

Informal recycling and social preferences: Evidence from household survey data in Vietnam

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Online Appendix

(Supplementary content)

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Figure S1: URENCO collection worker with a handcart



Figure S2: URENCO container placed along a street



Figure S3: Junk buyers in Hanoi



Figure S4: Junk buyers and a junk shop



Figure S5: Local trader specializing in used PET bottles

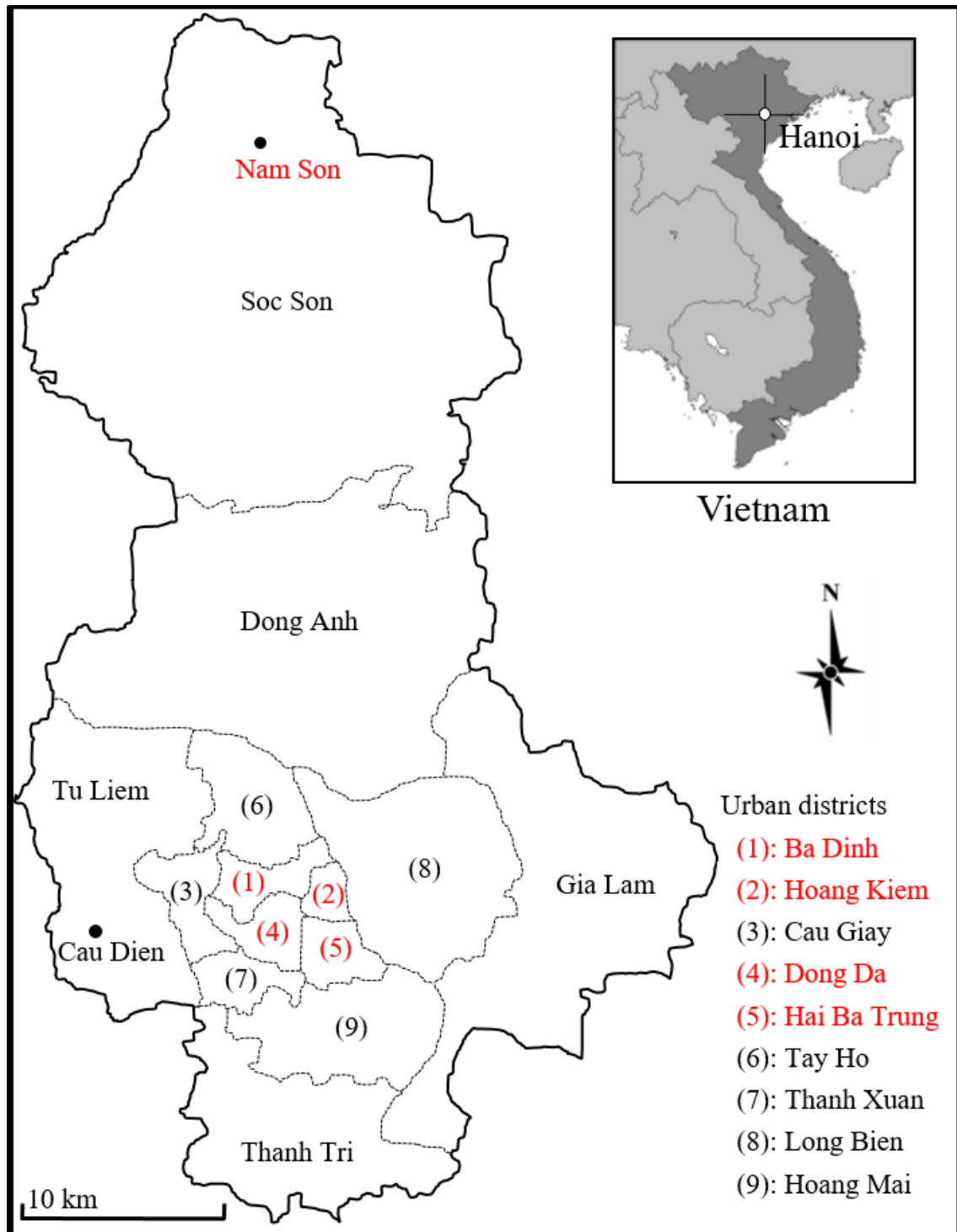


Figure S6: Four central districts of Hanoi

Notes: This figure shows our study sites which are colored in red. A dumpsite is located at Nam Son.

