Charitable Giving, Tax Reform, and Political Trust

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Introduction

Background of South Korea Tax Reform

To investigate the price effect, we use the 2014 tax reform in the South Korea.

- Before 2014, tax deduction was adopted to subsidize charitable donation behavior.
- After 2014, tax credit have been adopted.

The main difference is that tax credits reduce taxes directly, while tax deductions indirectly lower the tax burden by decreasing the taxpayer's marginal tax rate, which increases with gross income

Data

National Survey of Tax and Benefit (NaSTaB)

- The Korea Institute of Taxation and Finance implements the financial panel survey to study the tax burden of households and the benefits that households receive from goverment.
- The subjects of this survey are general household and household members living in 15 cities and provinces nationwide.
- This survey is based on a face-to-face interview. If it is difficult for investigators to meet subjects, another family member answers on behalf of him.
- Survey items: Annual taxable income (last year), charitable donations (last year), trust for politicians (5-Likert scale), and other covariates (age, education, gender etc.).
- Survey period: 2008 $\sim$ 2019
  - We use survey data after 2013 to focus on tax policy change in 2014.

Variable of Giving Price

In the South Korea, the tax policy about charitable giving drastically changed in 2014. Before 2014, the **tax deduction** adpoted. After 2014, the **tax credit** adopted. Under two systems, the giving price is

- tax deduction: Price $= 1 - \tau$
- tax credit: Price $= 1 - r$

τ is the marginal income tax rate calculated by annual taxable income reported in the NaSTaB, and r is the tax credit rate determined exogeneity. In the South Korea, $r = 0.15$.

Results

Trust Index

The trust for politicans is time-varying variable because it depends on governments' policies. We make time-invarying trust index using the fixed effect model.

$$\text{Trust}_{ijt} = \text{Trustid}_{ij} + c_j \cdot \lambda_t + \lambda_t + \epsilon_{ijt}.$$

- Trust_{ijt}: trust for politicians (5-Likert scale)
- Trustid_i: individual fixed effect (**Trust index**)
- $c_j \cdot \lambda_t$ captures local governments' policies effect
- λ_t captures the central government policies effect

We use the standarized trust index with mean 0 and standard deviation 1.

