Online Appendices

Appendix A: Investment Game Equilibria

PROPOSITION 1**:** *For $p > ½$, there exists a cutoff equilibrium for $2 \leq k \leq 5$ with $T \geq 3$ and $\tau = T - 1$. There does not exist any cutoff equilibrium for $2 \leq k \leq 5$ with $\tau = T$.*

PROOF: The first step in proving that cutoff equilibria exist for $2 \leq k \leq 5$ with $T \geq 3$ and $\tau = T - 1$ is to show that it is a best response for investors to follow their equilibrium strategy. This is trivially true once a punishment has been triggered or during the terminal phase of the game ($t \geq \tau$) since a stage game equilibrium is played in every period. Otherwise, we need to show that the expected payoff from following the advisor's advice is payoff maximizing given that the other investors are doing so. This is straightforward following advice of 'Don't Invest' as the payoff from not investing is 7 ECUs and the maximum possible payoff from investing is only 6 ECUs (when $\theta = 5$). Suppose the message is 'Invest' and $k \geq 2$. We don't need to worry about continuation payoffs as these do not depend on the investors' action (by definition of a cutoff equilibrium). The expected payoff from choosing to invest is the sum of the total number of investors choosing to invest in equilibrium (5) and the expected value of θ subject to $\hat{\theta}_t \geq k$. Note that the latter term is an increasing function of k if ($p > 1/6$) and that an investor's decision to invest in the 'Always Invest' equilibrium is equivalent to their decision to follow advice to invest with $k = 0$. Together, these two observations imply that it is a best response for investors to follow advice to invest when $k \geq 2$.

The next step is to show that it is a best response for advisors to follow their equilibrium strategy. This is trivially true once a punishment has been triggered or during the terminal phase of the game ($t \geq \tau$) since a stage game equilibrium is played in every period.

To show that advisors are best responding in the remaining cases, we begin by specifying the reward and punishment equilibria. The critical restriction that equilibrium imposes is that the expected loss for an advisor from being punished, subject to *not* already being in a punishment phase or a terminal phase, is greater than the expected gain from deviating. This is most likely to be true if the reward equilibrium is chosen to maximize the advisor's expected payoff across the stage game equilibria and the punishment equilibria is chosen to minimize the advisor's expected payoff across the stage game equilibria. The Advisor Optimal equilibrium, as noted above, maximizes the advisor's expected payoff and therefore will be used as the reward equilibrium. The worst stage game equilibrium for the advisor is the 'Never Invest' equilibrium, so this is used as the punishment equilibrium.

If $p > .5$, the advisor cannot gain by sending 'Don't Invest' when he is supposed to send 'Invest.' His expected stage game payoff from sending 'Invest' is $10 – (8/5)*(1 – p)$ versus $2 + (8/5)*(1 – p)$ from sending 'Don't Invest.' The difference of $8 – (16/5)*(1 – p)$ is positive for all values of p, but sending 'Invest' has the risk of accidentally triggering punishment. This is most likely in the case where $k = 5$, where there is probability $(1 – p)$ that $\theta < k$. The loss from being punished must be at least as large as the difference between the advisor's expected payoffs from the reward and punishment equilibria for two periods (i.e. the losses in the terminal phase – there are additional losses for any periods prior to the terminal phase) which equals $(40 – 16*(1-p))/3$. For $p = .5$, the difference between sending 'Invest' and 'Don't Invest' is 6.4 and the loss from being punished = 32/3. Given that there is at most a 50% change of being punished, it is always best to follow the equilibrium and send 'Invest.'

Finally, we examine whether the advisor can gain by sending 'Invest' when he is supposed to send 'Don't Invest'. If $\hat{\theta} = 0$, his expected stage game payoff is $10 – 8p$ from sending 'Invest' versus $2 + 8p$ from sending 'Don't Invest.' The gain from sending 'Don't Invest' is $16p - 8$. For $p > .5$, this difference is positive. Since the advisor cannot be punished for sending 'Don't Invest,' he should follow the equilibrium.

