				(0.69)	(0.83)	
Union productivity effect				0.92	1.39	—
				(0.46)	(0.54)	
Constant	88.96	49.77	85.49	8.34	45.36	1.97
	(8.96)	(6.20)	(8.82)	(11.91)	(11.61)	(8.45)
R^2	0.409	0.123	0.346	0.406	0.107	0.357
p-value for test of economic parameters	0.112	0.047	—	0.117	0.044	—

Note: Sample size is 64 for "Eliminate Job Training" and 58 for "Allow Union Card Signings."

effect of most of the economic parameters is not due to a lack of dispersion in best estimates of the parameters; recall that there is considerable dispersion in the best estimates of the economic parameters among survey respondents.

The limited explanatory power of some of the economic parameter variables is surprising. For example, the expected teenage job loss due to the minimum wage is insignificantly related to labor economists' views towards a minimum-wage hike, both with and without the control for LEFTVAL.[12] One explanation of this finding is that labor economists place greater weight on the distributional effects of the minimum wage than on the employment effects (despite the obvious connection between distributional consequences and employment effects). LEFTVAL does have a strong and positive effect on the perceived attractiveness of raising the minimum wage.

Another surprising result is that the AFDC policy regression shows a much stronger relationship with the male than female labor supply elasticity. The regression coefficients are virtually unchanged when either the male or female elasticity is dropped from the regression. A large coefficient for the male elasticity is again present in the public economics AFDC regression, which does not include female elasticity because that question was not asked in the public economics survey.

Tables 6a through 6c present our regression findings for the public economics survey. Several conclusions emerge from these tables. First, LEFTVAL and the economic parameter

[12] In contrast to our results, Robert Whaples (1996) finds that labor economists who expect larger employment losses from a minimum wage increase are less supportive of such a policy. He does not control for differences in values, however.

TABLE 6a
POLICY OPINION REGRESSION RESULTS: PUBLIC ECONOMICS

	Increase AFDC Benefits			Increase Gasoline Tax			Eliminate OASI Cap		
Independent Variable	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
LEFTVAL	1.00	—	1.07	0.82	—	0.78	1.01	—	1.02
	(0.15)		(0.15)	(0.19)		(0.18)	(0.18)		(0.17)
Male labor supply elasticity	–24.72	–44.86	—	—	—	—	–3.51	–24.20	—
	(12.21)	(15.45)					(14.26)	(16.80)	
Gasoline price elasticity of demand	—	—	—	-12.95	-5.81	—	—	—	—
				(9.36)	(10.41)				
Constant	–8.69	49.29	-18.67	22.39	69.67	31.57	-1.052	57.44	–2.56
	(9.36)	(5.13)	(8.14)	(12.21)	(6.65)	(10.32)	(11.39)	(5.80)	(9.53)
R^2	0.488	0.115	0.455	0.232	0.005	0.210	0.358	0.031	0.357
p-value for test of economic parameters	0.047	0.005	—	0.171	0.579	—	0.806	0.155	—

Note: Sample size is 67 for "Increase AFDC Benefits," 69 for "Increase Gasoline Tax," and 66 for "Eliminate OASI Cap."

TABLE 6b
POLICY OPINION REGRESSION RESULTS: PUBLIC ECONOMICS

	Adopt VAT			Expand IRAs		
Independent Variable	(1)	(2)	(3)	(1)	(2)	(3)
LEFTVAL	–0.34	—	–0.43	–0.65	—	–0.74
	(0.21)		(0.19)	(0.19)		(0.19)
Percent investment change	0.62	0.67	—	—	—	—
	(0.50)	(0.50)				
GDP growth from wage tax	–5.41	-2.90	—	—	—	—
	(7.84)	(7.78)				
Male labor supply elasticity	8.80	17.03	—	—	—	—
	(22.50)	(22.21)				
Corporate tax on capital	-0.10	-0.05	—	0.04	0.10	—
	(0.13)	(0.13)		(0.12)	(0.13)	
Top 1 percent wealth holdings	0.06	0.07	—	–0.25	–0.29	—
	(0.20)	(0.20)		(0.18)	(0.20)	
>86 TRA effect on GDP growth	–0.02	–0.45	—	1.40	1.11	—
	(1.30)	(1.28)		(1.12)	(1.22)	
>93 OBRA effect on GDP growth	–2.33	–2.67	—	—	—	—
	(2.03)	(2.05)				
IRA effect on national saving	—	—	—	0.62	0.74	—
				(0.23)	(0.25)	
Constant	54.71	31.33	63.89	77.75	40.88	91.30
	(18.74)	(12.06)	(10.42)	(14.58)	(10.87)	(10.60)
R^2	0.161	0.124	0.076	0.313	0.178	0.186
p-value for test of economic parameters	0.551	0.313	—	0.031	0.014	—

Note: Sample size is 68 for both "Adopt VAT" and "Expand IRAs."

TABLE 6c
POLICY OPINION REGRESSION RESULTS: PUBLIC ECONOMICS

Independent Variable	State Education Funding (1)	(2)	(3)	Mandatory Saving Accounts (1)	(2)	(3)
LEFTVAL	0.30 (0.18)	—	0.54 (0.19)	−0.15 (0.16)	—	−0.20 (0.16)
Test score effect of central education funding	2.38 (0.64)	2.74 (0.60)	—	—	—	—
Annuity price ratio	—	—	—	2.73 (9.62)	3.24 (9.60)	—
Saving rate without Social Security	—	—	—	2.68 (1.19)	2.79 (1.18)	—
Administrative costs of privatized system	—	—	—	−0.29 (1.36)	−0.43 (1.35)	—
Constant	40.33 (10.03)	55.87 (3.11)	28.10 (10.36)	46.35 (20.54)	37.11 (17.98)	73.60 (9.11)
R^2	0.266	0.237	0.110	0.101	0.088	0.022
p-value for test of economic parameters	0.000	0.000	—	0.166	0.130	—

Note: Sample size is 69 for "State Education Funding" and 65 for "Mandatory Saving Accounts."

variables account for a lower fraction of the variation in policy views in public economics than in labor economics. The average R^2 for the seven public economics policy questions is 0.27, compared with 0.38 in labor economics. We suspect that this disparity is explained by the greater complexity of many of the policy issues in public economics relative to those in labor economics, and not by systematic differences between public economists and labor economists. The R^2s on the two policy questions that were included in both the labor and public economics surveys (raising AFDC benefits and eliminating the cap on payroll tax earnings) are higher for the public economics sample than for the labor economics sample. This suggests that the lower R^2s on the public economics questions may be due to the questions, not the respondents.

