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## Week 10: Ignorance, Irrationality, and Aggregation: Theory and Evidence

- I. Return to the "Miracle of Aggregation"
  - A. The leading explanation for democratic failure is voters' rational ignorance.
  - B. There can be little doubt that voters *are* highly ignorant.
  - C. But as discussed earlier, many assert that voter ignorance is quite compatible with well-functioning democracy!
  - D. Why? If we interpret "ignorance" as "random error," then the Principle of Aggregation kicks in. If you tabulate millions of random errors and take an average, the aggregate acts "as if" it were fully informed. That is the Miracle of Aggregation.
  - E. So far, so good. But why should we believe that voters' errors ARE random in the first place?
- II. Ignorance, Irrationality, and Systematic Error
  - A. There are two distinct ways economists apply the concept of "rationality":
    - 1. Rationality of action
    - 2. Rationality of belief
  - B. In the last thirty years, rational expectations has been a standard technique for modeling economic actors' beliefs. Economists often refer to "rationality" and "rational expectations" interchangeably.
  - C. Key feature of RE: calibration. RE requires some connection, albeit imperfect, between agents' beliefs and the real world.
  - D. RE partitions error between:
    - 1. Irrationality the systematic component
    - 2. Ignorance the random component
  - E. RE then rules out the first type of error. Non-random errors ipso facto become evidence of "irrationality."
  - F. But merely defining systematic errors as "irrational" is hardly evidence that they don't exist on a wide scale. Maybe RE is false, and in that sense, people are not rational. It is an empirical question.
  - G. There are weaker definitions of rationality that allow mere ignorance to co-exist with systematic error.
    - Bayesian rationality, for example, merely demands that people update their beliefs in a certain way, but puts no constraints on their priors. These may be wildly unrealistic.
  - H. A still weaker sense of rationality: truth-seeking. However deluded they are, agents qualify as long as they *want* to have true beliefs.
  - I. These weaker senses of irrationality still have *some* connection to systematic error. If you do not update your beliefs conditional on

- evidence, or if you do not care about truth, you are more likely to have wildly unrealistic views.
- J. If you switch to a non-RE definition, you can save "rationality," but rationality is no longer enough to make democracy work.
- K. In practice, most economists do equate "rationality" with RE, so I will stick with this definition throughout the lecture.
- III. Rational Ignorance Versus Rational Irrationality
  - A. What reason is there to believe that the rational expectations assumption is true?
  - B. The main argument is that systematic errors are **costly**, so people try to:
    - 1. Avoid them in the first place.
    - 2. Learn from the systematic mistakes they do happen to make.
  - C. Big problem here: Some systematic errors are less costly than others, and some can hardly be called costly at all.
  - D. One of my main ideas: Just as economists think of agents weighing the costs and benefits of *information*, so too can we think of agents weighing the costs and benefits of *rationality*. Just as it is sometimes rational to be *ignorant* (have little information), it may sometimes be rational to be *irrational* (deviate from full rationality).
    - 1. Psychological interpretation?
  - E. In other words, we can think of irrationality as a normal good. Why does anyone want this "good"?
    - 1. Big reason: People derive comfort, security, and sense of identity from their belief structure and rational thinking is often hard, painful, discouraging work.
    - 2. Indirect reason: Other people you depend on may treat you differently depending on your beliefs.
    - 3. For more: See Mosca, *The Ruling Class*, chapter 7 (on the syllabus)
  - F. What is the "price" of irrationality? It is the material success that you give up in order to retain systematically mistaken beliefs.
  - G. Writing down an individual's "demand for irrationality" curve for a given issue is easy. Just put quantity of irrationality on the x-axis, and the implicit price of irrationality on the y-axis.
    - 1. Neoclassical demand for irrationality
    - 2. Near-neoclassical demand for irrationality
  - H. When the price of irrationality is high as it often will be people consume less. Perhaps they consume none at all on at least some issues, they might be fully rational.
  - I. When the price of irrationality is low, people consume more. When irrationality is completely free, people stick with whatever belief makes them most happy, however crazy.
  - J. Remember our old friend, the probability of voter decisiveness?

