

# How do voters form positive economic beliefs? Evidence from the *Survey of Americans and Economists on the Economy*

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**Abstract** Beliefs about *normative* economics appear to be primarily determined by sociotropic rather than egocentric variables. (Sears & Funk, 1990; Citrin & Green, 1990) Using the Survey of Americans and Economists on the Economy, the current paper finds that the same holds for *positive* economic beliefs in most – but not all – cases. This hinges on whether a question is “causal” or “non-causal”: Causal beliefs depend on sociotropic variables, especially education and ideology; non-causal beliefs, in contrast, depend on egocentric variables, with income *growth* playing the leading role. This is consistent with a cognitive model where actors answer easier questions using personal experience, and harder ones with “off-the-shelf” theories.

**Keywords** Economic beliefs · Sociotropic voting · Voter cognition

**JEL Classifications:** D84, D83, D72

## 1. Introduction

Democracy gives voters considerable influence over economic policy. One important task for public choice, accordingly, is to understand where voters’ economic policy preferences come from. A large literature already explores the *normative* economic positions of voters, and concludes that – like almost all political attitudes – they are primarily functions of autonomous ideas, not personal interests. (Sears & Funk, 1990; Citrin & Green, 1990) *Homo politicus* is, as political scientists put it, “sociotropic,” not “egocentric.” (Caplan, 2002a) But these normative stances about desirable economic policy normally presuppose *positive beliefs* about how the economy works. Are they sociotropically driven as well? There is of course a well-developed literature on positive beliefs about output, unemployment, and

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**Table 1** Causal versus non-causal questions

Type of question	Description	Example
Causal	Asks for effect of $x$ on $y$ , <i>ceteris paribus</i> . Subject requires an implicit model to answer.	IMMIG
Non-causal	Asks for unconditional estimate of what $x$ does. Response can be completely atheoretical.	INCOME20

**Table 2** Preview of results

Type of question	Primary determinants	
	Education & Ideology	Income growth
Causal	✓	
Non-causal		✓

inflation (Krause, 1997; MacKuen, Erikson & Stimson, 1992; Kinder & Mebane, 1983), but most beliefs about the workings of the economy remain relatively unexplored.

In a series of articles, I have used the Survey of Americans and Economists on the Economy's (1996; Blendon, 1997; henceforth SAEE) diverse set of questions to investigate the nature of positive economic beliefs. Caplan (2002b) shows that there are large systematic belief differences between economists and the public, and that the leading efforts to impugn economists' objectivity fail. Caplan (2001) finds that education, being male, income growth, and job security – but neither income level nor ideological conservatism – make people think more like economists. In the current paper, I use the same data set to examine the sources of variation in the positive economic beliefs of the general public.

A complex picture emerges. Education and ideology – typically seen as sociotropic variables – are the leading predictors of economic beliefs, but there are a number of exceptions. In order to understand this pattern, I find it necessary to split the SAEE's questions into two categories: *causal* and *non-causal*. (Table 1)

Causal questions require respondents to identify causally relevant variables, and ascertain how they affect each other *ceteris paribus*. A good example: the question about excessive immigration.<sup>1</sup> It asks whether excessive immigration is a “major reason,” “minor reason,” or “not a reason” why “the economy is not doing better than it is.” In other words: What is the economic effect of immigration holding all else constant? “Non-causal” questions, on the other hand, simply tell respondents to describe a variable's current, past, or future behavior. A good example: the question about whether average real family incomes rose, fell, or stayed the same during the last 20 years.<sup>2</sup> To respond, one need not understand *why* average family income behaved as it did, only describe what happened.

Making this distinction brings two contrasting modes of economic belief formation into focus. (Table 2) Causal beliefs are best predicted by education and ideology. Non-causal beliefs, in contrast, are mainly functions of income growth. In political science terminology, causal beliefs are sociotropic, while non-causal beliefs are egocentric.

<sup>1</sup> Variable identifier IMMIG.

<sup>2</sup> Variable identifier INCOME20.

There is admittedly an important ambiguity in this literature on voter motivation. A self-interested actor might use sociotropic variables as *estimators* of his self-interest. Is such a person egocentric or sociotropic? Similarly, how should we classify an altruistic actor who uses egocentric variables to estimate the public interest? In other words, we can distinguish between “egocentric” and “sociotropic” in the *weak* sense of “predicted by egocentric/sociotropic variables” and the *strong* sense of “having a selfish/altruistic objective function.” This paper mainly focuses on the former, weak sense of the terms. However, I also go on to analyze the extent to which the empirical evidence justifies using the terms in the stronger sense.

