

# Welcome to ESSL

- Welcome to the ESSL Lab, and thank you for participating in today's experiment!
- Please place all of your personal belongings away so that we can have your complete attention.
- It is very important that you do not touch the computer until you are instructed to do so. When you are told to use the computer, please use it only as instructed. In particular, do not attempt to browse the web or use programs unrelated to the experiment.
- Raise your hand if you need a writing utensil.

# The Experiment

- Today's experiment is about hiring decisions.
- You will be paid for your participation in cash. Each of you may earn different amounts. The amount you ultimately earn in the experiment depends on your decisions as well as the decisions of others.
- You will be using the computer for the entire experiment and all interactions between yourself and others will take place through the computer terminals.
- Please DO NOT socialize or talk.

# Computer Instructions

- It is important that you follow the instructions in order to maximize the amount of money you earn.
- If you have any questions, raise your hand and your question will be answered so everyone can hear.
- Again, please do not hit any keys until you are told to do so. When you are told to enter information, type exactly what you are told to type.

# Structure of the Experiment

- The experiment will consist of 4 stages.
- Each stage will consist of 10 rounds.
- Therefore, there will be a total of **40 rounds**.
- At the end of the experiment, you will complete 2 short tasks.
- All payoffs in the experiment are expressed in **tokens**, where **1 token = 1 cent**.

# Subject Roles

- Before the experiment begins, you will be assigned a role: either a **firm** or a **worker**.
- Your role will remain fixed throughout all 40 rounds.
- You are equally likely to be either a firm or a worker.

# Worker Types

- Each worker will be assigned a color, **GREEN** or **PURPLE**.
- Your color will remain fixed throughout all 40 rounds.
- If you are a worker, you are equally likely to be either **GREEN** or **PURPLE**.

# The Experiment

- At the beginning of **each round**, firms and workers will be randomly and anonymously matched in pairs.
- Each worker must decide whether or not to invest in training.
- Each firm must decide whether or not to hire the worker it is paired with.
- Firms and workers make their decisions simultaneously: each decides without knowing the other's decision.

# The Decision for Workers

- In each round, each worker must decide **whether or not to invest in training**.
- Investment in training is costly.
- The cost of investment may depend on your assigned color and may also change across stages.



# The Decision for Firms

- In each round, each firm must decide **whether or not to hire the worker it is paired with.**
- Before making your decision, you can observe both the color and the investment cost of the worker you are paired with.

# Stage 1

- In Stage 1 of the experiment (the first 10 rounds), GREEN and PURPLE workers will have different costs of investment.
- For a **GREEN** worker, the cost of investment will be **200** tokens ( $c = 200$ ).
- For a **PURPLE** worker, the cost of investment will be **600** tokens ( $c = 600$ ).

# Payoffs

	Hire	Not Hire
Invest	$1800 - c, 1600$	$1000 - c, 1200$
Not Invest	$1400, 400$	$1200, 1200$

Payoffs in the game will be shown in a table, where “c” represents the cost of investment.

**The first number in a pair denotes the worker’s payoff, while the second number in a pair denotes the firm’s payoff.**

# Example #1

	Hire	Not Hire
Invest	<b>1800 – c, 1600</b>	1000 – c, 1200
Not Invest	1400, 400	1200, 1200

Suppose the firm is paired with a GREEN worker ( $c = 200$ ).

If the worker invests in training and the firm hires the worker, then both the worker and the firm earn a payoff of 1600 tokens (shown in **blue**).

# Example #2

	Hire	Not Hire
Invest	1800 – c, 1600	<b>1000 – c, 1200</b>
Not Invest	1400, 400	1200, 1200

Suppose the firm is paired with a GREEN worker ( $c = 200$ ).

If the worker invests in training and the firm does not hire the worker, then the worker earns a payoff of 800 tokens and the firm earns a payoff of 1200 tokens (shown in **blue**).

# Example #3

	Hire	Not Hire
Invest	$1800 - c, 1600$	$1000 - c, 1200$
Not Invest	<b>1400, 400</b>	1200, 1200

Suppose the firm is paired with a GREEN worker ( $c = 200$ ).

If the worker does not invest in training and the firm hires the worker, then the worker earns a payoff of 1400 tokens and the firm earns a payoff of 400 tokens (shown in **blue**).

# Example #4

	Hire	Not Hire
Invest	1800 – c, 1600	1000 – c, 1200
Not Invest	1400, 400	<b>1200, 1200</b>

Suppose the firm is paired with a GREEN worker ( $c = 200$ ).

If the worker does not invest in training and the firm does not hire the worker, then both the worker and the firm earn a payoff of 1200 tokens (shown in **blue**).

# What You Will Observe

- Before making your decision in a given round, you can observe the complete history of previous decisions.
- In other words, you will be able to see:
  - GREEN workers' average investment rates
  - PURPLE workers' average investment rates
  - firms' average hiring rates when paired with a GREEN worker
  - firms' average hiring rates when paired with a PURPLE worker
- These averages are calculated based on the decisions of **all players** and for **all previous rounds**.



# Reporting Beliefs

- Both firms and workers must also report their beliefs about the decision made by the individual they are paired with.
- You will be paid for the accuracy of your reported beliefs. This payment will be added to your earnings from the round.

# Reporting Beliefs for Firms

- If you are a firm, you will be asked to report your belief about whether the worker you are paired with chose to invest in training.
- You will see a scale from 0 to 100 at the bottom of your screen.
- You will be asked to drag a slider to indicate your belief about how likely it is that the worker you are paired with chose to invest in training.