Histrogram of Trust Index

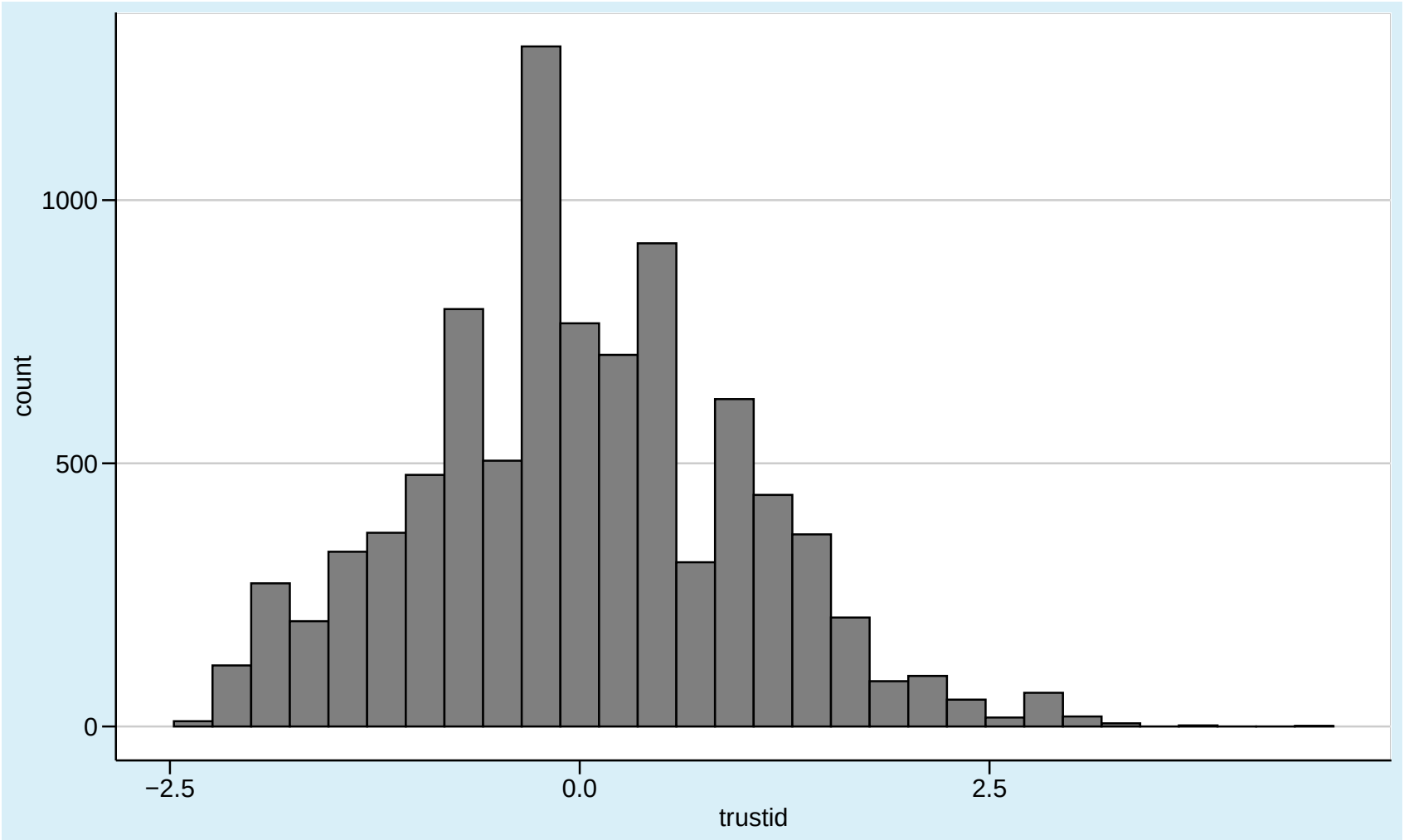

Figure 1: Histogram of Trust Index

Regression of Trust Index

Table 1: Regression of Trust Index (Year = 2018)

Variables	Coefficients	S.E.
female	0.056**	(0.023)
Logarithm of income	0.828*	(0.440)
age	-0.022***	(0.004)
squared age/100	0.022***	(0.004)
High school graduate	0.029	(0.035)
University graduate	0.010	(0.038)
Extreme right wing	-0.224***	(0.085)
Right wing	-0.036	(0.028)
Left wing	-0.078***	(0.028)
Extreme left wing	-0.663***	(0.046)
Obs	7697	

Baseline Regressions

Our baseline regression equation is

$$\log(\text{Giving}_{ijt}) = \alpha_i + \beta_1 \log(\text{Price}_{ijt}) + \delta X_{ijt} + \lambda_t + \epsilon_{ijt}.$$

- $\log(\text{Giving}_{ijt})$ is logarithm of individual i's charitable giving in year t.
- $\log(\text{Price}_{ijt})$ is logarithm of individual i's giving price in year t.
- β_1 represents the price elasticity of giving.
- α_i and λ_t are individual and time fixed effect, respectively.

Result of Baseline Regressions

We found the **price effect** of giving (1% price increase leads to about 1.1% giving decrease)

Table 2: Baseline Regressions

	(1)	(2)	(3)
ln(giving price)	-1.071***	-1.059***	-1.062***
	(0.201)	(0.226)	(0.226)
Logarithm of income	Y	Y	Y
Age	N	Y	Y
Year X Educ	N	Y	Y
Year X Gender	N	Y	Y
Living Dummy	N	N	Y
Obs	54213	54211	54211

Subgroup Regressions

We estimate the baseline regression equation, using sample grouped by the trust index.

- Lowest: $0 \sim 20\%$ quantile of trust index
- Lower: $20 \sim 40\%$ quantile of trust index
- Neutral: $40 \sim 60\%$ quantile of trust index
- Higher: $60 \sim 80\%$ quantile of trust index
- Highest: $80 \sim 100\%$ quantile of trust index

We include the logarithm of income, age, interactions b/w year and education, interactions b/w year and gender, and living are dummy into covariates.

Results of Subgroup Regressions

We cound **NOT** find the price effect for respondents whose trust is very low.

Table 3: Subgroup Regressions

	Lowest	Lower	Neutral	Higher	Highest
ln(giving price)	-0.675	-0.460	-1.582***	-1.284**	-1.202**
	(0.556)	(0.458)	(0.481)	(0.530)	(0.503)
Obs	10239	10358	10367	10368	12879

Heterogenity By Political Trust

To capture heterogeneity precisely, we estimate the following regression equations:

$$\begin{aligned}\log(\text{Giving}_{ijt}) =& \alpha_i + \beta_1 \log(\text{Price}_{ijt}) + \beta_2 \log(\text{Price}_{ijt}) \cdot \text{Trustid}_{ij} \\ &+ \delta X_{ijt} + \lambda_t + \epsilon_{ijt}.\end{aligned}$$

Price elasticity is obtained by $\beta_1 + \beta_2 \cdot \text{Trust}_{ij}$.