My findings are relevant for the growing literature on voters’ use of “cognitive shortcuts.” (Popkin, 1991; Lupia & McCubbins, 1998) On non-causal questions, I confirm that the typical citizen uses readily available information from daily life to make broad inferences about the state of the world. On causal questions, though, the typical citizen seems to do something else. The results also shed new light on retrospective versus prospective voting. (Conover, Feldman & Knight, 1987) Empirically, it often happens that *neither* past nor future outcomes affect economic beliefs. When income growth does matter, perceptions about the past have about as much predictive power as expectations about the future.

The paper is organized as follows. The second section discusses the data. The third section investigates the determinants of economic beliefs in general, finding that ideas play the dominant role, but interests matter more for one-quarter of the questions. The fourth section introduces the distinction between causal and non-causal questions, and shows how this distinction lets us cleanly partition the domains of sociotropic and egocentric belief. The fifth section provides an intuitive rationale for the empirical results. The sixth concludes.

## 2. The Survey of Americans and Economists on the Economy

This paper builds on the Survey of Americans and Economists on the Economy data set (1996).<sup>3</sup> The respondents to the SAEE were 1510 members of the public, randomly selected nationwide from the general population.<sup>4</sup> Blendon et al. (1997) summarize its basic findings; for further commentary see Caplan (2001, 2002b).

What makes the SAEE useful from the standpoint of this paper is its wide-ranging set of positive economic questions, combined with detailed information on respondents’ characteristics. Most studies of economic beliefs fall into one of two categories. Some examine a diverse set of economic policy preferences and related normative economic claims. (Sears & Funk, 1990; Citrin & Green, 1990; McClosky & Zaller, 1984; Walstad, 1997) Others focus on a narrower range of positive economic beliefs, primarily output, unemployment, and inflation. (Mutz & Mondak, 1997; Krause, 1997; Holbrook & Garand, 1996; Haller & Norpoth, 1994; Mutz, 1993; MacKuen, Erikson, & Stimson 1992; Kinder, Adams & Gronke, 1989; Conover, Feldman & Knight, 1987; Conover & Feldman, 1986; Kinder & Mebane,

<sup>3</sup> Note the availability of a webbed summary of the results at: <http://www.kff.org/kaiserpolls/1199-econgen.cfm>

<sup>4</sup> The survey also polled 250 Ph.D. economists, but since the current paper focuses only on the economic beliefs of the general public, economists were excluded from the sample.

1983). The SAEE also primarily deals with positive, not normative questions, but it has a much more diverse pool of topics. Its overlap with other surveys of the public's economic beliefs is at most modest.

Details on dependent and independent variables are shown in Tables 3 and 4 respectively; for clarity, I have modified many of the coding conventions. The paper focuses on the determinants of the SAEE's 36 main questions about the economy. Thirty-three of these permit three answers; one permits five; the rest have two. All can be straightforwardly placed along one dimension. Subsequent sections analyze all questions using logits with the appropriate number of orderings (3, 5, or 2).

### 3. Explaining economic beliefs: Ideas versus interests

To test the egocentric against the sociotropic accounts of belief formation, one must classify respondents' characteristics as measures of interests or ideas. Income, recent income growth, expected income growth, and job security – but not education – are categorized as “interest” variables.<sup>5</sup> Many economic forces differentially affect people with higher income profiles or greater job security; but it is hard to see how the interests of the educated and uneducated systematically vary holding income, income growth, and job security fixed. So education is treated as one measure of respondents' ideas. Grouping it with ideology and party affiliation completes the set. The remaining variables – race, gender, age, and age squared – are agnostically placed in their own “demographic” category. While they might proxy for personal interests, they could also reflect group-welfare concerns, or the relative popularity of ideas in different demographic groups. (Mutz & Mondak, 1997; Kinder, Adams & Gronke, 1989).