- K. Immediate implication: The expected price of voter irrationality is essentially zero, so we should not be surprised if voters hold highly irrational beliefs!
- L. Question: How is this different from expressive voting?
- M. Answer: Expressive voting says that people don't really *care* if policies work. Rational irrationality says people believe their favored policies *do* work, but have irrational beliefs about what works!
  - 1. Ex: The public reaction to WWI.
- V. Systematically Biased Beliefs About Economics
  - A. There are many subject matters where irrational beliefs may lead to inefficient policy.
  - B. But one subject matter that seems especially interesting for public choice is economics itself.
    - 1. Most policy decisions of modern government have significant economic content.
    - 2. Economists have written about economic misconceptions for hundreds of years most famously, French economist Frederic Bastiat.
  - C. I have done a lot of empirical work on this topic; chapter 3 of *The Myth of the Rational Voter* summarizes it.
    - Data: the Survey of Americans and Economists on the Economy (SAEE). 1510 members of the general public, 250 Ph.D. economists.
  - D. Standard method of testing for irrationality: Look for differences in mean beliefs of laypeople and experts.
  - E. Complication: Critics of economists claim that it is the economists who are biased rather than the public!
    - 1. Self-serving bias
    - 2. Ideological bias
  - F. In my empirical work, however, I am able to show that large systematic belief differences persist *controlling for* self-serving and ideological bias. [Tables]
  - G. What main clusters of systematic belief differences emerge?
    - 1. Anti-market bias
    - 2. Anti-foreign bias
    - 3. Make-work bias
    - 4. Pessimistic bias
  - H. What kinds of inefficient policies could each of these four categories explain?

- VI. Group Differences in Economic Beliefs
  - A. If you buy my evidence on systematically biased beliefs, the distribution of bias becomes a pressing issue for democracy: Is bias uniformly distributed, or concentrated in specific parts of the population?
  - B. While biases appear in all major segments of the public, the following factors reduce bias in the SAEE:
    - 1. Education
    - 2. Being male
    - 3. Job security
    - 4. Income *growth*
  - C. What does NOT make people think like economists?
    - 1. Income level
    - 2. Conservatism
  - D. What does this mean? Presumably, when median economic literacy falls (whether due to franchise rules or personal choice), policy gets worse, because the median voter's biases are more severe and politicians have to cater to them.
    - 1. Ex: Policy is probably better than it would otherwise be due to the higher turnout of the well-educated.
  - E. In subsequent work with Stephen Miller ("Intelligence Makes People Think Like Economists"), we found that much of the apparent effect of education is actually an effect of IQ. IQ is the strongest overall predictor of "thinking like an economist."
  - F. Controlling for IQ, education is the second strongest predictor of economistic thinking and remains the strongest antidote to antiforeign bias.
- VII. Systematically Biased Beliefs About Other Subjects?
  - A. Foreign policy?
  - B. A large literature in political science documents a "rally-round-the-flag effect." FDR's approval jumped 12 percentage-points after Pearl Harbor. Bush's approval rose 35 percentage-points after 9/11! This seems hard for a rational voter model to explain. Why should failure make leaders *more* popular? Even if you think you have an answer, why would this extra popularity *predictably* erode?
  - C. Other misconceptions about international affairs also seem to have a strong effect on voter preferences. Ex: "According to an October 21, 2004 Harris Poll, 52 percent of those who preferred Bush thought that Saddam had helped plan and support the hijackers who attacked the U.S. on September 11 (it was 23 percent for those who preferred Kerry) and 58% of those who preferred Bush thought that Iraq had weapons of mass destruction when the U.S. invaded (it was 16% for those who preferred Kerry). Neither of these assertions is true." (Donald Wittman, "Reply to Caplan" in *EJW*) Original survey at:

http://www.harrisinteractive.com/harris\_poll/index.asp?PID=508

- D. Misconceptions are not marginal. Consider Hitler's argument for conquest: Germany won't be able feed itself with its current land area, and trade is not a viable solution. It was a key motive for World War II, yet after the war, Germany grew rich following the strategy that Hitler dismissed.
- E. Global warming? A strong consensus of climate scientists does agree that it is a real and serious problem. (See Figures 28-30, http://dvsun3.gkss.de/BERICHTE/GKSS\_Berichte\_2007/GKSS\_2007\_11.pdf).
- F. If laymen accepted the expert consensus, would they favor different policies?
- G. Other areas?

