The Influence of Reference Group Contributions on a Family's Charitable Giving

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Economics of Charity

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Peer Effects

Outline:

1. Quick introduction

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2. My economic model

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3. The data / estimation

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1. Quick introduction
2. My economic model
3. The data / estimation
4. Results and Conclusion

Main Contribution:

I provide evidence that charitable contributions made by a family's reference group have a positive effect on the amount that the family donates.

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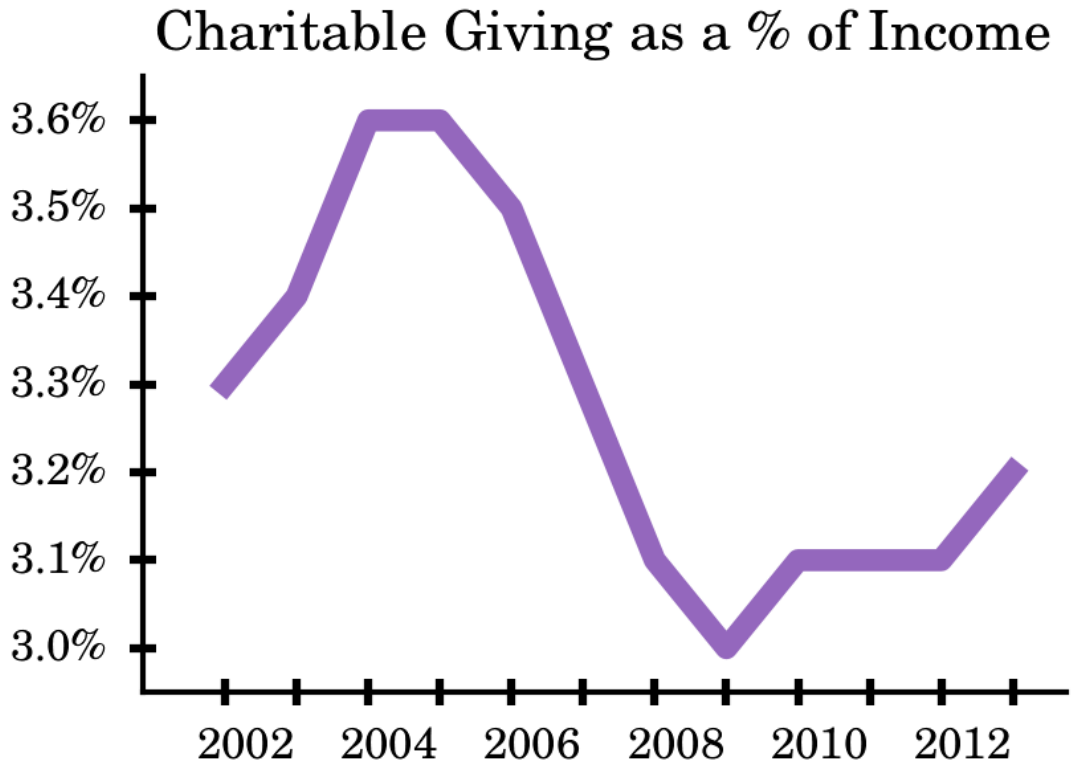

Data Source: Internal Revenue Service (2000-2012)

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   - Tax deductions are offered for charitable contributions, so, arguably it is important to understand why people give to charity.
   - The government provides many of the same goods and services as charities, so, arguably it is important to understand how much charity will be provided.

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3. Relevance to the economics literature

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- Interdependent values: Frank (2005)
- Reference Group Theory: Merton (1968), Frank (2005)

Economic Model:

A family i at time t seeks to maximize their utility

$$U_{it} = U(C_{it}, D_{it}, \bar{R}_{it})$$

by choosing consumption C_{it} and donation amount D_{it}, subject to their budget

$$C_{it} + D_{it} = Y_{it} - T_{it}(Y_{it} - D_{it}),$$

where

Y_{it} is their total family income,

T_{it} is their tax rate,

$\bar{R}_{it}$ is the average amount contributed by the family's reference group.

