Charitable Giving, Tax Reform, and Government Efficiency*

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Abstract

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Keywords: Charitable giving, Giving price, Tax reform, Governement efficiency, South Korea

JEL: D91, I10, I18

1. Introduction

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1.1. Charitable Giving and Taxiation

1.2. Summary in short

1.3. South Korean tax reform

1.4. Related Literature

1.5. Research about tax price elasticity of charitable donations

1.6. Research about perception towards the government and donation/tax payment.

1.7. Why Political Trust?

2. Institutional background

Placeholder

2.1. Tax relief for charitable giving by tax deduction and tax credit

2.2. Korean tax reform in 2014 (Need modification by Kim san)

3. Data

Placeholder

*This research is base on

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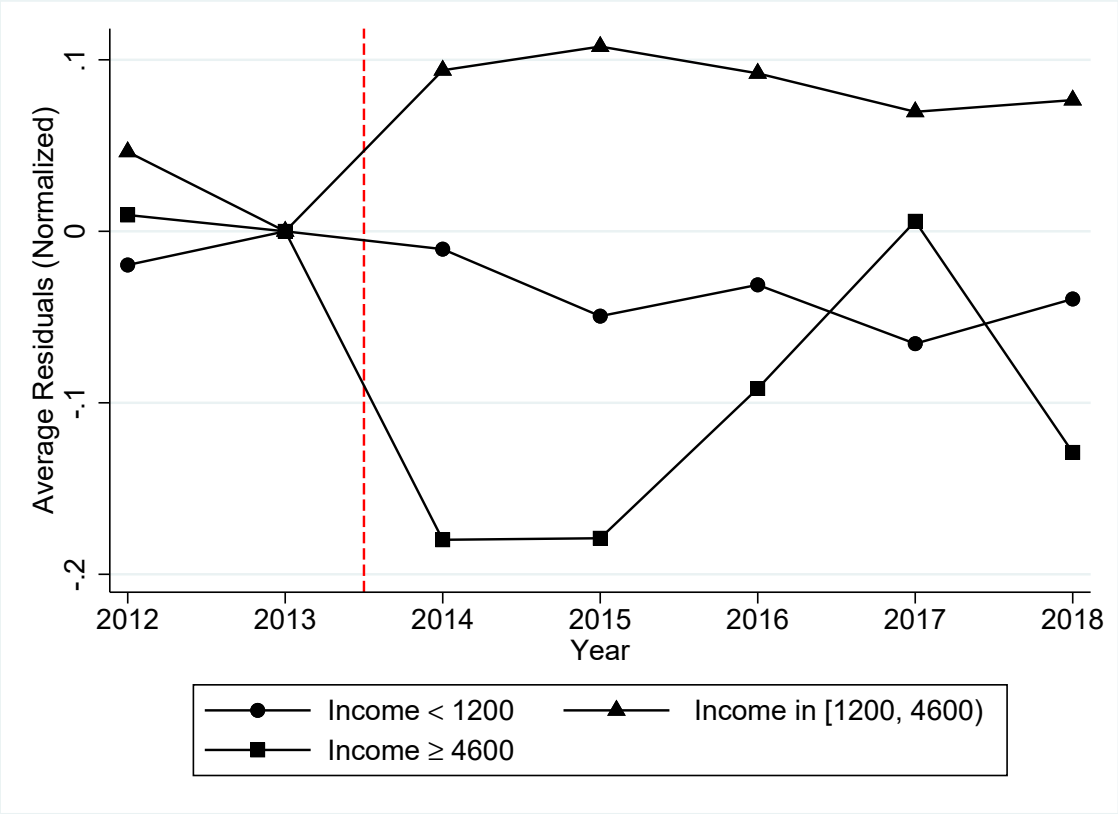