Second, paralleling our finding for labor economics, in most cases we cannot reject the null hypothesis that beliefs about economic parameters have no effect on policy choices. There are, however, several notable exceptions to this statement. The extent to which respondents think the 1981–86 IRA program raised national saving is strongly and positively associated with the response on the attractiveness of expanding IRAs. The higher the respondent thinks the private saving rate would have been in the absence of the current Social Security program, the more likely the respondent is to favor a system of mandatory individual investment accounts for retirement saving. The larger the respondent's estimate of the gain in test scores that would follow from state funding of schools, the more likely the respondent is to support state financing. These findings suggest that views about some economic parameters do influence policy opinions.

Finally, we find a weaker effect of LEFTVAL in the public economics regressions than in the labor economics

context. For only four of the seven policy questions, the coefficient on LEFTVAL is statistically significantly different from zero when we control for policy-relevant economic parameters. The questions where values do not appear to play a role are those regarding increased state-level funding of public education, the institution of a system of mandatory saving accounts as a partial alternative to the current pay-as-you-go Social Security system, and adopting a value added tax.

Respondents with higher LEFTVAL scores were more likely to support increasing AFDC benefits and eliminating the OASI tax cap. They were less likely to support expansion of IRAs. One interesting finding was a strong positive relationship between the LEFTVAL score and support for raising the gasoline tax. While many have argued that the gasoline tax is regressive (although see Poterba 1991 for references as well as a contrary view), it may be that those who are concerned about equity are nevertheless prepared to raise the gasoline tax because of the expenditure programs that they envision higher revenues as supporting. Alternatively, those with high LEFTVAL scores may be more willing to use taxes to curb the external costs of gasoline consumption.

In summary, the regressions in both surveys account for a significant portion of the variance in policy opinions, but much remains unaccounted for, especially for the public economics proposals. In both surveys, the relationship between policy opinions and values is much stronger than between policy opinions and what we judge to be the relevant economic parameters.

9. *"Overconfidence" of Respondents*

We believe that the process underlying responses to the economic parameter questions is roughly as follows. Respondents are familiar with many estimates in the literature. They apply their own filters to these estimates, as well as place weight on their priors based on their theoretical understanding of the economy, to provide best estimates and subjective 95-percent confidence intervals, along the way interpreting the questions as best they can.[13] In response to similar types of questions, experts in many fields, ranging from physics to stock price forecasting, evidence systematic "overconfidence" in their ability to provide quantitative estimates or predictions in their specialties. A classic reference is Marc Alpert and Howard Raiffa (1982); several more recent studies have documented the same pattern in various contexts.[14]

Overconfidence has been assessed by comparing the predictions of experts to realizations of specific outcomes. For example, predictions about the weather are compared to the actual weather. We do not know the true economic parameter values with which to compare respondents' answers, so we investigate overconfidence in three ways: a) by computing the proportion of the 95 percent confidence intervals that do not include the average best estimate (mean or median); b) by asking if the value that is covered by the largest number of confidence intervals is nonetheless excluded from relatively many respondents' intervals;[15] and c) by analyzing

[13] Because respondents all have access to the same literature, neither the best estimates nor the confidence intervals are likely to be independent across respondents. This will probably lead our three measures described below to understate the degree of overconfidence.

[14] See Alexander Shlyakhter and Daniel Kammen (1992); Shlyakhter, Kammen, Claire Broido, and Richard Wilson (1994); and Danielle Gordon and Kammen (1996) for demonstrations of overconfidence in several different fields.

[15] This measure was suggested to us by Lincoln Moses.

whether the average (mean or median) width of the confidence intervals is small relative to the variation in the best estimates (standard deviation or interquartile range).

In the first case, we rely on the assumption that the distribution of reported best estimates is centered on the true economic parameter. If this were the case, the mean and median would provide unbiased estimates of the true parameter. In principle, only 5 percent of the 95 percent confidence intervals would be expected to exclude the true parameter if respondents reported intervals independently. Because the mean or median best estimate is a noisy estimate of the true parameter, somewhat more than 5 percent of the intervals might exclude the sample mean or median.[16] Our second measure provides a *lower bound* on the extent of overconfidence, because it is possible that the value (or values) contained by the largest number of confidence intervals is not the true parameter. Thus, this statistic provides a conservative measure of the extent of overconfidence. In the third measure, we assume the dispersion in reported best estimates represents the uncertainty underlying the profession's views of the true parameter. In this scenario, we can ask: Is the typical width of the 95–percent confidence intervals consistent with the underlying dispersion in views among members of the profession? If the width of the typical respondent's interval is narrow relative to the dispersion in the profession, then the typical economist appears more confident than the professional consensus would warrant.

[16] This statement follows if the best estimates are independent of the confidence intervals. If, as seems likely, the location of the confidence intervals is related to the best estimates, one might expect that fewer than 5 percent of the intervals would fail to include the best estimate.

Figure 1 displays these measures of overconfidence. We would argue that respondents are not overconfident in situation I: both respondents (1 and 2) have 95-percent confidence intervals that contain the mean best estimate. The confidence intervals are also wide relative to the standard deviation of the best estimates.[17] In situation II there is overconfidence. The respondents have the same best estimates as in I, but each confidence interval is considerably narrower. Neither confidence interval includes the mean best estimate. Moreover, the width of both intervals is small relative to the standard deviation of best estimates. In situation III the respondents have confidence intervals that are as wide as in I, but their best estimates are much farther apart. The result is similar to situation II.