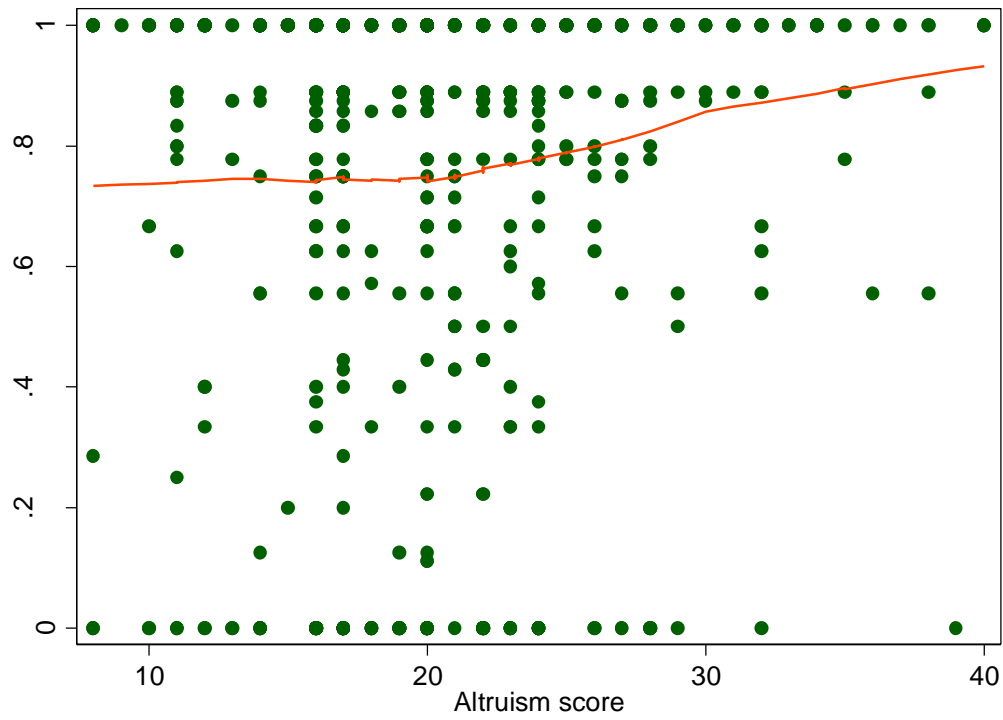


Figure S7: Non-parametric relationship between altruism and recycling

Notes: This figure plots the relationship between degree of altruism and recycling behavior. The vertical axis shows the share of recycled materials (y_i) and the horizontal axis shows the score of the SRA-scale. The solid curve displays a locally weighted scatterplot smoothing (Lowess) curve.

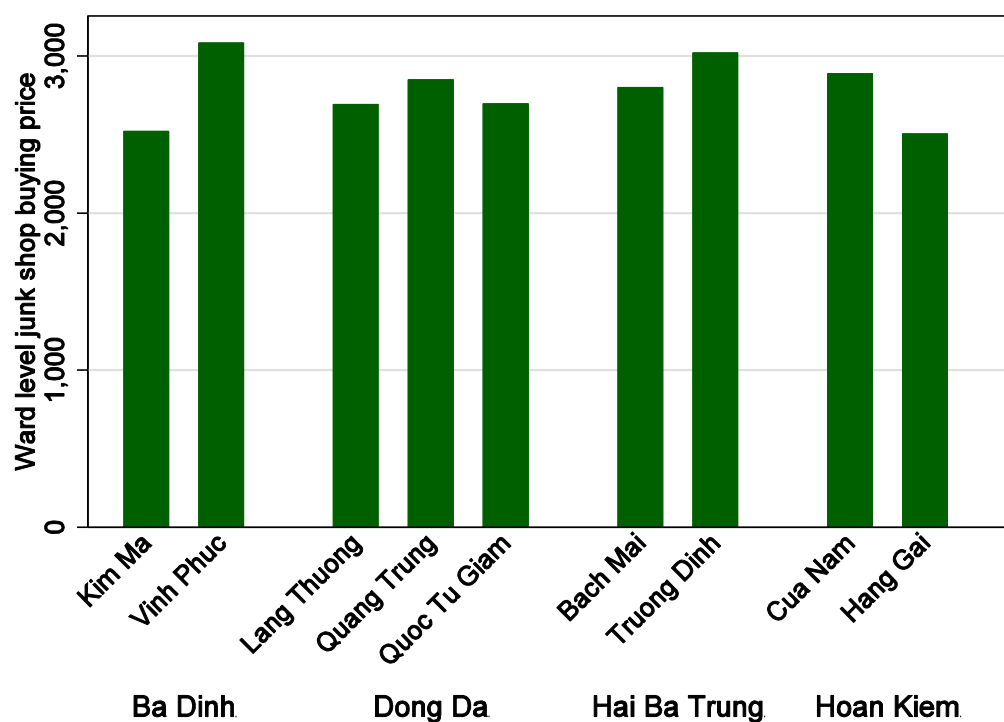


Figure S8: Ward-level price index of recyclable materials

Notes: This figure shows a ward-level price index of recyclable materials (p_w^{js}) by each ward. The unit of the index is VND/kg. Ten million (10,000) VND is equivalent to 0.47 USD as of October 2013.