Figure 1: Average Residuals Grouped by Year and Tax-Reform Benefit Group

Table 1: Main Results

	(1)	(2)	(3)	(4)	(5)
ln(giving price)	-1.072***	-1.264***	-1.291***	-1.114***	-1.241***
	(0.202)	(0.213)	(0.230)	(0.229)	(0.227)
ln(auunaul taxable income)	5.392***	5.080***	5.047***	5.116***	4.946***
	(0.970)	(0.964)	(0.964)	(0.966)	(0.949)
Individual FE	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y
Age	N	Y	Y	Y	Y
Year X Education	N	N	Y	Y	Y
Year X Gender	N	N	N	Y	Y
Year X Resident Area	N	N	N	N	Y
N	53269	53269	53267	53267	53267
R-sq	0.009	0.010	0.010	0.011	0.020

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. When controlling age, we alson include its squared term.

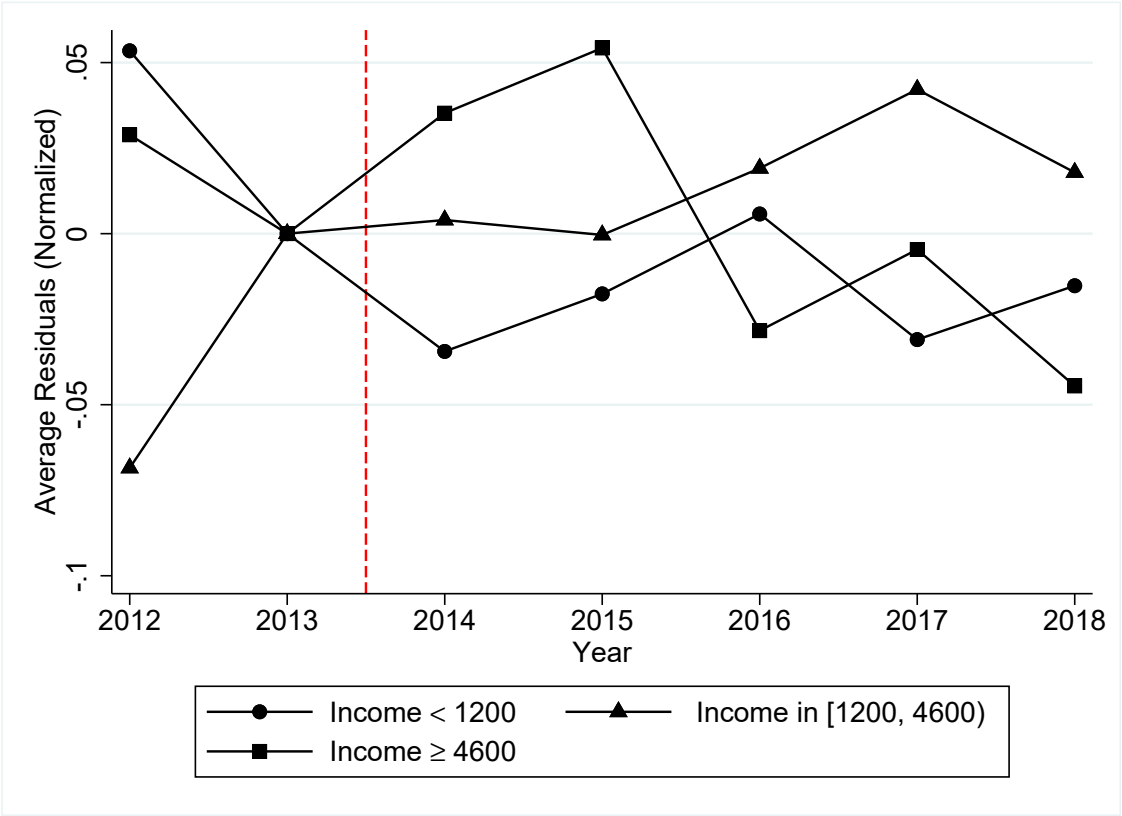

Figure 2: Average Residuals Grouped by Year and Tax-Reform Benefit Group (Intensive Margin)

