

APPENDICES TO

What Endowment Effect? A Public Good Experiment

Appendix A: Design

Participants were given an initial endowment of 10 dollars and played a one shot, two-person public good game (VCM). Participants chose to allocate between 0 and 10 dollars—inclusive, in whole dollars—of their endowment to a shared public account. The remainder was kept in the individual's private account. Each dollar deposited into the public account was multiplied by 1.5 and then evenly divided between both players, regardless of which player deposited the dollar into the public account. The Nash Equilibrium is for both players to deposit zero dollars into the public account, because by depositing into the public account a participant sacrifices \$0.25.

The treatment variations are account framing (AF) and duration framing (DF). In AF sessions, the treatment is to vary the account in which the initial endowment originates. The AF treatments were all run in a laboratory setting. In DF sessions, the treatment is to vary the amount of time participants had the endowment prior to making their allocation decision. For reasons explained in the body of the paper, DF sessions were run in a laboratory setting and also in classrooms. For all sessions, participants were grouped in two separate rooms, and each participant had an experiment counterpart in the other room. If there were an uneven number of participants in a treatment, one person from the room with fewer participants was matched with two counterparts from the other room. This was not deception, according to the game forms. We first explain the design and logistics of the laboratory sessions (AF and DF treatments). We then explain the same for the classroom sessions (DF treatments only). Examples of all forms mentioned in the following sections are in Appendix B. The individual response data are presented in Appendix C.

A1. Laboratory Treatments

All laboratory sessions used the same General Instructions, Examples, and Quiz; the only distinction was the Response Forms on which participants indicated their decisions. In AF

treatments, participants did not handle cash until after their allocation decisions were made. Rather, participants in one set of treatments were told that the initial endowment originated in their private accounts, and in the other set of treatments participants were told that the money began in their public account. Participants then indicated their allocation decisions in writing. In the laboratory DF sessions, participants were given ten \$1 bills as the initial endowment. The amount of time participants held the endowment in their possession is the treatment variable. In the Long Treatments, dollar bills were distributed at the start of the session (with the Instructions Packet) and participants held the money for about 25 minutes before making their decision. In the Short Treatment, dollars were distributed just before the allocation decision (with the Response Forms) and participants held the money for about 1 minute before making their decision. Allocations to the public account were made by placing bills in an envelope to be collected by the experiment facilitators. Each participant allocated to the private account by placing the remaining dollar bills in their pockets.

The logistics of all Laboratory treatments were similar. Upon arrival at the specified classrooms, participants were divided between the rooms and asked to sit in sequentially numbered seats. The Instructions Packets, including the General Instructions, Examples, and Quizzes, were distributed. The General Instructions and the Examples were read aloud. Participants were given time to complete the Quiz. Experiment facilitators circulated throughout the room checking the Quiz and providing guidance when answers were incorrect. After all Participants correctly answered the Quiz the questions were also solved on the blackboard in front of the room. The facilitators asked if there were any questions and answered the few inquiries.

Next, Response Forms and envelopes were passed out. The Response Form was read aloud. Participants were given ample time to indicate their decision on the form, fold it like a letter, and place it in the envelope in the AF treatment. In the DF treatments they folded the form and deposited their public account deposit in the envelope. The experiment facilitators collected the envelopes. After all envelopes were collected, General Questions, Demographic Forms, and

Receipts were distributed. The participants filled out the forms as facilitators left the room to calculate the participants' earnings. In the DF treatments, facilitators noted on each response form the number of dollars placed in each envelope. After the earnings were calculated, facilitators reentered the rooms and proceeded to call participants by seat number. Then, participants were handed numbered envelopes containing their payment in exchange for all their forms. The amount each was paid was recorded on their receipts, and each individually left the room.

A2. Classroom Treatments

The classroom treatments were significantly differently than the laboratory treatments. Classroom treatments were run to test whether holding the cash for a week would create an endowment effect. Accordingly, these treatments took place in two sessions, Week 1 and Week 2, spanning 8 days. The participants in the classroom treatments were members of four classes at the University of North Texas. The four classes were selected to consist of two class-pairs. A class-pair is two classes of approximately equal enrollment, meeting simultaneously in separate rooms. Students in one class are paired as experiment counterparts with students in the other class. One class-pair is the Short Treatment and the other class-pair is the Long Treatment. . We used classes of students to limit possible selection bias, as discussed in the body of the paper. The General Instructions, Examples, Quizzes and Response Forms were similar to those used in the laboratory treatments with minor changes made to compensate for the following logistical differences.

