

**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2010**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. Suppose citizens' willingness to pay to vote (including opportunity cost) in a given election always equals \$50.

**T, F, and Explain: Economic growth will raise voters' probability of decisiveness.**

TRUE. Since voters' willingness to pay is fixed at \$50, we only need to look at the cost of voting. Since economic growth raises wages – and therefore the value of time – growth *reduces* turnout. Using the probability of decisiveness formula, lower N implies higher P(decisiveness).

Many students pointed out ways that the *benefits* of voting would increase – for example, the richer the society, the greater the value of the political spoils. Since I ruled this out by assumption, I only gave such answers partial credit.

2. Suppose half of voters are perfectly informed, and the rest are not. Perfectly-informed voters' bliss points for defense spending are uniformly distributed between 15% and 25% of GDP. Less-informed voters bliss points are uniformly distributed between 0% and 50% of GDP.

**T, F, and Explain: If the Median Voter Theorem holds, the Miracle of Aggregation ensures that the *median* position of the well-informed will prevail: defense spending will equal 20% of GDP.**

FALSE. The medians and means of the two distributions differ, so the key assumption of the Miracle of Aggregation fails. The median of the overall distribution is actually 20.83% > 20%. Contrary to several students, the median of the overall distribution is *not* the average of the medians of the two sub-distributions.

3. Suppose free immigration is Kaldor-Hicks efficient but contrary to the interests of the median native voter. People vote selfishly.

**T, F, and Explain: The Mean Voter Theorem implies that a guest worker program (which allows foreigners to immigrate but not vote) will be adopted.**

TRUE. According to the Mean Voter Theorem, political bargaining guarantees the efficient outcome, whatever it is. The fact that immigrants can't vote isn't a problem. The people who *can* vote will simply impose e.g. extra taxes to ensure that the median voter profits from immigration.

4. Over time, the Democrats have become more popular in the North and less popular in the South.

**T, F, and Explain:** Peltzman (“An Economic Interpretation of the History of Congressional Voting in the Twentieth Century”) accepts the standard “civil rights” explanation for this trend – but ignores the possibility that this reflects group-interested voting rather than self-interested voting.

FALSE. Peltzman’s piece never even mentions civil rights. His story is that poorer states are more liberal, exactly as the SIVH predicts. However, the South is temperamentally more conservative than the North: Liberalism is a good in the North, but a bad in the South. When the South was poorer, its economic interests *masked* its conservative temperament. As the South got richer relative to the North, the masking effect got weaker – and the South moved away from the Democratic party.

## **Part 2: Short Essays** **(20 points each)**

In 6-8 sentences, answer all of the following questions.

1. The GSS question HELPSICK asks:

In general, some people think that it is the responsibility of the government in Washington to see to it that people have help in paying for doctors and hospital bills; they are at point 1. Others think that these matters are not the responsibility of the federal government and that people should take care of these things themselves; they are at point 5. a. Where would you place yourself on this scale, or haven't you made up your mind on this?

Here are the results when you regress responses HELPSICK on education, log(real income), self-rated health (1-4, 1 being healthiest), demographics (males have sex=1, females have sex=2), and self-rated ideology (1-7, 7 being most conservative). N=12,552.

	Regression Coefficients				Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
EDUC	.008	.004	.019	.009	1.986	.048
LREALINC	.106	.012	.085	.009	8.962	.000
HEALTH	-.089	.014	-.059	.009	-6.363	.000
AGE	.005	.001	.073	.009	8.163	.000
SEX	-.078	.021	-.032	.009	-3.731	.000
POLVIEWS	.181	.008	.203	.009	23.531	.000
BLACK	-.409	.032	-.114	.009	-12.976	.000
OTHRACE	-.072	.047	-.013	.009	-1.531	.126
Constant	.659	.136			4.836	.000

How well do these results fit with all of the main lessons you have learned about voter motivation? Be careful to note any anomalies, and pay attention to absolute magnitudes. Name two additional variables that you would like to see in this regression – and explain why they're worth adding.

The main lessons we've learned about voter motivation are:

1. Evidence for the SIVH is very weak.
2. Evidence for group-interested voting is fairly strong.
3. Apparent effects of income on policy views are usually education effects in disguise.
4. There is strong evidence for ideological voting.

How do these results compare?

1. Income and health both move beliefs in the self-interested direction, but the magnitudes are quite small. On a four-point scale, increasing log income by one point (a huge change) only moves beliefs by .106. Moving from worst to best health only moves beliefs by about .27. You could also argue that age is a proxy for your *expected* future health. If you buy this argument, then it's striking that age has the wrong sign!
2. If age is a measure of group interest (e.g. the elderly identify with the elderly), then it's got the wrong sign. But the race and sex dummies have the expected signs, and the coefficient on Black is quite large. This makes sense from a group interest point of view – even if a black person happens to have high income and good health, he wants to help the members of his group that aren't so lucky.
3. Anomaly: Income actually beats education.
4. Ideology is the single strongest predictor – moving from most liberal to most conservative changes beliefs by over a point.

Two additional variables worth adding: Most obviously, insurance status. The uninsured have a strongest interest in government support. Other good candidates: Health status of family members and risky behavior (smoking, drinking, etc.).

2. If drug policy were left to the states, how would U.S. drug policy change? How would your answer change if governors' and state legislators' pay were proportional to property values in their states? Be sure to identify and discuss any possible "races to the bottom."

Policy would clearly become more diverse: Voters in California feel very differently about marijuana than voters in Alabama. These changes would probably increase over time because people would move to states that better suit their preferences, leading to a sort of "diversity spiral." One state might even become the "Nevada of drugs." If politicians' pay were based on property values, this would probably further expand the range of options and the speed of adjustment – better matching and sorting tends to make everyone's property more valuable. You might think that no one (even drug users) wants to live in a community of drug users, but in the real world we often see enclaves of "undesirables" clustering together. It's very unlikely there would be a race to the bottom to legalize drugs everywhere – large majorities favor the status quo. It's somewhat more likely there'd be a race to the top – the first community to liberalize might quickly attract a "bad element" that burdens the rest of the population, discouraging deviation from the status quo.

3. “Caplan’s and Gelman’s analyses of the American voter are much more similar than they initially appear.” Carefully explain why you agree or disagree.

I agree. On the surface, they directly contradict each other. Caplan says the SIVH is almost completely false; Gelman is trying to resuscitate the SIVH by showing that the state income-vote correlation and the individual income-vote correlations have opposite signs. On closer look, however, Gelman’s analysis fits all of Caplan’s main lessons from Weeks 4-6: (a) While the rich are more Republican, the effect is small, and to a large degree a proxy for race. (b) There is a big flat range: Republican voting is constant from 30k to 150k. (c) The strong state-level effects look like group-interest or ideological voting, not the SIVH. The difference in emphasis probably reflects their different disciplines: Economists are surprised that the SIVH doesn’t work well, but political scientists are surprised when the SIVH works at all.