## VIII. The Enlightened Preference Approach

- A. In political science, there is a large literature on "Enlightened Preferences" that also seriously undermines the Miracle of Aggregation. Best summary of the literature: Scott Althaus' *Collective Preferences in Democratic Politics*.
- B. Basic idea: Regress policy preferences on standard variables and a measure of objective political knowledge. Then simulate the distribution of Enlightened Preferences i.e. what preferences people would have if everyone had the highest level of objective political knowledge.
- C. Complication: You can allow the coefficient on political knowledge to vary by sub-group. Ex: Maybe well-informed people with high income are *less* supportive of progressive taxation than poorly-informed people with high income, but well-informed people with low income are *more* supportive of progressive taxation than poorly-informed people with low income.
- D. According to the Miracle of Aggregation, Enlightened Preferences will have the same mean as actual preferences.
- E. Key finding #1: The Miracle of Aggregation fails badly again. Enlightened preferences are almost always noticeably different from actual preferences.
- F. Key finding #2: Knowledge usually works in the same direction for diverse sub-groups. In fact, the absolute magnitude of the coefficient is often larger for the groups that normally oppose a given policy. Example: Preferences for free markets vs. government.
- G. Key finding #3: Enlightened preferences are more economically conservative and socially libel than actual preferences. (summary table, p.129)
- H. Examples (pp.109, 111, 115, 116)
- I. Closing thought: Enlightened Preference results are based on questions that are easy in absolute terms. So the "maximum" level of knowledge in the simulations is still fairly low. What would estimated Enlightened Preferences be if the questions were much more demanding?

Table 3

Benchmark Results – Ordered Logits on Econ

		<b>0</b>		
	Variable	Econ Coef.	z-Stat	
1	TAXHIGH	-1.95	-14.14	
2 3 4 5 6 7 8	DEFICIT	-1.86	-13.89	
3	FORAID	-3.99	-19.91	
4	<i>IMMIG</i>	-2.74	-16.28	
5	TAXBREAK	-1.55	-12.08	
6	INADEDUC	0.12	0.84	
7	WELFARE	-2.36	-17.12	
8	ΛΛ	-1.80	-10.89	
9	HARDWORK	-1.47	-11.60	
0	REG	-0.66	-5.21	
1	SAVINGS	0.25	1.90	
2	PROFHIGH	-3.27	-17.10	
3	EXECPAY	-2.33	-16.98	
4	BUSPROD	0.73	5.41	
5	TECH	-2.77	-17.50	
6	OVERSEAS	-3.04	-19.81	
7	DOWNSIZE	-2.72	-18.54	
8	COMPEDUC	-1.04	-7.88	
9	TAXCUT	-0.99	-7.26	
0	WOMENWORK	0.93	5.94	
1	TECHGOOD	2.72	6.52	
2	TRADEAG	1.90	8.44	
3	DOWNGOOD	1.64	12.22	
4	CHANGE20	2.98	10.30	
5	TRADEJOB	1.89	14.17	
6	WHYGASSD	3.08	14.74	
7	PRES	0.05	0.47	
8	GASPRICE	-3.12	-19.38	
9	NEWJOB	1.67	12.23	
0	GAP20	0.74	3.80	
1	INCOME20	1.91	14.53	
2	WAGE20	1.25	9.35	
3	NEED2EARN	-0.81	-4.65	
34	STAN5	1.31	9.86	
35	CHILDGEN	0.53	4.12	
36	CHILDSTAN	0.00	-0.02	
7	CURECON	0.81	6.38	

Table 5

Controlling for Self-Serving Bias – Ordered Logits on Race Dummies, Age, Age<sup>2</sup>, Male, Jobsecurity, Yourlast5, Yournext5, Income, and Econ (Comparisons Set Variables Other than Econ Equal to Median Sample Values)