Each of Table 3's 36 questions were estimated as a function of the union of interests, ideas, and demographics. Table 5 summarizes the most noteworthy findings in two ways. It first tabulates how many times each independent variable is statistically significant at the 5%, 1%, .1%, and .001% levels. Table 5 also computes Pearson's  $p_\lambda$  test statistic,  $\lambda$ , for each independent variable, under the null that the true coefficient for the variable is 0 in all 36 equations.<sup>6</sup> (Maddala, 1977, pp. 47–48; Kenny, 1982) The  $p_\lambda$  test provides a formal criterion for ranking the independent variables' “overall” importance.<sup>7</sup>

<sup>5</sup> An anonymous referee raises an important consideration: unless it has been adjusted for family size, family income is a very noisy measure of personal interests. This biases the coefficients on income to zero. The SAEE does not have a precise measure of family size, but it does contain information on respondents' marital status and whether or not they have children under the age of 30. Adding the latter two variables to the set of controls has virtually no effect on the results. Their coefficients are statistically significant a total of two times, less than expected by chance. Moreover, adding these controls shows no tendency to make the absolute value of the coefficient on family income rise.

<sup>6</sup> An anonymous referee raises an important question about the *signs* of the coefficients. Where there is an a priori expectation about the direction of a variable's effect, it is almost always weakly satisfied. More educated citizens think more like economists, or at least do not think less like economists. Individuals with growing incomes and high levels of job security are more optimistic about the past, present, and future of the economy, or at least are not more pessimistic. I discuss coefficients' sign patterns in detail in Caplan (2002b) and especially Caplan (2001). Contrary to the expectations of an anonymous referee, though, Caplan (2001) does *not* find that knowledge of economics rises with age.

<sup>7</sup> Note that the  $p_\lambda$  test assumes that the 36 tests are independent. Given the diversity of the questions, this is usually reasonable, but the independence assumption is admittedly strained for six pairs of closely related questions: TAXHIGH and TAXCUT (both ask about taxes); TECH and TECHGOOD (both ask about technology); DOWNSIZE and DOWNGOOD (both ask about downsizing); TRADEAG and TRADEJOB (both

**Table 3** Dependent variables

#	Variable	Question
		Regardless of how well you think the economy is doing, there are always some problems that keep it from being as good as it might be. I am going to read you a list of reasons some people have given for why the economy is not doing better than it is. For each one, please tell me if you think it is a major reason the economy is not doing better than it is, a minor reason, or not a reason at all. 0 = "Not a reason at all"; 1 = "Minor reason"; 2 = "Major reason"
1	TAXHIGH	Taxes are too high
2	DEFICIT	The federal deficit is too big
3	FORAID	Foreign aid spending is too high
4	IMMIG	There are too many immigrants
5	TAXBREAK	Too many tax breaks for business
6	INADEDUC	Education and job training are inadequate
7	WELFARE	Too many people are on welfare
8	AA	Women and minorities get too many advantages under affirmative action
9	HARDWORK	People place too little value on hard work
10	REG	The government regulates business too much
11	SAVINGS	People are not saving enough
		Now I am going to read you another list of reasons, having to do with businesses, that some people have given for why the economy is not doing better than it is. For each one, please tell me if you think it is a major reason the economy is not doing better than it is, a minor reason, or not a reason at all. 0 = "Not a reason at all"; 1 = "Minor reason"; 2 = "Major reason"
12	PROFHIGH	Business profits are too high
13	EXECPAY	Top executives are paid too much
13	BUSPROD	Business productivity is growing too slowly
15	TECH	Technology is displacing workers
16	OVERSEAS	Companies are sending jobs overseas
17	DOWNSIZE	Companies are downsizing
18	COMPEDUC	Companies are not investing enough money in education and job training
		Generally speaking, do you think each of the following is good or bad for the nation's economy, or don't you think it makes much difference? 0 = "Bad"; 1 = "Doesn't make much difference"; 2 = "Good"
19	TAXCUT	Tax cuts
20	WOMENWORK	More women entering the workforce
21	TECHGOOD	Increased use of technology in the workplace
22	TRADEAG	Trade agreements between the United States and other countries
23	DOWNGOOD	The recent downsizing of large corporations
		Some people say that these are economically unsettled times because of new technology, competition from foreign countries, and downsizing. Looking ahead 20 years, do you think these changes will eventually be good or bad for the country or don't you think these changes will make much difference?