4. Explain and criticize Bartels’ proposed explanations for the disconnect between public opinion and government spending. What do *you* think is the best way to interpret his results? Propose an empirical test of your preferred interpretation of the facts.

Bartels presents three explanations. Here they are, with my critiques:

1. Failure of democratic representation – politicians are just ignoring voters. This is implausible; if it were true, why don’t “big spenders” win elections more consistently?
2. Fiscal discipline – the public wants fiscal discipline even more than it wants spending increases. Bartels rejects this on the grounds that budget-cutting preferences and unmet demand for spending are *negatively* correlated. The countries where overall spending cuts are most popular are the ones where the difference between actual and desired spending is smallest. But couldn’t this just reflect ideological heterogeneity between relatively pro- and anti-government countries?
3. Economic capacity – “Poorer countries obviously have less wherewithal to satisfy citizens’ demands for spending on government programs than richer countries do.” Maybe. But if you’re willing to say that the budget constraints are “less salient” to the public than to policymakers, why not consider more radical theories, like my favorite:

The public’s preferences are simply contradictory and confused; what many of them want is not just economically unfeasible but logically impossible.

A test of my hypothesis: Ask the public about *perceived* spending, taxes, deficits, and inflation. On my theory, better *perceived* outcomes will predict more support for incumbents, even when the perceptions are mutually inconsistent.

**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2011**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. Consider a simple median voter model.

**T, F, and Explain:** *Threatening to vote for a third party candidate is always counter-productive, but permanently switching to a third party has no effect because you're simply "throwing your vote away."*

FALSE. Threatening to vote for a third party candidate *may* persuade "your" party to move closer to your view, reducing its probability of victory but increasing your satisfaction with its policies if it wins. So it's not "always" counter-productive. Permanently switching to a third party, in contrast, just pushes the median voter in the opposite of your desired direction – and is therefore counter-productive in a simple median voter framework.

2. **T, F, and Explain:** *Meltzer and Richard ("A Rational Theory of the Size of Government") deny that Wagner's Law logically follows from their model.*

TRUE. Wagner's Law – that government's share of income rises as income increases – does not follow from their model. But a modified version – where bigger government is driven by increasing disparity between mean taxpayer income and median voter income – does follow from their model.

[Many students gave essentially this answer, but said FALSE. I gave full credit anyway. But note that if M-R supports only a modified version of Wagner's Law, then the standard version of Wagner's Law does not logically follow from M-R.]

3. **T, F, and Explain:** *There is no way to empirically distinguish between self-interested, group-interested, and sociotropic voting.*

FALSE. While no empirical methods are perfect, credible tests simply require multiple regression of policy preferences/votes on distinct measurements of all three kinds of traits. For party identity, for example, you might get measures of income (self-interest), race (group-interest), and ideology (sociotropic). As long as the measures are imperfectly correlated, you can distinguish the three hypotheses.

Question 4 refers to the following regression of number of children (CHILDS) on ideology (POLVIEWS, 1="extremely liberal", 7="extremely conservative"), and years of education (EDUC). Data come from the GSS.

Variables			
Role	Name	Label	Range
Dependent	CHILDS	NUMBER OF CHILDREN	0-8
Independent	POLVIEWS	THINK OF SELF AS LIBERAL OR CONSERVATIVE	1-7
Independent	EDUC	HIGHEST YEAR OF SCHOOL COMPLETED	0-20

Regression Coefficients				Test That Each Coefficient = 0		
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
POLVIEWS	.109	.007	.084	.005	16.185	.000
EDUC	-.137	.004	-.238	.007	-34.553	.000
Constant	3.233	.063			51.338	.000

4. T, F, and Explain: Given this regression, Alford et al. (“Are Political Orientations Genetically Transmitted?”) suggests that in the long-run, policies will become more socially conservative but less economically conservative.

FALSE. In the long-run, policies will become more socially conservative, but we can't predict the future path of economic conservatism. Alford et al show that policy views are almost always heritable, so current fertility predicts future policy. Since more educated voters are more socially liberal and more economic conservative, the increasing share of less-educated conservatives in the population pushes unambiguously toward more social conservatism. For economic conservatism, however, the net effect of rising conservatism and falling education is ambiguous.

## **Part 2: Short Essays** **(20 points each)**

In 6-8 sentences, answer all of the following questions.

1. Turn-out in national elections far exceeds turn-out in purely local elections. Write a simple equation defining the costs and benefits of voting. Then use empirically plausible estimates of the values of the key variables in your equation to explain why lower turn-out in purely local elections is so puzzling. What is the best way to resolve the puzzle?

A simple model: People vote as long as  $pD - C > 0$ , where  $p$ =probability of decisiveness,  $D$ =difference in value between candidates, and  $C$  is the cost of effort. Since  $p$  declines very rapidly as  $N$  increases, it seems like people should be far more willing to vote in local elections than national elections - even if national  $D$  is considerable bigger and national  $C$  is much smaller.

Since plausible values of  $D$  and  $C$  are unlikely to change this result, we need a new model. The simplest adds a civic duty term that doesn't depend on  $p$ : people vote as long as  $pD - C + \text{duty} > 0$ . Now we simply need to add the plausible assumption that  $D$  is several times (not millions of times) bigger for national elections, and we're home.

2. Is there any plausible downside if voters use Beckerian punishment strategies to discipline politicians? If so, give details. If not, why not?

There are multiple problems:

- a. If voters want bad policies, Beckerian punishments make it harder for politicians to avoid giving voters the bad policies they're asking for.
- b. If there are false positives, Beckerian punishments will reduce the supply of politicians – especially honest politicians with a strong sense of shame.
- c. If there is divided government, Beckerian punishments *require* harsh punishment of many innocent parties – and may even give strategic incentives to threaten to deliberately cause bad results.
- d. If D is capped, Beckerian punishments give bad marginal incentives, since the punishment for massive fraud will be no greater than the punishment for petty fraud.

3. Use the mainstream and polarization effects (Zaller, *The Nature and Origin of Mass Opinion*) to explain why there was a strong movement against the Iraq War, but not to Obama's intensification of the war in Afghanistan. What would Zaller predict about the strength of resistance to American military action against Libya?

The mainstream effect says that when there is elite consensus in favor of X, public support will increase as awareness increases; but when there is elite disagreement about X, public support will move in opposite directions as awareness increases. For the Iraq War, elite disagreement soon emerged, leading to a strong antiwar movement until Obama's election. For Afghanistan, in contrast, there is bipartisan support, so there is little public resistance. For Libya, there seems to be elite consensus; conservatives are rarely less hawkish than Democrats. So Zaller's model predicts little resistance. One possible scenario, though, is that Obama could become the next Lyndon Johnson – liberal Democrats will turn against his approach, once again sparking antiwar protests against a Democrat president.