For $1 \leq \hat{\theta} < k$, the advisor's stage game expected payoff from sending 'Invest' is 10 – (8/5)*(1 – p) versus 2 + (8/5)*(1 – p) from sending 'Don't Invest.' The difference of 8 – (16/5)*(1 – p) positive for all values of p, but sending 'Invest' has the risk of triggering punishment. This is least likely in the case where k = 2, where there is probability (1 + 4p)/5 that $\theta < k$ if $\hat{\theta} < k$. As before, the loss from being punished (32/3) must be at least as large as the difference between the advisor's expected payoffs from the reward and punishment equilibria for two periods (6.4). Given that there is a 60% change of being punished, the expected gain equals the expected loss and it is always best to follow the equilibrium and send 'Don't Invest'. The expected loss from punishment (probability of being punished multiplied by loss from being punished) is increasing faster in p than the expected gain from deviating, so the result follows for all p > .5.[1]

Doing analogous calculations with $\tau = T$, the punishment is never harsh enough to prevent deviations. Specifically, set p = 1. The gain from a deviation for $1 \leq \hat{\theta} < k$ is 8 and the cost from punishment is on 20/3 with a single period of punishment. Since the difference between the expected loss from punishment and the expected gain from deviation is an increasing function of p, it follows that there does not exist any cutoff equilibrium for $2 \leq k \leq 5$ with $\tau = T$. **Q.E.D.**

PROPOSITION 2: *The Investor Optimal equilibrium, as described in Section 3.3, is a Perfect Bayesian equilibrium of the repeated investment games played in our experiment.*

PROOF: To check that this is an equilibrium, we need to show that it is optimal to send 'Don't Invest' rather than 'Invest' when $\hat{\theta} = 1$. (Otherwise, the proof is essentially the same as above. Note that for $t \leq 16$ the reward is continuing to play along the non-deviation path rather than switching to reward equilibrium. This implies that being punished is less costly when $t \leq 16$.

[1] The gain from deviating, 8-16/5(1-p), has a derivative of 16/5. The expected loss here is [((1+4p)/5)*((40 – 16*(1-p))/3)], which has a derivative of (128p+112)/15. This is larger than 16/5 for any value of p.

For a single stage game, not in a punishment stage, playing according to the equilibrium gives an expected payoff equal to (1/3)*(26 – (32/5)*(1 – p)) for the advisor. The advisor's expected payment for a stage game in the punishment phase is the same as before, 10/3. The difference between these two figures equals (1/3)*(16 – (32/5)*(1 – p)). In the second period of the punishment phase, this difference must be reduced by a factor of (4/15)*(1 – p) to account for the possibility that a punishment phase is triggered on the equilibrium path in the subsequent period. The expected gain from deviating is the same as given above and the probability of being punished for a deviation is also unchanged. Comparing the expected gain from deviation with the expected loss due to punishment, it is optimal to follow the proposed equilibrium for either p = .8 or p = .9. In either case the investors are better off than in the Advisor Optimal equilibrium.

Appendix B: Additional statistics on investment

Figure B1: Total Investment over Time, by Advice (Pooled Primary Conditions)