Table 7 shows that the individual 95-percent confidence intervals do not include the mean best estimate for a large percentage of respondents for most of the questions about economic parameters. In the labor economics survey, 41.4 percent of reported confidence intervals fail to contain the mean best estimate of the parameter for the typical (median) question. This figure is lower for public economics (33.6 percent), but still substantially above the 5 percent benchmark.[18] In both surveys for all questions, the confidence intervals are more likely to contain the median best estimate than the mean. For the typical question, the rejection rate of the median best estimate is 28.8 per-

[17] In Figure 1, the standard deviation equals $(B_2\text{-}\bar{B}) = (\bar{B}\text{-}B_1)$. This assumes division by N rather than N-1.

[18] Notice that by Chebyshev's inequality, at most one-quarter of a distribution can lie beyond two standard deviations of the mean. Thus if respondents implicitly placed two-standard-deviation bounds around their best estimates in providing confidence intervals, there is no conceivable distribution that reconciles the distribution of the best estimates with the confidence intervals.

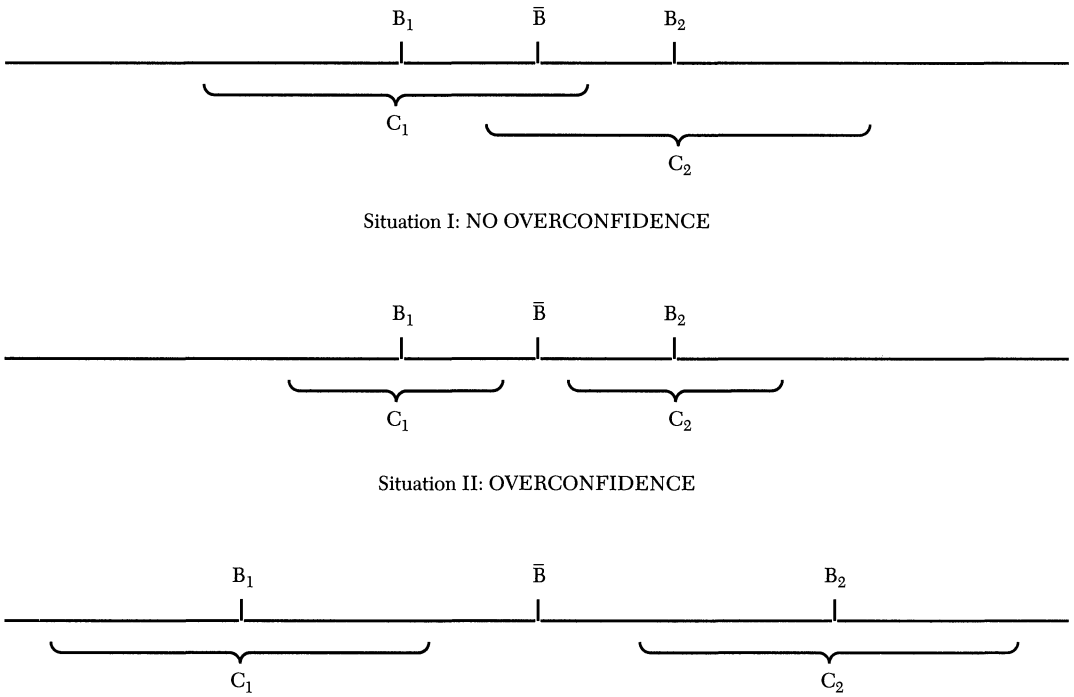

Figure 1. Hypothetical illustration of overconfidence in responses to questions about economic parameters.

cent for labor economics and 21.5 percent for public economics. One interesting result (not shown here) is that the probability of a respondent not including the mean (or the median) best estimate in his/her 95-percent confidence interval is uncorrelated with departmental rank.

The rejection rate for both the mean and the median exceeds 15 percent for almost every question in both surveys, with one notable exception. The mean best estimate of the effect of unions on wages (LE Q18) falls outside only 11.7 percent of the confidence intervals; for the median best estimate, the rejection rate is only 8.3 percent. Among the 20 questions in Table 7, this question stands out for the remarkable degree of unanimity among the respondents and the extent to which their individual confidence intervals embrace that unanimity. This probably reflects the influence of Lewis (1963, 1986), who devoted many years to studying the impact of unions on wages and was able to reconcile the diverse findings of many different investigators.

The last column of Table 7 reports results for our second measure of over-

TABLE 7
PERCENT OF RESPONDENTS WHOSE CONFIDENCE INTERVALS DO NOT INCLUDE ALTERNATIVE BEST ESTIMATES OF ECONOMIC PARAMETERS

LABOR ECONOMICS

ECONOMIC PARAMETERS	N	Percent of Confidence Intervals That Do Not Include: Mean Best Estimate	Median Best Estimate	Most Accepted Value
7. Employer's Share of Payroll Tax	54	51.9	32.7	22.2
8. Total Labor Demand	53	47.2	30.2	30.2
9. Net Labor Demand	44	40.9	27.3	27.3
10. JTPA–>Youth Earnings	54	18.5	18.2	9.3
11. JTPA–>Male Earnings	54	27.8	18.2	14.8
12. JTPA–>Female Earnings	55	38.2	36.4	18.2
13. % Δ Teen Employment	62	41.9	25.8	25.8
14. Marshall (men) Supply	52	26.9	17.3	17.3
15. Marshall (women) Supply	52	44.2	42.3	40.4
16. Hicks (men) Supply	43	41.9	39.5	18.6
17. Hicks (women) Supply	40	47.5	42.5	32.5
18. % Union Wage Effect	60	11.7	8.3	6.7
19. % Productivity Effect	57	33.3	19.3	19.3
20. % M/F Discrimination	62	50.0	45.2	27.4
Median		41.4	28.8	20.8