4. Suppose four states engage in Tiebout competition for a population that looks exactly like the current population of the United States. What are the main differences between populations of the four states likely to be? What are the main policy differences between the four states likely to be? Carefully defend your answer using empirical public opinion research.

With Tiebout competition, movement is costless, so we should expect much stronger segmentation than exists in the real world. If people's main residential preference is to live near people who share their political views, we should expect the states to divide along two main axes of disagreement – ideology and education. Voters will choose between relatively liberal, conservatism, populist, and libertarian states. One might argue, though, that when people choose where to live, jobs and quality of life are much more important than politics. If so, we'd see four different economically stratified states, with richer states imposing residency and zoning requirements to keep out poorer voters. As long as Tiebout competition weren't constrained by electoral politics, I'd predict the income-stratification equilibrium. Wealthy liberals may vote for redistribution, but they still prefer to live around other rich people.

**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2012**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. T, F, and Explain: **The deadweight cost of a tax on pollution is always zero.**

FALSE. A tax on pollution can *reduce* deadweight cost. But the deadweight cost of a tax on pollution only falls to zero IF (a) the tax brings the market level of output into equality with the efficient level of output, and (b) if there are no administration or evasion costs of the tax. Even ignoring (b), a pollution tax can actually *increase* deadweight costs if the tax is high enough to reduce output below its socially efficient level.

2. Suppose 60% of college graduates favor legalizing gay marriage, while 60% of non-college graduates oppose legalizing gay marriage. College graduates are one-third of the voting population.

T, F, and Explain: **If college graduates receive 1.1 votes, the Median Voter Theorem implies that gay marriage will be legalized.**

FALSE. Since non-college graduates outnumber college graduates 2:1, and the two groups' support for legalization are reversed (40/60; 60/40), college graduates would need TWO votes each to get 50% support for legalization. With 1.1 votes per college grad, and 300 voters, there would be  $100 \cdot .6 \cdot 1.1 + 200 \cdot .4 = 146$  votes in favor of legalization and 154 against.

3. "Politically, selection is far more important than adaptation." (Poole and Rosenthal, "Patterns of Congressional Voting")

T, F, and Explain: **Poole and Rosenthal's finding undermines a key assumption of the Median Voter Model without undermining its main conclusion.**

TRUE. Poole and Rosenthal find that politicians rarely change their views much; instead, when voters change, they simply replace reigning politicians. This contradicts the assumptions of the MVM, where candidates change their positions to maximize votes. But it can still yield the standard Median Voter Model's conclusion, that policy matches the bliss point of the median voter.

4. In a public opinion regression, suppose you replace education with IQ.

T, F, and Explain: **You should expect ideology interacted with IQ to be more predictive than ideology alone.**



TRUE. Ideology interacted with education is more predictive than ideology alone. The standard explanation is that better-educated voters are more likely to understand ideological concepts. You should expect IQ to work the same way. Not only is IQ highly correlated with education; it causally increases people's ability to understand and manipulate abstractions like "ideology."

## **Part 2: Short Essays** **(20 points each)**

In 6-8 sentences, answer all of the following questions.

1. "Voting reveals how altruistic people *claim* to be; Tiebout competition reveals how altruistic people *actually are*." Explain why someone would believe this position. Is it correct? Carefully defend your answer.

Why believe this position? Because voting for e.g. redistribution is basically cheap talk. Due to the low probability of decisiveness, the expected marginal cost of voting for redistribution is very small even if you're very rich. For Tiebout competition, in contrast, moving to areas with higher redistribution and higher taxes usually has high costs. Only a very altruistic rich person would deliberately move to an area with higher taxes in order to help out.

There is something to this argument, but it is seriously overstated. Moving in order to pay higher taxes has high deadweight costs. The lowest-cost way for any altruist to help would simply be to make charitable donations. Furthermore, we shouldn't forget the *recipients* of redistribution. If they were unselfish, they would arguably move *away* from high tax areas to avoid burdening their fellow citizens.

2. In the GSS, the question LETIN asks:

Do you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be increased a lot (=1), increased a little (=2), left the same as it is now (=3), decreased a little (=4), or decreased a lot (=5)?

Here are the results if you regress LETIN on ideology (POLVIEWS, 1="extremely liberal", 7="extremely conservative"), years of education (EDUC), and dummy variables for race (BLACK, OTHRACE) and having two native-born parents (NATIVE).

	Regression Coefficients				Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
POLVIEWS	.055	.014	.075	.019	3.893	.000
EDUC	-.052	.007	-.140	.019	-7.272	.000
BLACK	-.147	.060	-.048	.019	-2.461	.014
OTHRACE	-.351	.094	-.076	.020	-3.747	.000
NATIVE	.397	.057	.139	.020	6.920	.000
Constant	3.904	.127			30.673	.000

How well do these results fit what we have learned about the determinants of public opinion? Be careful to point out any anomalies.

Fairly well. Ideology and education have the expected signs: conservatives are more anti-foreign, and the educated are more pro-market. Most people who say OTHRACE are Hispanic, so this fits well with group interest. The same goes for NATIVE: People who don't identify with immigrants want fewer to come. The sign on BLACK is somewhat surprising from a group-interest point of view: There aren't many black immigrants, but native blacks still seem relatively pro-immigrant. Perhaps blacks identify to some degree with all non-whites.

Key anomalies: Since the regression doesn't control for income, the effect of education arguably reflects self-interest rather than greater economic literacy. You could also argue that NATIVE reflects (genetic) self-interest rather than group interest because immigrants want to ease the immigration of their blood relatives. Note, however, that since recent immigrants compete with previous immigrants in the labor market, self-interest should probably predict a *negative* sign on NATIVE, all things considered.

3. How would a *purely* genetic model of political preferences explain political change over time? Use such a model to predict a long-run *cycle* of political change for a policy outcome of your choice.

In a purely genetic model, political change has to stem from demographic change: differences in fertility, longevity, or migration. It is easy to see how demographic change could cause *linear* policy changes: E.g. policy becomes more socially conservative over time because social conservatives have more kids. But demographic change can also lead to cycles. Take abortion. When abortion is legal, pro-life genes tend to grow over time. Pro-life people don't abort their kids; pro-choice people do. Eventually pro-life genes will be common enough to ban abortion. But once you ban abortion, the genetic selection for pro-life genes largely disappears, allowing pro-choice genes to spread and eventually re-legalize abortion.

4. Caplan argues that Gerber et al ("Personality Traits and the Dimensions of Political Ideology") neglect a plausible explanation for the connection between personality and ideology. How would Caplan justify his explanation? How would Gerber et al respond? Who is right?