The budget constraint can be written as

$$1C_{it} + (1 - T_{it})D_{it} = Y_{it} - T_{it}(Y_{it}).$$

"Price of consumption"

"Price of giving"

I solve the maximization problem for a donation function

$$D_{it}^{*}(Y_{it}, T_{it}, R_{it}),$$

and assume a functional form

$$D_{it}^{*} = \alpha + X_{it}\beta + \lambda \bar{R}_{it} + \mu_{it}, \tag{1}$$

or

$$D_{it}^{*} = A X_{it}^{\gamma} \bar{R}_{it}^{\rho} e^{\epsilon_{it}}, \tag{2}$$

where

λ is the change in family donations from a \$1 increase in $\bar{R}_{it}$,

ρ is the % change in family donations from a 1% change in $\bar{R}_{it}$.

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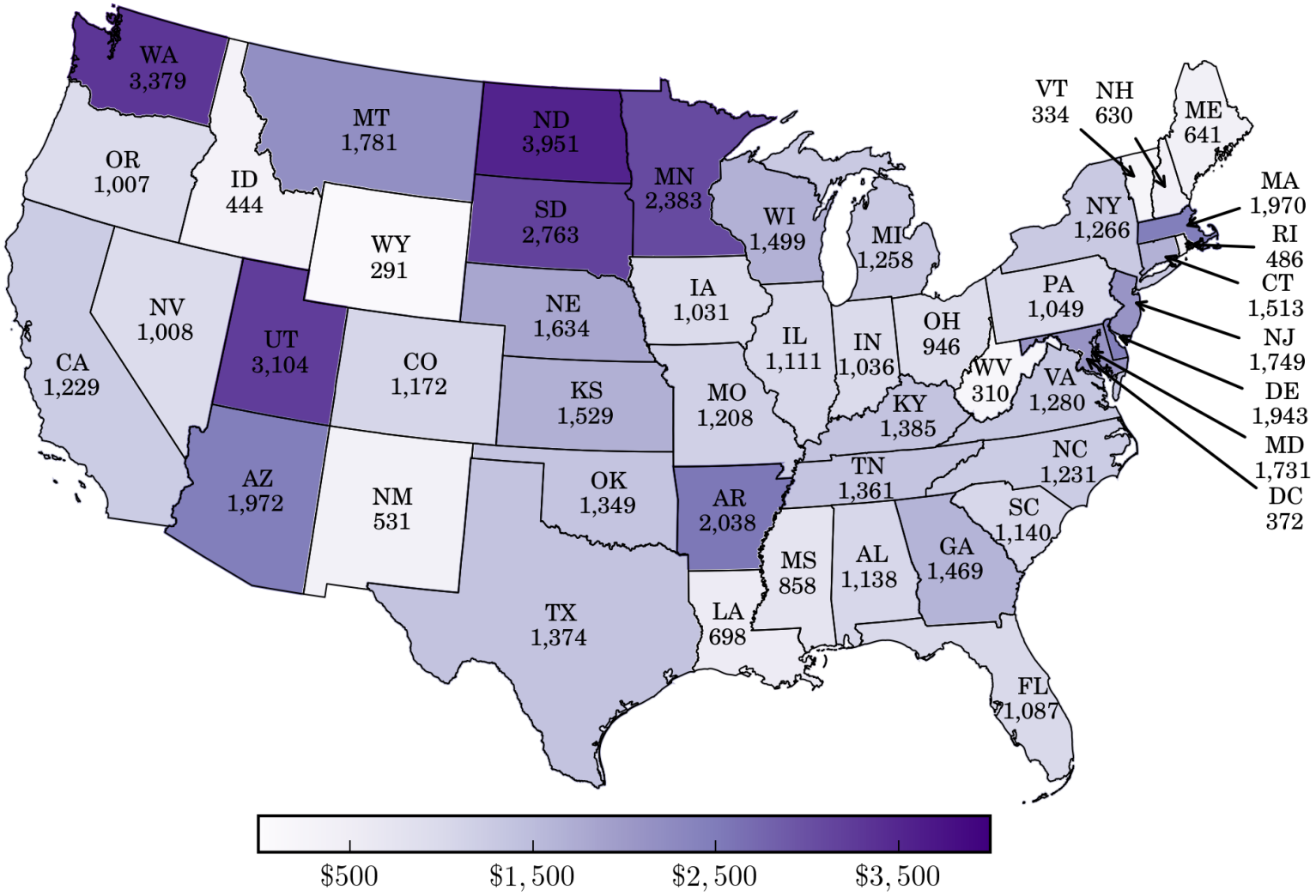
  - Total charity D_{it}: Donations to all religious, medical, cultural, educational, environmental, or any other organizations that provide help to people in need.
  - Average reference group contribution R_{it}: Average donation made by families in the same industry and the same or neighboring state as the family.