(Continued on next page)

**Table 3** (Continued)

#	Variable	Question
24	CHANGE20	0 = "Bad"; 1 = "Won't make much difference"; 2 = "Good" Do you think that trade agreements between the United States and other countries have helped create more jobs in the U.S., or have they cost the U.S. jobs, or haven't they made much of a difference?
25	TRADEJOB	0 = "Cost the U.S. jobs"; 1 = "Haven't made much difference"; 2 = "Helped create jobs in the U.S." Which do you think is more responsible for the recent increase in gasoline prices?
26	WHYGASSD	0 = "Oil companies trying to increase their profits"; 1 = "The normal law of supply and demand" ["both" coded as 1; "neither" as 0] Do you think improving the economy is something an effective president can do a lot about, do a little about, or is that mostly beyond any president's control?
27	PRES	0 = "Beyond any president's control"; 1 = "Do a little about"; 2 = "Something president can do a lot about" Do you think most of the new jobs being created in the country today pay well, or are they mostly low-paying jobs?
28	NEWJOB	0 = "Low-paying jobs"; 1 = "Neither"; 2 = "Pay well" Do you think the gap between the rich and the poor is smaller or larger than it was 20 years ago, or is it about the same?
29	GAP20	0 = "Smaller"; 1 = "About the same"; 2 = "Larger" During the past 20 years, do you think that, in general, family incomes for average Americans have been going up faster than the cost of living, staying about even with the cost of living, or falling behind the cost of living?
30	INCOME20	0 = "Falling behind"; 1 = "Staying about even"; 2 = "Going up" Thinking just about wages of the average American worker, do you think that during the past 20 years they have been going up faster than the cost of living, staying about even with the cost of living, or falling behind the cost of living?
31	WAGE20	0 = "Falling behind"; 1 = "Staying about even"; 2 = "Going up" Some people say that in order to make a comfortable living, the average family must have two full-time wage earners. Do you agree with this, or do you think the average family can make a comfortable living with only one full-time wage earner?
32	NEED2EARN	0 = "Can make living with one wage earner"; 1 = "Agree that need two wage earners" Over the next five years, do you think the average American's standard of living will rise, or fall, or stay about the same?
33	STAN5	0 = "Fall"; 1 = "Stay about the same"; 2 = "Rise" Do you expect your children's generation to enjoy a higher or lower standard of living than your generation, or do you think it will be about the same?
34	CHILDGEN	0 = "Lower"; 1 = "About the same"; 2 = "Higher" [If you have any children under the age of 30] When they reach your age, do you expect them to enjoy a higher or lower standard of living than you do now, or do you expect it to be about the same?
35	CHILDSTAN	0 = "Lower"; 1 = "About the same"; 2 = "Higher" When you think about America's economy today, do you think it is . . .
36	CURECON	0 = "In a depression"; 1 = "In a recession"; 2 = "Stagnating"; 3 = "Growing slowly"; 4 = "Growing rapidly"

**Table 4** Independent variables

Variable	Question	Coding
Black Asian Othrace White	What is your race? Are you white, black or African-American, Asian-American or some other race?	Black = 1 if black, 0 otherwise; Asian = 1 if Asian, 0 otherwise; Othrace = 1 if other race, 0 otherwise; White = 1 if white, 0 otherwise
Age	–	= 1996-birthyear
Male	–	= 1 if male, 0 otherwise
Jobsecurity	How concerned are you that you or someone else in your household will lose their job in the next year?	0 = “very concerned”; 1 = “somewhat concerned”; 2 = “not too concerned”; 3 = “not at all concerned”
Yourlast5	During the past five years, do you think that your family’s income has been going up faster than the cost of living, staying about even with the cost of living, or falling behind the cost of living?	0 = “Falling behind”; 1 = “Staying about even”; 2 = “Going up”
Yournext5	Over the next five years, do you expect your family’s income to grow faster or slower than the cost of living, or do you think it will grow at about the same pace?	0 = “Slower”; 1 = “About the same”; 2 = “Faster”
Income	If you added together the yearly incomes, before taxes, of all the members of your household for the last year, 1995, would the total be:	1 = \$10,000 or less; 2 = \$10,000–\$19,999; 3 = \$20,000–\$24,999; 4 = \$25,000–\$29,999; 5 = \$30,000–\$39,999; 6 = \$40,000–\$49,999; 7 = \$50,000–\$74,999; 8 = \$75,000–\$99,999; 9 = \$100,000 or more
Dem Rep Indep Othparty	In politics today, do you consider yourself a Republican, a Democrat, or an Independent?	Dem = 1 if Democrat, 0 otherwise Rep; = 1 if Republican, 0 otherwise; Indep = 1 if independent, 0 otherwise; Othparty = 1 if member of another party, 0 otherwise
Ideology Othideol	Would you say that your views in most political matters are very liberal, liberal, moderate, conservative, or very conservative?	Ideology: –2 = “very liberal”; –1 = “liberal”; 0 = “moderate”; 1 = “conservative”; 2 = “very conservative”; 3 = “don’t think in those terms”; Othideol = 1 if Ideology = 3, 0 otherwise
Education	What is the last grade or class that you COMPLETED in school?	1 = “None, or grade 1–8”; 2 = “High school incomplete (grades 9–11)”; 3 = “High school graduate (grade 12 or GED certificate)”; 4 = “Business, technical, or vocational school AFTER high school”; 5 = “Some college, no 4-year degree”; 6 = “College graduate (B.S., B.A., or other 4-year degree)”; 7 = “Post-graduate training or professional schooling after college (e.g. toward a master’s degree or Ph.D.; law or medical school”