Caplan argues that some personality types simply see the world more clearly than others. His primary example is the trait of Agreeableness. Scientists and economists tend to have low Agreeableness. They focus on facts and logic, and put little value on good intentions divorced from good results. It seems reasonable to expect such people to have more reality-based policy views. The same arguably goes for Stability and Conscientiousness. Gerber et al would probably respond by arguing that the cognitive benefits of low Agreeableness extend only to narrow, scientific questions, not policy analysis as a whole. But this seems like a cop out to me. If a scientific mind-set can unravel the mysteries of evolution, why not the mysteries of economic growth?

**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2013**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. Suppose the government uses lump-sum taxation to equalize initial endowments, and the outcome that emerges is Kaldor-Hicks efficient.

**T, F, and Explain: The outcome will automatically maximize average happiness, too.**

FALSE. Kaldor-Hicks efficiency and maximum happiness are not the same. Kaldor-Hicks ignores distribution, so at minimum happiness maximization requires an adjustment for diminishing marginal utility of consumption/wealth. You should also probably adjust for personality (some people's happiness is more responsive to consumption/wealth than others') and other disconnects between willingness-to-pay and happiness (i.e. true love, which causes great happiness even though people won't pay you to love them).

2. **T, F, and Explain: According to the Median Voter Model, fringe parties are invariably counter-productive from their own point of view.**

FALSE. *Irrevocably* switching to a fringe party is indeed counter-productive, because it moves the equilibrium platform in the opposite of the desired direction. But *provisionally* switching until "your" party becomes more radical can indeed lead to more radical policies. The catch: Provisionally switching is risky. It increases the radicalism of its policies conditional on winning, but reduces "your" party's probability of electoral victory.

3. Suppose you are trying to predict ideology in the GSS.

**T, F, and Explain: Univariate regressions of ideology on education and income tend to overstate the effect of both education and income on ideology.**

FALSE. As explained in the notes, education and income *mask* each others' effects on ideology. Since education and income are highly correlated, univariate regressions show that education makes you slightly more liberal, and income makes you slightly more conservative. A bivariate regression of liberalism on education AND income shows a larger positive effect of education and a larger negative effect of income.

4. Suppose you test the Median Voter Model using questions of the form, "AGREE or DISAGREE: Spending on X should be increased." Assume that the distribution of voter bliss points is continuous.

**T, F, and Explain: On real-world data, you will almost always reject the Median Voter Model.**

TRUE. If there are just two response options, the ONLY observation consistent with the Median Voter Model is if the population splits *exactly* 50/50. Otherwise, the median respondent wants something different from the status quo, contrary to the MVM. The lesson is that two-response questions are an unfair test of the MVM: Respondents should at minimum also be offered the third option of supporting the status quo.

I gave partial credit to responses that cited Bartels. The evidence was definitely relevant, but it overlooked the more fundamental point that two-response questions stack the deck against the MVM.

**Part 2: Short Essays  
(20 points each)**

In 6-8 sentences, answer all of the following questions.

1. People often illustrate the Tiebout model by discussing the effect of public school quality on locational choices and real estate prices. Are the observed patterns really what the Tiebout model predicts? Why or why not?

The Tiebout model correctly predicts that, *ceteris paribus*, better schools lead to higher real estate prices and higher property taxes lead to lower real estate prices. It also correctly predicts that people sort into localities that offer subjectively attractive school/tax combinations. Wealthy parents often deliberately move to areas with excellent public schools, and low-income retirees often deliberately move to areas with low property taxes. However, these patterns are far weaker than the Tiebout model implies. In particular, the Tiebout model implies that (a) localities that offer a relatively bad school/tax *package* will completely depopulate, and (b) some localities will cater to childless residents (or families that prefer private schools) by offering no public schooling whatsoever. Both (a) and (b) are false.

2. In the GSS, the question LETIN1 asks:

Do you think the number of immigrants to America nowadays should be...  
increased a lot (=1), increased a little (=2), remain the same as it is (=3), reduced a little (=4), or reduced a lot (=5)?

Here are the results if you regress LETIN1 on years of education (EDUC), age, dummy variables for race (BLACK, OTHRACE), ideology (POLVIEWS, 1="extremely liberal", 7="extremely conservative"), being born in the U.S. (yes=1, no=2), church attendance (0="never", 8="more than once a week"), and Biblical literalism (1="word of God", 2="inspired word", 3="book of fables").

Note: The coefficient on the log of respondent income (omitted) was approximately zero.

	Regression Coefficients				Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
EDUC	-.045	.005	-.125	.013	-9.679	.000
AGE	.004	.001	.069	.013	5.507	.000
BLACK	-.176	.042	-.053	.013	-4.197	.000
OTHRACE	-.432	.049	-.123	.014	-8.780	.000
POLVIEWS	.083	.010	.110	.013	8.501	.000
BORN	-.676	.045	-.207	.014	-15.019	.000
ATTEND	-.020	.005	-.052	.014	-3.768	.000
BIBLE	-.088	.022	-.057	.014	-4.023	.000
Constant	4.799	.107			44.821	.000

How well do these results fit what we have learned about the determinants of public opinion? Be careful to point out any anomalies, and discuss magnitudes as well as statistical significance.

Overall, the results fit our class lessons well: the SIVH does poorly, and the ideological and especially group-interest models do well.

Since previous immigrants compete most closely with new immigrants in the labor market, self-interest predicts that the sign on BORN would be positive. In fact, the sign is strongly negative, consistent with the group-interest story that previous immigrants identify with and care about new immigrants. Blacks and members of "other races" (primarily Hispanics) are also relatively pro-immigrant – contrary to their economic interests, but consistent with the idea that non-whites identify to some degree with immigrants. Also note that older people are more anti-immigrant – contrary to their self-interest as consumers of old-age care, but consistent with a less multicultural identity.

The lectures also correctly predict that education and liberalism both make respondents more pro-immigration.

The main anomaly: Church attendance leads to more pro-immigration views, but Biblical literalism leads to more anti-immigration views. This might reflect church-going Catholics' tendency to be pro-immigrant while opposing a literal reading of the Bible.

3. “The centers of national journalistic activity are relatively rich states including New York, California, Maryland, and Virginia. Once again, the journalists — and, for that matter, academics — avoid the first-order availability bias: they are not surprised that the country as a whole votes differently from the residents of big cities. But they make the second-order error of too quickly generalizing from the *correlations* in their states.” (Gelman et al, “Rich State, Poor State, Red State, Blue State”)

Carefully explain what Gelman et al are saying. Are they right?

Gelman et al find that the state-level party/income correlation gets smaller as average state income rises. In the rich states where national journalists generally reside, the party/income correlation is near-zero. Upshot: When national journalists extrapolate from their states of residence to the entire country, they underestimate the party/income correlation. The problem, in a nutshell: Journalists know and adjust for the fact that *they* are weird, but they fail to realize or adjust for the fact that their *states* are weird, too.