The Survey on Waste Management Practices of Households at Hanoi, Vietnam (2013)

A “household” indicates all members of a common decision making unit (usually within one residence) that are sharing income and other resources. Ask the following questions about a person who was part of the household at least one month in the last 12 months.

HHID _____

District _____

Date of interview **DATE** (ddmmyyyy) _____

DIST _____

Starting time **STIME** _____ : _____

Code for **DIST**

1-Ba Dinh, 2-Hoan Kiem, 3-Dong da,
4-Hai Ba Trung.

Interviewed by **ENUM** _____

Name of the main respondent **RESP** _____

Ward _____

Date checked **CHECKD** (ddmmyyyy) _____

WARD _____

Checked by **SNUM** _____

Code for **WARD**

1-Vinh Phuc, 2-Kim Ma, 3-Cua Nam,
4-Hang Gai, 5-Quoc Tu Giam, 6-Lang Thuong,
7-Quang Trung, 8-Bach Mai, 9-Truong Dinh.

Date entered **ENTERD** (ddmmyyyy) _____

Entered by **DE** _____

HHID : _____

[Enumerator] If it is acceptable for you, please tell the address of this house and the phone number of you.

Mailing address:

Phone number: _____

Enumerator decides and chooses the housing type of this household.

APA _____ 1- Detached house, 2- Attached/Shared wall house, 3- Old apartment, 4- New apartment, 5- Tenement house, 6- Village,
7- Other (specify)_____.

Section 1. Demography

[Enumerator] Please tell general information of your household.

HH1

How many household members does your household have? If your household employs Oshin, please include her. **HH1** _____ members.

(Fill the Table 1 in the page 4 for the following 7 questions.)

HH2

What is the relationship of this person to the respondent? (Write the relationship, ex. “Husband,” in the row **HH2** of the Table 1.)

HH3

(Fill the row **HH3** using the below codes.)

HHID : _____

Code for HH3:

1- Husband/Wife, 2- Father/Mother, 3- Son/Daughter, 5- Grandparent, 6- Brother/Sister/Cousin/Brother-in-law/Sister-in-law, 7- Nephew/Niece, 8- Son/Daughter-in-law, 9- House keeper/cleaner (Oshin), 10- Others.

HH4

What is the sex of this person? (Fill 1 or 2 in the row **HH4**.)

HH5

How old is this person? (Fill the row **HH5**.)

HH6

What is the occupation of this person? (Fill the row **HH6**.)

HH7

What is the highest education grade of this person? (Fill the row **HH7**.)

Code for HH7:

1- Elementary school, 2- Secondary school, 3- High school, 4- University student, 5- Junior college/college student, 6- Bachelor degree (graduated University), 7- Master degree, 8- Doctorate,
9- Other (specify)_____.

HH8

What is the income of this person? (Fill the row **HH8** in VND per month.)

HH9

What is the total monthly income of your household? _____ VND per month.

HHID : _____

Table 1

Person ID		HH2	HH3	HH4	HH5	HH6	HH7	HH8
	Name	Relationship	Convert HH2 to codes using the references .	Sex 1- Male 2- Female	Age in years	Occupation	The highest education grade	Income (VND/month)
1	Respondent							
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

(Use an extra sheet if necessary.)

Section 2. Waste management practices

[Enumerator] For most of the questions in this survey, there are no right or wrong answers. We are simply interested in your daily behaviors.

WM1

Who is the main person who manages solid waste generated by your household? **WM1** _____

1- Household members. If yes, then specify who it is using the Person ID in the table in the page 2. **WM2** _____

2- Other (specify). _____

3- I do not know.

WM3

How does your household discard solid waste?

1- Discard to handcart, 2- Discard to pavement, 3- Discard into designated collection container, 4- Discard to a station (corner),

5- Other (specify)_____.

WM4

How do you manage waste of the following products?

Please answer by “Mix it with garbage and throw away,” “Separate it from garbage and SELL it to someone” or “Separate it from garbage and GIVE it to someone.” If your household does not consume (buy nor use) the product, please answer “We do not consume it.”

(Fill the Table 2 in the page 6 using the check mark.)

(Note that only one check for each product.)

Table 2

Product		1- Throw it	2- Sell it	3- Give it	4- Do not consume	Product		1- Throw it	2- Sell it	3- Give it	4- Do not consume
1	Cardboards					6	Nylon				
2	Newspapers					7	Metals				
3	Magazines					8	Glass bottles				
4	Notebooks or Books					9	Clear plastic bottles (PET)				
5	Photocopying or Printing papers					10	Other plastic bottles (PE and etc.)				

Example of products: 6 Nylon for nylon bags, 9 Clear plastic bottles (PET) for Lavie or Coke, 10 Other plastic bottles (PE and etc.) for Fish sources.