Average Annual Charitable Giving by State



Data Source: PSID 2002-2012

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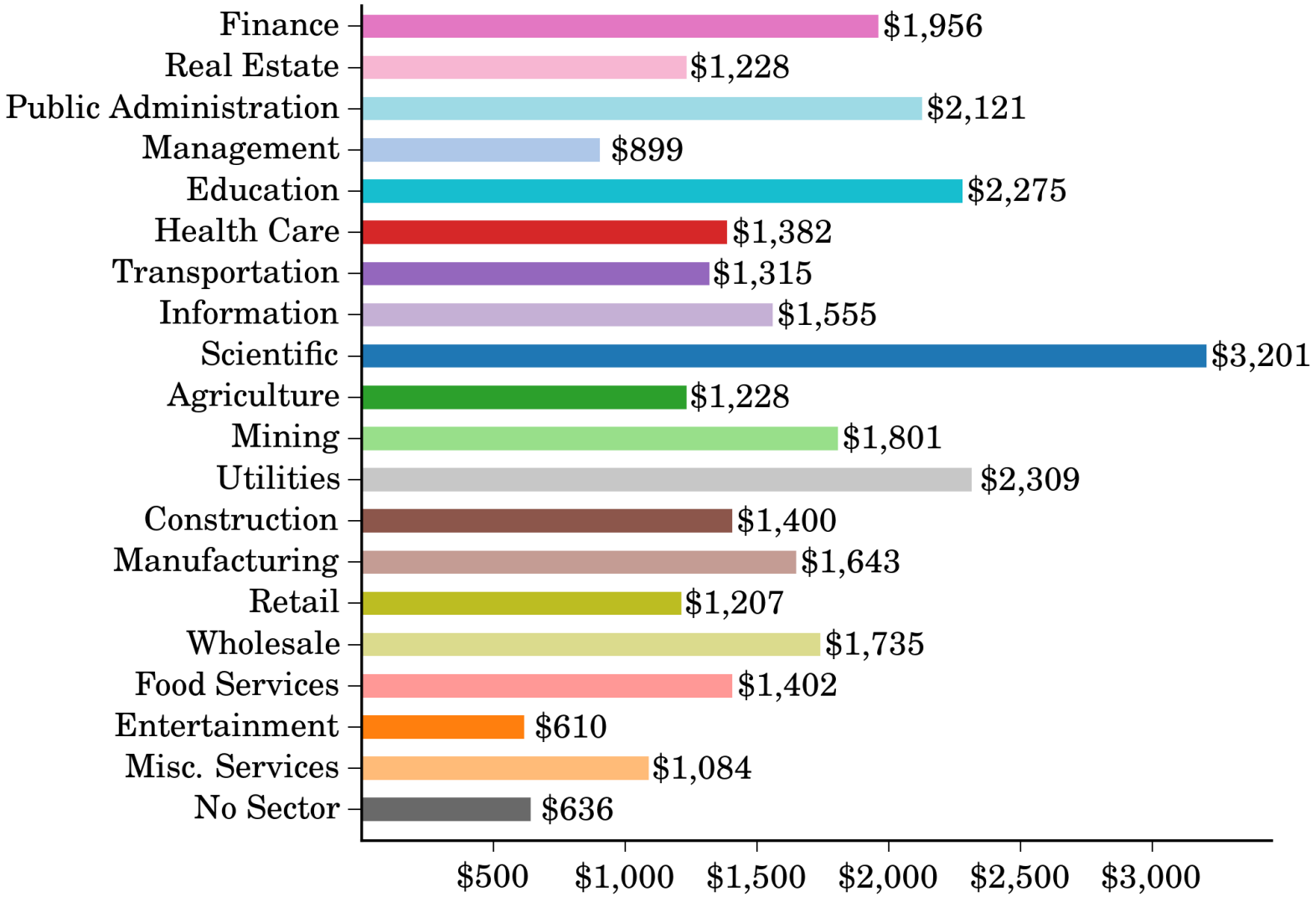