Gelman et al’s story makes a great deal of sense. You could accuse them of overstating the party/income correlation by ignoring race. But if you read them closely, they acknowledge and correct for this problem.

4. The antiwar movement largely collapsed after Obama’s election. How would Zaller explain this change?

Zaller would apply his concepts of the “polarization” and “mainstream” effects. Potential members of the antiwar movement, like all activists, have high political awareness. During the Bush era, elites were divided along partisan lines regarding the War on Terror. As a result (“the polarization effect”) Democratic activists opposed the War strongly enough to man a sizable antiwar movement. During the Obama era, however, the War on Terror became much more bipartisan. As a result (“the mainstream effect”), Democratic activists have become much more accepting of the War on Terror. Too accepting, in fact, to continue to man a sizable antiwar movement.

**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2014**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. **T, F, and Explain: As platform convergence increases, the probability of voter decisiveness falls.**

FALSE. As platform convergence increases, voters have less reason to disagree, so  $p$ , the probability a voter votes "yes," moves toward .5. Furthermore, as platform convergence increases, voters have less reason to vote, so  $(2N+1)$ , the number of voters, goes down. Both of these effects *increase* the probability of voter decisiveness.

2. "Like Sherlock Holmes or Miss Marple, you should ask why cycles do not occur in particular political systems. As you will see, the means by which a democracy avoids intransitive cycles often marks its character." (Cooter, *The Strategic Constitution*)

**T, F, and Explain: According to Cooter, the main reason why cycles do not occur is that public opinion is basically one-dimensional.**

FALSE. Cooter doesn't appeal to the dimensionality of public opinion. Instead, in the next paragraph, he appeals to agenda setting. Elsewhere in the book he talks about political bargaining.

3. Suppose you are trying to predict individuals' views on a wide range of issues.

**T, F, and Explain: Failing to control for education will noticeably inflate the apparent effect of ideology and personal income on issue views.**

FALSE. Failing to control for education definitely inflates the apparent effect of income on issue views. But education and left-right ideology are virtually uncorrelated, so failing to control for education will *not* inflate ideology's apparent effect.

4. **T, F, and Explain: According to Levitt ("How Do Senators Vote?"), senators have become more responsive to the electorate over time, possibly because of the increasing availability of political information.**

FALSE. On p.437, Levitt states that, "Senators in the 1970's [versus the 1980's] are more responsive to state voters both within and outside their support constituency." He further explains that, "The decline in responsiveness to voters has been matched by a sharp increase in the importance of party (0.04 versus .16)."

## Part 2: Short Essays (20 points each)

In 6-8 sentences, answer all of the following questions.

1. Name a real-world situation where the logic of collective action leads to a *more* efficient outcome. Carefully explain the private costs, private benefits, social costs, and social benefits that lead to this fortuitous result.

Consider Italy in 1945. Communism was very popular – though short of a majority – and Communists almost certainly *cared* about their political goals more than competitors. If every Italian Communist had gone into the streets to fight for Communist revolution, they probably would have prevailed, establishing a Stalinist dictatorship. However, most Communists – like most people – succumbed to the logic of collective action: “Why should I go risk my life for Stalinism, when I probably won’t make a difference anyway?” As a result, Italy did *not* get a Communist revolution, which would have been a disaster. Private costs: Effort and danger of fighting for Communism. Private benefits: Basically nothing, as with most political action. Social costs: The misery of war. Social benefits: Negative, since Communist dictatorship would have been terrible.

2. In the GSS, the question POPGRWTH asks:

The earth cannot continue to support population growth at its present rate.

1=“strongly agree”; 2=“agree”; 3=“neither agree nor disagree”; 4=“disagree”;  
5=“strongly disagree.”

Here are the results if you regress POPGRWTH on log real family income (LREALINC), years of education (EDUC), ideology (POLVIEWS, 1=“extremely liberal”, 7=“extremely conservative”), dummy variables for race (BLACK, OTHRACE) and sex (1=male, 2=female), number of children (CHILDS), Biblical literalism (BIBLE, 1=“word of God”, 2=“inspired word”, 3=“book of fables”), and age.

	Regression Coefficients				Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
LREALINC	.072	.024	.075	.025	2.988	.003
EDUC	.014	.009	.038	.025	1.471	.142
POLVIEWS	.134	.017	.187	.024	7.872	.000
BLACK	.325	.070	.111	.024	4.679	.000
OTHRACE	.028	.085	.008	.024	.329	.743
SEX	.038	.049	.018	.023	.779	.436
CHILDS	.079	.017	.125	.026	4.781	.000
BIBLE	-.150	.034	-.107	.025	-4.371	.000
AGE	-.006	.002	-.088	.026	-3.430	.001
Constant	1.451	.265			5.482	.000



How well do these results fit what we have learned about the effects of self-interest, group-interest, and ideology on public opinion? Be careful to point out any anomalies, and discuss magnitudes as well as statistical significance.

We've learned that self-interest has little effect on public opinion, but group interest and especially ideology matter a lot. Looking at this regression, we see:

1. Conservatives worry a lot less about population growth, as you'd expect. The same goes for Biblical literalists, consistent with the classic view that God wants mankind to "be fruitful and multiply." So ideology broadly defined seems to have its usual power.
2. Blacks worry less about population growth. This fits a group-interest story, given the historic connection between population control and racism. The same holds for people with more kids. Population control is unlikely to personally affect people who *already* have large families. But people with large families probably identify with people who want to have large families in the future.
3. In terms of self-interest, you would expect older people to worry less about population growth. After all, they need young people to fund their retirements and provide elder care, and they'll likely be dead before any long-run environmental harm kicks in. But the data show the opposite. Furthermore, since population control normally focuses on low-income people, you might expect high-income people to be more in favor of population control. Once again, the opposite is true.

Overall, then, ideological voting and group-interested voting fit the facts, and the SIVH does worse than chance.

3. If both the SIVH and the Tiebout model were true, how would the tax policies and demographics of the state of Virginia change? Justify your answer.

It is tempting to say that rich voters would vote against redistribution, and poor voters would vote in favor. But the Tiebout model, redistribution is basically impossible; if you try it, the net losers flee, short-circuiting any redistribution. So redistributive taxes would vanish throughout Virginia. This in turn would attract a lot of high-income population from outside of Virginia and spark an exodus of low-income population, raising Virginia's per-capita income. Since public schooling redistributes from the childless to families with kids, you should also expect family size to shrink and average age to rise.

4. How would U.S. political outcomes change if you gave two votes to every citizen high in Disagreeableness? Feel free to speculate, but be sure to reconcile your predictions with Gerber et al's "Personality Traits and the Dimensions of Political Ideology."

