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Does poverty negate the impact of social norms on cheating?

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Supplementary Material for Does Poverty negate the impact of social norms on cheating?

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This file includes:

Appendix A: Sociodemographic/economic characteristics of participants

Appendix B: Instructions of the experiment and questionnaire

Appendix C: Detailed experimental procedure

- Set up
- Procedure
- Pilots

Appendices

Appendix A: Sociodemographic/economic characteristics of participants

Table A1. Sociodemographic/economic characteristics of participants

Characteristics	Before harvest group	After harvest group	Tests	P-value
Age (years)	49.28	50.40	t-test	$p = 0.21$
Female (%)	70.97	73.57	proportions test	$p = 0.51$
Education (years in school)	6.56	6.27	t-test	$p = 0.24$
No. of household members	4.58	4.50	t-test	$p = 0.61$
No. of working household members	2.32	2.44	t-test	$p = 0.20$
Multi-generational household (%) ¹	86.02	82.86	proportions test	$p = 0.35$
Married (%)	88.89	87.50	proportions test	$p = 0.69$
No. of children of the participants	2.47	2.45	t-test	$p = 0.85$
In debt (%)	90.32	89.29	proportions test	$p = 0.78$
The income boost (Thai Baht)	7204	7999	t-test	$p = 0.53$

Note: The table shows that before- and after-harvest groups have similar characteristics, i.e., they do not differ in age, gender, education, number of children, proportion of people being in debt and the income boost generated by harvest.

¹ Normally, in an agricultural family everyone who (still) can work will work, at least in their farms. So, only children or old people who are already retired do not work. From this, it follows that a household which contains non-working members is very likely multi-generational. Therefore, for the dummy of a multi-generational household, we calculated the difference between number of household members and number of working household members. The dummy takes a value of “1”, if the difference is positive and “0” if there is no difference.

Appendix B: Instructions of the experiment and questionnaire

B.1 Instructions of the experiment

Instructions

(Used to explain the experiment to the participants verbally)

Note: Phrases/sentences in (*blanket*) are notes for the instructors and are not read out loud.

General information

Hello everyone. Thank you everyone for joining our activity today. Welcome. This project studies decision-making under uncertainty of rice farmers in Ubon Ratchathani. This research is collaboration between Mahidol University, Thailand and Columbia University, USA and is funded by Columbia University.

(Earn real money)

Today we are going to complete 4 activities and conduct a questionnaire. You have already earned 100 Baht for showing-up today. In addition, you will earn more money from the four activities. Your earnings depend on your decisions and decisions of others. You will receive your payoff in cash directly after today's activity. All activities will take around 3 hours.

(Anonymity)

We will identify your decisions only with your cubicle number. The experimenter outside will record your decisions by your cubicle number. He/she does not know who you are, your name or your appearance,. So now nobody will be able to link your decisions with your name and identity.

(Consent form)

It seems like everyone would like to start, doesn't it? Before we start, please sign this consent form. The consent form contains the information stated earlier. In addition, it is stated that ...

- In the data analysis, we will not link your decisions with your identity but only with your cubicle number
- Your decisions will be kept confidentially
- You participate in these activities voluntarily
- You can withdraw from the study any time. In that case, you will be paid only 100 Baht for showing up
- If you have any questions, please contact Suparee Boonmanunt, Mahidol University. Email: suparee.boo@mahdiol.edu. Tel: 024415000 ext 2213.

(More ...)

There is another team conducting the same activities with farmers from another village. Please do not communicate with others during these activities for your own sake. If you have any questions during the activities, please raise your hand and we will come to you. If you violate the rules, we will ask you to leave the experiment without any additional payment. Any questions so far?

Activities 1-3

...

Activity 4 (Cheating experiment)

We have finished three activities already. Well done! Thank you so much. Now you are going to participate in the next activity. You will be able to earn additional money.