PUBLIC ECONOMICS

ECONOMIC PARAMETERS	N	Percent of Confidence Intervals That Do Not Include: Mean Best Estimate	Median Best Estimate	Most Accepted Value
8. % Δ Investment	44	36.4	22.7	22.7
9. Gas Demand (Hicks)	58	43.1	20.7	20.7
10. Wage Tax–>Δ GDP Growth	56	41.1	25.0	23.2
11. Marshall (men) Supply	55	25.5	21.8	18.2
12. Hicks (men) Supply	52	30.8	21.2	21.2
13. % IRA–>Net Savings	55	27.3	14.3	12.7
Median		33.6	21.5	20.9

confidence, the percent of confidence intervals that do not include the value that is contained in the largest number of intervals. For the median question in both surveys, 21 percent of reported confidence intervals fail to include the most accepted value. For each question the fraction of intervals that exclude the most accepted value exceeds 5 percent, although the questions on the union wage effect (LE Q18), youth job training (LE Q10), and IRAs and savings (PE Q13) are notably close to the 5 percent rejection rate. Confidence intervals for the female labor supply elasticity (LE Q15) exhibit the highest rate of overconfidence, with 40.4 percent of intervals excluding the most accepted value.

Table 8 reports additional evidence on the degree of respondent overconfidence. In a normal distribution, the width of a symmetric 95 percent confi-

TABLE 8
RATIOS OF AVERAGE WIDTHS OF CONFIDENCE INTERVALS TO STANDARD DEVIATION AND TO INTERQUARTILE RANGE OF BEST ESTIMATE

LABOR ECONOMICS

		MEAN CI / ST DEV			MEDIAN CI / IQ		
ECONOMIC PARAMETERS	N	mean width of ci	st dev of be	ratio	median width of ci	iq range of be	ratio
7. Employer's Share of Payroll Tax	54	33.4	28.2	1.18	30.0	28.0	1.07
8. Total Labor Demand	53	0.88	0.47	1.86	0.50	0.70	0.71
9. Net Labor Demand	44	0.54	0.39	1.37	0.40	0.30	1.33
10. JTPA–>Youth Earnings	54	13.3	6.0	2.23	10.0	6.0	1.67
11. JTPA–>Male Earnings	54	11.0	4.6	2.40	10.0	5.0	2.00
12. JTPA–>Female Earnings	55	12.6	5.5	2.30	12.0	8.0	1.50
13. % Δ Teen Employment	62	5.9	4.1	1.47	4.0	3.0	1.33
14. Marshall (men) Supply	52	0.52	0.27	1.93	0.35	0.10	3.50
15. Marshall (women) Supply	52	0.80	0.57	1.41	0.60	0.60	1.00
16. Hicks (men) Supply	43	0.34	0.28	1.21	0.30	0.20	1.50
17. Hicks (women) Supply	40	0.71	0.44	1.62	0.55	0.60	0.92
18. % Union Wage Effect	60	15.7	4.1	3.79	15.0	5.0	3.00
19. % Productivity Effect	57	18.8	6.9	2.74	15.0	10.0	1.50
20. % M/F Discrimination	62	31.8	18.0	1.77	30.0	20.0	1.50
Median				1.82			1.50

PUBLIC ECONOMICS

		MEAN CI / ST DEV			MEDIAN CI / IQ		
ECONOMIC PARAMETERS	N	mean width of ci	st dev of be	ratio	median width of ci	iq range of be	ratio
8. % Δ Investment	44	24.7	10.7	2.31	20.0	10.0	2.00
9. Gas Demand (Hicks)	58	0.74	0.39	1.89	0.60	0.40	1.50
10. Wage Tax–>Δ GDP Growth	56	1.11	0.49	2.25	0.65	0.49	1.33
11. Marshall (men) Supply	55	0.52	0.17	3.03	0.35	0.10	3.50
12. Hicks (men) Supply	52	0.44	0.26	1.73	0.40	0.20	2.00
13. % IRA–>Net Savings	55	44.3	15.9	2.78	40.0	20.0	2.00
Median				2.28			2.00

dence interval is equal to 3.92 times the standard deviation. With this in mind, we compare the interval widths to the standard deviation of the best estimates across respondents. The standard deviation of the best estimates provides a plausible benchmark for the profession's uncertainty, which would be reflected in the individual confidence intervals if economists were not overconfident. In the labor economics survey, however, only one question (the effect of unions on wages) has a mean confidence interval width of approximately four times the standard deviation of the best estimate; the median question has a ratio of 1.82. The median ratio in public economics is larger at

2.28. To eliminate the possible role of outliers in the comparison of individual and collective uncertainty, we also compare the median confidence interval with the interquartile range of the best estimates. In a normal distribution, this ratio would be almost 3.0. Again we find that the average confidence interval is relatively narrow, with a median ratio of only 1.5 for labor economics. We again find that the median ratio is higher for public economics (2.0), consistent with the difference between the two surveys that was apparent in Table 7.

It is possible that the low ratios shown in Table 8 result from incomplete specification of the questions about economic parameters. For example, economists' estimates of the labor supply elasticities might differ depending on whether they are thinking of labor supply in terms of participation or hours, hours per week or hours per year, permanent or transitory changes in wages, and so on. If respondents interpreted the same positive question differently, they might provide different best estimates of the elasticity even if their estimates would have been identical given the same interpretation. Thus, *incomplete question specification* could contribute to the observed variation in best estimates. At the extreme, the observed variation in best estimates could be simply noise attributable to incomplete specification. On the other hand, we would not expect incomplete specification to have an effect on the width of the confidence interval, as distinct from its location, because it is likely that respondents answered the confidence interval question with their specifications of the question in mind.[19]

If incomplete specification results in greater variation in best estimates without affecting the width of the confidence intervals, the ratios in Table 8 will understate the true ratio of the width of confidence intervals to the variation in best estimates (assuming complete specification). Although we do not know the extent of the incomplete specification problem, the following calculation suggests the variance in reported best estimates is high relative to the likely variance contributed by differing question interpretations. Let X_{ij} represent respondent i's best estimate for question X. Suppose there are multiple ways of interpreting the question, denoted j. We can write $X_{ij} = \mu + \varepsilon_i + \delta_j$, where ε_i and δ_j represent person-specific and question-interpretation disturbances, and are assumed to be homoskedastic and independently distributed with mean zero. The population mean best estimate over all possible interpretations of the question is μ. In this setup, the variance of the best estimates across all respondents is $\sigma_{\varepsilon}^2 + \sigma_{\delta}^2$. Incomplete specification implies that $\sigma_{\delta}^2 > 0$.

