

## INTRODUCTION

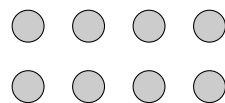
Welcome to today's session. You are here to participate in an experiment on decision making. The experiment will last approximately 60 minutes. Based on the decisions you make, and the decisions made by other participants, you will be paid in cash privately at the end of the session. Please turn off your cell phones and refrain from talking with other participants for the remainder of today's session.

We will now begin reading the instructions. A companion document, Screenshots, displays what you will see on your computer screen during each stage, written here in bold. Use these two documents together as we read through the instructions.

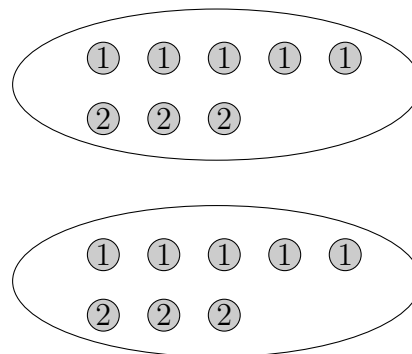
In addition, there is a Personal Record Table included with these instructions. You will fill in this table to keep track of your decisions and your Payoff during the experiment. During each period you should fill in this table with the information on your screen. Be sure to record your total payoff for each period in the rightmost column.

## Sorting

At the start of the first period, and before the first stage, you and the other participants will be randomly sorted into groups of eight. These groups will then be randomly divided into two subgroups: Group 1 (five members) and Group 2 (three members), as illustrated below. Each group of two subgroups is encased in an oval. In this experiment you will interact within your oval, but you will not interact with other ovals.



(a) Participants



(b) Sorting

When you receive your group assignment, you will also receive a group member identification number (ID). You will be in the same group and keep the same ID for the entire experiment.

At the start of the first period, and each subsequent period, you will receive an endowment of 12 tokens. You will make an investment decision with these tokens. We will describe this decision

in detail momentarily.

During the sorting, you will see the screen **Sorting**. It will display your group number and your group ID.

You can click *Continue* to move to the **Waiting Screen**. The experiment will advance to the next stage when all participants have clicked *Continue*.

## Stages

There are fifteen periods of decision-making in today's session. Each period is divided into five stages. The order, names, groups and duration of these five stages can be seen in the table below.

| Number | Name           | Who's involved    | Duration (seconds) |
|--------|----------------|-------------------|--------------------|
| 1      | Communication  | Group 1           | 120                |
| 2      | Investment     | Group 1 & Group 2 | 30                 |
| 3      | Initial payoff | Group 1 & Group 2 | 20                 |
| 4      | Deductions     | Group 1           | 60                 |
| 5      | Final payoff   | Group 1 & Group 2 | 20                 |

## Conversion Rate

During the experiment your initial payoff and final payoff will be shown to you in laboratory dollars (\$L). The conversion rate with US dollars is \$1.00 US = \$0.012 L. So if for example you see a payoff of \$100L, this converts to \$1.20 US.

## Questions

You are welcome to ask any questions you have about the experiment. If at any time you do have a question, or are unclear about something, raise your hand. Someone will come over to assist you.

If there are no questions at this time, we will now describe each stage.

## 1 Communication (Group 1)

For odd-numbered periods (i.e. 1,3,5 etc), this is the first stage. For even-numbered periods, this stage will be skipped.

Members of Group 2 will see **Waiting Screen** and will be asked to wait patiently until the next stage. Members of Group 1 can communicate with each other using a chat box and will see **Communication**.

As a member of Group 1, you can chat with the other members of Group 1. To send a message, type your text in the entry box, then press “Enter” on your keyboard to send. You will see your message displayed in the chat box with your group member ID next to it.

Your message will be visible on the computer screen of each member of Group 1. Please restrict your conversation to topics concerning the experiment.

Once the timer in the upper right corner reaches zero, the stage will end, and you will advance to the next stage.

If you finish chatting before the time is up, click *Continue*. When all of the Group 1 members have clicked *Continue*, or when the stage ends, the experiment will go on to the next stage.

## 2 Investment (Group 1 & Group 2)

This is the second stage. As a member of Group 1 or Group 2, you will see **Investment**.

In this stage, you will decide how much of your endowment to invest in The Account. What is left of your endowment will earn a private return of two-to-one. This means that one token not invested returns two dollars, two tokens not invested return four dollars, and so on.