What you do

- *(Show an example envelope and 10 pieces of paper as well as demonstrate how to draw a piece and put the piece back in the envelope according to the following steps)*
- We will give you an envelope with 10 pieces of paper in it.
- The numbers on the paper pieces are 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.
- They are placed in a random order.
- We will ask you to take out one piece of paper in private.
- Once you take a piece of paper out of the envelope, you will see a number.
- Then we ask you to put the piece of paper back in the envelope.
- We ask you to report the number that you saw on an answer sheet.

Payment

- The number you report determines how much money you will be paid.
- You will be paid ten times the number you report.
- *(Distribute this table)*

If you write	You receive
1	10 Baht
2	20 Baht
3	30 Baht
4	40 Baht
5	50 Baht

If you write	You receive
6	60 Baht
7	70 Baht
8	80 Baht
9	90 Baht
10	100 Baht

Understand?

Do you have any questions so far? Let's do some test questions to see whether you understand this activity. *(Distribute test questions)*

Test questions

1. If you report "1", how much will you receive? Baht
2. If you report "5", how much will you receive? Baht
3. If you report "10", how much will you receive? Baht

(Collect test questions)

Norm treatment (*in the afternoon session only!*)

We ran a survey on farmers in this province and the majority finds cheating for one's own benefit unacceptable.

We are about to start (*Distribute the materials*)

Now you have ...

- The envelope with 10 pieces of paper,
- The answer sheet,
- The table that you can look up how much you will receive when you report each number 1 – 10.

How can you report a number you saw?

(Show the answer sheet)

- The answer sheet looks like this.
- Please write down the number you see here.

Date/ 9 (or 12) / 2017 session: <input type="radio"/> Morning <input type="radio"/> Afternoon
Seat no.:
Answer sheet for Activity 4
Please write down the number you saw

Let's start!

- Please take one piece of paper out of the envelope in private.
- Please see what number you get.
- Please put the piece of paper back in the envelope.
- Please report the number you saw on the answer sheet.
(Wait until everyone finished)
- Please write down your cubicle number on the upper right corner.
- If you are done, please close the folder.
- Please wait quietly until everyone is done.

All decision activities are done.

We have finished all four decision activities. You are doing great. Now please let us interview you one-by-one, while the researchers outside are preparing the payment for you. For answering this questionnaire, you will get 100 Baht in addition. Please wait until the interviewer comes to you. When the interview is done, please wait until you are called out to get your payment. We will inform you about the results of all activities in private as well. Thank you very much for your participation and attention.

B.2 Post-experiment questionnaire

Questionnaire		
Date: September / December, 2017	<input type="checkbox"/> 1.Morning	<input type="checkbox"/> 2.Afternoon
ID number	<input type="checkbox"/> Team 1	<input type="checkbox"/> Team 2
Interviewer		
Checker		

Please make a tick in the that you agree with

1. All things considered, how satisfied are you with your life as a whole these days?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7	8	9	10
very unsatisfied								very satisfied	

2. Think about the first activity, you have to choose between, to keep or send your endowment to your random match. As you were making the decision, what did you think your match will do?

0. Keep 1. Send

3. Please circle the picture that best describes your current relationship with an average person from your village.

4. Please circle the picture that best describes your current relationship with an average person from another village.

5. All things considered, would you say that most people can be trusted or that you need to be very careful in dealing with people? (*Choose one answer*)

0. Need to be very careful

1. Most people can be trusted

6. Do you think that other people only have the best intentions?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10
do not agree at all										agree perfectly

7. How willing would you be to give to good causes without expecting anything in return?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10
completely unwilling										very willing

8. Are you a person who is generally willing to take risks, or do you try to avoid taking risks?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10
completely unwilling										very willing

9. Are you generally an impatient person, or someone who always shows great patience?

Please use a scale from 0 to 10, where a 0 means you are “very impatient” and a 10 means you are “very patient”.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10
completely unwilling										very willing

