

## **General Instructions:**

Thank you for your participation in this experiment. All of the procedures used will be exactly as they are described in these instructions. The experiment should last approximately 20 minutes, and must be completed in one sitting. Before beginning, please remove any distractions that may affect your ability to complete the experiment. Others may be completing the experiment at a later time, so please do not discuss the experiment with anyone. During the experiment, you will not be able to go "back" to previous screens.

Each participant is guaranteed to receive at least \$2.00 as a participation fee. As explained below, you will have the opportunity to earn additional compensation (which will be between \$0 and \$7.40) during the experiment. Your total earnings, including the \$2.00 participation fee, will be paid to you via your Amazon Mechanical Turk account.

To protect your identity, we have randomly assigned you a participant number. This number will be used to collect information about your decisions during the experiment, and will be used to pay you at the end of the experiment.

In this experiment, you will act as a division manager for a firm that manufactures a variety of products. Since you have authority over investment decisions in your role as division manager, you will be presented with information about potential projects to consider implementing in your division, and you will make a series of decisions about which of those projects you would prefer to implement. As explained in more detail below, your compensation for this part of the experiment will be based on the performance of the projects you select for implementation.

There will be three parts to the experiment:

1. Instructions and a brief quiz to check your understanding of these instructions.
2. The project selection task, described in more detail below, that you will complete to earn additional compensation.
3. A post-task questionnaire.

### **Task Instructions:**

For the duration of this experiment, assume you are a division manager in your firm. As part of your responsibilities as division manager, you make decisions regarding investments in new projects within your division. Each division's required rate of return on investment is 10%, and so evaluations of a division manager's performance include comparisons of the performance of that division's projects to the required return. For the upcoming period, you have a budget of \$7,000 to invest in ten new projects for your division.

Once the project selection task begins, you will be presented with information about different projects that can possibly be implemented in your division. Projects will be presented in pairs – Project A & Project B – and you will select one of the two projects from each pair that you would like to implement. You will repeat this process for a total of ten pairs of projects.

All projects presented to you require the same investment (\$700). The information presented to you for each project will indicate: (1) the range of possible amounts of income the project could generate in the coming period, (2) the likelihood of the project generating each amount of income, and (3) the **residual income** that results from each particular amount of income.

**Residual income** is a measure used by your firm to evaluate the performance of projects chosen by division managers, and it will be used to determine your bonus compensation. Residual income represents the income generated by a project in excess of your division's required rate of return on investment of 10%:

$$\text{Residual income} = \text{Income generated by project} - (\text{Required rate of return} \times \text{Investment in project})$$

To illustrate, consider the following example: Project A generates \$170 in income. Since your division's required rate of return is 10%, and all projects you will consider in this experiment require a \$700 investment, the residual income for project A is:

$$\$170 - (10\% \times \$700) = \$100$$

Information for a sample pair of projects is presented below to allow you to become familiar with the type of information you will see during the actual project selection task:

Represents the income amounts that could be generated by the project

Each likelihood represents the chance that the project will generate each corresponding amount of income, based on a random draw. For example, Project A has a 1% (or 1 out of 100) chance of generating \$170 in income, a 3% (or 3 out of 100) chance of generating \$150 in income, and so on. Note that all likelihoods sum to 100% for each project.

Project A

Possible Income	Likelihood	Residual Income
170	I (1%)	\$100
150	III (3%)	\$80
140	IIII (5%)	\$70
120	IIIIII (6%)	\$50
115	IIIIII (7%)	\$45
110	IIIIII (8%)	\$40
105	IIIIIIII (15%)	\$35
95	IIIIIIII (15%)	\$25
85	IIIIIIIIII (20%)	\$15
70	IIIIIIIIII (20%)	\$0

Project B

Possible Income	Likelihood	Residual Income
240	IIII (5%)	\$170
230	IIII (5%)	\$160
210	IIIIIIII (10%)	\$140
175	IIIIIIII (10%)	\$105
135	IIIIIIIIII (15%)	\$65
100	IIIIIIIIII (15%)	\$30
75	IIIIIIIIII (15%)	\$5
30	IIIIIIII (10%)	-\$40
10	IIIIIIII (10%)	-\$60
0	IIII (5%)	-\$70

Residual income, a measure used by your firm to evaluate performance, is the income generated by the project in excess of your division's required return on investment. It is calculated as:  $\text{Income generated by project} - (\text{Required rate of return} \times \$700)$ . The residual income of the projects chosen for implementation in your division will determine your bonus compensation, as described in detail on the next page.

As previously mentioned, you will be presented with ten pairs of projects and will select one project from each pair that you would prefer to implement. Once you have finished making all ten selections, you will complete a post-task questionnaire, and will then learn the outcomes of your implemented projects and your compensation for the experiment.

## **Compensation:**

Your compensation will be calculated using the following rules:

As mentioned earlier, you will receive \$2.00 for your participation in this experiment plus additional compensation earned as a result of the decisions you make during the experiment. This additional compensation will be in the form of a bonus that will be calculated based on the performance of the ten projects you select for implementation in your division.

The performance of each of the ten projects you select will be determined randomly based on the likelihoods of each project's possible income (as described previously), and the performance of your selected projects will then determine your bonus compensation for the experiment.

Total bonus compensation will range between \$0 and \$7.40 and will be determined using the **residual income** of each of the ten projects implemented in your division, according to the following:

Bonus compensation for a single project = \$0.20 for project performance that meets the division's required return (i.e., Residual income of \$0), and an additional \$0.20 for each additional \$70 in Residual income. This can be summarized in the following schedule:

Residual income from implemented project	Bonus
Less than \$0	\$0
\$0-69	\$0.20
\$70-\$139	\$0.40
\$140-\$209	\$0.60
\$210-\$279	\$0.80
\$280-\$349	\$1.00

Your total bonus compensation will then be the sum of the bonus compensation earned for each of your ten selected projects.

For illustrative purposes, consider the following total compensation calculation examples:

1. One project chosen for implementation from a participant's set of ten selected projects attains income of \$165. Residual income for the project is therefore:  $\$165 - (10\% \times \$700) = \$95$ . The participant's total compensation for the experiment is:

Bonus based on residual income of \$95	= \$0.40
Bonus compensation from nine other projects	= \$X
Participation fee	= \$2.00
Total compensation	= \$2.40 + X

2. One project chosen for implementation from a participants' set of ten selected projects attains income of \$35. Residual income for the project is therefore:  $\$35 - (10\% \times \$700) = -\$35$ . The participant's total compensation for the experiment is:

Bonus based on residual income of -\$35	= \$0.00
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Bonus compensation from nine other projects	= \$X
<u>Participation fee</u>	<u>= \$2.00</u>
Total compensation	= \$2.00 + X