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

Placeholder

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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Email address: vge008kh@stundent.econ.osaka-u.ac.jp (Hiroki Kato)

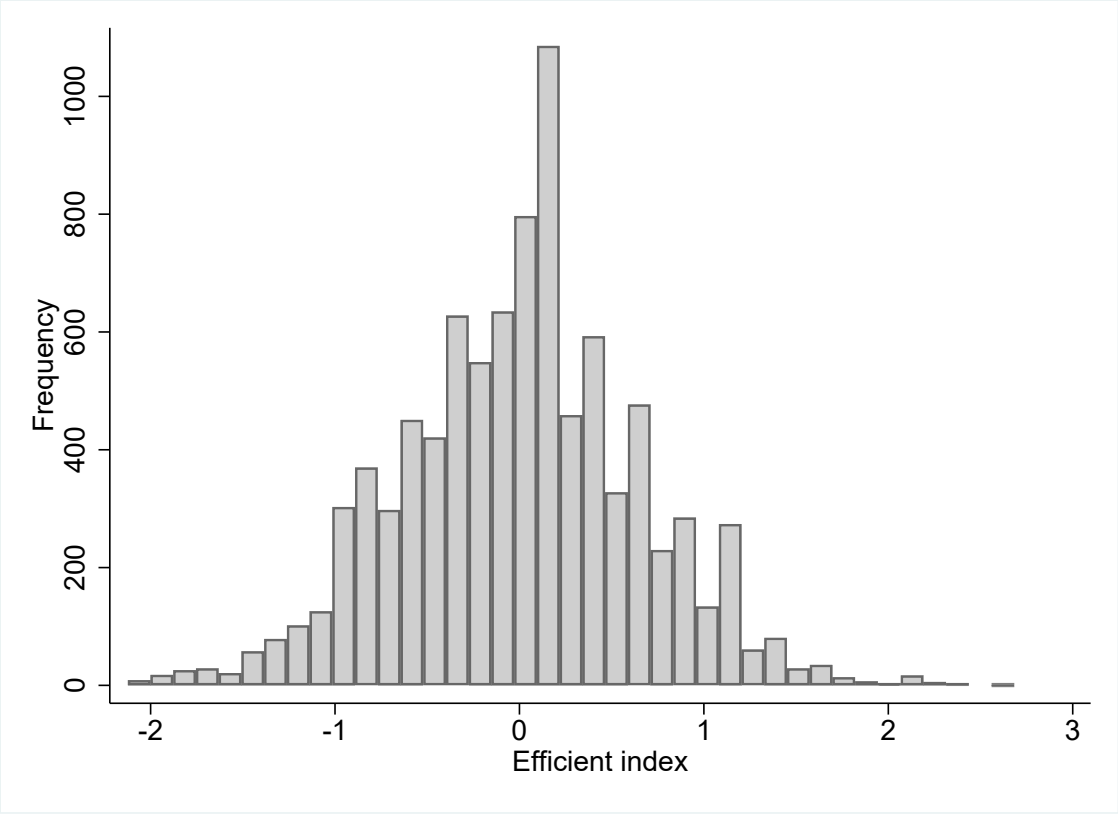

Figure 1: Histogram of Efficient Index

Table 1: Heterogenous Elasticity by Perceived Government Efficiency

	Overall	Extensive	Intensive
	(1)	(2)	(3)
ln(giving price)	-1.356***	-0.284***	-0.952***
	(0.336)	(0.076)	(0.334)
ln(giving price) X 2Q Efficient Group	-0.032	-0.059	0.292
	(0.423)	(0.098)	(0.489)
ln(giving price) X 3Q Efficient Group	0.353	0.095	-0.285
	(0.417)	(0.097)	(0.545)
ln(auunaul taxable income)	4.943***	1.104***	1.589**
	(0.959)	(0.222)	(0.657)
Implied price elasiticity (1Q efficient group)	-1.356***	-1.396***	-0.952***
	(0.336)	(0.374)	(0.334)
Implied price elasiticity (2Q efficient group)	-1.388***	-1.686***	-0.661*
	(0.330)	(0.378)	(0.394)
Implied price elasiticity (3Q efficient group)	-1.002***	-0.930**	-1.237***
	(0.327)	(0.374)	(0.468)
Implied income elasticity	4.943***	5.429***	1.589**
	(0.959)	(1.093)	(0.657)
Individual FE	Y	Y	Y
Time FE	Y	Y	Y
Other Controls	Y	Y	Y
N	50455	50455	11327
R-sq	0.020	0.020	0.034

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The 2Q (3Q) Efficient Group is a dummy varaible taking 1 if individual i belongs to the second (third) quanitle of efficient index. 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-margin elasticity is evaluated at the sample mean of D_{ijt}.