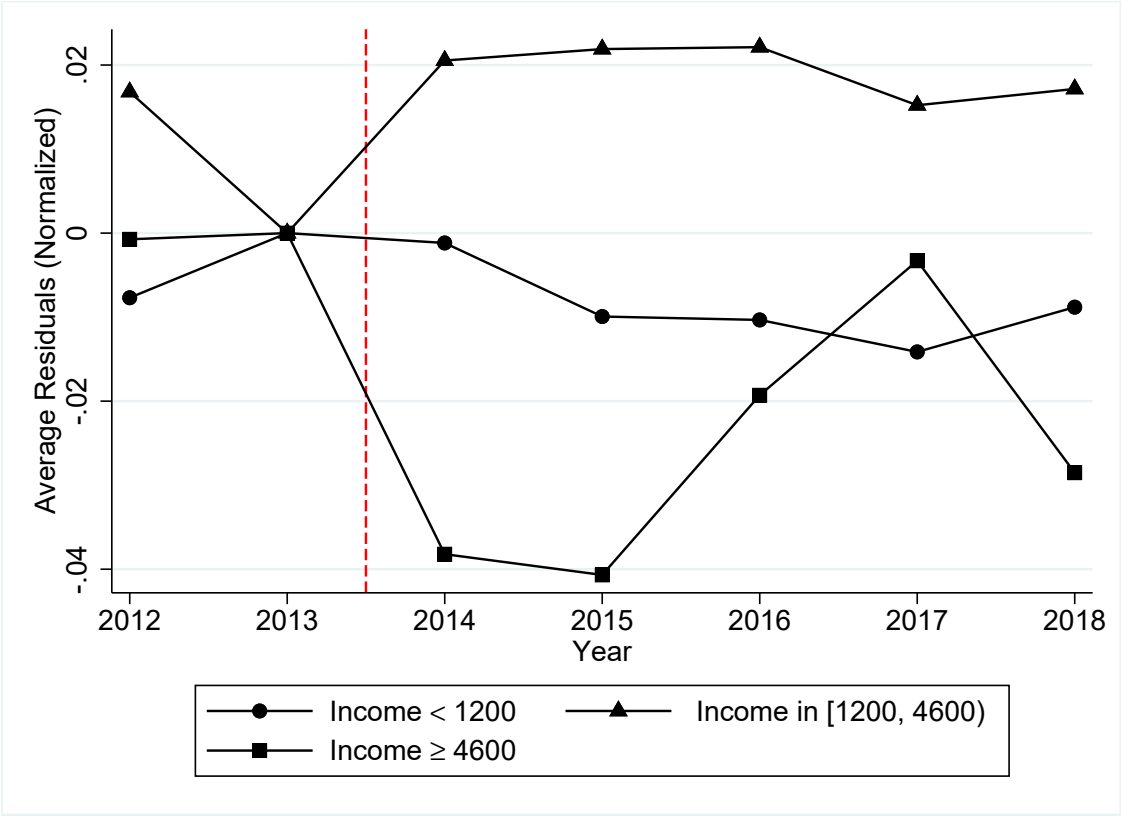

Figure 3: Average Residuals Grouped by Year and Tax-Reform Benefit Group (Extensive Margin)

Table 2: Main Results: Intensive- and Extensive-Margin Elasticity

	(1)	(2)	(3)	(4)	(5)
Intensive-Margin Elasticity					
ln(giving price)	-0.593***	-0.838***	-1.016***	-0.893***	-0.904***
	(0.203)	(0.212)	(0.232)	(0.243)	(0.248)
ln(auunaul taxable income)	2.015***	1.562**	1.445**	1.528**	1.571**
	(0.675)	(0.655)	(0.647)	(0.651)	(0.653)
N	11637	11637	11637	11637	11637
R-sq	0.006	0.009	0.012	0.013	0.034
Extensive-Margin Elasticity					
ln(giving price)	-0.257***	-0.288***	-0.273***	-0.237***	-0.267***
	(0.046)	(0.048)	(0.052)	(0.052)	(0.051)
ln(auunaul taxable income)	1.175***	1.124***	1.125***	1.139***	1.102***
	(0.223)	(0.223)	(0.223)	(0.224)	(0.220)
Implied price elasiticity	-1.264***	-1.418***	-1.343***	-1.167***	-1.312***
	(0.226)	(0.237)	(0.256)	(0.256)	(0.253)
Implied income elasticity	5.778***	5.527***	5.531***	5.600***	5.420***
	(1.099)	(1.097)	(1.099)	(1.100)	(1.080)
Individual FE	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y
Age	N	Y	Y	Y	Y
Year X Education	N	N	Y	Y	Y
Year X Gender	N	N	N	Y	Y
Year X Resident Area	N	N	N	N	Y
N	53269	53269	53267	53267	53267
R-sq	0.008	0.009	0.009	0.010	0.019