**Table 5** Summary of ordered logit results (All 36 questions)

Variable	Statistical significance				
	5%	1%	.1%	.001%	$\lambda \sim \chi^2 (72)$
Ideas					
DEM	7	3	1		116.57
REP	10	5	1		141.63
OTHPARTY	3				81.95
IDEOLOGY*(1-OTHHIDEOL)	14	14	12	9	392.96
OTHHIDEOL	3				85.93
EDUCATION	24	19	15	13	690.88
Interests					
JOBSECURITY	18	10	4		254.22
YOURLAST5	13	12	6	2	299.24
YOURNEXT5	13	11	8	3	308.35
INCOME	3	2	1		107.31
Demographics					
BLACK	9	5	4	1	187.24
ASIAN	5				73.22
OTHRACE	5	3	1		120.11
AGE	13	9	5		214.17
AGE^2	12	7	6		213.52
MALE	19	12	8	5	331.60

Two findings stand out: the dominant role of education and ideology, and the near-irrelevance of income. The value of  $\lambda$  for education is the largest by far, followed by ideology. Income's  $\lambda$ , in contrast, is one of the smallest. At the 5% level, education is statistically significant in 24 equations, ideology 14, and income only 3. At the 1% level, education is significant 19 times, ideology 14, and income twice. Education and ideology often remain significant even at the .001% level, but income never does.

Income, however, is by far the least significant interest variable. All others matter: measured by  $\lambda$ , expected income growth, recent income growth, and job security are the fourth, fifth, and sixth most important variables overall. These three interest variables are statistically significant at the 5% level about as often or even more often than ideology is. But at all higher significance levels, ideology overshadows them.

Out of the demographic variables, gender is clearly the most important, coming in third overall. But it does not work in the self-serving way economists would tend to expect: Men are about as likely as women to view increased female labor force participation

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ask about trade agreements); INCOME20 and WAGE20 (both ask about economic conditions for average Americans over the past 20 years); and CHILDDGEN and CHILDSTAN (both ask about children's future economic prospects). However, even if one treats these questions as "duplicates" and deletes one per pair from the sample, the overall qualitative results stay almost the same.



favorably, and to think that a family can live comfortably on one income. Males are actually less worried about excessive welfare spending, even though they are less likely to collect it.<sup>8</sup>

Thinking in terms of absolute magnitude instead of statistical significance strengthens the findings. Education and ideology have big effects. For example, 71% of the most-educated hold that trade agreements are good for the economy, but only 39% of the least-educated concur. Similarly, 81% of very conservative Republicans see high taxes as a major problem, versus 32% of very liberal Democrats. In contrast, there is almost no income stratification of belief. Regulation is a typical case. 31% of the richest – versus a third of the poorest – see it as a major problem.

#### 4. Causal beliefs versus non-causal beliefs: Findings

Several clear patterns emerge from the SAEE: Education and ideology matter most, and income barely matters at all. Yet the results are untidy: Measures of self-interest *other than* income look moderately important. This section unveils additional structure in the data. It first partitions the 36 questions from Table 3 into two sub-categories: causal and non-causal. Then it shows how idea-driven beliefs fall into one category, and interest-driven beliefs into the other.

##### 4.1. Classifying questions

To avoid tautology, it is essential to have an independent criterion for partitioning questions. The defining characteristic of a causal question is that it asks respondents about underlying causation; the defining characteristic of a non-causal question is that it asks only for an assessment of past, present, or future conditions. (Table 1) Questions are not, therefore, classified as “causal” *because* they are a function of ideas, or “non-causal” *because* they are a function of interests.