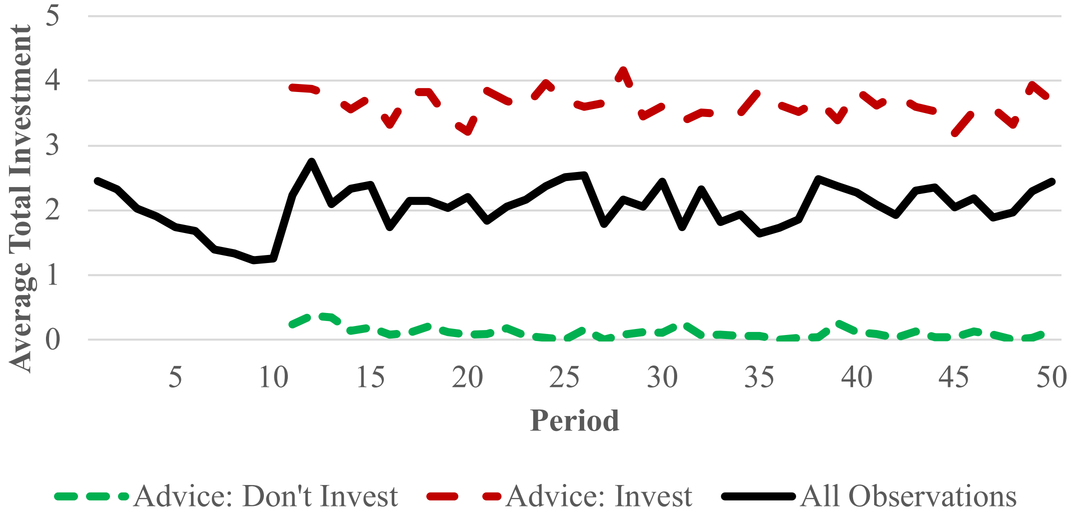
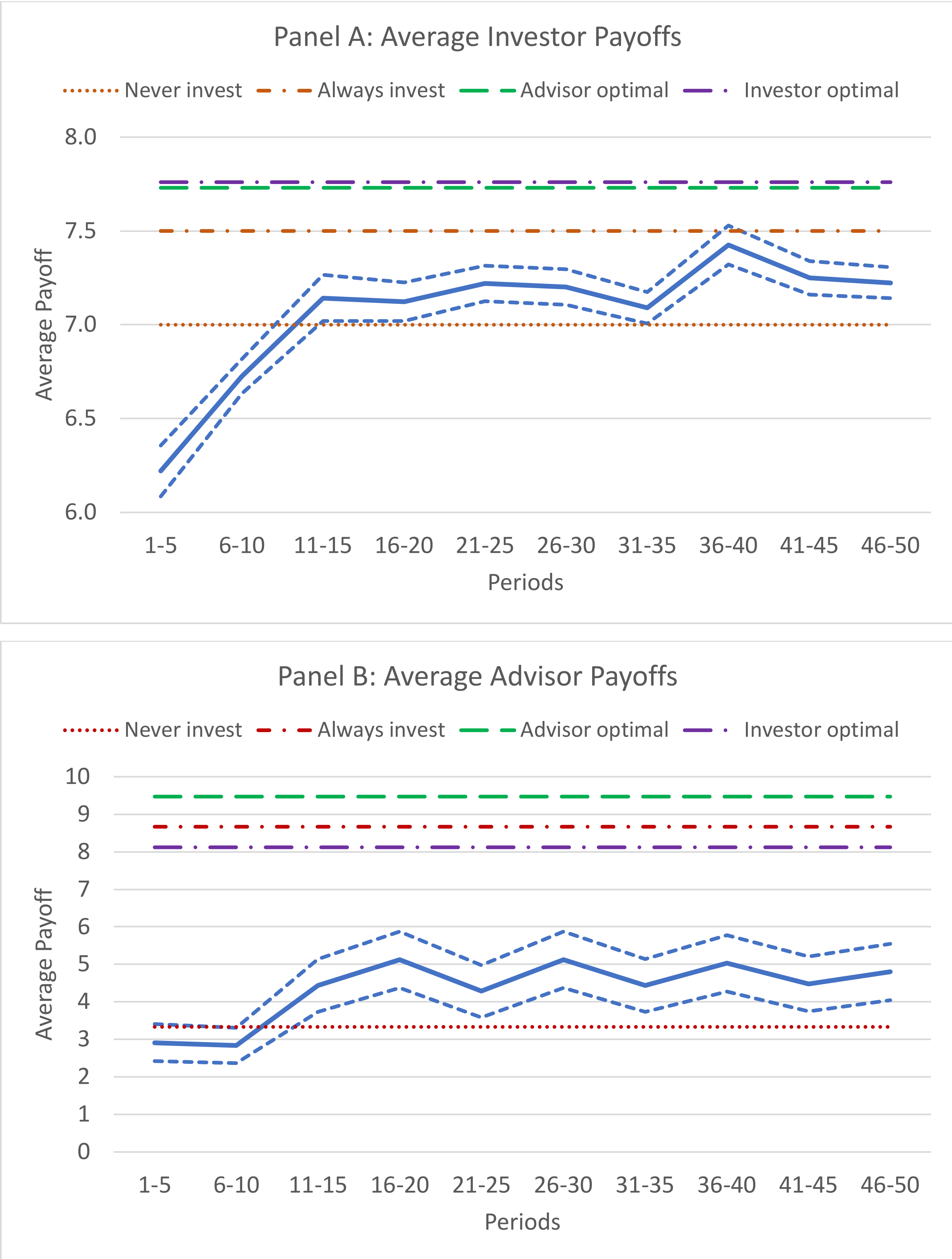
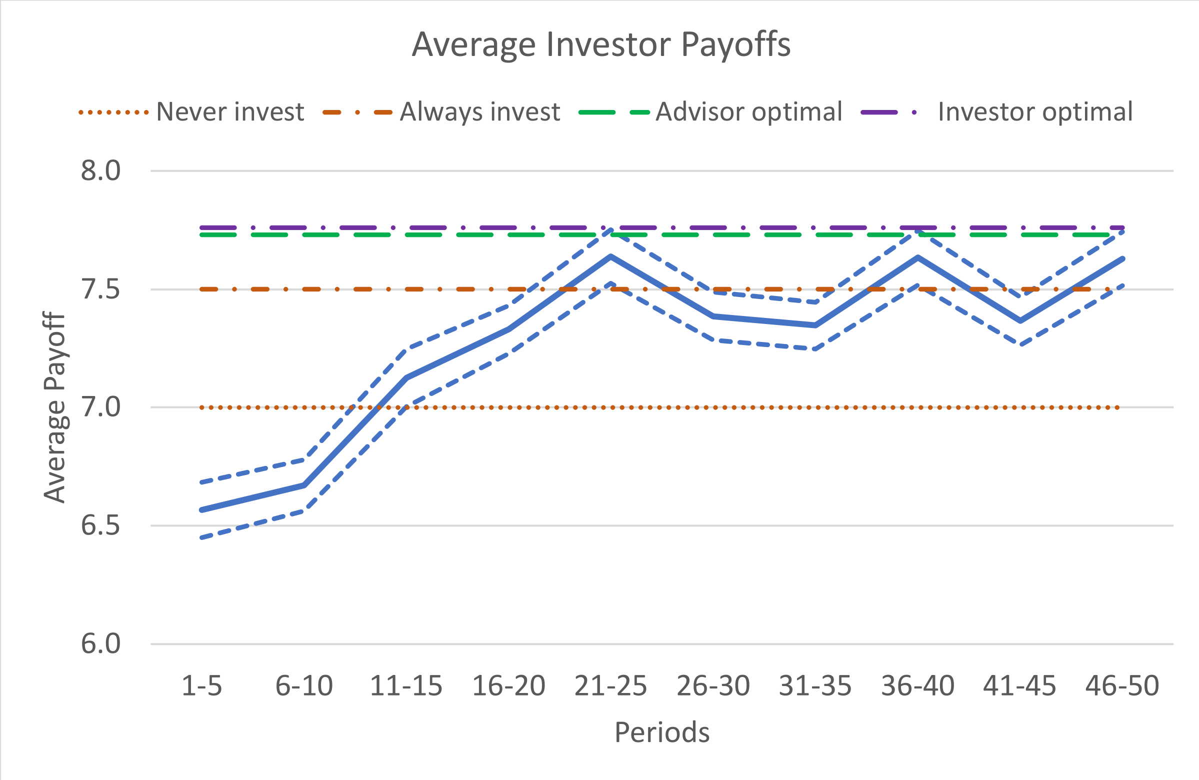