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. When controlling age, we alson include its squared term. The implied extensive-marign price elasticity is evaluated at the sample mean of D_{ijt}.

Table 3: Last Price Elasticity: Panel IV

	(1)	(2)	(3)	(4)	(5)
ln(last giving price)	-2.421***	-2.536***	-2.750***	-2.529***	-2.650***
	(0.204)	(0.216)	(0.233)	(0.231)	(0.229)
ln(auunaul taxable income)	5.258***	5.071***	4.981***	5.058***	4.910***
	(0.961)	(0.961)	(0.959)	(0.961)	(0.948)
Individual FE	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y
Age	N	Y	Y	Y	Y
Year X Education	N	N	Y	Y	Y
Year X Gender	N	N	N	Y	Y
Year X Resident Area	N	N	N	N	Y
F-statistics of IV	149708.36	133463.98	122042.55	119684.05	115742.55
N	52304	52304	52302	52302	52302

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The instumental variable is the first giving price in year t. When controlling age, we alson include its squared term.

3.1. National Survey of Tax and Benefit (NaSTaB)

3.2. Time Series of Chariable Giving

3.3. Summary Statistics

3.4. What is Giving Price?

3.5. Determination of Tax Amount

3.6. Derive Giving Price

3.7. Construct Giving Price

3.8. Income Distribution and Giving Price

3.9. Empirical Strategy

3.10. Intensive Margin and Extensive Margin

4. Main Results

4.1. Price and Income Elasticity

4.2. Robustness Check

5. Governement Efficient and Price Elasticity

Placeholder

Table 4: Intensive- and Extensive-Margin Last Price Elasticity: Panel IV

	(1)	(2)	(3)	(4)	(5)
Intensive-Margin Elasticity					
ln(last giving price)	-0.898***	-0.961***	-1.197***	-0.998***	-1.074***
	(0.271)	(0.271)	(0.307)	(0.325)	(0.332)
ln(auunaul taxable income)	2.023***	1.638**	1.460**	1.530**	1.572**
	(0.694)	(0.678)	(0.667)	(0.670)	(0.667)
F-statistics of IV	8861.30	8893.12	7522.05	6585.00	6426.96
N	10672	10672	10672	10672	10672
Extensive-Margin Elasticity					
ln(last giving price)	-0.623***	-0.630***	-0.644***	-0.593***	-0.619***
	(0.046)	(0.049)	(0.053)	(0.052)	(0.052)
ln(auunaul taxable income)	1.125***	1.113***	1.103***	1.121***	1.090***
	(0.221)	(0.223)	(0.223)	(0.223)	(0.220)
Implied last price elasiticity	-3.063***	-3.100***	-3.167***	-2.917***	-3.046***
	(0.227)	(0.240)	(0.259)	(0.258)	(0.254)
Implied income elasticity	5.532***	5.472***	5.426***	5.513***	5.361***
	(1.088)	(1.096)	(1.096)	(1.098)	(1.082)
Individual FE	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y
Age	N	Y	Y	Y	Y
Year X Education	N	N	Y	Y	Y
Year X Gender	N	N	N	Y	Y
Year X Resident Area	N	N	N	N	Y
F-statistics of IV	149708.36	133463.98	122042.55	119684.05	115742.55
N	52304	52304	52302	52302	52302

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The instumental variable is the first giving price in year t. When controlling age, we alson include its squared term. The implied extensive-marign price elasticity is evaluated at the sample mean of D_{ijt}.