Although we don't have an estimate of σ_{δ}^2 for every question, we can derive a rough estimate for the Marshallian male labor supply elasticity by calculating the variance of labor supply elasticities across different labor supply concepts. Pencavel (1997) estimates four distinct labor supply elasticities measured in terms of weekly hours (0.096), annual weeks (0.133), annual hours (0.225), and employment-to-population rate (0.361). The variance of these four estimates is 0.014, which is less than one-fifth as large as the variance in best estimates for the prime-age male labor supply elasticity from our survey.[20] If

[19] If respondents' uncertainties over question interpretation lead to wider confidence intervals, then our measures will be biased against finding overconfidence.

[20] We use the elasticities for all white men presented in row 1 of Table 14 of Pencavel (1997) for this calculation. We have implicitly assumed that respondents are divided equally among these four interpretations of labor supply.

we subtract this component of variance from the overall variance of best estimates, the standard deviation only falls from 0.27 to 0.24. This calculation only captures a limited set of possible alternative interpretations of the labor supply elasticity, but it suggests that at least in this case, the added variance due to incomplete specification is small relative to the variance in reported best estimates. More generally, for the true ratio of the confidence interval width to the standard deviation to equal 3.92, incomplete question specification would have to account for approximately 80 percent of the observed variability in best estimates.

The results presented in Table 9 also suggest that more than incomplete specification is at work. The first row summarizes the coefficients of correlation across respondents between the absolute deviation of the best estimate from the median best estimate and the width of the confidence interval. The coefficient is significantly positive for more than two-thirds of the questions; the median coefficients are 0.43 for labor economics and 0.48 for public economics. High correlations could arise if respondents who generally gave best estimates far from the median also generally gave wide confidence intervals. This explanation, however, is soundly rejected by the results shown in the second row of Table 9. These coefficients were obtained by correlating the absolute difference of the best estimate from the median best estimate with the width of the confidence interval for all possible combinations of questions except those reported in the first row (where both variables pertain to the same question). On average, there is no correlation when the questions are not the same, showing that the results in the first row are not attributable to some special heterogeneity among the respondents. The last two rows of Table 9 offer further confirmation for this conclusion. When the correlations are limited to pairs of questions that are similar (e.g., the Marshallian and Hicksian labor supply elasticities), a tendency toward positive coefficients similar to (but not as strong as) those in the first row can be seen.

In summary, respondents to our survey appear to be overconfident about their estimates of economic parameters, just as experts in other disciplines appear too confident of their beliefs. We also find some evidence that economists tend to give wider confidence intervals when their best estimates are farther from the average best estimate in our sample.

10. *Future Research*

The two surveys described in this paper reveal that both labor economists and public finance economists give widely disparate estimates of many important economic parameters such as elasticities of labor demand and labor supply. Because these parameters play key roles in governmental and private economic models, one challenge to economic research is to explain why academic economists provide such divergent estimates. A better understanding of how differences in research methods, data sources, and specification contribute to differences in expert opinion is needed. Our finding of much less dispersion in estimates of the union wage effect than in estimates of other economic parameters is tantalizing. It suggests that sustained attempts at reconciling diverse empirical results, as carried out by Lewis (1963, 1986), rather than literature surveys that merely categorize disparate findings, may lead to greater professional consensus.

TABLE 9
SUMMARY OF COEFFICIENTS OF CORRELATION BETWEEN WIDTH OF CONFIDENCE INTERVAL AND ABSOLUTE DIFFERENCE OF BEST ESTIMATES OF ECONOMIC PARAMETERS

LABOR ECONOMICS

CORRELATIONS BETWEEN:	Number of Coefficients	Median Coefficient	Percent of Coefficients[a]	
			$p < 0.05$	$p < 0.01$
The same question	14	0.43	64	64
Not the same question	182	−0.01	14	8
Dissimilar	160	−0.03	8	3
Similar[b]	22	0.35	59	50

PUBLIC ECONOMICS

CORRELATIONS BETWEEN:	Number of Coefficients	Median Coefficient	Percent of Coefficients[a]	
			$p < 0.05$	$p < 0.01$
The same question	6	0.48	83	83
Not the same question	30	0.08	20	13
Dissimilar	28	0.06	18	14
Similar[b]	2	0.28	50	0

[a] Coefficients that are positive and significant as percent of all coefficients.
[b] E.g., the Marshallian and Hicksian elasticities of labor supply.

Another important finding is widespread overconfidence of economists, in the sense defined by Alpert and Raiffa (1982), in their estimates of economic parameters. Economists are not unique among professionals in displaying such overconfidence. Nevertheless, further work may be able to explain why economists attach such strong priors to their own beliefs, even when these beliefs are far from the consensus estimates in the profession.

Our study also reveals that economists hold widely disparate views about specific policy proposals in their specialties. Some of these policy differences can be accounted for by differences in beliefs about economic parameters and values, but much of the variation in policy views, particularly in public economics, cannot be accounted for in our framework. One explanation for this finding is that we have failed to include a set of economic parameters rich enough to account for differences of view about policy proposals. This could be addressed with further work that inquires about a broader set of parameters. Future research could also propose, and attempt to evaluate, additional explanations for policy differences. It is possible that different economists hold different views about the translation of policy proposals into specific legislation, and that this accounts for differences in their evaluations of policy proposals. More detailed specification of the policy proposals to be evaluated might reduce this source of differential opinion.