10. Are you a person who is generally willing to give up something that is beneficial for you today in order to benefit more from that in the future or are you not willing to do so?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10
completely unwilling										very willing

3) Planning (if any)		
4) Herbicide/Pesticide (if any)		
5) Chemical fertilizer (if any)		
6) Organic fertilizer (if any)		
7) Rent (if any)		
8) Harvesting		
9) Others, specify		
Total		

18. How many Rai do you plant? ... Rai. Owned ... Rai, rented ... Rai, public ... Rai.

19. Expenditure for farming

Expenditure	Month of expenditure	Baht (Total) in that month
1) Plowing the field		
2) Young plants (if any)		
3) Planning (if any)		
4) Herbicide/Pesticide (if any)		
5) Chemical fertilizer (if any)		
6) Organic fertilizer (if any)		
7) Rent (if any)		
8) Harvesting		
9) Others, specify		
Total		

20. Monthly “basic” household expenditure

Expenditure	Baht/Month
1) Rent/Montage	
2) Water	
3) Electricity	
4) Telephone/internet/mobile phone	
5) Food	
6) Transportation	
7) Consumption goods (e.g. soap, shampoo, detergent)	
8) School fee for family members	
9) Cigarette/tobacco & alcohol	
10) Parties/celebrations	

11) Merit/donations	
12) Cloths/cosmetics/decorations	
13) Installment for vehicles or electronic machines	
14) Lottery/Gambling	
15) Others, specify	
Total	

21. Household income around the year

Item	Month of the income	Amount in that particular month	Is it an estimation?
1. Rice			
2. Plant 1			
3. Plant 2			
4. Livestock 1			
5. Livestock 2			
6. Regular work			
7. Wage labor			
8. Transfer from family members (who work outside the village)			
9. Government transfers for old people			
10. Government transfers for poor people			
11. Other			
12. Other			

22. Which months are usually the best in terms of net income for you? (the first three months)

1. 2. 3.

No difference

23. Which months are usually the most difficult in terms of net income for you? (the first three months)

1. 2. 3.

No difference

24. Which months are usually the best in terms of food for you? (the first three months)

1. 2. 3.

No difference

25. Which months are usually the most difficult in terms of food for you? (the first three months)

1. 2. 3.

No difference

26. Does any adult in the household currently have a loan?

0. No (Go to 30)

1. Yes

27 How much does your household borrow from your friends and relatives? Baht.

28 How much loan does your household have? Baht.

29. In a year, in which months do you get a loan, pay interest and repay the loan? Do you have difficulties paying them in those particular months? (Tick in the table below)

Month	Loan receipt?	Interest paid?	Loan repaid?	Difficulties with payment?
April				
May				
June				
July				
August				
September				
October				
November				
December				
January				
February				
March				

30. In the last month has the household been negatively affected by any of the following problems?

1. Unusually high level of **crop pests and diseases**

2. Unusually high level of **livestock diseases**

3. Death or illness of **main earner** in the household (please choose): Loss of income / Medical expenses (please specify)

4. Death of illness of **other earners** in the household (please choose): Loss of income / Medical expenses (please specify)

5. Loss of productive or consumption assets / livestock / crops due to **flood**

6. Loss of productive or consumption assets / livestock / crops due to **theft**

7. Loss of productive or consumption assets / livestock / crops due to **fire**

31. Do you currently have any savings?

0. No (Go to 33)

1. Yes

32. Where do you save?

1. At home

2. Bank

3. Savings groups/cooperatives

4. Insurance company

5. Gold

6. Livestock (cows / buffalos)

7. ROSCAs

8. Savings programs for retirement

9. Cremation group

10. Others, specify

33. Does your family live in your own house on your own land?

0. No

1. Yes, we live in our own house in our own land

34. Have you lived in this village since you were born?

0. No

1. Yes

35. How acceptable is it to cheat for one's own private benefit?

1

2

3

4

5

6

7

8

9

10

very unacceptable

very acceptable

36. In the last month, how often have you felt that you were unable to control the important things in your life?

1

2

3

4

5

Never Almost never Sometimes Fairly often Very often

37. In the last month, how often have you felt confident about your ability to handle your personal problems?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Never	Almost never	Sometimes	Fairly often	Very often