# Reporting Beliefs for Workers

- If you are a worker, you will be asked to report your belief about whether the firm you are paired with chose to hire you.
- You will see a scale from 0 to 100 at the bottom of your screen.
- You will be asked to drag a slider to indicate your belief about how likely it is that the firm you are paired with chose to hire you.

# Payment for Reported Beliefs

- Suppose you are a firm and you are asked to report the likelihood that the worker you are paired with chose to invest in training.
- Call the **reported belief  $r$** . It can be any number between 0 and 100.
  - If the worker invested in training, you will receive **200 tokens with probability  $1-(1-r/100)^2$  and 0 tokens otherwise**
  - If the worker did not invest in training, you will receive **200 tokens with probability  $1-(r/100)^2$  and 0 tokens otherwise**

# Example

Suppose you are a firm and you believe that there is a 50% chance that the worker invested in training and a 50% chance that the worker did not invest in training (**true belief = 50%**).

Reported beliefs	Probability of receiving 200 tokens if worker invested	Probability of receiving 200 tokens if worker did not invest	Overall probability of receiving 200 tokens given your true beliefs
0%	0%	100%	50%
10%	19%	99%	59%
20%	36%	96%	66%
30%	51%	92%	71%
40%	64%	84%	74%
<b>50%</b>	<b>75%</b>	<b>75%</b>	<b>75%</b>
60%	84%	64%	74%
70%	92%	51%	71%
80%	96%	36%	66%
90%	99%	19%	59%
100%	100%	0%	50%

# Best Strategy

- **If you want to maximize the amount of money earned from reporting beliefs, then you should report your true beliefs!**

# Screen for a GREEN worker

## Stage 1: Round 1

You are a GREEN worker

GREEN workers have an investment cost of 200 ( $c = 200$ )

PURPLE workers have an investment cost of 600 ( $c = 600$ )

	Hire	Not Hire
Invest	$1800 - c, 1600$	$1000 - c, 1200$
Not Invest	1400, 400	1200, 1200

	Avg. Investment Rate	Avg. Hiring Rate
GREEN worker	0.0	0.0
PURPLE worker	0.0	0.0

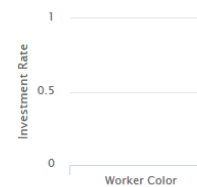
Do you wish to invest in training?

- Yes  
 No

In your view, what is the likelihood that the firm you are paired with chose to hire you?

  -1

Investment Rate



● Green ● Purple

Highcharts.com

Hiring Rate



● Green ● Purple

Highcharts.com

Next

# Screen for a PURPLE worker

## Stage 1: Round 1

You are a PURPLE worker

GREEN workers have an investment cost of 200 ( $c = 200$ )

PURPLE workers have an investment cost of 600 ( $c = 600$ )

	Hire	Not Hire
Invest	$1800 - c, 1600$	$1000 - c, 1200$
Not Invest	1400, 400	1200, 1200

	Avg. Investment Rate	Avg. Hiring Rate
GREEN worker	0.0	0.0
PURPLE worker	0.0	0.0

Do you wish to invest in training?

- Yes  
 No

In your view, what is the likelihood that the firm you are paired with chose to hire you?

 -1

Investment Rate



Hiring Rate



Next



# Screen for a firm paired with a GREEN worker

## Stage 1: Round 1

You are a firm

You are paired with a GREEN worker

GREEN workers have an investment cost of 200 ( $c = 200$ )

PURPLE workers have an investment cost of 600 ( $c = 600$ )

	Hire	Not Hire
Invest	$1800 - c, 1600$	$1000 - c, 1200$
Not Invest	1400, 400	1200, 1200

	Avg. Investment Rate	Avg. Hiring Rate
GREEN worker	0.0	0.0
PURPLE worker	0.0	0.0

Do you wish to hire the worker?

- Yes  
 No

In your view, what is the likelihood that the worker you are paired with chose to invest in training?

-1



Next

# Screen for a firm paired with a PURPLE worker

## Stage 1: Round 1

You are a firm

You are paired with a PURPLE worker

GREEN workers have an investment cost of 200 ( $c = 200$ )

PURPLE workers have an investment cost of 600 ( $c = 600$ )

	Hire	Not Hire
Invest	$1800 - c, 1600$	$1000 - c, 1200$
Not Invest	1400, 400	1200, 1200

	Avg. Investment Rate	Avg. Hiring Rate
GREEN worker	0.0	0.0
PURPLE worker	0.0	0.0

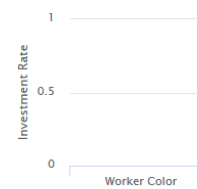
Do you wish to hire the worker?

- Yes  
 No

In your view, what is the likelihood that the worker you are paired with chose to invest in training?

 -1

Investment Rate



● Green ● Purple

Highcharts.com

Hiring Rate



● Green ● Purple

Highcharts.com

Next

# Your Earnings

- All payoffs in the experiment are expressed in tokens, where **1 token = 1 cent**



- At the end of the experiment:
  - 1 of the 40 rounds will be randomly selected
  - 1 of the 2 tasks will be randomly selected
- Your payment will be the sum of:
  - \$7 show-up bonus
  - earnings from the randomly selected round
  - earnings from the randomly selected task
- You need not tell any other participant how much you have earned.

# Let the Experiment Begin!

- To ensure your privacy and that of others in the experiment, please pull out the dividers as far as they will go.
- If there are no questions, we will now begin the actual experiment.
- Please open up Google Chrome and type in the following web address:

**<http://131.215.22.193:8000/room/UCI/>**