The first 18 are easy to classify as causal. The survey names different factors “some people have given for why the economy is not doing better than it is.” It then asks respondents whether a factor is “a major reason the economy is not doing better than it is, a minor reason, or not a reason at all.” On the next six questions (19–24), respondents state whether a given factor is good, bad, or indifferent for the nation’s economy. Since they elicit estimates of *ceteris paribus* effects, they too are classified as causal. The same holds for questions 25–27: Question 25 asks whether trade agreements’ domestic employment *effect* has been positive, neutral, or negative; Question 26 has respondents explain *why* gas prices rose; Question 27 has them rate how much an “effective president” *can* do for the economy.

Beginning with Question 28, the content changes. Respondents now merely assess past, present, and future conditions. Questions 28, 32, and 36 deal with the *current* situation: Are new jobs well-paying or low-paying? (Question 28); Is an average family able to live comfortably on one income? (Question 32); How is the American economy currently doing? (Question 36) In each case, respondents only state their perceptions about current conditions. Questions 29–31 also definitely qualify as non-causal: Subjects say whether inequality, average real income, and average real wages rose, fell, or stayed the same over the last 20 years. Joining them are all the remaining questions, which inquire about future living standards: the

<sup>8</sup> Variable identifiers WOMENWORK, NEED2EARN, and WELFARE. Caplan (2001) finds a general tendency for males to think like more like economists than females do.

average American's five years from now (Question 33), the next generation's (Question 34), and one's own children's (Question 35). This brings the total number of non-causal questions up to nine.

#### 4.2. Synthesizing the results

The contrast between the determinants of the causal and non-causal questions stands out once they have been duly sorted. Responses fit rather neatly into two out of four logically possible categories (Table 2): causal beliefs where the dominant factors are education and/or ideology, and non-causal beliefs where the dominant factors are recent and/or expected income growth. Table 5 summarized the results for all 36 equations, tabulating the statistical significance and  $p_\lambda$  statistics for each independent variable. Tables 6a and b do the same after splitting up the causal and non-causal questions.

The split reveals that education is disproportionately significant in the causal equations. For Table 6a's 27 questions, education has by far the largest value of  $\lambda$ ; for Table 6b's 9 non-causal equations, it comes in a distant sixth. Education is significant in 20 causal equations at the 5% level, 17 at the 1%, 13 at the .1%, and 12 at the .001%: far more than any other variable. Its influence is weak in the non-causal equations: While it is significant in 4 out of 9 equations at the 5% level, this shrinks to 2 equations at the 1% and .1% levels, and only 1 equation at the .001% level.

**Table 6** a: Partition of Table 5's key results: Causal questions, 1–27

Variable	Statistical significance				
	5%	1%	.1%	.001%	$\lambda \sim \chi^2(54)$
Ideas					
DEM	6	2			89.85
REP	9	4			117.13
OTHPARTY	3				69.24
IDEOLOGY*(1-OTHHIDEOL)	12	12	10	8	327.37
OTHHIDEOL	3				73.16
EDUCATION	20	17	13	12	616.73
Interests					
JOBSECURITY	11	3	2		165.85
YOURLAST5	8	7	2		128.06
YOURNEXT5	5	4	2		111.26
INCOME					61.43
Demographics					
BLACK	6	3	2	1	120.17
ASIAN	4				58.93
OTHRACE	2				66.40
AGE	8	6	3		139.42
AGE^2	7	4	3		130.87
MALE	17	10	7	5	283.70

(Continued on next page)

**Table 6** b: Partition of Table 5's key results: Non-causal questions, 28–36

Variable	Statistical significance				
	5%	1%	.1%	.001%	$\lambda \sim \chi^2(18)$
Ideas					
DEM	1	1	1		26.72
REP	1	1	1		24.50
OTHPARTY					12.72
IDEOLOGY*(1-OTHHIDEOL)	2	2	2	1	65.59
OTHHIDEOL					12.77
EDUCATION	4	2	2	1	74.16
Interests					
JOBSECURITY	7	7	2		88.37
YOURLAST5	5	5	4	2	171.18
YOURNEXT5	8	7	6	3	197.10
INCOME	3	2	1		45.89
Demographics					
BLACK	3	2	2		67.07
ASIAN	1				14.29
OTHRACE	3	3	1		53.71
AGE	5	3	2		74.74
AGE^2	5	3	3		82.66
MALE	2	2	1		47.90

The same is true of the other idea variables. Within the causal category, ideology's overall influence, as measured by  $\lambda$ , is second-greatest. Ideology is significant in 12 causal equations at the 5% level, more than any of the four interest variables. At all higher significance levels, ideology matters in more equations than every variable save education. In contrast, within the non-causal category, ideology takes eighth place in overall importance; at the 5% level ideology is significant in only 2 non-causal questions. The party dummies frequently exert a minor influence in causal equations (significant 18 times at the 5% level), but close to none in the non-causal (significant only twice).<sup>9</sup>

