

Appendix: Instructions

General information

This is an experiment in decision-making. In addition to a \$10 participation fee, you will be paid any additional money you accumulate during the experiment at the conclusion of today's session.

All payoffs during the experiment are denominated in an artificial currency, experimental currency units (ECU). At the end of the experiment, ECU will be converted to cash at the rate of \$1 per 500 ECU. Upon completion of the experiment, your earnings will be converted to dollars and you will be paid privately, with a check. The exact amount you receive will be determined during the experiment and will depend on your decisions and the decisions of others.

If you have any questions during the experiment, please raise your hand and wait for an experimenter to come to you. Please do not talk, exclaim, or try to communicate with other participants during the experiment. Participants intentionally violating the rules may be asked to leave the experiment and may not be paid.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Description of stages and parts

This experiment will consist of two stages (I and II). Each stage will have several parts. We will first proceed through Stage I, and you will then receive new instructions for Stage II.

At the end of the experiment, we will randomly select one participant in the experiment here today (by randomly drawing one of the participant numbers). This will be the only participant who will receive payment from Stage I. That is, each of you will make choices in Stage I. At the end of today's experiment, we will randomly select one of you, and this will be the only person who will receive any earnings from Stage I of the experiment. However, since you will not know which of you it will be, you should treat your choices in Stage I as if they counted, since for one of you these choices will count.

Are there any questions before we proceed?

We will now proceed to instructions for Stage I.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Instructions for Stage I

In Stage I you will each answer five multiple-choice general trivia questions. You will all receive the same five questions. These questions were randomly selected from a large database of questions dealing with general knowledge of varied topics. Each question will ask you to select the correct answer from one of four options. For each question answered correctly, there is a 1000 ECU (\$2.00) prize.

If your participant number is randomly selected at the end of today's session, then you will receive 1000 ECU (\$2.00) for every question you answer correctly.

Are there any questions before we proceed?

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Choices for Stage I

Below are the five questions for Stage I of the experiment. For each question, click on the answer that you believe is correct. Once you are done, please check your answers before clicking "Continue."

1. Which of the following countries in Africa is totally land-locked?
 - Sudan
 - Gabon
 - Botswana
 - Mauritania

2. What was the first U.S. state to enter the Union?
 - New Jersey
 - Georgia
 - Pennsylvania
 - Delaware

3. Which Irish city's name means 'black pool'?
 - Dublin
 - Blackburn
 - Belfast
 - Cobb

4. Which planet once had a 'Great Dark Spot' before it disappeared in 1995?
 - Jupiter
 - Mars
 - Saturn
 - Neptune

5. The mathematical term 'e' stands for what number, to two decimal places?
 - 1.72
 - 2.71
 - 1.27
 - 2.17

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Parts, Rounds, and Firms: Stage II of the experiment will have two parts. In the first part there are 6 rounds and in the second part there are 12 rounds.

For the remainder of this experiment you will be randomly assigned to a firm consisting of five participants. You will be grouped with the same four other participants for all 18 rounds.

The following instructions are for the first part of Stage II -- the first six rounds. You will receive instructions about any changes to the rules prior to the start of the second part of Stage II.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Task: There are five employees in each firm. Each round of the experiment can be thought of as a workweek. Each of the five employees spends 40 hours per week at their firm. In each round, there will be a bonus rate for all employees.

After seeing the bonus rate, each employee has to choose how to allocate his or her time between two activities, Activity A and Activity B. Specifically, each employee will be asked to choose how much time to devote to Activity A. The available choices are 0 hours, 10 hours, 20 hours, 30 hours, and 40 hours. That employee's remaining hours will be put towards Activity B. For example, if an employee devotes 30 hours to Activity A, this means that 10 hours will be put towards Activity B. Weekly payoffs for employees depend on a bonus rate and on the number of hours allocated to Activity A by the employees.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Employee Payoffs: The payoff for an employee of the firm is determined in each round by the bonus rate (B), how many hours that employee spends on activity A, and the minimum number of hours employees in his or her firm spend on Activity A. The employee's payoff is reduced by 5 ECUs per hour that he or she spends on Activity A. The employee also receives the bonus rate multiplied by the minimum number of hours any employee in his or her firm spends on Activity A. Each employee also automatically gets a flat payoff of 200 ECUs in each round.