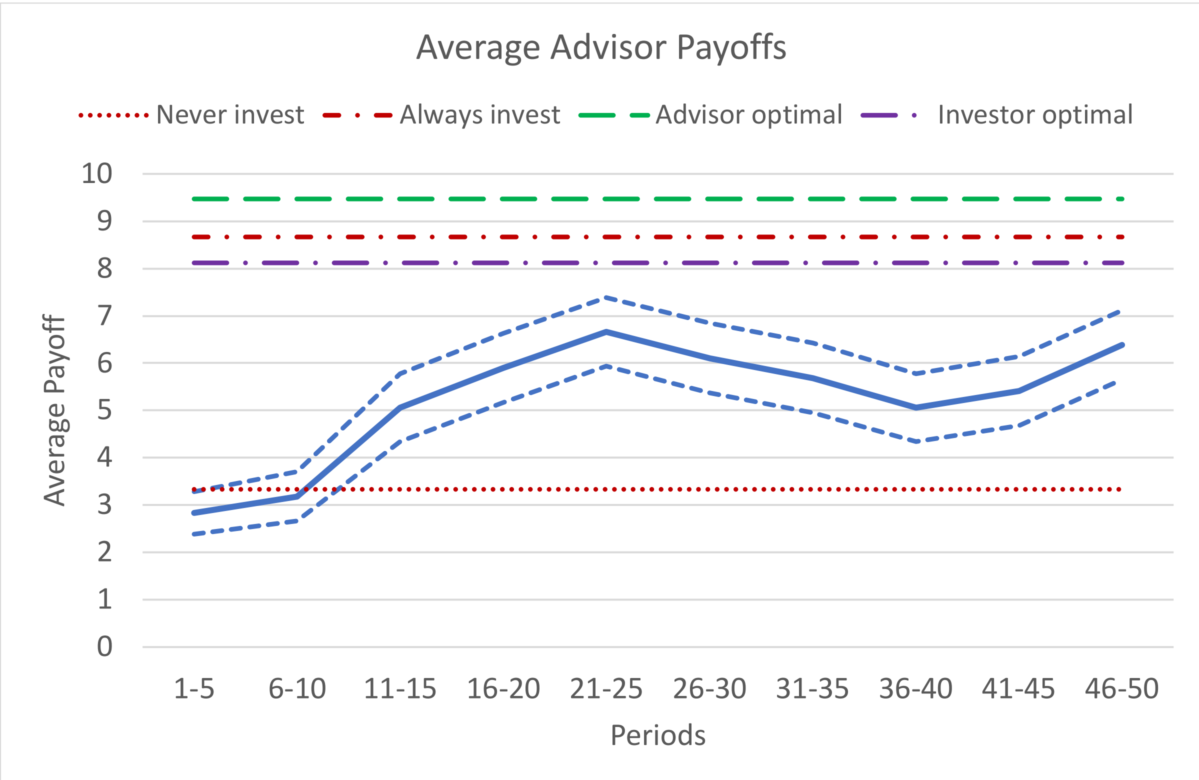
Figure B2: Effects of Advice on Average Payoffs (Baseline)