		Econ Goef.	z-Stat	Mean Belief		
No.	Variable			Economists	General Public	
1 2 3 4 5 6 7 8	TAXHIGH	-1.40	-7.90	0.92	1.43	
2	DEFICIT	-1.88	-10.09	1.15	1.75	
3	FORAID	-3.26	-14.25	0.25	1.43	
4	<i>IMMIG</i>	-2.20	-10.86	0.30	1.08	
5	TAXBREAK	-0.70	-4.16	0.82	1.09	
6	INADEDUC	0.30	1.58	1.62	1.53	
7	WELFARE	-1.56	-8.78	0.91	1.49	
	$\Lambda\Lambda$	-1.73	-8.54	0.24	0.77	
9	HARDWORK	-1.41	-8.32	0.88	1.46	
10	REG	-0.64	-3.79	1.03	1.27	
11	SAVINGS	0.19	1.11	1.39	1.34	
12	PROFHIGH	-2.57	-11.39	0.24	1.09	
13	EXECPAY	-1.67	-9.38	0.83	1.49	
14	BUSPROD	0.89	5.09	1.44	1.14	
15	TECH	-1.89	-10.03	0.40	1.05	
16	OVERSEAS	-2.48	-12.96	0.61	1.52	
17	DOWNSIZE	-2.11	-11.46	0.61	1.41	
18	COMPEDUC	-0.60	-3.41	1.24	1.45	
19	TAXCUT	-0.93	-5.23	1.12	1.50	
20	WOMENWORK	0.86	4.36	1.68	1.43	
21	TECHGOOD	2.29	4.37	1.95	1.67	
22	TRADEAG	1.41	5.43	1.78	1.34	
23	DOWNGOOD	1.41	7.92	1.34	0.68	
24	CHANGI20	2.34	7.33	1.89	1.29	
25	TRADEJOB	1.54	8.86	1.33	0.69	
26	WHYGASSD	2.79	11.05	0.85	0.26	
27	PRES	0.27	1.73	0.92	0.81	
28	GASPRICE	-2.06	-10.39	0.88	1.56	
29	NEWJOB	1.39	7.34	0.88	0.34	
30	GAP20	0.84	3.45	1.86	1.71	
31	INCOME20	1.50	8.40	0.95	0.38	
32	WAGE20	0.71	3.86	0.52	0.31	
33	NEED2EARN	-0.42	-1.78	0.81	0.87	
34	STAN5	1.38	7.81	1.30	0.81	
35	CHILDGEN	1.14	6.53	1.29	0.81	
36	CHILDSTAN	0.65	3.08	1.43	1.19	
37	CURECON	0.35	2.10	2.83	2.65	

Table 6

Controlling for Ideological Bias - Ordered Logits on Dem, Rep, Othparty,
Ideology(1-Othideol), Othideol, and Econ (Comparisons of Economists and
General Public set all variables other than Econ equal to the median sample
values - Ideology = Moderate, Party = Independent)

	Variable	Econ Coef.	z-Stat	Mean Belief			
No.				Economists	General Public	Left-wing Ideologues	Right-wing Ideologues
1	TAXHIGH	-1.93	-13.75	0.80	1.50	1.06	1.79
2	DEFICIT	-1.86	-13.56	1.16	1.75	1.61	1.81
2 3	FORAID	-4.04	-19.43	0.16	1.55	1.43	1.58
4	IMMIG	-2.73	-15.86	0.24	1.20	1.02	1.37
4 5	TAXBREAK	-1.68	-12.58	0.62	1.27	1.58	1.00
6	INADEDUC	0.06	0.43	1.59	1.56	1.66	1.47
7	WELFARE	-2.33	-16.54	0.74	1.61	1.32	1.82
8	$\Lambda\Lambda$	-1.79	-10.42	0.23	0.76	0.41	1.06
9	HARDWORK	-1.46	-11.20	0.81	1.43	1.15	1.65
10	REG	-0.52	-3.96	1.01	1.20	0.78	1.62
11	SAVINGS	0.29	2.16	1.49	1.37	1.34	1.43
12	PROFHIGH	-3.46	-17.35	0.17	1.28	1.51	1.00
13	EXECPAY	-2.52	-17.63	0.66	1.61	1.78	1.34
14	BUSPROD	0.76	5.48	1.43	1.17	1.19	1.22
15	TECH	-2.79	-17.27	0.28	1.25	1.31	1.20
16	OVERSEAS	-3.14	-19.81	0.51	1.62	1.63	1.50
17	DOWNSIZE	-2.83	-18.65	0.47	1.51	1.66	1.34
18	COMPEDUC	-1.21	-8.81	1.18	1.59	1.76	1.23
19	TAXCUT	-0.88	-6.30	1.08	1.45	1.02	1.78
20	WOMENWORK	0.84	5.23	1.75	1.53	1.71	1.17
21	TECHGOOD	2.90	6.34	1.97	1.54	1.55	1.63
22	TRADEAG	1.84	8.13	1.84	1.32	1.48	1.25
23	DOWNGOOD	1.75	12.60	1.34	0.56	0.44	0.84
24	CHANGE20	2.99	10.28	1.91	1.13	1.18	1.20
25	TRADEJOB	1.92	14.09	1.43	0.62	0.60	0.68
26	WHYGASSD	3.21	14.59	0.91	0.29	0.19	0.34
27	PRES	0.08	0.63	0.87	0.83	0.94	0.96
28	GASPRICE	-3.11	-19.00	0.63	1.68	1.62	1.73
29	NEWJOB	1.79	12.61	1.10	0.34	0.24	0.54
30	GAP20	0.57	2.84	1.87	1.79	1.90	1.37
31	INCOME20	2.00	14.69	1.13	0.36	0.27	0.52
32	WAGE20	1.34	9.73	0.76	0.31	0.23	0.47
33	NEED2 EARN	-0.99	-5.44	0.72	0.88	0.96	0.74
34	STAN5	1.36	9.93	1.40	0.89	0.87	1.00
35	CHILDGEN	0.61	4.56	1.28	1.03	0.99	1.13
36	CHILDSTAN	0.02	0.15	1.31	1.29	1.28	1.31
37	CURECON	0.80	6.14	2.93	2.51	2.76	2.54