In Week 1, Pre-experiment instructions were distributed to students in the four classes. These instructions explained that we were running an economics experiment, that they were welcome to participate if they promised to attend next week's class, and that they would be paid a guaranteed \$5 for participating plus additional performance-based pay. The two class-pairs were given slightly different Pre-experiment instructions to account for when participants were given the initial endowment. In the Long Treatment class-pairs, participants were given ten \$1 bills in Week 1 and told that they must return with \$10 next week to complete the experiments. In the Short Treatment class-pairs, we did not distribute the initial endowment. All participants were

told that if they participate in Week 2 that they would receive a guaranteed \$5 for showing up in addition to performance based pay, the total of which would exceed \$10. Telling participants about the minimum they would earn is added incentive to show up in Week 2. This may only be necessary for show-up purposes in the Long Treatment class-pairs, but we mentioned it in all classroom sessions to maintain similarity.

During Week 2, the logistics differed between the two class-pairs. In the Long Treatment rooms, in the beginning of class and before any forms were distributed, facilitators had to insure that all of the participants brought with them the ten \$1 bills that were distributed the previous week. In contrast, initial endowments were distributed in the Short Treatment rooms as ten \$1 bills attached to the Instruction packet. After this difference, the rest of Week 2 proceeded in the exact manner for both Long and Short class-pairs, as follows. The Instructions packets including the General Instructions, Examples, and Quizzes were distributed. The General Instructions and the Examples were read aloud. Participants were given time to complete the Quiz. Experiment facilitators circulated throughout the room checking whether the Quiz was answered correctly and providing guidance when answers were incorrect. After all Participants correctly answered the Quiz, the answers were also solved on the blackboard in front of the room. The facilitators ask if there were any questions and answered the few inquiries.

Next, pre-numbered Response Forms and envelopes were passed out. The Response Form was read aloud. Participants were given ample time to fold their response form like a letter and place it in the envelope with their cash contribution to the public account. The experiment facilitators collected the envelopes. After all envelopes were collected, then pre-numbered General Questions, Demographic Forms, and Receipts were distributed. The participants filled out the forms as facilitators left the room to calculate the participants' earnings. Facilitators wrote on each response form the number of dollars in each envelope, and calculated earnings. . Facilitators then reentered the rooms with 5 minutes remaining in the class period. Participants were handed numbered envelopes containing their payment in exchange for all their forms. The

amount each was paid was recorded on their receipts and all left the room.

Appendix B: Game forms:

The following are the instructions and forms as distributed to participants. We first present the laboratory and then the classroom forms. Text appearing in italics are notes to the reader that were not included on the forms distributed to participants.

B1. Laboratory Forms: *The following form is the same for all laboratory sessions.*

Private/Public Account Game: Instructions

Thank you for participating in this economics experiment. You will receive a guaranteed \$5 payment at the conclusion of the experiment for being on time. In addition, you will also receive performance-based pay. The amount of performance-based pay you receive will depend on your decision and your counterpart's decision during the experiment. Each participant in this experiment makes one decision.

Participants in this experiment have been separated into two rooms. (You might have noticed that participants were separated into four rooms. This is because we are running two experiments simultaneously. You are in only one of these two experiments.) All participants in both rooms involved in this experiment have received these same instructions and face the same situation. You will be randomly matched with a **counterpart** from the other room. No participants will know the identity of any counterpart, including their own.

The experiment begins with each participant receiving \$10. You will have to decide how to allocate the \$10 between two accounts: 1) your own **private account**; and 2) a **public account** that you share with your counterpart (both accounts are explained below). All of your \$10 allocation must be deposited into one or both of these accounts. Your deposits into the two accounts must sum to \$10. You and your counterpart are facing the same decision. Neither your counterpart nor the other participants will know your allocation decision. Only you will know your own allocation decision, and you will never learn any of the other participants' allocation decisions.

The **private account** is like a piggy bank. Any dollars you deposit in your private account are yours to keep, and will be added to what you receive from the public account.