Note: Dashed lines represent 95% confindence intervals of mean.

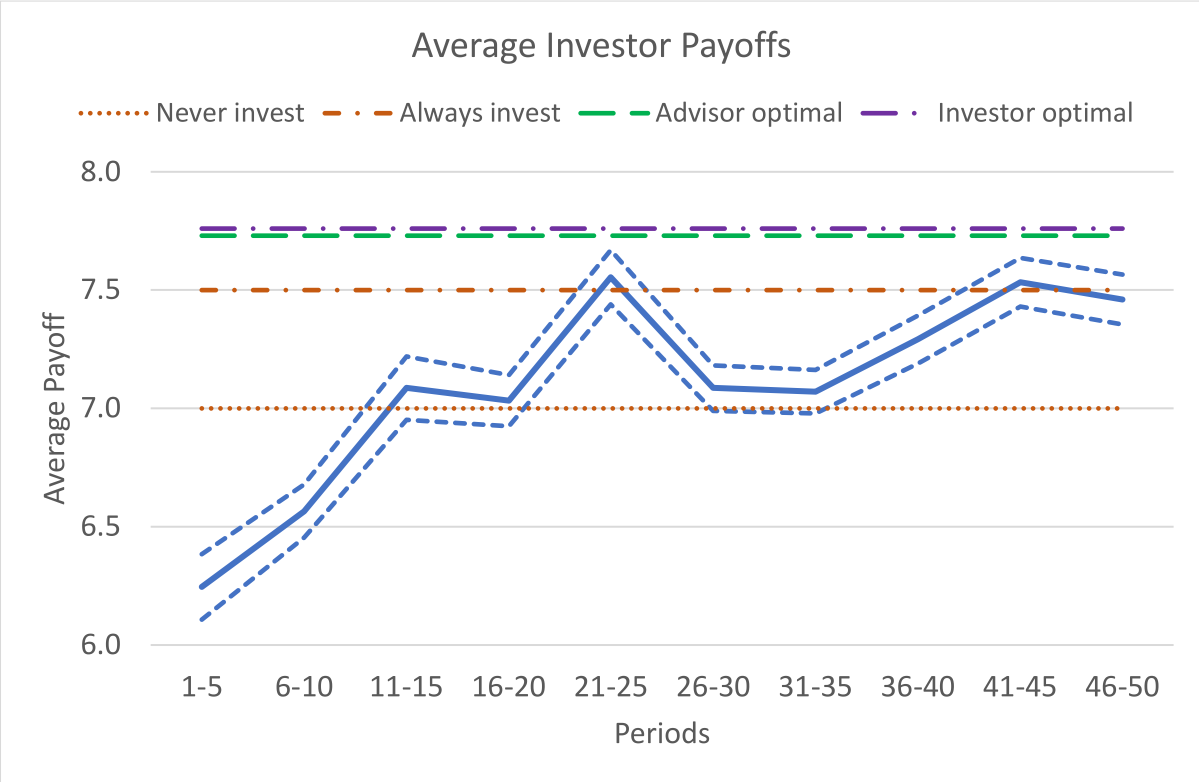
Figure B3: Effects of Advice on Average Payoffs (Signal Report)