Table 5: Elasticity with Short-Period Data

	After 2012		2013 and 2014	
	(1)	(2)	(3)	(4)
ln(giving price)	-1.014***	-1.286***	-1.398***	-1.686***
	(0.255)	(0.290)	(0.289)	(0.338)
ln(auunaul taxable income)	5.108***	4.743***	4.013**	3.035
	(1.009)	(0.990)	(1.948)	(1.992)
Individual FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Other Controls	N	Y	N	Y
N	45994	45992	14893	14893
R-sq	0.009	0.018	0.013	0.024

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. Other controls are age (its squared value), the interaction between year dummies and education dummies, the interaction between year dummies and gender dummies, and the interaction between year dummies and resident area.

Table 6: Intensive- and Extensive-Margin Elasticity with Short-Period Data

	After 2012		2013 and 2014	
	(1)	(2)	(3)	(4)
Intensive-Margin Elasticity				
ln(giving price)	-0.647***	-1.129***	-0.394	-0.712**
	(0.236)	(0.291)	(0.310)	(0.363)
ln(auunaul taxable income)	1.943***	1.714***	1.440	1.047
	(0.662)	(0.649)	(2.975)	(3.072)
N	10158	10158	2922	2922
R-sq	0.006	0.034	0.004	0.046
Extensive-Margin Elasticity				
ln(giving price)	-0.235***	-0.269***	-0.331***	-0.383***
	(0.058)	(0.065)	(0.065)	(0.076)
ln(auunaul taxable income)	1.093***	1.024***	0.801*	0.574
	(0.230)	(0.226)	(0.428)	(0.447)
Implied price elasiticity	-1.136***	-1.300***	-1.845***	-2.131***
	(0.279)	(0.314)	(0.364)	(0.422)
Implied income elasticity	5.287***	4.954***	4.457*	3.196
	(1.114)	(1.094)	(2.381)	(2.488)
Individual FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Other Controls	N	Y	N	Y
N	45994	45992	14893	14893
R-sq	0.008	0.018	0.013	0.022

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. Other controls are age (its squared value), the interaction between year dummies and education dummies, the interaction between year dummies and gender dummies, and the interaction between year dummies and resident area. The implied extensive-marign price elasticity is evaluated at the sample mean of D_{ijt}.

Table 7: Estimation of Elasticity: k-difference model

lag k	$k=1$	$k=2$	$k=3$
	(1)	(2)	(3)
Overall Elasticity			
Lagged difference of first price (log)	-1.894***	-2.170***	-1.752***
	(0.389)	(0.355)	(0.346)
Lagged difference of annual income (log)	2.737***	4.685***	5.307***
	(1.042)	(1.141)	(1.174)
N	49014	46610	44205
R-sq	0.010	0.015	0.015
Intensive-Margin Elasticity			
Lagged difference of first price (log)	-1.854**	-2.282***	-2.163***
	(0.763)	(0.621)	(0.550)
Lagged difference of annual income (log)	2.229	4.675***	5.582**
	(1.715)	(1.791)	(2.178)
Individual FE	Y	Y	Y
Time FE	Y	Y	Y
Other Controls	Y	Y	Y
N	10939	10505	10043
R-sq	0.066	0.073	0.055

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The lagged difference of first price (log) is $\ln(\text{Price}^k_{ijt}) - \ln(\text{Price}_{ij(t-k)})$, where Price^k_{ijt} calculates the giving price under the tax system in year t, using annual taxable income in year $t-k$, $\text{Income}_{ij(t-k)}$. The lagged of annual income (log) is $\ln(\text{Income}_{ijt}) - \ln(\text{Income}_{ij(t-k)})$. Other controls are lagged difference of age, lagged difference of squared age, the interaction between year dummies and education dummies, the interaction between year dummies and gender dummies, and the interaction between year dummies and resident area.

References