38. In the last month, how often have you felt that things were going your way?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Never	Almost never	Sometimes	Fairly often	Very often

39. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Never	Almost never	Sometimes	Fairly often	Very often

40. Gender: 0. Male 1. Female

41. Age: years old

42. Marriage status: 0. Single 1. Married 2. Divorced / Widow

43. Children:

44. How many members are there in your family?

45. Amount of members who are working

46. Your level of education

<input type="checkbox"/> 1.No School	<input type="checkbox"/> 2.Primary school (level).....
<input type="checkbox"/> 3.Secondary school (level)	<input type="checkbox"/> 4.Diploma (level)
<input type="checkbox"/> 5.Bachelor degree (level)	<input type="checkbox"/> 6.Higher than Bachelor degree

47. Main occupation (select one choice)

- | | |
|--|--|
| <input type="checkbox"/> 1.Rice farmer | <input type="checkbox"/> 2.Farmer, specify |
| <input type="checkbox"/> 3.Wageworker | <input type="checkbox"/> 4.Government officer |
| <input type="checkbox"/> 5.Company employee | <input type="checkbox"/> 6.Business owner |
| <input type="checkbox"/> 7.Others, specify | |

48. Supplemental occupation (select all that apply)

- | | |
|--|--|
| <input type="checkbox"/> 1.Rice farmer | <input type="checkbox"/> 2.Farmer, specify |
| <input type="checkbox"/> 3.Wageworker | <input type="checkbox"/> 4.Livestocks, specify |
| <input type="checkbox"/> 5.Government officer | <input type="checkbox"/> 6.Company employer |
| <input type="checkbox"/> 7.Public health volunteer | <input type="checkbox"/> 8.Others, specify |

49. Are you a community leader, e.g. village headman, assistant headman, savings group committee, informal leader, etc.?

0. No 1 Yes

50. Are you a member of any of these following groups? (*Only after-harvest sessions*)

- | | |
|--|--|
| <input type="checkbox"/> 0.No | |
| <input type="checkbox"/> 1.Savings group / Cooperatives | <input type="checkbox"/> 2.Cremation group |
| <input type="checkbox"/> 3.Female occupational group | <input type="checkbox"/> 4.Organic farming group |
| <input type="checkbox"/> 5.Volunteering group in development project | <input type="checkbox"/> 6.Scouts |
| <input type="checkbox"/> 7.Resource conservation group | <input type="checkbox"/> 8.Others, specify |

51. Could we contact you in case we have further questions?

0. No 1 Yes, mobile number

Thank you very much for participating in this survey

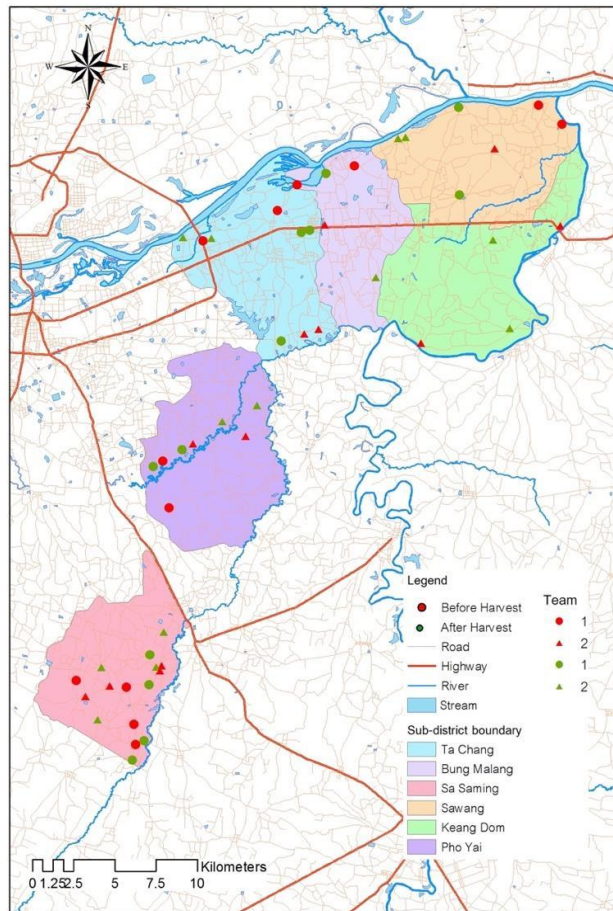
Appendix C: Detailed experimental procedure