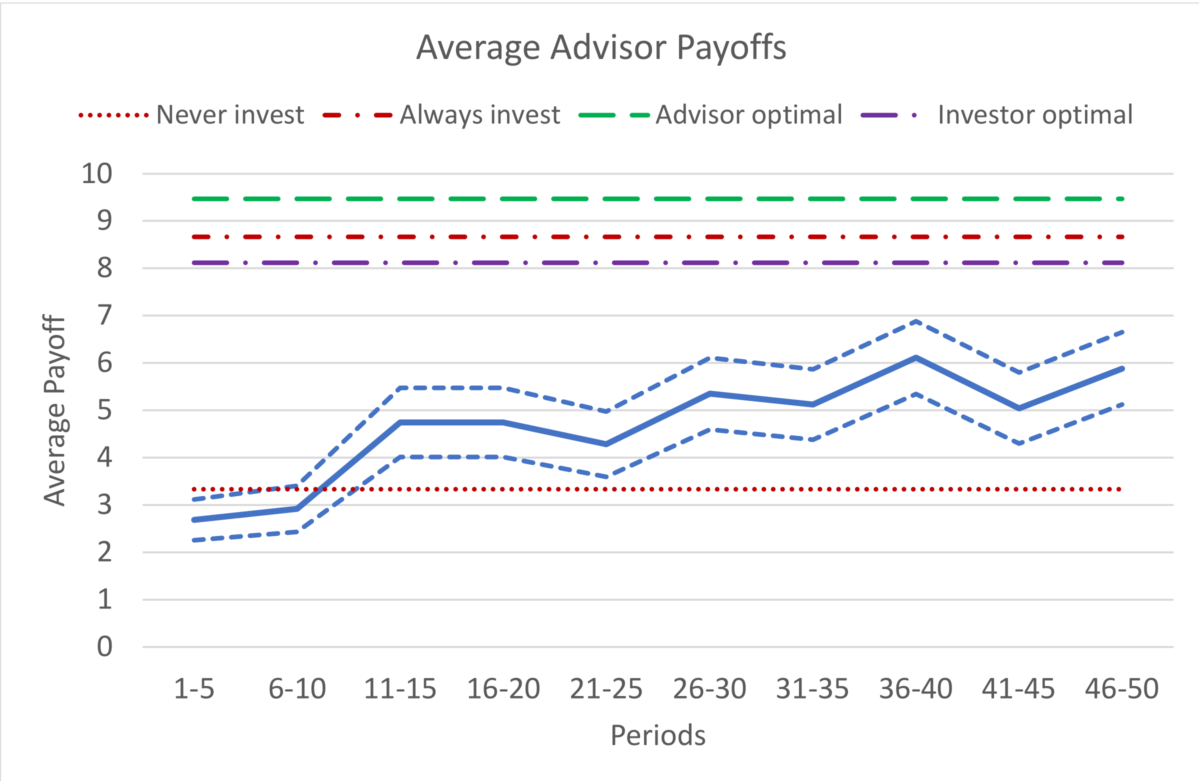




Note: Dashed lines represent 95% confindence intervals of mean.

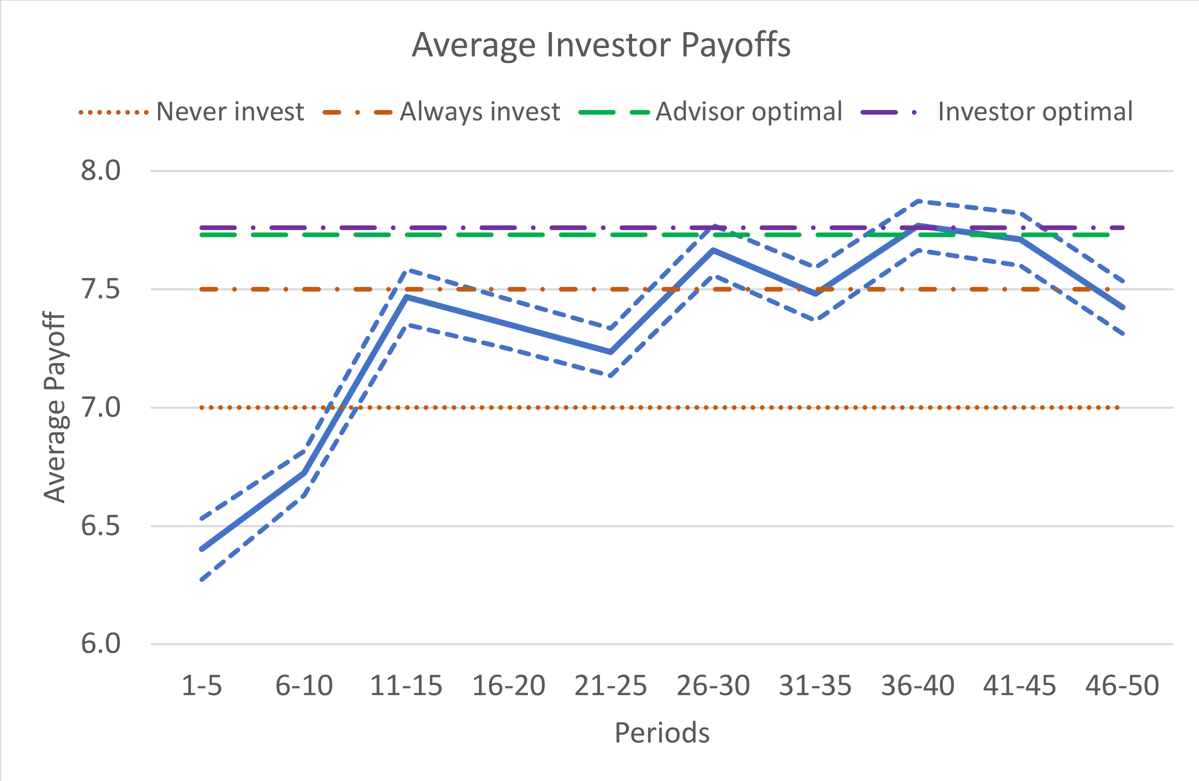
Figure B4: Effects of Advice on Average Payoffs (Signal Revealed)