Gerber et al report that Agreeableness is a robust predictor of economic conservatism but *not* social liberalism. So handing two votes to the Disagreeable would sharply shift the position of the median voter in the direction of more free-market policies. You should expect to see less regulation, lower taxes, and less redistribution. You should not however expect changes on gay marriage or abortion. Other changes: Political rhetoric and debates would rely less on emotion, and more on logical arguments and hard data. In slogan form: "Hard heads, hard hearts."

**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2015**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. Suppose rent control makes landlords \$2B poorer and tenants \$1B richer. A successful campaign to abolish rent control will cost \$300M. Every dollar of compensation paid to tenants costs \$1.10 to deliver.

**T, F, and Explain: Rent control is Kaldor-Hicks efficient, because full compensation plus all transaction costs exceed the deadweight cost.**

FALSE. K-H efficiency does not require paying compensation. The only required social cost of the transition is \$300M, for a net social gain of \$700M. In fact, since there is a transaction cost of paying compensation, paying compensation would be K-H *inefficient*.

2. Voter turnout in school board elections is often below 10%.

**T, F, and Explain: This will not lead to inefficient outcomes if the Mean Voter Theorem is true, but might if the Miracle of Aggregation is true.**

TRUE. The Mean Voter Theorem implies full efficiency. The theorem only holds when transactions costs are zero – and as long as transactions costs are zero, societal outcomes are always efficient. However, the Miracle of Aggregation does not ensure efficient outcomes if informed voters have different preferences than uninformed voters. The informed voters in school elections might all be teachers' union members who vote to maximize their personal advantages regardless of social effects.

**3. T, F, and Explain: In party identification regressions on modern U.S. data, the signs on the coefficients on income, gender, and race fit the SIVH.**

TRUE. In general, Democrats are lower-income, less white, and less male, while Republicans are higher-income, more white, and more male, just as the SIVH predicts. The problem with the SIVH is magnitudes of the effects. If the SIVH were true, income should be much more important – both absolutely and relatively – than it is.

Note: I gave full credit for students who said FALSE, then pointed out specific regressions where the signs of the coefficients were off. I had an “in general” proviso in mind, but kudos for the students who knew the data well enough to point out counter-examples.

4. “Although the spatial model has an applied use in short-term prediction, its greater relevance is in what it indicates about long-term changes in our political system.” (Poole and Rosenthal, “Patterns of Congressional Voting”)

**T, F, and Explain: The main long-term change Poole and Rosenthal find is that the two major parties became increasingly polarized.**

FALSE. Poole and Rosenthal specifically say the opposite: “[T]he average distance between the parties – and by inference the average distance between all legislators – has shrunk considerably in the past 100 years.”

**Part 2: Short Essays**  
**(20 points each)**

In 6-8 sentences, answer all of the following questions.

1. Do the SIVH, sociotropic voting, and group-interested voting models make different predictions about voter turnout? If so, how do their predictions differ – and by how much? (Hint: People vote if  $pB > C$ , where  $p$  is the probability of decisiveness,  $B$  is the value difference voters assign to the leading candidates, and  $C$  is the cost of voting).

Regardless of your motivations, the cost of voting  $C$  is basically the value of the time it takes to vote. Selfish voters only include selfish benefits in  $B$ ; group-interested voters include selfish benefits plus benefits for their group; sociotropic voters include selfish benefits plus benefits for *everyone* (or at least all fellow citizens). So holding turnout constant, selfish voting predicts the lowest turnout, group-interest intermediate turnout, and sociotropic voting the highest turnout. Probability of decisiveness,  $p$ , partly offsets this effect, but only if turnout does indeed rise.

By how much do the predictions differ? For realistic values of  $p$ ,  $pB$  is usually extremely low regardless of voter motivation. If  $p=10^{-100}$ ,  $pB$  remains infinitesimal even if you care about all 7B people on Earth as much as yourself. However, if there is even a 1% chance of a very close election (a near 50/50 split), increased concern for other people sharply affects turnout.

2. In the GSS, the question ABANY asks: “Please tell me whether or not you think it should be possible for a pregnant woman to obtain a legal abortion if the woman wants it for any reason?” (1=yes; 2=no)

Here are the results if you regress ABANY on SEX (1=male, 2=female).

	Regression Coefficients				Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
<b>SEX</b>	.014	.006	.014	.006	2.554	.011
<b>Constant</b>	1.578	.009			176.101	.000

Here are the results if you add Biblical literalism (BIBLE), church attendance (ATTEND), and ideology (POLVIEWS) as control variables.

	Regression Coefficients				Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
<b>SEX</b>	-.028	.007	-.028	.007	-3.928	.000
<b>BIBLE</b>	-.146	.005	-.215	.008	-27.778	.000
<b>ATTEND</b>	.035	.001	.194	.008	24.988	.000
<b>POLVIEWS</b>	.054	.003	.152	.007	20.665	.000
<b>Constant</b>	1.551	.021			73.827	.000

Why is the change in the coefficient on gender noteworthy? Do the results strengthen or weaken the view that ideas are largely a mask for self-interest? For group interest?

The change is noteworthy because the unadjusted result – women are more pro-life – contradicts the SIVH (and group-interest), while the unadjusted result – women are more pro-choice – fits the SIVH (and group-interest). The effects are tiny in both cases, but at least in the second regression the coefficient on SEX does not directly contradict the SIVH.

These results *weaken* the view that ideas are largely a mask for self-interest or group-interest. On the mask theory, people conveniently adopt the ideas that serve their self & group interests. As a result, the adjusted coefficients on SEX should match self & group interests *worse* than the unadjusted coefficients. In fact, however, the adjusted coefficients on SEX match self & group interests *better* than the unadjusted coefficients. Apparently women tend to adopt pro-life ideas despite their interests, not because of them.

3. Suppose Virginians vote ideologically but non-Virginians vote selfishly. Everyone, however, chooses their state of residence selfishly. If the Tiebout model is true, what will happen to the tax policies and demographics of the state of Virginia? Justify your answer.

By U.S. standards, Virginia now has relatively small government, low taxes, and high economic freedom. If the assumptions of this problem were true, this would lead to two main effects:

1. Relatively poor Virginians would leave the state.
2. Relatively rich non-Virginians would move to the state.

The native Virginians who remain would, on average, continue to support the status quo. After all, they stayed in Virginia for selfish not ideological reasons. The new arrivals to Virginia, however, would selfishly favor the policies they moved to enjoy. Soon they would greatly outnumber the native Virginians – and continue to vote for the policy package that attracted them in the first place. This does NOT mean, however, that Virginian policy would become more extreme over time. The new arrivals would selfishly favor moderately small government, not extremely small government. However, once people who benefit from redistribution leave the state, the taxes required to sustain the same level of redistribution would fall further, leading to the appearance of further moves in a small-government direction.

4. How might Gelman et al. (“Rich State, Poor State, Red State, Blue State”) say critique Peltzman (“An Economic Interpretation of the History of Congressional Voting in the Twentieth Century”) ? Be specific.