What you earn from investing depends on two things: 1) how much *you* invest and 2) how much *everyone else* invests. The Initial Payoff Table at the back of these instructions shows you the relationship between how much is invested in The Account and total payoff from The Account. Note that The Account can yield negative returns.

### HOW TO MAKE YOUR DECISION

Your endowment is twelve tokens. This means that you can invest up to twelve tokens in The Account. You make your decision by entering a number into the entry box called “Your Investment in The Account”. Your decision must be a whole number.

## PAYOFF FROM YOUR DECISION

Your decision determines what share of The Account Payoff you receive. You and the seven other participants in your oval will each get a share of The Account Payoff that depends on the tokens invested in The Account. Your share of The Account Payoff equals your number of tokens placed in The Account as a fraction of the total tokens you and the other participants in your oval place in The Account.

For example, if a total of 12 tokens are invested in The Account by the five members of Group 1 and the three members of Group 2, The Account Payoff is \$314.40L. If you placed 2 tokens in The Account then your share of The Account Payoff is  $\frac{2}{12}$  of the \$314.40L, or  $\frac{2}{12} \times \$314.40L = \$52.40L$ .

Continuing with this example, your 10 tokens not invested would return you a private payoff of  $10 \times \$2.00L = \$20.00L$ . In addition, in each period you receive a fixed payoff of \$88.80L. Therefore, your initial payoff for this example is  $\$52.40L + \$20.00L + \$88.80L = \$161.20L$ .

Before making your decision, along with the Initial Payoff Table, use the payoff calculator to see what your payoff will be based on what you invest, what Group 1 invests, and what Group 2 invests. You may try as many combinations in the calculator as you like. They will not affect your payoff. Note that to use the calculator, you must first enter a number in the decision box. This acts as a placeholder while you use the calculator.

Please note that the lowest your initial payoff can be is zero.

When you have made your decision, click *Continue*. By clicking *Continue*, you will be asked to confirm your decision. You may revise your decision if you wish. When you confirm your decision, you will advance to the waiting screen. You cannot change your decision after this point. When all participants have confirmed their decisions, the experiment will go on to the next stage.

### 3 Initial Payoff (Group 1 & Group 2)

This is the third stage. As a member of Group 1 or Group 2, you will see **Initial Payoff**.

Here you can view your initial payoff. Your initial payoff is the sum of your payoff from The Account, your private payoff, and the fixed payoff. In addition, you will see: total investment in The Account; how much Group 1 invested; how much Group 2 invested; and the total payoff from The Account. Please make note of these amounts in your Personal Record Table.

Click *Continue* when you are ready to go on. After all participants have clicked *Continue*, the experiment will go on to the next stage.

#### 4 Deductions (Group 1)

This is the fourth stage. Members of Group 2 will see **Waiting Screen** and will be asked to wait patiently until the next stage.

If you are a member of Group 1, you will see **Deductions**. You will be shown how much each Group 1 member invested, along with his or her initial payoff. You will see your information in the farthest left column, and you will see the information of the other Group 1 members in the next right columns. You will *not* see any information of Group 2.

The information of each participant you will see is his or her group number, group ID, investment and payoff. Note that this display format – you in the farthest left, and the rest of Group 1 to the right – will be used in each period of today’s session.

In this stage, you can decide to decrease the payoff of these participants by assigning deduction points. Only members of Group 1 can assign deduction points. Group 2 members cannot assign deduction points. If you are a member of Group 1, you may enter a number of deduction points for each participant. If you do not wish to change the payoff of a participant, then you must enter 0.

##### ASSIGNING DEDUCTIONS

You will incur costs from assigning deduction points. Every deduction point you assign will cost you \$1L. For example, if you assign 2 deduction points to one participant, this costs you \$2L. If, in addition, you assign 4 deduction points to another participant, this costs you an additional \$4L. In total for this example, you will have assigned 6 deduction points, costing you \$6L. To view the cost of your deduction assignments, click the button *Cost*. Your deduction assignment cost is calculated as:

$$\text{cost of assigned deduction points} = 1 \times \text{total assigned deduction points}$$

You can change your decision as long as you have not left the stage. To recalculate the costs after a change of your assigned points, simply click *Cost* again.

Please note, your cost of assigned deductions cannot exceed your initial payoff.

##### RECEIVING DEDUCTIONS

If you assign 0 deduction points to a particular participant (i.e., enter “0”), you will not alter his or her payoff.

However, if you assign one deduction point to a participant, you will decrease his or her payoff by \$3L. If you assign a participant 2 deduction points you will decrease his or her payoff by \$6L, and so on.