The **public account** is shared between you and your counterpart in the following way. Any dollar deposited into the public account turns into \$1.50, and is then split evenly between you and your counterpart—regardless of who initially made the deposit. So for every **\$1** that *either* you or your counterpart deposit into the public account, *both* you and your counterpart each receive **\$0.75**.

Your performance-based pay equals the sum of your private account deposit and your public account proceeds.

This experiment depends on all participants accurately understanding the situation. So on the following two pages we present some numerical examples, and then ask you to complete a short quiz.

The following form is the same for all laboratory sessions.

Private/Public Account Game: Numerical Examples

Example 1:

You allocate:
 2 into private account
 8 into public account

Your counterpart allocates:
 7 into private account
 3 into public account

Public Account total is 8+3: = 11
This gets multiplied by 1.5: = 16.5
Each participant gets one half: = 8.25

Your performance-based earnings:
 $2 + 8.25 = \$10.25$

Your counterpart's performance-based earnings:
 $7 + 8.25 = \$15.25$

Example 2:

You allocate:
 4 into private account
 6 into public account

Your counterpart allocates:
 1 into private account
 9 into public account

Public Account total is 6+9: = 15
This gets multiplied by 1.5: = 22.5
Each participant gets one half: = 11.25

Your Performance-based earnings:
 $4 + 11.25 = \$15.25$

Your counterpart's performance-based earnings:
 $1 + 11.25 = \$12.25$

In addition to these performance-based earnings, you will each receive \$5 just for showing up on time.

The following form is the same for all laboratory sessions.

Private/Public Account Game: Quiz

If you deposit \$3 into the public account and your counterpart deposits \$7 into the public account, how much performance-based earnings will each participant receive? Show your work below.

Your deposit decision

How many dollars do you wish to deposit into the **public account**? (Circle the appropriate number.)

0 1 2 3 4 5 6 7 8 9 10

Your counterparts decision

How many dollars do you wish to deposit into the **public account**? (Circle the appropriate number.)

0 1 2 3 4 5 6 7 8 9 10

You will receive:.....

Your counterpart will receive:.....

The following Response Sheet is for the Account Framing private treatment group (ALR) only.

Private/Public Account Game: Response Sheet

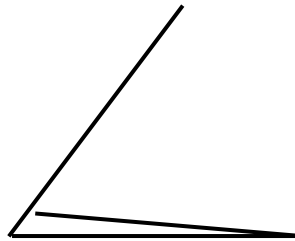
Your deposit decision

You and your counterpart are in identical situations. \$10 has been allocated to your private account. You control how much of this \$10 will be deposited into the public account and into your private account.

How many dollars do you wish to deposit into the **public account**? (Circle the appropriate number.)

0 1 2 3 4 5 6 7 8 9 10

Fold this response sheet into three approximately equal sections, as you would a letter (see below). Place this folded sheet into the envelope. Do not seal the envelope.



The following Response Sheet is for the Account Framing public treatment group (ALU) only.

Private/Public Account Game: Response Sheet

Your deposit decision

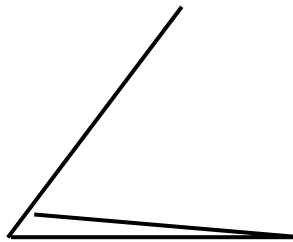
You and your counterpart are in identical situations. \$10 has been allocated to public account.

You control how much of this \$10 will be deposited into the public account and into your private account.

How many dollars do you wish to deposit into the **public account**? (Circle the appropriate number.)

0 1 2 3 4 5 6 7 8 9 10

Fold this response sheet into three approximately equal sections, as you would a letter (see below). Place this folded sheet into the envelope. Do not seal the envelope.



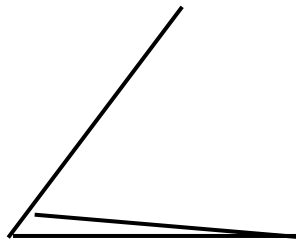
The following Response Sheet is for the Duration Framing, both Long and Short, treatment groups (DLL and DLS).

Private/Public Account Game: Response Sheet

Your deposit decision

You and your counterpart are in identical situations. You have been given 10 \$1 bills. You will use these when making your deposit decision. You must decide how to allocate the \$10 between the public account and your private account. After you have made your decision place the same number of dollars you wish to deposit into the **public account** in the envelope. The dollars not placed in the envelope go into your private account and are yours to keep.

