Public's Tax Preferences and Self-interest

Do people favor tax structures that favor them?

Do they change preferences when 'nudged' about the importance of government spending?

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Literature

Summary:

1. Respondents on average prefer tax structures assigning lower tax for their bracket.
2. Respondents consider total revenue generated when picking a tax structure.
3. Coexistence of high satisfaction with public services and displeasure with tax levied.
4. Demographic difference in tax preferences: (i) political affiliation, (ii) race, (iii) renter/homeowner etc.

- Ballard-Rosa et al "The Structure of American Income Tax Policy Preferences", Journal of Politics, (2017)
- Citrin, "Do people want something for nothing: Public opinion on taxes and government spending", National Tax Journal, (1979)
- Beck et al, "Citizen views of taxes and services: a tale of three cities", Social Science Quarterly (1987)

Motivation

1. On one hand people are self-interested, on the other, they care about public spending (superior government services and income redistribution)
2. So, how much are people willing to give up as tax in return for better government functioning and a more equitable society?
3. Is there is a demographic variation in this trend?

New contribution

- Previous studies access the behavior based on loose economic models. This study would use an open source tax calculation (http://apps.ospc.org/taxbrain/) – much better estimation of tax policy change
- No previous study accesses the change in behavior when presented with new knowledge
- Plans for a more thorough study of demographical variation (e.g. inclusion of interaction terms, e.g. young republican vs. older democrat)

Tax Calculator: Overview

- Open source tax calculator:
  - Python code: https://github.com/PSLmodels/Tax-Calculator
  - Webapp: http://apps.ospc.org/taxbrain/
- Simulates USA federal income and payroll tax system
- Based on 2 micro-datasets:
  - IRS-SOI Public Use File
  - Census Current Population Survey

Tax Calculator: Inputs and Outputs

- Input parameters:
  - Maximum table earnings for social security (1 threshold)
  - Long term capital gains and qualified dividend tax rates (3 brackets)
  - Personal income tax rates (7 brackets)

S No.	Variable	Brackets	Default value	Survey range
1	Maximum table earnings for Social Security		$127,200	$0 - $1,000,000
2	Personal income: non-AMT, non-pass-through	{$9,325, $18,650, $9,325, $13,350}	10%	0%-25%
3		{$37,950, $75,900, $37,950, $50,800}	15%	0%-30%

Tax Calculator: Inputs and Outputs

- Output parameters:
  - % population affected in the income group
  - Average % change in after tax income
  - Average total tax change in group
  - Change in total government liabilities

	All Tax Units	Tax Units with Tax Cut	Percent with Tax Cut	Tax Units with Tax Increase	Percent with Tax Increase
	Millions	Millions		Millions	
<$0K	1.28	0	0	0	9.3
=$0K	3.33	0	0	0	0
$0-10K	21.29	0	0	0	2.3
$10-20K	24.41	0	0	0	2.1
$20-30K	18.87	0	0	0	3.6

Survey Design: Computation

- Model iterations:
  - 11 parameter, ~3-4 options each, ~1,000,000 possible solutions
- Pre-computing or compute on demand?
  - Pre-computing approximate time:
    - 1,000,000 iterations * 1 min / 200 clusters / 60 mins / 24 hours ~ 3.5 days
  - Advantages: less lookup time, less probability of glitches
  - Disadvantages: redundant calculations (~10,000 respondents vs. ~1,000,000 computations)

Survey Design: Computation

- Computational tools:
  - Tax calculator python interface
  - Parallel processing
  - Database management

Answers

- Measure of pro-tax behavior in the population
- Observing behavior change with ‘nudge’
- Which demographic is more likely to be pro-tax and which anti-tax?