italic indicates economists and ideologues think alike

Table 7.

Controlling for Self-Serving Bias, Ideological Bias, and Education: Ordered Logits on Race Dummies, Age, Age, Male, Dem, Rep, Othparty, Ideology(1-Othideol), Othideol, Jobsecurity, Yourlast5, Yournext5, Income, Education, and Econ (Comparisons Set Variables Other than Econ and Education Equal to Median Sample Values)

		Econ Coef.	z-Stat	Educ Coef.	z-Stat	Mean Belief		
No.	Variable					PhD Economists	Non- Economists with Post- Graduate	Non- Economists with Primary Only
1	TAXHIGH	-0.88	-4.71	-0.29	-7.35	0.89	1.21	1.74
2	DEFICIT	-1.78	-9.01	-0.04	-0.77	1.17	1.74	1.78
1 2 3	FORAID	-2.95	-12.38	-0.28	-6.81	0.22	1.26	1.76
4	IMMIG	-1.78	-8.41	-0.31	-8.34	0.23	0.79	1.52
4 5 6 7 8	TAXBREAK	-0.61	-3.42	-0.22	-5.62	0.70	0.91	1.40
6	INADEDUC	0.26	1.32	-0.03	-0.83	1.60	1.52	1.57
7	WELFARE	-1.07	-5.72	-0.28	-6.47	0.85	1.26	1.75
8	$\Lambda\Lambda$	-1.35	-6.29	-0.24	-6.42	0.21	0.57	1.08
9	HARDWORK	-1.19	-6.65	-0.11	-2.97	0.84	1.32	1.56
10	REG	-0.17	-0.98	-0.20	-5.38	1.02	1.08	1.51
11	SAVINGS	0.20	1.11	0.04	0.99	1.42	1.35	1.26
12	PROFHIGH	-2.54	-10.78	-0.18	-4.79	0.19	0.97	1.37
13	EXECPAY	-1.74	-9.11	-0.15	-3.50	0.74	1.42	1.70
14	BUSPROD	0.98	5.33	-0.03	-0.83	1.43	1.09	1.16
15	TECH	-1.55	-7.86	-0.30	-8.11	0.32	0.80	1.47
16	OVERSEAS	-2.32	-11.58	-0.20	-4.80	0.58	1.43	1.76
17	DOWNSIZE	-2.15	-11.03	-0.08	-2.15	0.54	1.34	1.50
18	COMPEDUC	-0.77	-4.09	-0.05	-1.22	1.23	1.50	1.59
19	TAXCUT	-0.71	-3.78	0.00	0.05	1.19	1.48	1.47
20	WOMENWORK		2.77	0.09	2.24	1.71	1.55	1.40
21	TECHGOOD	2.14	4.03	0.12	2.75	1.95	1.70	1.48
22	TRADEAG	1.08	4.01	0.22	5.74	1.82	1.54	0.95
23	DOWNGOOD	1.51	8.01	0.00	-0.02	1.34	0.63	0.63
24	CHANGE20	2.23	6.86	0.10	2.71	1.90	1.34	1.07
25	TRADEJOB	1.33	7.26	0.19	5.01	1.38	0.83	0.41
26	WHYGASSD	2.67	10.13	0.17	3.81	0.89	0.36	0.17
27	PRES	0.29	1.73	0.06	1.64	0.86	0.74	0.61
28	GASPRICE	-1.73	-8.34	-0.19	-4.24	0.83	1.42	1.74
29	NEWJOB	1.43	7.05	0.09	1.95	0.96	0.36	0.22
30	GAP20	0.39	1.51	0.16	3.48	1.88	1.83	1.65
31	INCOME20	1.64	8.61	-0.04	-0.86	0.95	0.34	0.41
32	WAGE20	0.92	4.69	-0.04	-1.86	0.52	0.26	0.39
33	NEED2EARN	-0.54	-2.13	-0.08	-1.17	0.77	0.25	0.90
34	STAN5	1.54	8.26	-0.08	-2.31	1.27	0.53	0.89
35	CHILDGEN	1.44	7.82	-0.18	-2.31 -5.17	1.23	0.63	1.09
36	CHILDSTAN	0.77	3.35	-0.18	-0.63	1.23	1.15	1.24
37	CURECON	0.77	1.79	-0.03	-0.03	2.76	2.59	2.68
57	CURECON	0.51	1.79	-0.03	-0.91	2.70	2.59	2.08