Gelman et al. would begin by pointing out that individual data would have been more informative than the Congressional voting data that Peltzman uses. But they would go on to criticize Peltzman’s claim that as income has risen, the North and South have voted more for their divergent liberal/conservative preferences and less for economic interests. Individual-level data show that rising income makes people more Republican and less Democratic in *all* states, with the magnitude of the effect being largest in poor states and smallest in rich states. Gelman et al. would however appreciate Peltzman’s attention to state-specific effects, because it partly foreshadows their own work.

**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2016**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. T, F, and Explain: **The deadweight cost of a pollution tax is always negative.**

FALSE. Pollution taxes definitely *can* reduce deadweight costs by discouraging pollution where Marginal Social Benefit < Marginal Social Cost. But excessively high pollution taxes also discourage pollution where MSB > MSC, so such taxes can conceivably raise deadweight costs rather than reducing them.

2. Suppose you test the Median Voter Model using binary-response questions like, "AGREE or DISAGREE: Spending on X should be increased."

T, F, and Explain: **On real-world data, you will usually reject the Median Voter Model.**

TRUE. With binary response options, ANY result other than a perfect 50/50 split violates the Median Voter Model. To fairly test the model, you at least need to include an intermediate ("status quo" option on the response menu.

3. T, F, and Explain: **Empirical public opinion research predicts that journalists will be extremely liberal both socially and economically.**

FALSE. Journalists tend to be politically liberal but well-educated, and the well-educated tend to be socially liberal but economically conservative. For social liberalism, then, journalists' ideology and education push in the same direction, leading to extreme social liberalism. For economic liberalism, in contrast, journalists' ideology and education push in opposite directions, leading to moderation.

4. Suppose you gave two votes to every citizen high in Agreeableness.

T, F, and Explain: **If the Median Voter Theorem holds, Gerber et al.'s results imply that policy will become more market-oriented but less socially conservative.**

FALSE. Gerber et al. find that Agreeable people are markedly LESS market-oriented. For social conservatism, however, they find little effect of Agreeableness. The upshot: If Agreeable people had more votes, equilibrium policy would be more economically conservative, but about as socially conservative as it is now.

**Part 2: Short Essays**  
**(20 points each)**

In 6-8 sentences, answer all of the following questions.

1. “Sociotropic and group-interested voting show that the ‘logic’ of collective action is simply wrong.” Explain why someone would believe this position. Is it correct? Carefully defend your answer.

According to the logic of collective action, people act in their self-interest, not the interest of their group or society as a whole. Yet the empirical evidence on voting seems to show that people usually DO vote on the basis of group and social interests, with little effect of self-interest.

This argument is plausible but wrong. Since one vote is extremely unlikely to change an electoral outcome, voting is essentially talk, not action. Since the expected cost of voting against one’s own interests is therefore near-zero, unselfish voting is at most very weak evidence against the logic of collective action.

2. “Both Aristotle and Madison shared the opinion that poor people, if sufficiently numerous in a democracy, would use majority rule to redistribute wealth and destabilize the state.” (Cooter, *The Strategic Constitution*) Explain why (a) Cooter and (b) Meltzer and Richard would disagree with Aristotle and Madison.

(a) Right after the quoted sentence, Cooter adds, “[I]n stability has an advantage: no group or faction can form a stable majority to exploit others. Any coalition that would like to enrich itself by using state power to exploit others knows that another coalition dominates it. Knowing this, the governing coalition may refrain from exploiting others for fear that its victims will be the next rulers.” In other words, Cooter appeals to intransitivity: The poor don’t abuse majority rule because their majority is inherently precarious.

(b) Meltzer and Richard, in contrast, argue that while the poor want more redistribution than the rich, they don’t want to kill the goose that lays the golden eggs – much less “destabilize the state.” Instead, the poor want to leave the non-poor incentives to produce, so there are plenty of goods available to purchase with their welfare checks.

3. In the GSS, ABANY asks “Please tell me whether or not you think it should be possible for a pregnant woman to obtain a legal abortion if: The woman wants it for any reason?” (1=Yes, 2=No). PARTNERS is number of sexual partners in the last year, binned into 8 categories. (0=no partners, 1=1 partner, 2=2 partners, 3=3 partners, 4=4 partners, 5=5-10 partners, 6=11-20 partners, 7=21-100 partners, 8=100+ partners).

[...]

Considered separately, what does EACH regression show about the link between abortion opinions and self-interest? What do the two regressions considered TOGETHER show about this issue? Focus on magnitudes, not statistical significance.

In Regression #1, the SIVH receives marginal support. The young and people with more partners are more likely to face unwanted pregnancies, and both groups are more pro-choice. At the same

time, however, the SIVH has trouble explaining why gender has no significant effect; you would think that women bear more of the burden of unwanted pregnancies and would therefore be more pro-choice. In any case, all of these effects are surprisingly small: It takes 10 years of age to reduce your expected pro-choice probability by 1 percentage-point, and the gap between virgins and people with over 100 partners is only 25 percentage-points.

In Regression #2, we see that political and religious measures crush the SIVH. While the extra controls do expose an effect of gender in a self-interested direction, the magnitude is trivial compared to the effects of left-right ideology, church attendance, and Biblical literalism. Furthermore, the effect of number of sexual partners noticeably falls, and age now has the wrong sign.

Overall, the evidence heavily favors an ideologically/religiously filtered version of sociotropic voting. Self-interest, in contrast, doesn't just have weak effects; these weak effects often go in the wrong direction.

4. Explain and criticize Bartels' proposed explanations for the disconnect between public opinion and government spending. What do *you* think is the best way to interpret his results? Propose an empirical test of your preferred interpretation of the facts.

Bartels presents three explanations. Here they are, with my critiques:

1. Failure of democratic representation – politicians are just ignoring voters. This is implausible; if it were true, why don't "big spenders" win elections more consistently?
2. Fiscal discipline – the public wants fiscal discipline even more than it wants spending increases. Bartels rejects this on the grounds that budget-cutting preferences and unmet demand for spending are *negatively* correlated. The countries where overall spending cuts are most popular are the ones where the difference between actual and desired spending is smallest. But couldn't this just reflect ideological heterogeneity between relatively pro- and anti-government countries?
3. Economic capacity – "Poorer countries obviously have less wherewithal to satisfy citizens' demands for spending on government programs than richer countries do." Maybe. But if you're willing to say that the budget constraints are "less salient" to the public than to policymakers, why not consider more radical theories, like my favorite:

The public's preferences are simply contradictory and confused; what many of them want is not just economically unfeasible but logically impossible.

A test of my hypothesis: Ask the public about *perceived* spending, taxes, deficits, and inflation. On my theory, better *perceived* outcomes will predict more support for incumbents, even when the perceptions are mutually inconsistent.