One issue that our survey did not address is the type of information that would lead economists to revise their views on policy proposals. Future surveys might therefore investigate whether respondents hold policy views

that they describe as subject to modification based on new empirical findings, as well as the type of new findings that would lead to such revision.

One of the most important empirical results of this study is the strong correlation between economists' policy positions and their values, but an understanding of this relationship requires further research. In particular, it would be good to know what determines these values. Many economists define a "value" as a well-specified objective function, but this definition does not explain why different economists prefer different functions. If most economists are consequentialists, as suggested in Peter Diamond (1997), differences in values could reflect differences in judgments about the consequences that flow from them. For instance, judgments about the effects of income redistribution on political harmony, crime, family stability, or investment in children could easily influence preferences about alternative income distributions. Thus, many positive questions may be embedded in the values questions.

In principle, a distinction can be made between means and ends, but in practice they might be difficult to distinguish, because a particular end might be seen as a means to some other end. It is worth emphasizing, however, that the large policy differences we found among economists were much more closely related to their values than to their estimates of the economic parameters that are theoretically relevant to those policies. Differences in reported values appear to lead economists to support different policies. However, contrary to *de gustibus non est disputandum*, the research agenda should not stop there. We need to identify other kinds of positive questions that might be influencing economists' values, and we need to explore the relationship between views about these questions and views about values and policy.

LABOR ECONOMICS SURVEY

Questions 1 through 6: Please indicate your opinion of each of the following policy proposals by placing a vertical mark on the corresponding horizontal line.

Note that we intend to use a continuous scale.

		No opinion
1. Increase AFDC benefits financed by a revenue neutral, proportional increase in all marginal income tax rates.	**strongly oppose** — **strongly favor**	_____
2. Eliminate the current cap on taxable wages under the OASI payroll tax, offset by a revenue-neutral reduction of the payroll tax rate.	**strongly oppose** — **strongly favor**	_____
3. Eliminate the OFCCP Affirmative Action program (i.e., eliminate Executive Order 11246).	**strongly oppose** — **strongly favor**	_____
4. Increase the minimum wage from $4.25 to $5.15 per hour over two years.	**strongly oppose** — **strongly favor**	_____
5. Eliminate the federal role in job training, with the cost savings applied to deficit reduction. Most significantly, this proposal will eliminate the JTPA program, which at $4 billion per year, is the largest federal job training program.	**strongly oppose** — **strongly favor**	_____
6. Change the labor laws to permit workers to form a union if a majority of workers in the bargaining unit signs cards (in a reasonable period of time) saying they want a particular union.	**strongly oppose** — **strongly favor**	_____

Questions 7-20: Please give your best estimate of a quantity (x), along with your best estimate of the 95% confidence interval for x. This confidence interval is defined as $[x_1, x_2]$, such that $Pr(x < x_1) = Pr(x > x_2) = .025$. The confidence intervals need not be symmetric; one could report, for example, a best estimate of .50, with a confidence interval of [.35, 1.6].

Be sure to indicate a minus sign if your estimate is a negative quantity.

	Best estimate	Lower bound	Upper bound	No opinion
7. The percentage of payroll taxes that is borne by employers in the long run.	____	____	____	____
8. The total wage elasticity of labor demand.	____	____	____	____
9. The output-constant wage elasticity of labor demand.	____	____	____	____
10. The percentage impact on annual earnings for the average disadvantaged ***youth*** who undergoes JTPA job training.	____	____	____	____
11. The percentage impact on annual earnings for the average ***adult male*** who undergoes JTPA job training.	____	____	____	____
12. The percentage impact on annual earnings for the average ***adult female*** who undergoes JTPA job training.	____	____	____	____
13. The percentage change in employment of teenagers caused by a 10 percent increase in the minimum wage.	____	____	____	____

Questions 7 through 20, continued.

Be sure to indicate a minus sign if your estimate is a negative quantity.

	Best estimate	Lower bound	Upper bound	No opinion
14. The uncompensated (i.e., Marshallian) elasticity of labor supply for men ages 25-54.	_____	_____	_____	_____
15. The uncompensated (i.e., Marshallian) elasticity of labor supply for women ages 25-54.	_____	_____	_____	_____
16. The compensated (i.e., Hicksian) elasticity of labor supply for men ages 25-54.	_____	_____	_____	_____
17. The compensated (i.e., Hicksian) elasticity of labor supply for women ages 25-54.	_____	_____	_____	_____
18. The percentage impact of unions on the earnings of their average member.	_____	_____	_____	_____
19. The percentage impact of unions on productivity of unionized companies.	_____	_____	_____	_____
20. The percentage of the male–female wage gap attributable to employer discrimination.	_____	_____	_____	_____

Questions 21 through 25: Please indicate your opinion by placing a vertical mark on the corresponding horizontal line.

Note that we intend to use a continuous scale.

No opinion

21. To understand the effects of job training, I would give more credence to results coming from studies that employ:

randomized assignment ——— **structural modeling** _____

22. Compared with the present, the federal government's role in income redistribution should be:

much less ——— **much greater** _____

23. Same as question 22, but assume that the redistribution could be accomplished with transfers that have no price effects (i.e., with lump sum taxes and transfers that have no distortionary effects):

much less ——— **much greater** _____

24. When public policy must choose between equity and efficiency, it should give more weight than it now does to:

equity ——— **efficiency** _____

25. When public policy must choose between individual and social responsibility, it should

individual responsibility ——— **social responsibility** _____

26. Please circle the best description of your political party identification.

Democrat **Republican** **Independent** **Other** _____

PUBLIC ECONOMICS SURVEY

Questions 1 through 7: Please indicate your opinion of each of the following policy proposals by placing a vertical mark on the corresponding horizontal line.

Note that we intend to use a continuous scale.