bold indicates economists and the more educated think alike; italics indicates economists and the less educated think alike.

Figure 1
Percent Approving of the President During Three Successful Foreign Crises

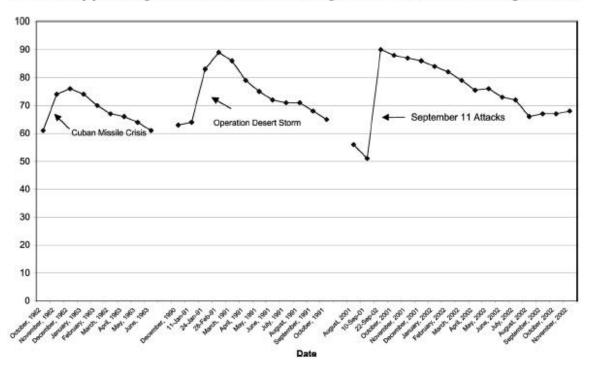


Figure 28. We can say for certain that global warming is a process already underway.

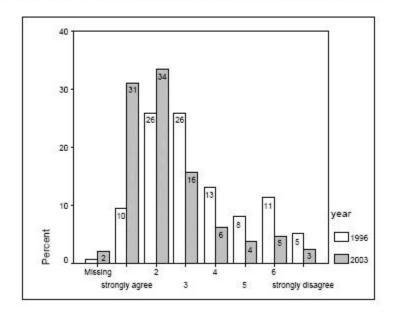


Figure 29. How much do you think global climate change is one of the leading problems facing humanity?

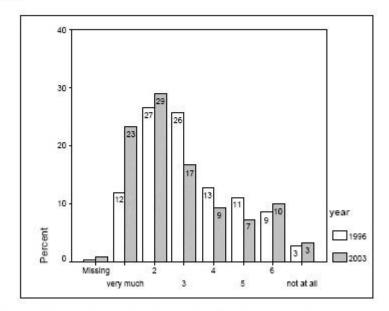


Figure 30. Climate change is mostly the result of anthropogenic causes.