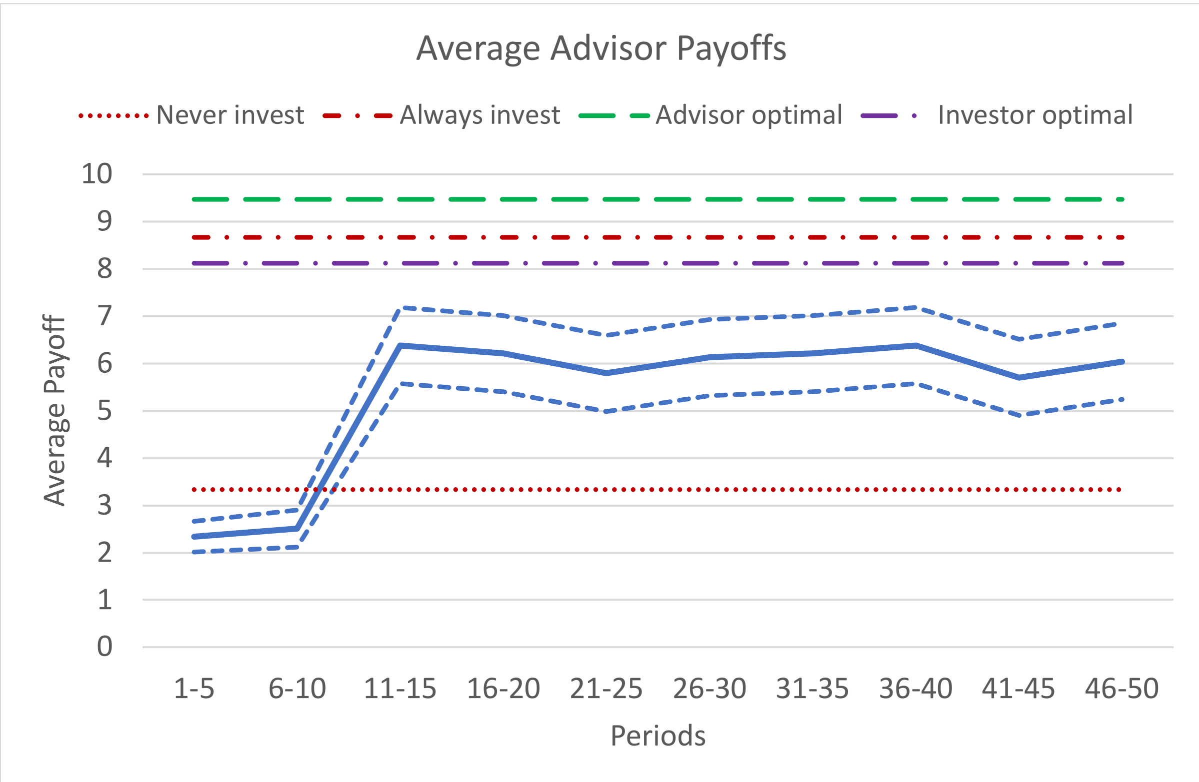




Note: Dashed lines represent 95% confindence intervals of mean.

Figure B5: Effects of Advice on Average Payoffs (High Precision)





Note: Dashed lines represent 95% confindence intervals of mean.