[For WM5 to WM8, ask if at least one check in Table 2 was in “Sell it” or “Give it.” This means this household either sells or gives recyclable waste, or both.]

WM5

To whom does your household sell and/or give waste of the above products? **(Multiple answers are acceptable.)**

(When you sell) **WM5 Option1** _____, (When you give) **WM5 Option2** _____.

1- Junk buyers, 2- Waste pickers, 3- Collection workers of URENCO, 4- House keeper/cleaner, 5- Your relatives, 6- Your neighbors, 7- Other (specify)_____, 8- I do not know.

[Ask if the answer to WM5 is more than one.]

WM6

HHID : _____

Who is the main person that you sell and/or give recyclable waste to?

(When you sell) **WM6 Option1** _____, (When you give) **WM6 Option2** _____.

1- Junk buyers, 2- Waste pickers, 3- Collection workers of URENCO, 4- House keeper/cleaner, 5- Your relatives, 6- Your neighbors,
7- Other (specify)_____, 8- I do not know.

WM7

How often do you sell and/or give recyclable waste?

(When you sell) **WM7 Option1** _____ per month, (When you give) **WM7 Option2** _____ per month

WM8

How much does your household earn from selling recyclable waste per month on average? **WM8** _____ **VND** per month.

Section 3. Junk buyers

[Enumerator] We would like to ask about junk buyers. Again, there are no right or wrong answers. We are simply interested in your opinions.

[Ask only if the respondent answered “Throw it” or “Do not consume” for all the products in the question WM4. This means this household does not separate any sellable waste from other garbage.]

JBV Does a junk buyer visit your house or the neighborhood? **JBV** _____ 1- Yes. 2- No. 3- I do not know.

[Enumerator] Please tell me your opinions on the following 2 statements using the category of “Strongly agree,” “Agree,” “No opinion,” “Disagree” and “Strongly agree.”

ENV

Junk buyers’ activities are contributing to improve the environment of Hanoi city.

HHID : _____

ENV _____ 1- Strongly agree, 2- Agree, 3- No opinion, 4- Disagree, 5- Strongly disagree.

PUB

Junk buyers' activities are contributing to save an expense of Hanoi city for waste management.

PUB _____ 1- Strongly agree, 2- Agree, 3- No opinion, 4- Disagree, 5- Strongly disagree.

HHID : _____

The survey for people who manage solid waste at Hanoi, Vietnam (2013)

1. Please fill the below basic information about you.

Name of the respondent _____

Mailing address:

Phone number: _____

2. We would like to play a kind of game. The following questions are a kind of psychological test. There are no right or wrong answers. We are simply interested in your past behaviors.

Please tell me the frequency of your past behaviors when you faced the following situations.

Read the situations for each question and please remember your past experiences.

Please answer the frequency using the categories “Never,” “Once,” “More than once,” “Often,” and “Very often.” Please check the columns you select.

For example, Q1 asks whether you have helped a stranger to lift a vehicle when she/he had failed. If you have many experiences of helping such people and you help those people every time you can, you might answer “Very often.” Then, check the fifth column of Q1.

Please fill in only one column for each question. Multiple answers for one question are not accepted.

	Situations	1- Never	2- Once	3- More than once	4- Often	5- Very often
Q1	I have helped a stranger to lift a vehicle when she/he had failed.					
Q2	I have given directions to a stranger.					
Q3	I have made change for a stranger.					
Q4	I have donated goods or clothes to a charity.					
Q5	I have done volunteer work for a charity.					
Q6	I have helped carry a stranger's belongings (books, parcels, etc.).					
Q7	I have returned money to a seller when he/she has undercharged me.					
Q8	I have voluntarily looked after a neighbor's pets or children.					

3. We are interested in your attitudes based on some hypothetical situations. Again, there are no right or wrong answers.

Please imagine three societies consisting of three people, including yourself, as summarized in the table below.

In Society 1, you are allocated 80,000 VND. On the contrary, Person A is allocated 90,000 VND, whereas Person B is allocated 40,000 VND. This society is endowed with 210,000 VND in total.

In Society 2, you are allocated 80,000 VND. In contrast to Society 1, however, Persons A and B are also allocated 80,000 VND each. This society is endowed with 240,000 VND in total.

In Society 3, you are allocated 100,000 VND. On the contrary, Person A is allocated 110,000 VND, whereas Person B is allocated 90,000 VND. This society is endowed with 300,000 VND in total.

Which society do you prefer?

Table

Allocation	Society 1	Society 2	Society 3
Person A	90,000	80,000	110,000
YOU	80,000	80,000	100,000
Person B	40,000	80,000	90,000
Total	210,000	240,000	300,000

Please fill the below using the figures 1 to 4.

Answer _____ 1- The society 1, 2- The society 2, 3- The society 3, 4- I do not know.

END

Thank you for your cooperation.