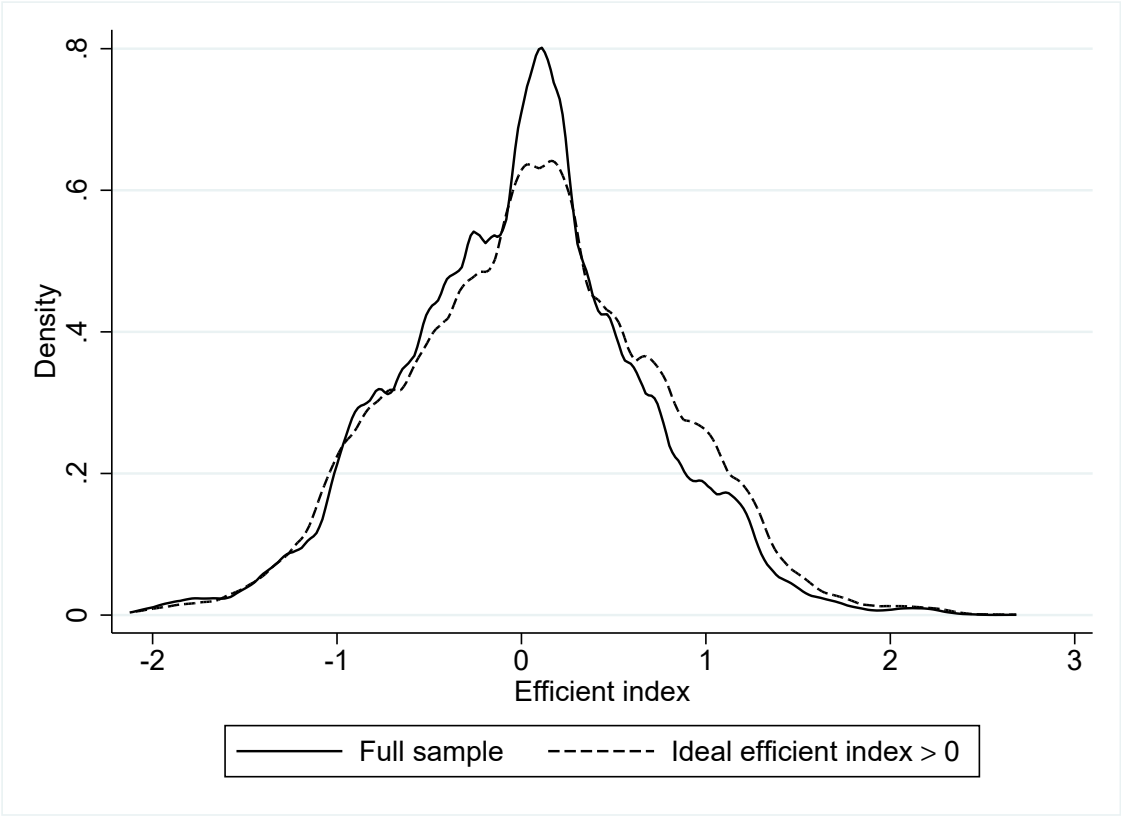

Figure 2: Density of Efficient Index Using those whose ideal efficient index > 0

Table 2: Heterogenous Elasticity Using Those whose Ideal Efficient Index > 0

	Overall	Extensive	Intensive
	(1)	(2)	(3)
ln(giving price)	-1.831***	-0.316***	-1.303**
	(0.538)	(0.115)	(0.571)
ln(giving price) X 2Q Efficient Group	0.339	0.045	0.308
	(0.657)	(0.146)	(0.807)
ln(giving price) X 3Q Efficient Group	1.295**	0.237*	0.236
	(0.586)	(0.135)	(0.834)
ln(auunaul taxable income)	5.686***	1.202***	3.225*
	(1.272)	(0.273)	(1.880)
Implied price elasiticity (1Q efficient group)	-1.831***	-1.555***	-1.303**
	(0.538)	(0.565)	(0.571)
Implied price elasiticity (2Q efficient group)	-1.492***	-1.335**	-0.995
	(0.505)	(0.561)	(0.622)
Implied price elasiticity (3Q efficient group)	-0.536	-0.392	-1.067
	(0.416)	(0.500)	(0.680)
Implied income elasticity	5.686***	5.913***	3.225*
	(1.272)	(1.344)	(1.880)
Individual FE	Y	Y	Y
Time FE	Y	Y	Y
Other Controls	Y	Y	Y
N	23366	23366	5004
R-sq	0.020	0.019	0.057

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The 2Q (3Q) Efficient Group is a dummy varaible taking 1 if individual i belongs to the second (third) quanitle of efficient index. 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. We drop units whose the ideal efficient index is less than or equal to zero. The implied extensive-margin elasticity is evaluated at the sample mean of D_{ijt}.