Virtually the opposite is true of the interest variables. Income never exerts a statistically significant effect on a causal question; one can easily accept the hypothesis that its coefficient is zero in all 27.<sup>10</sup> The overall influence of the other interest variables is greater but marginal. The  $p_\lambda$  statistic for job security takes a distant fourth place after gender, recent income growth comes in seventh, and expected income growth comes in tenth. At the 1% level, they are significant 3, 4, and 7 times respectively out of 27 causal equations. None are at the .001% level.

<sup>9</sup> The  $\chi^2(18)$  critical value for the 5% level is 28.87; for the non-causal equations, one can thus accept the hypothesis that none of the party dummies matters.

<sup>10</sup> The  $\chi^2(54)$  critical value for the 5% level is 72.15; for the causal equations, one can thus accept the hypothesis that Income never matters.

Yet in the non-causal equations, expected and recent income growth are the most important. Their  $\lambda$ 's are the largest; education is far behind. Along with job security, recent and expected income growth are significant more often at the 5% level than any other independent variables. At the 1% level, job security and expected income growth tie for first place with 7 equations each; recent income growth comes in next with 6 equations. Even at the .001% level, the two income growth measures remain significant three times a piece.

It remains hard to generalize about the demographic variables. Gender's influence mimics that of an idea variable. In the causal category, the Male dummy is the third most important variable. The coefficient on Male is significant in 17 equations at the 5% level – more even than ideology, and second only to education. Even at the .001% level, Male remains significant in 5 equations. Yet gender rarely has explanatory power in the non-causal category, where it comes in tenth. On the other hand, age and age squared behave more like interest variables, with noticeably more effect on non-causal beliefs.

To illustrate the main pattern, Table 7 compares the results for immigration (causal), to those for average family income (non-causal). Education exerts an overwhelming influence on beliefs about immigration: as it rises, the estimated severity of the immigration problem rapidly falls. Ideological conservatives have higher, and males lower, estimates of the magnitude of the problem. This is a stereotypical causal belief, dependent on education, ideology, gender, and little else. The pattern flips for average family income. People are vastly more likely to believe it rose over the last 20 years if they say their own income did and/or will grow. The rich, as opposed to people *getting* richer, are in fact more pessimistic than the poor. This is, in short, a stereotypical non-causal belief linked solely to measures of personal interests.

**Table 7** Comparing beliefs about immigration and real income growth

	IMMIG		INCOME20	
	Coef	z-stat	Coef	z-stat
DEM	0.007	0.052	-0.044	-0.274
REP	0.128	0.936	0.026	0.160
OTHPARTY	0.065	0.211	0.396	1.233
IDEOLOGY* (1-OTHHIDEOL)	0.223	3.519	0.126	1.670
OTHHIDEOL	0.623	1.514	-0.497	-0.953
EDUCATION	-0.308	-8.318	-0.044	-1.008
JOBSECURITY	-0.094	-1.807	0.017	0.280
YOURLAST5	0.024	0.284	0.781	7.648
YOURNEXT5	-0.079	-0.908	0.444	4.177
INCOME	-0.041	-1.475	-0.088	-2.657
BLACK	-0.382	-1.895	0.218	0.927
ASIAN	0.130	0.535	-0.089	-0.304
OTHRACE	-0.075	-0.326	0.274	1.005
AGE	-0.012	-0.621	-0.008	-0.382
AGE <sup>2</sup> /100	0.022	1.125	0.024	1.074
MALE	-0.296	-2.766	0.202	1.583

## 5. Causal versus non-causal beliefs: Analysis

These regularities are initially puzzling, but there is an intuitive way to make sense of them. Think of the respondent as choosing between two options. The first is to be an “intuitive scientist” who forms his own conclusions. (Nisbett & Ross, 1980; Kahneman & Tversky, 1982) Individuals act as intuitive scientists when they independently, if crudely, evaluate evidence for themselves. The second is to defer to some form of expert opinion. Let us hypothesize that the more challenging questions become, the more likely people are to defer to experts. On the other hand, if data is free and computations undemanding, they are more likely to do their own thinking.