Data Source: PSID 2002-2012

Percent of the Sample that Donates	
Overall	55%
By family income:	
Greater than $\$250,000$	91%
$\$100,000$ to $\$250,000$	85%
$\$60,000$ to $\$99,999$	69%
$\$25,000$ to $\$59,999$	51%
Less than $\$25,000$	36%

Data Source: PSID 2002-2012

Percent of Donators that Itemize	
Overall	43%
By family income:	
Greater than $\$250,000$	77%
$\$100,000$ to $\$250,000$	69%
$\$60,000$ to $\$99,999$	48%
$\$25,000$ to $\$59,999$	29%
Less than $\$25,000$	22%

Data Source: PSID 2002-2012

For family i at time t, their price of giving \$1 is

$$P_{it} = \begin{cases} 1, & \text{if } i \text{ does not itemize deductions,} \\ 1 - f_{it}, & \text{if } i \text{ itemizes and state deductions not allowed,} \\ 1 - (f_{it} + s_{it}), & \text{if } i \text{ itemizes and state deductions allowed,} \end{cases}$$

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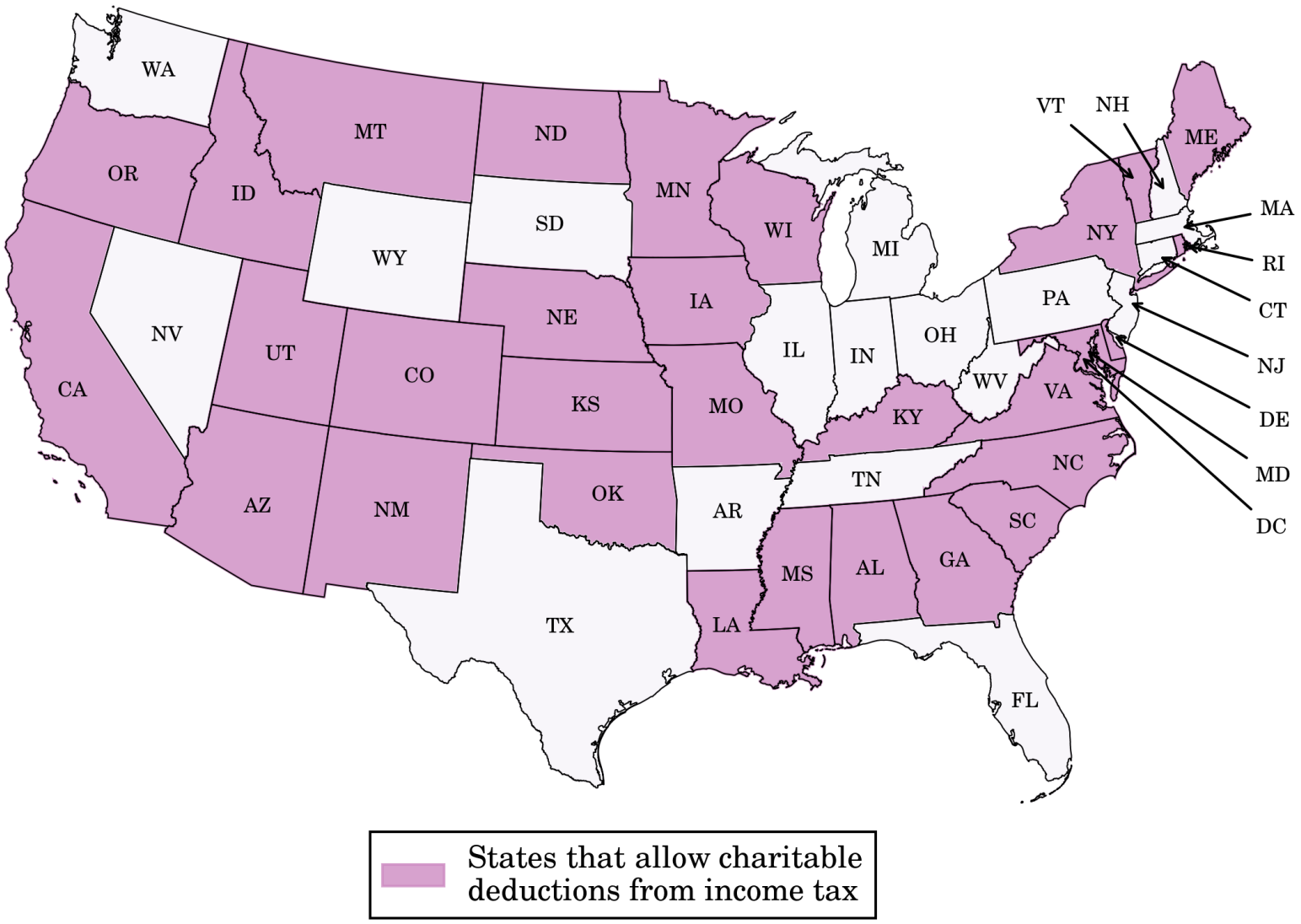
s_{it} is their state income tax rate.