Table 3: Heterogenous Last Price Elasticity: Panel IV

	Full Sample			Ideal Efficient Index > 0		
	Overall	Extensive	Intensive	Overall	Extensive	Intensive
	(1)	(2)	(3)	(4)	(5)	(6)
ln(last giving price)	-2.604***	-0.586***	-1.166***	-2.984***	-0.579***	-1.681**
	(0.342)	(0.077)	(0.438)	(0.551)	(0.116)	(0.778)
ln(last giving price) X 2Q Efficient Group	-0.272	-0.104	0.043	-0.108	-0.063	0.239
	(0.417)	(0.095)	(0.591)	(0.645)	(0.141)	(1.019)
ln(last giving price) X 3Q Efficient Group	-0.010	-0.038	0.111	0.894	0.056	1.285
	(0.420)	(0.096)	(0.709)	(0.588)	(0.132)	(1.071)
ln(auunaul taxable income)	4.892***	1.087***	1.597**	5.313***	1.141***	2.743
	(0.958)	(0.222)	(0.670)	(1.282)	(0.277)	(1.947)
Implied last price elasiticity (1Q efficient group)	-2.604***	-2.883***	-1.166***	-2.984***	-3.097***	-1.681**
	(0.342)	(0.377)	(0.438)	(0.551)	(0.621)	(0.778)
Implied last price elasiticity (2Q efficient group)	-2.876***	-3.395***	-1.122**	-3.092***	-3.432***	-1.442*
	(0.318)	(0.362)	(0.488)	(0.491)	(0.583)	(0.776)
Implied last price elasiticity (3Q efficient group)	-2.614***	-3.071***	-1.055*	-2.091***	-2.796***	-0.396
	(0.328)	(0.371)	(0.639)	(0.414)	(0.533)	(0.892)
Implied income elasticity	4.892***	5.345***	1.597**	5.313***	6.097***	2.743
	(0.958)	(1.094)	(0.670)	(1.282)	(1.481)	(1.947)
Individual FE	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
Other Controls	Y	Y	Y	Y	Y	Y
N	49575	49575	10447	22974	22974	4612

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The 2Q (3Q) Efficient Group is a dummy varaible taking 1 if individual i belongs to the second (third) quanitle of efficient index. 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 instumental variables are the first giving price in year t and its interaction with the 2Q (3Q) Efficient Group. We drop units whose the ideal efficient index is less than or equal to zero in column (4)-(6). The implied extensive-margin elasticity is evaluated at the sample mean of D_{ijt}.

Table 4: Heterogenous Price Elasticity with Data after 2012

	Full Sample			Ideal Efficient Index > 0		
	Overall	Extensive	Intensive	Overall	Extensive	Intensive
	(1)	(2)	(3)	(4)	(5)	(6)
ln(giving price)	-1.116***	-0.197**	-1.175***	-1.526**	-0.187	-1.301*
	(0.425)	(0.096)	(0.380)	(0.650)	(0.146)	(0.713)
ln(giving price) X 2Q Efficient Group	-0.499	-0.198	0.164	0.064	-0.090	-0.094
	(0.544)	(0.124)	(0.558)	(0.863)	(0.192)	(0.974)
ln(giving price) X 3Q Efficient Group	-0.125	-0.060	-0.167	0.448	-0.036	0.197
	(0.530)	(0.124)	(0.630)	(0.733)	(0.175)	(0.941)
ln(auunaul taxable income)	4.777***	1.034***	1.757***	6.126***	1.239***	2.903
	(1.002)	(0.229)	(0.652)	(1.414)	(0.305)	(2.188)
Implied price elasiticity (1Q efficient group)	-1.116***	-0.951**	-1.175***	-1.526**	-1.000	-1.301*
	(0.425)	(0.464)	(0.380)	(0.650)	(0.780)	(0.713)
Implied price elasiticity (2Q efficient group)	-1.615***	-1.910***	-1.011**	-1.462**	-1.480*	-1.394*
	(0.431)	(0.470)	(0.455)	(0.730)	(0.835)	(0.755)
Implied price elasiticity (3Q efficient group)	-1.240***	-1.242***	-1.342**	-1.078*	-1.193*	-1.103
	(0.413)	(0.470)	(0.549)	(0.550)	(0.722)	(0.739)
Implied income elasticity	4.777***	4.998***	1.757***	6.126***	6.622***	2.903
	(1.002)	(1.107)	(0.652)	(1.414)	(1.632)	(2.188)
Individual FE	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
Other Controls	Y	Y	Y	Y	Y	Y
N	44115	44115	9967	20441	20441	4419
R-sq	0.018	0.019	0.034	0.018	0.018	0.061

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The 2Q (3Q) Efficient Group is a dummy varaible taking 1 if individual i belongs to the second (third) quanitle of efficient index. 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. We drop units whose the ideal efficient index is less than or equal to zero in column (4)-(6). The implied extensive-margin elasticity is evaluated at the sample mean of D_{ijt}.