Fold this response sheet into three approximately equal sections, as you would a letter (see below). Place this folded sheet into the envelope with the money. Do not seal the envelope.



B2. Classroom Forms: Week 1

The following form is for Duration Framing in the Classroom, Long treatment group (DCL) only.

Participants in this group are given the cash endowment in Week 1.

Pre-Experiment Instructions

You are welcome to participate in an economics experiment that is taking place in the beginning of this class period, one week from today. The experiment should last about 30 minutes. You will earn a guaranteed five dollars in cash for arriving on time to the experiment. If you are late to class you will have to wait outside until the experiment is completed. You may also earn performance-based pay.

In order to participate, all you have to do is write your name and email address on a piece of paper. The experimenter will come around the room and pick up the pieces of paper. Please have a picture ID out so the experimenter can confirm that your name is on the piece of paper. You will also need to bring a picture ID the experiment next week in order to participate.

You will receive an email reminding you about the experiment.

Now write your name and email address on the piece of paper and get out your ID. The experimenter will begin picking up the pieces of paper shortly.

As the experimenter picks up the pieces of paper, he will hand you \$10. You must bring \$10 with you to the experiment next week in order to participate. If you do not bring \$10, you will earn neither the guaranteed \$5 nor the additional performance-based pay. The \$5 plus your performance based pay will exceed the \$10 you will be given. You will end up with more money by participating than by not.

The following form is for Duration Framing in the Classroom, Song treatment group (DCS) only.

Participants in this group are not given the cash endowment in Week 1.

Pre-Experiment Instructions

You are welcome to participate in an economics experiment that is taking place in the beginning of this class period, one week from today. The experiment should last about 30 minutes. You will earn a guaranteed five dollars in cash for arriving on time to the experiment. If you are late to class you will have to wait outside until the experiment is completed. You may also earn performance-based pay.

In order to participate, all you have to do is write your name and email address on a piece of paper. The experimenter will come around the room and pick up the pieces of paper. Please have a picture ID out so the experimenter can confirm that your name is on the piece of paper. You will also need to bring a picture ID the experiment next week in order to participate.

You will receive an email reminding you about the experiment.

Now write your name and email address on the piece of paper and get out your ID. The experimenter will begin picking up the pieces of paper shortly.

The \$5 plus your performance based pay will exceed \$10.

B3. Classroom Forms: Week 2

The following form is the same for all classroom sessions. (DCL and DCS).

Private/Public Account Game: Instructions

Thank you for participating in this economics experiment. You will receive a guaranteed \$5 payment at the conclusion of the experiment for being on time. In addition, you will also receive performance-based pay. The amount of performance-based pay you receive will depend on your decision and your counterpart's decision during the experiment. Each participant in this experiment makes one decision.

Participants in this experiment are currently in two rooms. All participants in both rooms involved in this experiment have received these same instructions and face the same situation. You will be randomly matched with a **counterpart** from the other room. No participants will know the identity of any counterpart, including their own.

The experiment begins with each participant receiving \$10. You will have to decide how to allocate the \$10 between two accounts: 1) your own **private account**; and 2) a **public account** that you share with your counterpart (both accounts are explained below). All of your \$10 allocation must be deposited into one or both of these accounts. Your deposits into the two accounts must sum to \$10. You and your counterpart are facing the same decision. Neither your counterpart nor the other participants will know your allocation decision. Only you will know your own allocation decision, and you will never learn any of the other participants' allocation decisions.

The **private account** is like a piggy bank. Any dollars you deposit in your private account are yours to keep, and will be added to what you receive from the public account.

The **public account** is shared between you and your counterpart in the following way. Any dollar deposited into the public account turns into \$1.50, and is then split evenly between you and your counterpart—regardless of who initially made the deposit. So for every **\$1** that *either* you or your counterpart deposit into the public account, *both* you and your counterpart each receive **\$0.75**.

Your performance-based pay equals the sum of your private account deposit and your public account proceeds.

This experiment depends on all participants accurately understanding the situation. So on the following two pages we present some numerical examples, and then ask you to complete a short quiz.

The following form is the same for all classroom sessions. (DCL and DCS).