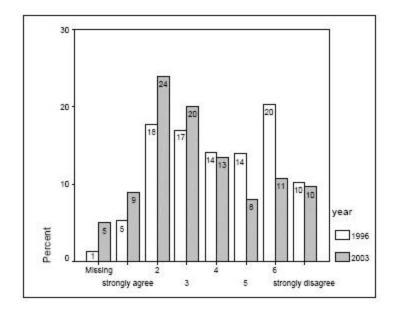
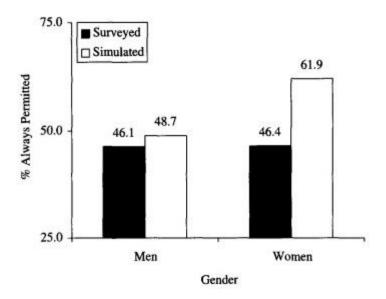


TABLE 4.2. Qualitative differences between surveyed and fully informed collective preferences

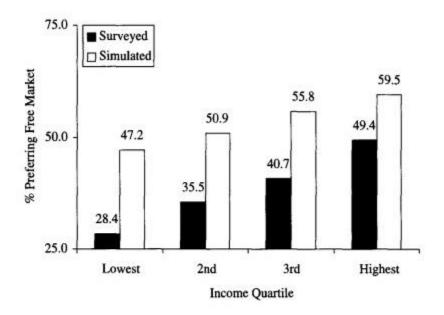
Question Type	Fully Informed Opinion Relative to Surveyed Opinion
Approval	
Congressional	Less approving
Presidential	Less approving
Presidential policy	Less approving
Policy	1.00 (CO)
Abortion	More pro-choice
Affirmative action	More supportive of the principle of affirmative action, less supportive of specific types of remedial solutions
Child care	More supportive of parental leave
Crime/Social unrest	Less supportive of increasing spending to reduce crime, drugs, and homelessness, but less supportive of punitive solutions to crime
Education	Less supportive of prayer in schools
Elder care	Less supportive of expanding Social Security and Medicare
Environmental	Less supportive of doing more to protect environment
Fiscal	Less supportive of cutting taxes; more willing to cut domestic programs and pay higher taxes to reduce federal budget deficit; less supportive of raising taxes to fund domestic programs
Foreign	More interventionist in general, more dovish concerning military
Gay rights	More progressive
Health	More supportive of free market solutions to health insurance problems
Immigration	More progressive
Governance	More libertarian
Other social policy	More supportive of increased spending on space and science research
Welfare	More supportive of decreasing spending on welfare
Value	
Equality	More supportive of equal rights, but not at all costs; less likely to see unequal opportunities as the source of many social problems
Morality	Less supportive of adjusting morals to accommodate changing society, attaches less importance to being tolerant of other people's different moral standards, less supportive of position that newer lifestyles are contributing to social breakdown
Other value	No clear pattern

## The Impact of Information Effects



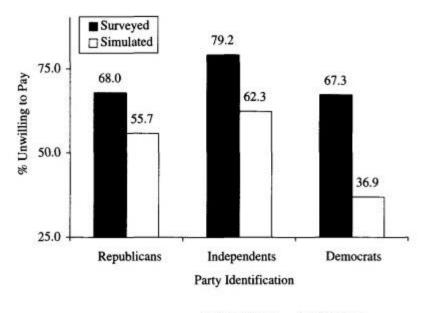
Total Sample	% Always Permitted	% At Least Some Restrictions
Surveyed Marginals	46.2%	53.8
Simulated Marginals	55.7%	44.3

FIGURE 4.1. Surveyed and fully informed opinion on abortion rights



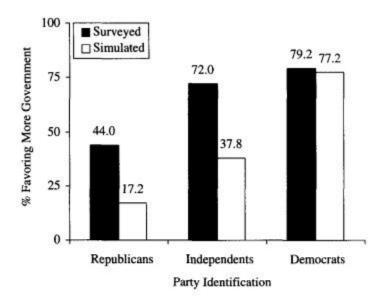
Total Sample	% Strong Government	% Free Market
Surveyed Marginals	61.7%	38.3
Simulated Marginals	46.8%	53.2

FIGURE 4.2. Surveyed and fully informed opinion on free market solutions to economic problems



Total Sample	% Unwilling to Pay More	% Willing to Pay More 31.1	
Surveyed Marginals	68.9%		
Simulated Marginals	47.6%	52.4	

FIGURE 4.3. Surveyed and fully informed opinion on increasing taxes to reduce the deficit



Total Sample	% More Government	% Less Government		
Surveyed Marginals	64.9%	35.1		
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Simulated Marginals	49.3%	50.7		

FIGURE 4.4. Surveyed and fully informed opinion on favoring more government