For example, suppose an employee spends 10 hours on Activity A. Suppose the other three workers in his or her firm spend 20, 40, and 40 hours and the bonus rate equals 8. The minimum hours spent on Activity A is 10 hours. The employee's payoff equals $200 - 5 * 10 + 8 * 10 = 230$ ECUs.

These payoffs are summarized by the formula below. The variable $HA(i)$ gives the number of hours spent on Activity A by employee i . The variable B gives the bonus rate. Finally, $\min(HA)$ is the smallest or minimum number of hours any employee of the firm spends on Activity A. If you do not find this formula useful, don't worry about it. It is given to you as an additional way to understand the payoffs. The computer always shows your payoff table at any point where you need to make a decision. These tables will include all the information you will need to make your decision - a sample will be shown later in the instructions. The program calculates your payoff for you as part of the feedback you receive after each round.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Playing a Round as a Firm Employee: For each round the computer will display a screen like the one shown below. The payoffs shown in the table will be adjusted for any changes in the value of B. For the example below we set $B = 8$. Notice that the value of B is displayed below the table.

To choose a number of hours to spend on Activity A use the button on the right hand side of the screen. When you have made your final decision, click on the button labeled "Continue".

		Minimum Hours Spent by Other Employees on Activity A				
		0	10	20	30	40
My Hours on Activity A	0	200	200	200	200	200
	10	150	230	230	230	230
	20	100	180	260	260	260
	30	50	130	210	290	290
	40	0	80	160	240	320
$B = 8$						

Number of hours to spend on Activity A:

0
 10
 20
 30
 40

Note that when you make your choice you will not know the choices of other employees in your firm.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Feedback as an Employee: At the end of each round you will receive a summary of what happened in the round including the number of hours you spent on Activity A, the minimum number of hours spent on Activity A, the bonus rate, your payoff for the latest round, and your accumulated payoffs through the current round. The computer also provides a summary of this information for preceding rounds.

Confidentiality and Payoff: At no point in time will we identify the identity of any employees in the firm. In other words, the actions you take will remain confidential. At the end of Stage II, your accumulated payoffs will be converted from ECUs to dollars at a rate of \$1 per 500 ECUs. You will be paid these converted earnings in cash along with the show-up fee of \$10. You will be paid privately and we will not disclose your payoffs to the other participants in the experiment.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Employee Payoff Quiz

Before we begin the experiment, we will have two short quizzes: one about your payoffs as an employee, and one testing general knowledge about the experiment.

Please answer all of the following questions. For all of the questions on the employee role, assume that $B = 8$. This gives employees the payoff table shown below. We will go through the answers to a sample problem before you do the rest of the quiz. Please raise your hand if you are having trouble answering one of the questions.

		Minimum Hours Spent by Other Employees on Activity A				
		0	10	20	30	40
My Hours on Activity A	0	200	200	200	200	200
	10	150	230	230	230	230
	20	100	180	260	260	260
	30	50	130	210	290	290
	40	0	80	160	240	320
$B = 8$						

Sample Question: Suppose you choose to dedicate 10 hours to Activity A. The rest of the employees choose to dedicate 30, 20, 20, and 40 hours to Activity A. The minimum number of hours that an employee dedicates to Activity A is 10.

My profits (in ECUs) are 230.

1. Suppose you choose to dedicate 20 hours to Activity A. The rest of the employees choose to dedicate 30, 0, 40, and 10 hours to Activity A.

The minimum number of hours that an employee dedicates to Activity A is :

My profits (in ECUs) are:

Please click "Continue" when you are ready.