"Changes in state tax identify changes in donations from external factors"

Average Price of the First Dollar Given	
Overall	\$0.93
By family income:	
Greater than \$250,000	\$0.72
\$100,000 to \$250,000	\$0.81
\$60,000 to \$99,999	\$0.90
\$25,000 to \$59,999	\$0.96
Less than \$25,000	\$0.98

Data Source: PSID 2002-2012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States that allow charitable deductions from income tax

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2. Controls
   - Demographic: Age, education, sex, marital status, number of children, religious affiliation, and homeowner status.
   - Economic: Total U.S. contributions, family income, and the price of giving.

Estimation Results

Model (1) : λ	
Dependent Variable	*Estimated Coefficient*
Total Charity	(OLS)
Independent Variable	
Average Reference Group Contribution	0.16^{**}
	(0.03)
R^2	0.19

Notes: Variables in *levels*. Standard errors in parentheses.
$**$ denotes significance at the 5% level.

Data Source: PSID 2002-2012

Estimation Results

Model (1) : λ		
Dependent Variable	*Estimated Coefficient*	
Total Charity	(OLS)	(IV)
Independent Variable		
Average Reference Group Contribution	0.16^{**}	1.03^{**}
	(0.03)	(0.43)
R^2	0.19	0.11

Notes: Variables in *levels*. Standard errors in parentheses. $**$ denotes significance at the 5% level.

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Estimation Results

Model (1) : λ		
Dependent Variable	*Estimated Coefficient*	
Total Charity	(OLS)	(IV)
Independent Variable		"Large difference!" ↓
Average Reference	0.16**	1.03**
Group Contribution	(0.03)	(0.43)
R^2	0.19	0.11

Notes: Variables in *levels*. Standard errors in parentheses.
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Estimation Results

Model (2): ρ	
Dependent Variable	*Estimated Coefficient*
Total Charity	(OLS)
Independent Variable	
Average Reference Group Contribution	0.08**
	(0.02)
R^2	0.25

Notes: Variables in *natural log*. Standard errors in parentheses. ** denotes significance at the 5% level.

Data Source: PSID 2002-2012

Estimation Results

Model (2): ρ		
Dependent Variable	*Estimated Coefficient*	
Total Charity	(OLS)	(IV)
Independent Variable		
Average Reference Group Contribution	0.08^{**}	1.08^{**}
	(0.02)	(0.35)
R^2	0.25	0.13

Notes: Variables in *natural log*. Standard errors in parentheses. $**$ denotes significance at the 5% level.

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Estimation Results

Model (2): ρ		
Dependent Variable	*Estimated Coefficient*	
Total Charity	(OLS)	(IV)
Independent Variable		"Still a large difference!"
Average Reference Group Contribution	0.08**	1.08**
	(0.02)	(0.35)
R^2	0.25	0.13

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Conclusions

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Donations are made for personal benefit.

Tax deductions for charitable contributions primarily benefit high income families.

Future Work:

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2. Spatial Econometrics

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3. Reciprocal Altruism

Main Takeaway:

Charitable contributions made by a family's reference group have a positive effect on the amount that the family donates.