**Economics 854 Midterm**  
**Prof. Bryan Caplan**  
**Spring, 2017**

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**Part 1: True, False, and Explain**

**(10 points each - 2 for the right answer, and 8 for the explanation)**

State whether each of the following six propositions is true or false. In 2-3 sentences (and clearly-labeled **diagrams**, when helpful), explain why.

1. T, F, and Explain: **The deadweight cost of congestion pricing is always negative.**

FALSE. While congestion pricing initially reduces negative externalities and therefore deadweight costs, congestion pricing that EXCEEDS the social costs of congestion actually starts to amplify deadweight costs. Imposing a \$1M/day toll for driving wipes out almost all the surplus of *having* roads!

2. Consider a simple median voter model.

T, F, and Explain: **Threatening to vote for a third party candidate CAN help extremists move policy in their preferred direction, but permanently switching to a third party ALWAYS does the opposite.**

TRUE. Threatening to vote for third parties encourages the extremists' party to reduce its chance of winning in order to stay more "pure." Sometimes this leads them to lose; but if they win, their policies are more in tune with extremists' desires. Permanently switching, in contrast, effectively removes the extremists from the preference distribution, which automatically moves the median – and equilibrium policy - in the opposite direction.

3. "The centers of national journalistic activity are relatively rich states including New York, California, Maryland, and Virginia. Once again, the journalists — and, for that matter, academics — avoid the first-order availability bias: they are not surprised that the country as a whole votes differently from the residents of big cities. But they make the second-order error of too quickly generalizing from the *correlations* in their states." (Gelman et al, "Rich State, Poor State, Red State, Blue State")

T, F, and Explain: **Gelman is saying that journalists falsely generalize from the high income-partisanship correlation in their home cities to the income-partisanship correlation for the nation as a whole.**

FALSE. According to Gelman et al., the income-partisanship correlation is LOW in richer places. Journalists error is assuming that this low correlation pervades the entire country, when in fact the correlation rises as regional incomes fall.

4. Suppose you gave two votes to every citizen high in Conscientiousness.

**T, F, and Explain: If the Median Voter Theorem holds, Gerber et al.'s results imply that policy will become more conservative, both economically and socially.**

TRUE. Gerber et al. find that higher Conscientiousness predicts BOTH higher social conservatism and higher economic conservatism. Giving such voters two votes effectively shifts the median voter in a conservative direction by both measures.

**Part 2: Short Essays  
(20 points each)**

In 6-8 sentences, answer all of the following questions.

1. Turn-out in national elections far exceeds turn-out in purely local elections. Write a simple equation defining the costs and benefits of voting. Then use empirically plausible estimates of the values of the key variables in your equation to explain why lower turn-out in purely local elections is so puzzling. What is the best way to resolve the puzzle?

Simple equation: People vote if  $p \cdot B > C$ , where  $p$  is the probability of decisiveness,  $B$  is the difference in the value the voter assigns to the two candidates, and  $C$  is the cost of voting.  $C$  seems very similar for both national and local elections, it's unclear that  $B$  is higher for national elections, and  $p$  is VASTLY lower for national elections. So it seems like turnout in local elections should be much HIGHER than national elections. Puzzling.

The best way to resolve the puzzle is to add an entertainment (or "warm glow") variable to the benefit side, combined with empirical observation that modern Americans find national elections MUCH more entertaining than local elections. The leading evidence is that Americans spend much more time following, discussing, and sharing national political news than local political news. This is a much more promising approach than claiming that  $B$  is much higher for national elections, because  $B$  always gets multiplied by  $p$ . Entertainment value, in contrast, exists regardless of  $p$ .

2. "Both Aristotle and Madison shared the opinion that poor people, if sufficiently numerous in a democracy, would use majority rule to redistribute wealth and destabilize the state." (Cooter, *The Strategic Constitution*) Explain why Meltzer and Richard would disagree with Aristotle and Madison. Who's right?

Meltzer and Richard would reply that while poor people DO want redistribution, they understand their long-run interests well enough to realize that EXCESSIVE redistribution would "kill the goose that lays the golden eggs." Welfare is useless if no one produces the stuff you buy with welfare – and if your society collapses into civil war, the poor die alongside the rich. Meltzer and Richard correctly describe the democratic outcome – radical redistribution almost never wins democratically. But they're probably wrong about the mechanism. Few poor voters reflect on the disincentives of redistribution. Indeed, they oppose radical redistribution on moral grounds – while the rich should help the poor to some degree, full expropriation would be wrong. See public opinion on inheritance taxes.

3. Suppose two states engage in perfect Tiebout competition for a population that looks exactly like the current population of the United States. What are the main differences between *populations* of the two states likely to be? What are the main *policy differences* between the two states likely to be? Carefully defend your answer using empirical public opinion research.

There will be a high-income, high-education state, and a low-income, low-education state. Both states will have pro-market, pro-growth policies, with a heavy emphasis on user fees, but the high-income state will have higher-quality public goods and expensive real estate to suit its affluent citizens. My reasoning: Tiebout competition gives people the policies they will MOVE to enjoy, even if those policies are electorally unpalatable. Since markets, growth, and user fees work well, both states will adopt them. Since real estate markets cluster people by income, so will Tiebout states. Since Tiebout eliminates redistribution, neither state will have much. Why will income be the main dividing line, rather than ideology? Because people already base their locational choices much more on income than ideology. Wealthy liberals, for example, care a lot more about living near other rich people than other liberals. While Americans pay lip service to their ideologies, Tiebout ignores lip service in favor of consumer demand.

4. In the GSS, IMPORTS asks “How much do you agree or disagree with the following statement? America should limit the import of foreign products in order to protect its national economy.” (1=Agree Strongly, 2=Agree, 3=Neither Agree nor Disagree, 4=Disagree, 5=Disagree Strongly). EDUC is education in years; POLVIEWS measures ideology on a 1-7 scale, where 1=“extremely liberal” and 7=“extremely conservative.” Here are separate regression results for 1996 and 2014 if you regress IMPORTS on a constant, EDUC, and POLVIEWS.

1996				2014			
Regression Coefficients				Regression Coefficients			
	B	SE(B)	Beta		B	SE(B)	Beta
EDUC	.116	.010	.308	EDUC	.051	.010	.144
POLVIEWS	-.059	.020	-.080	POLVIEWS	-.029	.021	-.039
Constant	.936	.164		Constant	1.856	.172	

Many political observers believe Americans turned against free trade during the last two decades, especially the working class and conservatives. Use this regression output to evaluate these perceptions.

The constant rose by about .9, indicating a huge average shift in FAVOR of free trade. And while low-education (“working class”) and conservative respondents were more anti-trade in both periods, the coefficients on both variables FELL from 1996 to 2014. All these factors imply that the working class and conservatives have become MORE pro-trade (or to be precise, less anti-trade) over time. If this survey is right, the “political observers” are flatly wrong.