		No opinion
1. Increase AFDC benefits financed by a revenue-neutral, proportional increase in all marginal income tax rates.	**strongly oppose** ——— **strongly favor**	____
2. Increase the federal gasoline excise tax by 25 cents per gallon, with proceeds devoted to general revenues.	**strongly oppose** ——— **strongly favor**	____
3. Replace the current federal taxes on personal income, corporate income, and estates with a revenue-neutral value-added tax.	**strongly oppose** ——— **strongly favor**	____
4. Eliminate the current cap on taxable wages under the OASI payroll tax offset by a revenue-neutral reduction of the payroll tax rate.	**strongly oppose** ——— **strongly favor**	____
5. Raise the maximum annual IRA contribution to $5,000 and restore "up front" tax deductibility of IRA contributions for all taxpayers regardless of income level.	**strongly oppose** ——— **strongly favor**	____
6. Move toward greater reliance than at present on state-level as opposed to local-level financing of public education.	**strongly oppose** ——— **strongly favor**	____
7. Replace part of the current payroll tax with a mandatory saving program in which proceeds are invested in individual-directed investment accounts and annuitized at retirement (the "middle road" plan recently discussed by the Advisory Panel on Social Security).	**strongly oppose** ——— **strongly favor**	____

Public Economics **Page 2 of 4**

Questions 8 through 13: Please give your best estimate of a quantity (x), along with your best estimate of the 95% confidence interval for x. This confidence interval is defined as $[x_1, x_2]$, such that $Pr(x < x_1) = Pr(x > x_2) = .025$. The confidence intervals need not be symmetric; one could report, for example, a best estimate of .50, with a confidence interval of [.35, 1.6].

Be sure to indicate a minus sign if your estimate is a negative quantity.

	Best estimate	Lower bound	Upper bound	No opinion
8. The percentage increase or decrease in investment in plant and equipment over the next five years that would result from a permanent change in the corporate income tax law to allow expensing of all capital investment, financed by a higher corporate income tax rate.	____	____	____	____
9. The compensated (i.e., Hicksian) price elasticity of demand for gasoline in the United States over a horizon of two to five years.	____	____	____	____
10. The percentage point change in the average GDP growth rate over the next ten years if all capital income taxes in the United States were replaced by a revenue-neutral wage tax.	____	____	____	____
11. The uncompensated (i.e., Marshallian) elasticity of labor supply for men ages 25–54.	____	____	____	____
12. The compensated (i.e., Hicksian) elasticity of labor supply for men ages 25–54.	____	____	____	____
13. The percentage of the inflows to IRA's during the 1981–86 period that represented net additions to national saving.	____	____	____	____

Questions 14 through 21: Please give your best estimate or guess.

Be sure to indicate a minus sign if your estimate is a negative quantity.

	Best estimate	No opinion
14. The ratio of the current market price of purchasing an immediate life annuity at age 65 to the actuarially fair price of such an annuity.	_____	_____
15. The percentage change in average student test scores that would follow from a shift from the present state/local responsibility for financing public education to a system in which all funds were from the state.	_____	_____
16. The percentage of the current corporate income tax in the United States that is ultimately borne by capital.	_____	_____
17. The average U.S. personal saving rate between 1990 and 1994, if Social Security had never been enacted. For reference, the actual personal saving rate in the National Income and Product Accounts averaged 5.0 percent of disposable income.	_____	_____
18. The fraction of household net worth held by households in the top 1% of the net worth distribution.	_____	_____
19. The ratio of the administrative costs of a system of private, mandatory retirement saving accounts to the administrative costs of the current Social Security System.	_____	_____

The percentage change in steady-state GDP that would have been associated with each of the following tax reforms, if they had been allowed to remain in force until the economy reached a new steady state:

20. 1986 Tax Reform Act.	_____	_____
21. 1993 Budget Enforcement Act.	_____	_____

Questions 22 through 25: Please indicate your opinion by placing a vertical mark on the corresponding horizontal line.

Note that we intend to use a continuous scale.

		No opinion
22. Compared with the present, the federal government's role in income redistribution should be:	**much less** ⟵ ⟶ **much greater**	_____
23. Same as question 22, but assume that the redistribution could be accomplished with transfers that have no price effects (i.e., assuming lump sum taxes and transfers that have no distortionary effects):	**much less** ⟵ ⟶ **much greater**	_____
24. When public policy must choose between equity and efficiency, it should give more weight than it now does to:	**much less** ⟵ ⟶ **much greater**	_____
25. When public policy must choose between individual responsibility and social responsibility, it should give more weight than it now does to:	**much less** ⟵ ⟶ **much greater**	_____

26. Please circle the best description of your political party identification.

Democrat **Republican** **Independent** **Other** _____

REFERENCES

Alpert, Marc and Howard Raiffa. 1982. "A Progress Report on the Training of Probability Assessors," in *Judgment under Uncertainty: Heuristics and Biases*. Daniel Kahneman, Paul Slovic, and Amos Tversky, eds. Cambridge: Cambridge U. Press.

Alston, Richard M., J. R. Kearl, and Michael B. Vaughan. 1992. "Is There a Consensus Among Economists in the 1990's?" *Amer. Econ. Rev. (Papers and Proceedings)*, 82:2, pp. 203–209.

Atkinson, Alan and Joseph Stiglitz. 1980. *Lectures in Public Economics*. New York: McGraw Hill.

Auerbach, Alan. 1996. "Tax Reform, Capital Allocation, Efficiency, and Growth," in *Economic Effects of Fundamental Tax Reform*. Henry Aaron and Wiliam Gale, eds. Washington: Brookings Institution.

———. 1997. Private correspondence to J. Poterba, February.

Auerbach, Alan J. and Joel Slemrod. 1997. "The Economic Effects of the Tax Reform Act of 1986," *J. Econ. Lit.*, 35:2, pp. 589–632.

Barro, Robert. 1974. "Are Government Bonds Net Worth?" *J. Polit. Econ.*, 82, pp. 1095–117.