Table 5: Heterogenous Price Elasticity: k-difference Model

	Overall Elasticity			Intensive-Margin Elasticity		
Lag k	$k=1$	$k=2$	$k=3$	$k=1$	$k=2$	$k=3$
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged difference of first price (log)	-1.778***	-2.884***	-2.467***	-1.401	-2.320**	-2.549***
	(0.553)	(0.520)	(0.509)	(1.074)	(0.970)	(0.788)
X 2Q Efficient Group	-0.204	0.970	0.755	-0.113	-0.035	0.942
	(0.747)	(0.687)	(0.648)	(1.548)	(1.331)	(1.128)
X 3Q Efficient Group	-0.346	1.316**	1.440**	-1.439	0.218	0.302
	(0.704)	(0.644)	(0.624)	(1.610)	(1.319)	(1.196)
Lagged difference of annual income (log)	2.685**	4.641***	5.274***	2.208	4.849***	5.471**
	(1.045)	(1.149)	(1.185)	(1.712)	(1.816)	(2.189)
Implied price elasiticity (1Q efficient group)	-1.778***	-2.884***	-2.467***	-1.401	-2.320**	-2.549***
	(0.553)	(0.520)	(0.509)	(1.074)	(0.970)	(0.788)
Implied price elasiticity (2Q efficient group)	-1.982***	-1.914***	-1.712***	-1.515	-2.355**	-1.607*
	(0.611)	(0.546)	(0.508)	(1.230)	(0.986)	(0.885)
Implied price elasiticity (3Q efficient group)	-2.123***	-1.568***	-1.027**	-2.840**	-2.102**	-2.248**
	(0.550)	(0.494)	(0.485)	(1.317)	(0.995)	(0.973)
Implied income elasticity	2.685**	4.641***	5.274***	2.208	4.849***	5.471**
	(1.045)	(1.149)	(1.185)	(1.712)	(1.816)	(2.189)
Individual FE	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
Other Controls	Y	Y	Y	Y	Y	Y
N	46661	44448	42198	10675	10257	9811
R-sq	0.010	0.016	0.015	0.066	0.073	0.055

Notes: * $p<0.1$, ** $p<0.05$, *** $p<0.01$. Standard errors are clustered at individual level. The 2Q (3Q) Efficient Group is a dummy varaible taking 1 if individual i belongs to the second (third) quanitle of efficient index. 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.

Table 6: Heterogenous Price Elasticity: k-difference Model Using Those whose Ideal Efficient Index > 0

	Overall Elasticity			Intensive-Margin Elasticity		
Lag k	$k=1$	$k=2$	$k=3$	$k=1$	$k=2$	$k=3$
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged difference of first price (log)	-2.215**	-3.269***	-2.647***	-0.841	-4.928***	-2.227
	(0.872)	(0.794)	(0.821)	(1.936)	(1.780)	(1.588)
X 2Q Efficient Group	0.078	0.900	0.604	-0.752	1.312	-0.954
	(1.233)	(1.070)	(0.972)	(2.841)	(2.329)	(1.992)
X 3Q Efficient Group	-0.666	2.307***	2.242**	-3.101	3.154	2.071
	(1.024)	(0.894)	(0.875)	(2.646)	(2.219)	(2.081)
Lagged difference of annual income (log)	3.048**	5.197***	5.749***	3.692	6.587**	8.671**
	(1.319)	(1.564)	(1.419)	(4.077)	(3.120)	(3.406)
Implied price elasiticity (1Q efficient group)	-2.215**	-3.269***	-2.647***	-0.841	-4.928***	-2.227
	(0.872)	(0.794)	(0.821)	(1.936)	(1.780)	(1.588)
Implied price elasiticity (2Q efficient group)	-2.137**	-2.369***	-2.042***	-1.592	-3.616**	-3.182**
	(1.064)	(0.869)	(0.725)	(2.238)	(1.656)	(1.336)
Implied price elasiticity (3Q efficient group)	-2.881***	-0.962	-0.404	-3.942*	-1.775	-0.156
	(0.795)	(0.633)	(0.590)	(2.032)	(1.514)	(1.461)
Implied income elasticity	3.048**	5.197***	5.749***	3.692	6.587**	8.671**
	(1.319)	(1.564)	(1.419)	(4.077)	(3.120)	(3.406)
Individual FE	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
Other Controls	Y	Y	Y	Y	Y	Y
N	21583	20516	19422	4686	4474	4245
R-sq	0.012	0.020	0.020	0.074	0.088	0.091

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at individual level. The 2Q (3Q) Efficient Group is a dummy varaible taking 1 if individual i belongs to the second (third) quanitle of efficient index. 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. We drop units whose the ideal efficient index is less than or equal to zero.

References