Set up

We conducted a cheating experiment with 568 rice farmers who grow rice once a year. We used a between-subjects experimental design with 283 farmers before harvest and 285 farmers after harvest. We conducted 24 before-harvest sessions (12 sessions of baseline cheating game and 12 sessions of social-norm-reminder game) in 24 villages with one session in each village (on 25-30th of September 2017) and 24 after-harvest sessions (12 sessions of baseline cheating game and 12 sessions of social-norm-reminder game) in other 24 villages (on 8-14th of December 2017). See Figure C1 for the location of the different villages.

We recruited 12 farmers in each village through brochures. Interested farmers had to register for the experiment with a community leader suggested by the Community Development Department. If more than 12 farmers registered, we randomly chose 12 farmers who could participate in the study. Since some registered farmers did not show up, there were 3 sessions with fewer than 12 participants: 10 participants in one before-harvest and one after-harvest session and 9 participants in one before-harvest session.

Figure C1. Map of study sites



Note: We conducted our experiments in 48 villages in Ubon Ratchathani, Thailand: 24 villages before-harvest marked with red symbols and another 24 villages after-harvest marked with green symbols.

Procedure

We conducted four one-shot pen-and-paper experiments in all sessions. Prior to the Cheating experiment, farmers played Prisoner's Dilemma, Prisoner's Dilemma with third party punishment and the Dictator game. All decisions were made in private. The order of the experiments remained the same for all participants in all 48 sessions. No feedback about experimental earnings from each game was provided during the experiment. In this study, we focus only on decisions in the Cheating experiment. To be on the safe side, we checked whether farmer's earnings and decisions in the

previous games have an effect on their cheating behavior. We find no significant effect of the previous decisions or earnings on the cheating behavior in regressions.

The protocol was as follows. First, participants drew a random seat number (from 1 to 12) and took the seat correspondingly. After they signed the consent form, we explained the experiments to them. They were informed that there would be four decision activities and we would explain the rules of each game at the beginning of that particular game. After describing the game through a written script and presentation materials, subjects had to answer test questions correctly. Only then we proceeded with the experiment.

Plastic cubicles and folders for putting answer sheets inside were used to keep decisions private. Furthermore, in each session there was one experimenter who instructed the experiments and another one who sat outside and typed farmers' decisions in computer after each decision. The experimenter inside could see participants faces but not their decisions, while the experimenter outside could see participants decisions but not their faces. With this procedure we could not identify participants' answers. After the experiment, participants answered a questionnaire face-to-face with an interviewer, who was unaware of any of their decisions in the experiments. Finally, we paid farmers directly at the end of each session in cash.

Pilots

Prior to the experiments, we conducted two pilots in order to test the protocol, instructions and other instruments and to train our research assistants to conduct the experiments. We ran the first pilot with 24 Thai undergraduate students of Mahidol University divided in two sessions (on August 2nd, 2017). Later, on August 20th, 2017, we ran a second pilot with 24 actual rice farmers in another district of Ubon Ratchathani, also divided in two sessions.