Brown, Charles, Curtis Gilroy, and Andrew Kohen. 1983. "Time Series Evidence on the Effect of the Minimum Wage on Youth Employment and Unemployment," *J. Human Res.*, 18, pp. 3–31.

Burtless, Gary. 1995. "The Case for Randomized Field Trials in Economic and Policy Research," *J. Econ. Perspectives*, 9:2, pp. 63–84.

Cummins, Jason G., Kevin A. Hassett, and R. Glenn Hubbard. 1994. "A Reconsideration of Investment Behavior Using Tax Reforms as Natural Experiments," *Brookings Papers on Economic Activity*, 2, pp. 1–59.

Dahl, C. 1986. "Gasoline Demand Survey," *Energy J.*, 7, pp. 67–82.

Diamond, Peter A. Forthcoming. "Rationing Medical Care—An Economist's Perspective," *Economics and Philosophy*.

Engen, Eric, William Gale, and J. Karl Scholz. 1996. "The Illusory Effects of Saving Incentives on Saving," *J. Econ. Perspectives*, 10, pp. 113–38.

Engen, Eric, Jane Gravelle, and Kent Smetters. 1997. "Dynamic Tax Models: Why They Do the Things They Do," *Nat. Tax J.* 50, pp. 657–82.

Feldstein, Martin. 1974. "Social Security, Induced Retirement, and Aggregate Capital Accumulation," *J. Polit. Econ.*, 82:5, pp. 905–26.

Freeman, Richard and James Medoff. 1984. *What Do Unions Do?* New York: Basic Books, Inc.

Friedman, Benjamin M. and Mark J. Warshawsky. 1990. "The Cost of Annuities: Implications for Saving Behavior and Bequests," *Quart. J. Econ.*, 105, pp. 135–54.

Friedman, Milton. 1953. *Essays in Positive Economics*. Chicago: U. of Chicago Press.

Fuchs, Victor R. and Diane M. Reklis. 1994. "Mathematical Achievement in Eighth Grade: Interstate and Racial Differences," NBER Working Paper 4784.

Fuchs, Victor R. 1996. "Economics, Values, and Health Care Reform," *Amer. Econ. Rev.*, 86:1, pp. 1–24.

Gordon, Danielle A. and Daniel M. Kammen. 1996. "Uncertainty and Overconfidence in Time Series Forecasts: Application to the Standard & Poor's 500 Stock Index," *Appl. Fin. Econ.*, 6, pp. 189–98.

Gramlich, E. 1996. "Different Approaches for Dealing with Social Security," *J. Econ. Perspectives*, 10, pp. 55–66.

Hamermesh, Daniel. 1993. *Labor Demand*. Princeton, NJ: Princeton U. Press.

Harberger, Arnold. 1962. "The Incidence of the Corporation Income Tax," *J. Polit. Econ.*, 70, pp. 215–40.

Hausman, Jerry. 1985. "Taxes and Labor Supply," in *Handbook of Public Economics*. Alan Auerbach and Martin Feldstein, eds. Amsterdam: North Holland, pp. 213–65.

Heckman, James J. and Jeffrey Smith. 1995. "Assessing the Case for Social Experiments," *J. Econ. Perspectives*, 9:2, pp. 85–110.

Hirsch, Barry and John Addison. 1986. *The Economic Analysis of Unions: New Approaches and Evidence*. Boston, MA: Allen and Unwin.

Hoxby, Caroline. 1995. "Is There an Equity–Efficiency Trade-off in School Finance? Tiebout and a Theory of the Local Public Goods Producer," NBER Working Paper 5265.

Killingsworth, Mark. 1983. *Labor Supply*. Cambridge: Cambridge U. Press.

LaLonde, Robert. 1995. "The Promise of Public Sector-Sponsored Training Programs," *J. Econ. Perspectives*, 9:2, pp. 149–68.

Lewis, H. Gregg. 1963. *Unionism and Relative Wages in the United States; An Empirical Inquiry*. Chicago: U. of Chicago Press.

———. 1986. *Union Relative Wage Effects: A Survey*. Chicago: U. of Chicago Press.

Pencavel, John. 1987. "Labor Supply of Men: A Survey," in *Handbook of Labor Economics*, Vol. 1. Orley Ashenfelter and R. Layard, eds. Amsterdam: North Holland, pp. 3–98.

———. 1997. "Changes in Male Work Behavior and Wages," mimeo, Stanford U.

Poterba, James. 1991. "Is the Gasoline Tax Regressive?" in *Tax Policy and the Economy*, Vol. 5. David Bradford, ed. Cambridge, MA: MIT Press, pp. 145–64.

Poterba, James and Andrew A. Samwick. 1995. "Stock Ownership Patterns, Stock Market Fluctuations, and Consumption," *Brookings Pap. Econ. Act.*, 2, pp. 295–371.

Poterba, James, Steven F. Venti, and David Wise. 1996. "How Retirement Saving Programs Increase Saving," *J. Econ. Perspectives*, 10, pp. 81–113.

Rosen, Harvey. 1995. *Public Finance*, 4th Ed. Chicago: Irwin Publishers.

Scott, Loren C. and Peter M. Mitias. 1996.

"Trends in Rankings of Economics Departments in the U.S.: An Update," *Econ. Inquiry*, *34*, pp. 378–400.

Shlyakhter, Alexander I. and Daniel M. Kammen. 1992. "Sea Level Rise or Fall?" *Nature*, 357, p. 25.

Shlyakhter, Alexander I., Daniel Kammen, Claire Broido, and Richard Wilson. 1994. "Quantifying the Credibility of Energy Projections from Trends in Past Data," *Energy Policy*, pp. 119–30.

Slemrod, Joel. 1995. "Professional Opinions About Tax Policy: 1994 and 1934," *Nat. Tax J.*, 48, pp. 121–48.

Whaples, Robert. 1996. "Is There Consensus Among American Labor Economists? Survey Results on 40 Propositions," *J. Lab. Res.*, 17(4), pp. 725–34.