### 5.1. Formation of non-causal beliefs

Consider first the difficulty of the non-causal questions. They allow respondents to treat the economy as a “black box.” To form judgments about the past and the present, the intuitive scientist need only make a simple empirical generalization about observable events. For instance, to determine the behavior of real wages over the last twenty years, one must get a sample of past and current real wages, and compare their means. Nisbett and Ross (1980, pp. 73–4) note that even the statistically untrained are remarkably proficient at computing averages.

Thus, non-causal questions are relatively easy for the intuitive scientist to independently analyze using that cheap and omnipresent source of data: observation. Some level of information about U.S. wages, incomes, and inequality, for example, is a byproduct of daily life in the United States. In consequence, estimates of aggregate economic trends and conditions are tightly connected to people’s personal experience. (Conover, Feldman & Knight, 1987; Krause, 1997).

The fact that income *level* has almost no effect suggests that even egocentric variables may not reflect selfish motivation. If economic beliefs were a function of permanent income due to self-serving bias (Dahl & Ransom, 1999; Rabin, 1995), how could current income fail to matter? The results make more sense if the “interest” variables in fact capture personal experience. If you know your family’s relative position in the income distribution, it makes little sense to treat your family income as an unbiased estimator of the national average. *Changes* in one’s economic situation, however, still provide news about social conditions. In other words, few hold the naive view that the economy is doing well because their income is high. But many think economic conditions are *unusually good* because their family’s income rose, or *especially bad* because their firm plans to lay off more workers.

### 5.2. Formation of causal beliefs

The difficulty of the intuitive scientist’s project – in terms of both computation and data collection – increases when he turns to causal questions. These ask respondents to theorize about what goes on *inside* the “black box” of the economy. Even for a simple bivariate problem, it is harder to calculate correlations than means. (Nisbett & Ross, 1980, pp. 90–112; Jennings, Amabile & Ross, 1982) More importantly, no real-world relation can be automatically treated as bivariate. Even collecting data on all variables a question mentions by name is not enough; the intuitive scientist must gather data for an open-ended set of potential confounding factors. Then the intuitive scientist must in effect do a multiple regression in his head. If the direction of causation is non-obvious, the problem is harder still. (Nisbett & Ross, 1980, pp. 113–38).

Suppose for example that the intuitive scientist wants to ascertain whether excessive immigration harms the U.S. economy. Getting data on the history of immigration and the performance of the U.S. economy is only the start. Then, he must get data on potential confounding variables. Assuming he knows the direction of causation, the intuitive scientist must then do a rough mental regression to estimate immigration's economic impact, *ceteris paribus*. For these relatively intractable problems, then, people usually borrow beliefs from experts, rather than developing their own theory. (Kinder & Mebane, 1983; Lau & Sears, 1984).

If individuals borrow theories from putative experts in order to form causal beliefs, we should expect education and ideology to be their leading determinants. Education and ideology provide a bundle of “off-the-shelf” theories upon which to draw. They shape how people define the “experts,” and how familiar they are with their preferred experts' judgments. But education and ideology do more than increase the supply of known theories. They often prompt individuals to *reject* – as mere prejudice or propaganda – theories they encounter in popular culture. This is particularly so with education, where much time is spent combating popular misconceptions of non-academic origin. (Caplan, 2002b).

## 6. Conclusion

The predominantly sociotropic character of normative economic beliefs has been repeatedly confirmed. (Sears & Funk, 1990; Citrin & Green, 1990) Previous studies of positive economic beliefs usually concur (Mutz & Mondak, 1997; Conover, Feldman & Knight, 1987; Kinder & Mebane, 1983), but only a relatively narrow subset of questions has been examined. The current paper tests whether sociotropic results hold for a more diverse set of positive economic beliefs.

For the most part, they do, but there are a number of egocentric exceptions to the sociotropic rule. I provide a criterion for partitioning them: “causal” beliefs are sociotropic, “non-causal” beliefs are egocentric. I then offer an account of why this criterion works. Causal questions are more cognitively demanding, so people borrow “off-the-shelf” theories derived from education and ideology to answer them. Non-causal questions are less cognitively demanding, so people get their conclusions from personal experience.

One issue that could not be explored using the SAEE was the connection between positive economic beliefs and voting. Previous studies (e.g. Mutz & Mondak, 1997; Markus, 1988; Kinder & Mebane, 1983) usually find a connection. Studies of normative beliefs have similarly found that policy tracks voters' policy preferences. (Wright, Erikson, & McIver, 1987; Page & Shapiro, 1992). It would be quite surprising if other economic beliefs had no political effect, but verifying it requires more research.

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