Continue

Employee Payoff Quiz (Cont.)

		Minimum Hours Spent by Other Employees on Activity A				
		0	10	20	30	40
My Hours on Activity A	0	200	200	200	200	200
	10	150	230	230	230	230
	20	100	180	260	260	260
	30	50	130	210	290	290
	40	0	80	160	240	320
B = 8						

2. Suppose you choose to dedicate 10 hours to Activity A. The rest of the employees choose to dedicate 20, 10, 30, and 10 hours to Activity A.

The minimum number of hours that an employee dedicates to Activity A is:

My profits (in ECUs) are:

Please click "Continue" when you are ready.

Continue

General Information Quiz

1. The same five people are in my firm for all 18 rounds of Stage 2 of the experiment.

TRUE

FALSE

2. My actions and payoffs will be confidential.

TRUE

FALSE

Please click "Continue" when you are ready.

Continue

Firm Managers: In the second part of Stage II (Rounds 7 - 18), there will be a firm manager. The manager will be selected from among the five employees in the firm. Each firm will have five employees who perform the same task as in the first part of Stage II. However, one employee will also now serve as the firm manager. For the remainder of the experiment, one of the five people in your firm will be the manager. The manager will always be the same person.

At the beginning of each round, the manager will be able to type a message to the other employees in his or her firm. Except for the following restrictions, the manager may type whatever he or she wants.

Restrictions on Messages

1. Please do not identify yourself or send any information that could be used to identify you (e.g. age, race, gender, etc.).
2. Please refrain from using obscene or offensive language.

When it is time for the manager to enter a message, the computer will display a box into which the manager can type a message. Note that when the manager enters a message he or she will not know how many hours the other firm employees will devote to Activity A.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Selection of Manager: We will now select which participant will be the manager for each firm.

The manager will be selected based on a vote by the employees in the firm. The outcomes from the quiz in Stage I for each participant in your firm are shown in the table below. The table also shows the amount of time allocated on average to Activity A by each participant during the last six rounds.

Using the buttons underneath the table, please select which participant you wish to play the role of manager for your firm. The participant who receives the most votes will be selected as manager. Ties will be broken randomly.

Participant ID	Correct Answers in Stage I	Avg Time Spent on Activity A
1	5	20
2	5	27
3	5	28
4	5	18
5	5	22

Vote for the participant you wish to be your firm's manager by selecting one of the buttons:

- 1
- 2
- 3
- 4
- 5

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

**** You have been selected to play the role of manager. Therefore, you will be a FIRM MANAGER for the next 12 rounds, until the end of the experiment.**

Remember that the manager was selected from the five employees in your firm. Prior to each round, the manager will be able to send a message to the other employees in the firm. The manager will continue to also perform the task as an employee.

Participant 3 has been selected as the manager for your firm.

Please click "Continue" once the experimenter asks you to do so. If you have a question, please raise your hand and wait for the experimenter.

Continue

Type: Employee

Period 2 out of 18

Participant # 2

The bonus rate is now $B = 6$. 6

The manager in your firm will now have the opportunity to send a message to all the firm's employees. Once the manager has sent the message, it will appear in the box below. All the employees in your firm will see the same message.

Once you have read the message, click Done to proceed. **Please do not click Done until you have read the message from the manager.**

The manager has left the messaging stage.

Hello
I am the manager.

Type: Manager

Period 7 out of 18

The bonus rate is now $B = 6.$ 6

You are now able to send a message to the employees in your firm. Your message will be viewed by all the employees in your firm. You will also be able to view your message.

You may enter your message in the box to the right of the table. After you have typed the message, hit the Enter key to send the message. Please send only one message. **You must hit the Enter key to send your message -- if you only click on "Done", no message will be sent.**

Once you have sent your message, click Done to proceed. **Please do not click Done until you have typed a message and hit Enter.**

Please click "Done" only after sending or reading the message.

Done