Private/Public Account Game: Numerical Examples

Example 1:

You allocate:
 2 into private account
 8 into public account

Your counterpart allocates:
 7 into private account
 3 into public account

Public Account total is 8+3: = 11
This gets multiplied by 1.5: = 16.5
Each participant gets one half: = 8.25

Your performance-based earnings:
 $2 + 8.25 = \$10.25$

Your counterpart's performance-based earnings:
 $7 + 8.25 = \$15.25$

Example 2:

You allocate:
 4 into private account
 6 into public account

Your counterpart allocates:
 1 into private account
 9 into public account

Public Account total is 6+9: = 15
This gets multiplied by 1.5: = 22.5
Each participant gets one half: = 11.25

Your performance-based earnings:
 $4 + 11.25 = \$15.25$

Your counterpart's performance-based earnings:
 $1 + 11.25 = \$12.25$

In addition to these performance-based earnings, you will each receive \$5 just for showing up on time.

The following form is the same for all classroom sessions. (DCL and DCS).

Private/Public Account Game: Quiz

If you deposit \$3 into the public account and your counterpart deposits \$7 into the public account, how much performance-based earnings will each participant receive? Show your work below.

Your deposit decision

How many dollars do you wish to deposit into the **public account**? (Circle the appropriate number.)

0 1 2 3 4 5 6 7 8 9 10

Your counterpart's decision

How many dollars do you wish to deposit into the **public account**? (Circle the appropriate number.)

0 1 2 3 4 5 6 7 8 9 10

You will receive:.....

Your counterpart will receive:.....

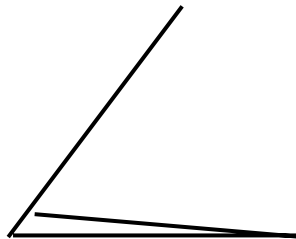
The following Response Sheet is the same for all classroom sessions. (DCL and DCS).

Private/Public Account Game: Response Sheet *(both)*

Your deposit decision

You and your counterpart are in identical situations. You have been given 10 \$1 bills. You will use these when making your deposit decision. You must decide how to allocate the \$10 between the public account and your private account. After you have made your decision place the same number of dollars you wish to deposit into the **public account** in the envelope. The dollars not placed in the envelope go into your private account and are yours to keep.

Fold this response sheet into three approximately equal sections, as you would a letter (see below). Place this folded sheet into the envelope with the money. Do not seal the envelope.



Appendix C: Data

<i>ARLB</i>	<i>AULB</i>	<i>DSLB</i>	<i>DLLB</i>	<i>ARLT</i>	<i>AULT</i>	<i>DSL T</i>	<i>DLL T</i>	<i>DSCT</i>	<i>DLCT</i>
4	10	0	0	4	5	6	7	9	5
6	5	3	9	2	10	5	4	3	5
6	3	10	5	5	0	4	5	7	1
4	7	8	4	6	4	3	8	10	0
4	0	4	8	4	0	5	10	7	10
10	6	2	0	8	3	10	3	8	1
4	2	10	4	4	7	8	10	10	10
10	0	3	10	3	2	7	4	0	6
5	1	1	5	7	4	4	6	3	3
5	7	0	5	4	6	2	8	6	8
10	3	5	5	1	7	10	10	5	10
3	7	0	3	5	0	6	5	4	10
6	6	2	6	4	3	10	5	10	4
2	5	3	3	10	5	3	2	5	5
2	0	4	3	0	2	7	1	5	4
	3	4	3	5	7	0	6	10	9
	5	5	3	10	4	4	10	4	4
	1	8	2	0	0	4	4	3	1
		4	8	10	6	6	3	1	10
		6	2	8	4	7	3	0	3
			0	6	10	5	0	1	4
			3	2	6	6	4	4	7
				0	4	8	3	1	6
				8	4	5	5	0	10
				6	4	4	4	4	9
				2	2	0	4	1	0
				4	4	0	1	0	10
				10	0	5	7	5	0
				9	7	5	8	10	9
				4	4		6	7	3
				5	3			3	0
				3	0			10	0
				10	9			10	2
				2	0			0	1
				0	4			8	7
								7	
								10	
								8	
								10	
								6	
								10	
								1	
								10	
								6	
								1	

Notes on Treatment Group Names:

First letter: A=account frame; D=duration frame

Second letter: R=private; U=public; S=short; L=long

Third letter: C=class; L=lab

Fourth letter: A=all, B=Buffalo; T=Texas