Policy Comp
Spring 2005

READ THE DIRECTIONS:
Answer Question I AND Question II and any ONE other

I.  Develop a research design to evaluate the impact of an ongoing public program, policy, or institutional design; to compare the impact of program, policy, or institutional design alternatives; to examine cause (or causes) of policy or institutional choice by legislators, legislatures, bureaucrats or bureaus; or to examine reasons for the differential implementation of policy by bureaucrats or bureaus.

Choose any policy area that you are familiar with.  Discuss the theory or theories that motivate the experimental or statistical model.  Briefly describe the program or policy alternatives, or policy decisions, that you are examining, and discuss and justify the outcome measure(s) you will use.  Based on theory, what do you expect to find?  Why will your findings be theoretically important?  Cite relevant literature and previous findings.

Develop a feasible research design to estimate the parameters of your theoretical model. In your design, consider some of the problems you anticipate in making unbiased and efficient estimates, and suggest how you might go about coping with these problems. Include in your discussion the following items, as well as others you believe are pertinent:
> *how you propose to collect data;
> *problems of measurement;
> *how you will analyze the data you collect;
> *given your analytical strategy, what are the important threats to internal and
> > statistical validity (that is, threats to getting BLU estimates and steps to
> > minimize these threats)
> *issues of external validity;
> *how you will interpret the data you collect in light of the theory you are testing.

Question II:

"In the United States today, we are at the threshold of a great experiment in social insurance….Probably within the next decade or two, most of the states will pass laws, the purposes of which will be the financial assistance of some or all of the victims of automobile accidents, and the prevention of such accidents in so far as is possible."
(Edison L. Bowers, Selected Articles on Compulsory Automobile Insurance, 1929)

a) Compulsory automobile insurance regulation was first introduced in Massachusetts in 1927. It is not universal in the U.S. For example, neither Alabama nor Wisconsin has compulsory insurance, at least as of 2000. However, by 1975, it was adopted by 22 states, and by 45 states in 1997. Massachusetts was also the first, in 1971, to adopt no-fault insurance, which requires drivers to carry a policy covering him against liability arising from injury, death, economic loss, regardless of who is at fault. By 1975, 16 states had adopted no-fault insurance. Most of these also required compulsory insurance. What, if any, is(are) an economic rationale(s) for the adoption of such regulations by states to require drivers to purchase insurance? In other words, what, if any, market failure(s), might conceivably make such a policy response possibly efficient? Or is the response more likely to represent a government policy failure? Or are elements of both government and market failure likely to pertain to the issue of regulations requiring automobile insurance coverage by drivers?

b) An investigator recently examined the impact of compulsory and no-fault insurance on the incidence of fatalities per person in the US states, 1970-1998. The results are shown in the table below.
   i.    Discuss the results for the main theoretical variables and for the significant control variables. (Assume t-critical for p<.05 is |1.96| for 2 tailed test, and |1.65| for 1-tailed test. You need not compute every t-statistic; your eyeball should inform you whether the results are or are not clearly significant by conventional standards.)
   ii.   Do you believe the estimates for the two main theoretical variables? Discuss how well the assumptions for valid parameter estimates and estimates of standard errors are likely to fit this particular application.
   iii.  How do the results pertain to your response in part a? Do they uphold your conjecture about market/government failure, or are do they raise questions about your conjecture? (It may be relevant to point out here that another regression, of similar form, produces a parameter estimate of -4.08 (2.44) for the impact of # claims by uninsured motorists on fatalities per 10,000.)

Effect of compulsory insurance and no-fault regulation on fatalities per 10,000 persons, U.S. states, 1970-98.

| Independent Variable | Compulsory insurance | | No fault | |
|---|---|---|---|---|
| | Parameter est. | Std. error | Parameter est. | Std. error |
| Compulsory insurance (1=required; 0 otherwise) | .0152 | .0486 | | |
| No fault (1= required; 0 otherwise) | | | .307 | (.0765) |
| # Car registrations per person | 2.18 | (.365) | 1.22 | (.360) |
| % trucks registered | 2.05 | (.769) | .937 | (.521) |
| % Black | 4.78 | (1.77) | 1.43 | (1.72) |
| # violent crimes per thousand | -22.5 | (22.5) | 42.5 | (18.3) |
| # property crimes per thousand | 15.3 | (4.10) | 5.31 | (2.67) |
| Unemployment rate | -.0384 | (.0117) | -.0560 | (.0104) |
| Real personal income in 1984 $ | 4.92e-09 | (9.03e-10) | 2.79e-09 | (7.64e-10) |
| % population aged 18-24 | 17.4 | (2.86) | 5.69 | (1.88) |
| Vehicle miles traveled Per person | 71.3 | (26.8) | 6.97 | (4.18) |
| Seat-belt laws | -.151 | (.134) | -.129 | (.0994) |
| Alcohol consumption, per capita | 1.24e-03 | 1.50e-03 | 6.85e-04 | (2.96e-04) |
| New car registration Per capita | -1.11 | (.723) | -.224 | (1.17) |
| N observations | 803 | | 671 | |
| R2 | .76 | | .81 | |

All specifications include state and year fixed effects.

Question III:  Benefit Cost Analysis

Assume a community consisting of three consumers having the following inverse demand functions for a pure public good:

$P_a = 26 - Q_a$
$P_b = 28 - Q_b$
$P_c = 33 - Q_c$

Where P refers to the marginal utility of the consumer, and Q to the quantity consumed.

a.  What is the community demand curve for this public good, and how many units should the community consume when the cost per unit is 60?

b.  Suppose the community consumed the optimal amount, and each consumer was forced to pay one third of the cost.  Find the desired consumption of each consumer at that cost, and calculate the consumers dead weight burden from consuming the societal optimum (hint: draw a graph, and compute the numeric value associated with the dead weight loss triangle).

c.  If consumption amounts are voted on democratically, with each consumer paying a third (with no side payments), what would be the level of consumption?  What would be the deadweight loss to each consumer at that level of consumption?


d.  How much would C be willing to pay to move from the democratic outcome to the societal optimum?  How much would A and B need to be compensated to move from the democratic to societal outcome?

e.  Draw the community demand curve, and calculate the gain in social surplus associated with changing output from the democratic outcome to the societal optimum.  How does this compare with your answer in d?  Why?

Question IV:

 Using diagrams, explain how the efficient quantity of both a public good and an externality (positive and negative) is determined in principle.  Briefly explain why markets fail to provide a) public goods and b) externalities in efficient quantities. Then, briefly explain why governments fail to provide a) public goods and b) externalities in efficient quantities.  Citing relevant lite

Question V:

In a widely cited APSR article, Elinor Ostrom traces the history of rational choice theory as it applies to the problem of solving collective action problems. What are the connections between rational choice theory, game theory, collective action problems, and public policy (or, for that matter, public policy implementation). Discuss these connections in the context of a specific policy (or policy implementation/bureaucratic) arena, and cite relevant theoretical literature as you apply it to your specific case. Why do collective action (or social or managerial dilemma) problems sometimes get solved, and why does collective action sometimes fail? Under what conditions will external intervention by government (or similar coercive 3rd party) help--or make things worse? Outline a research design to test your expectations.