Likewise, if you receive a total of one deduction point, your payoff will be decreased by \$3L. If you receive a total of 2 deduction points, your payoff will be decreased by \$6L, and so on. Your loss from received deductions are calculated as:

$$\text{loss from received deduction points} = 3 \times \text{total received deduction points}$$

Please note, your cost of received deductions cannot exceed your initial payoff.

### **TOTAL COST OF DEDUCTIONS**

Putting all this together, if you are a member of Group 1, your total cost in this stage is:

$$\begin{aligned} \text{total cost of deductions} = & (1 \times \text{total assigned deduction points}) + \\ & (3 \times \text{total received deduction points}) \end{aligned}$$

Keep in mind, your final payoff cannot be less than zero and so your total costs of deductions will never be higher than your initial payoff.

If you are a member of Group 2, you cannot assign deduction points, and you cannot receive deduction points, so your total cost in this stage is zero.

Members of Group 1, when you have finished making your decisions, click *Continue*. By clicking *Continue*, the experiment will go on to the next stage. You cannot change your decision after clicking *Continue*.

## 5 Final payoff (Group 1 & Group 2)

This is the fifth and last stage. Here you will view your final payoff.

If you are a member of Group 1, you will see **Final Payoff Group 1**. Your final payoff is your initial payoff minus your cost of assigned deductions and your loss from received deductions. Notice that this amount can never be less than zero. You will also see your total payoff for all periods. Please make note of these amounts on your Personal Record Table.

If you are a member of Group 2, you will see **Final Payoff Group 2**. Your final payoff is the same as your initial payoff. Notice that this amount can never be less than zero. You will also see your total payoff for all periods. Please make note of these amounts on your Personal Record Table.

Click *Continue* when you are ready to go on.

After all participants have clicked *Continue*, the period will end, and you will go to the next period, where you will start over. Remember that your group assignment and ID stay the same in each period. After Period 15, the experiment will end, and you will be paid privately based on the conversion rate.

## **SUMMARY**

When the experiment begins, you will be randomly divided into groups of eight. Then, within your group, you will be randomly assigned to one of two subgroups: Group 1 or Group 2. You will be randomly assigned an ID number within your group. Your group assignment and ID assignment will be the same throughout the experiment.

You will participate in 15 periods of this experiment.

Members of Group 1 will participate in a communication stage in period 1, 3, 5, 7, 9, 11, 13, and 15.

All participants will receive an endowment of 12 tokens in each period. You will decide how much of your endowment to invest into The Account, which is shared by all participants. What you earn from The Account depends on what you invest and what everyone else invests. You will also earn \$2.00L for each token you choose not to invest and a constant payment of \$88.80L in each period.

Once your initial payment has been determined you will move to the Deductions stage. In this stage members of Group 1 will be able to assign deduction points to the other members of Group 1. Each deduction point you assign costs \$1.00L and reduces the payoff of the person receiving the deduction point by \$3.00L. Keep in mind that the cost of deduction points you assign cannot exceed your initial payoff, and that the total cost of deduction points cannot reduce your payoff below zero.

At the end of each period you will be informed of your initial payoff, your cost of assigned deductions, your loss from received deductions, your total cost from deductions, your final payoff for the period and your total payoff for all of the periods which have been completed.

## **Questions**

You are welcome to ask any questions you have about the experiment. If at any time you do have a question, or are unclear about something, raise your hand. Someone will come over to assist you.

If there are no questions at this time, we will begin the experiment.



## INITIAL PAYOFF TABLE

| Total Investment in The Account (# of tokens) | Total Payoff from The Account |
|---|-------------------------------|
| 0   | 0.00                          |
| 4   | 117.60                        |
| 8   | 222.40                        |
| 12  | 314.40                        |
| 16  | 393.60                        |
| 20  | 460.00                        |
| 24  | 513.60                        |
| 28  | 554.40                        |
| 32  | 582.40                        |
| 36  | 597.60                        |
| 40  | 600.00                        |
| 44  | 589.60                        |
| 48  | 566.40                        |
| 52  | 530.40                        |
| 56  | 481.60                        |
| 60  | 420.00                        |
| 64  | 345.60                        |
| 68  | 258.40                        |
| 72  | 158.40                        |
| 76  | 45.60                         |
| 80  | -80.00                        |
| 84  | -218.40                       |
| 88  | -369.60                       |
| 92  | -533.60                       |
| 96  | -710.40                       |