Result of Heterogeneity of Political Trust

The price elasticity is **convex** in the trust index. Those whose trust index is low and high do not respond to the price incentive.

Table 4: Heterogeneity of Political Trust

	(1)	(2)
ln(giving price)	-1.108***	-1.314***
	(0.230)	(0.249)
X Trust index	-0.373**	-0.412**
	(0.171)	(0.175)
X Squared trust index		0.229**
		(0.111)
Obs	51306	51306
R-aq	0.0120	0.0121

Graphical Representation of Heterogeneity Effect

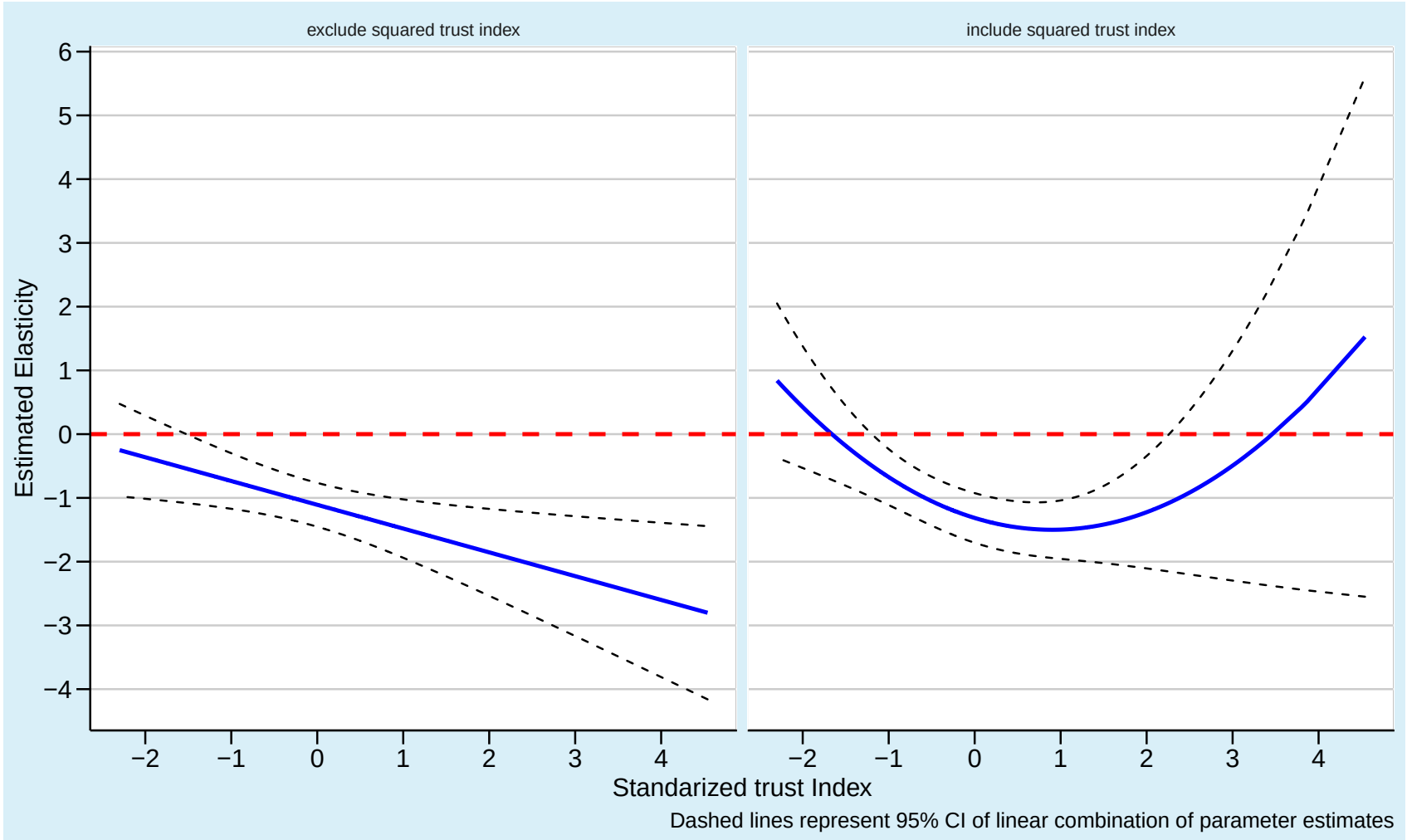

Figure 2: Relationship between Trust Index and Predicted Elasticity

Conclusions

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