Tables B1 and B2 show whether investment was successful, broken down by quality. The dataset includes all Stage 2 observations from the primary treatments (Baseline, Signal Report, Signal Revealed, and High Precision) where the advisor recommended investment *and* the investor followed this recommendation. There are an additional 92 observations where the advisor did *not* recommend investment, but the investor chose to invest in any case. The investor's payoffs were less than 7 for all of these 92 observations. Each cell reports the raw frequency and the percentage by row. The second to last row of Table B1 aggregates totals across all six possible quality levels. The final row of Table B1 reports equivalent data from Stage 1, aggregated across all six possible quality levels. Advisors were not active in Stage 1, so all data is reported (the distinction of what the advisor recommended is irrelevant). Table B2 reports the same measures as Table B1, broken down by treatment.

Table B1: Payoff from Investment

		Payoff from Investment		
		Inv. Pay < 7	Inv. Pay = 7	Inv. Pay > 7
Stage 2	0	158 100.0%	0 0.0%	0 0.0%
	1	223 100.0%	0 0.0%	0 0.0%
	2	183 34.7%	345 65.3%	0 0.0%
	3	115 13.4%	164 19.1%	580 67.5%
	4	54 5.4%	78 7.8%	867 86.8%
	5	15 1.8%	36 4.3%	786 93.9%
	All Quality Levels	748 20.8%	623 17.3%	2233 62.0%
Stage 1	All Quality Levels	957 65.8%	190 13.1%	308 21.2%

Table B2: Successful Investment by Treatment

Baseline

		Payoff from Investment		
		Inv. Pay < 7	Inv. Pay = 7	Inv. Pay > 7
Stage 2	0	34 100.0%	0 0.0%	0 0.0%
	1	76 100.0%	0 0.0%	0 0.0%
	2	39 49.4%	40 50.6%	0 0.0%
	3	50 25.8%	24 12.4%	120 61.9%
	4	23 9.4%	18 7.4%	203 83.2%
	5	4 2.6%	8 5.1%	145 92.4%
	All Quality Levels	226 28.8%	90 11.5%	468 59.7%
Stage 1	All Quality Levels	218 77.3%	30 10.6%	34 12.1%

Signal Report

		Payoff from Investment		
		Inv. Pay < 7	Inv. Pay = 7	Inv. Pay > 7
Stage 2	0	62 100.0%	0 0.0%	0 0.0%
	1	43 100.0%	0 0.0%	0 0.0%
	2	57 44.9%	70 55.1%	0 0.0%
	3	24 12.7%	40 21.2%	125 66.1%
	4	11 3.2%	21 6.2%	309 90.6%
	5	5 1.9%	10 3.8%	252 94.4%
	All Quality Levels	202 19.6%	141 13.7%	686 66.7%
Stage 1	All Quality Levels	247 54.9%	87 19.3%	116 25.8%

Signal Revealed

		Payoff from Investment		
		Inv. Pay < 7	Inv. Pay = 7	Inv. Pay > 7
Stage 2	0	41 100.0%	0 0.0%	0 0.0%
	1	66 100.0%	0 0.0%	0 0.0%
	2	54 43.6%	70 56.5%	0 0.0%
	3	23 16.2%	44 31.0%	75 52.8%
	4	12 5.1%	18 7.7%	205 87.2%
	5	3 1.4%	12 5.7%	195 92.9%
	All Quality Levels	199 24.3%	144 17.6%	475 58.1%
Stage 1	All Quality Levels	301 66.4%	24 10.8%	55 22.7%

High Precision

		Payoff from Investment		
		Inv. Pay < 7	Inv. Pay = 7	Inv. Pay > 7
Stage 2	0	21 100.0%	0 0.0%	0 0.0%
	1	38 100.0%	0 0.0%	0 0.0%
	2	33 16.7%	165 83.3%	0 0.0%
	3	18 5.4%	56 16.8%	260 77.8%
	4	8 4.5%	21 11.7%	150 83.8%
	5	3 1.5%	6 3.0%	194 95.6%
	All Quality Levels	121 12.4%	248 25.5%	604 62.1%
Stage 1	All Quality Levels	191 70.7%	24 8.9%	55 21.2%

Appendix C: Heterogeneity in Response to Advisors Across Groups

The following figures show, separately for each treatment and group, the average response by investors to an advisor's recommendation to invest. Each figure contains a single treatment and each panel within a figure corresponds to a single group. Within each panel, the bar labeled 'No' shows the mean number of investors when the advisor recommended not to invest, while 'Yes' correspond to the case in which the advisor recommended investment.

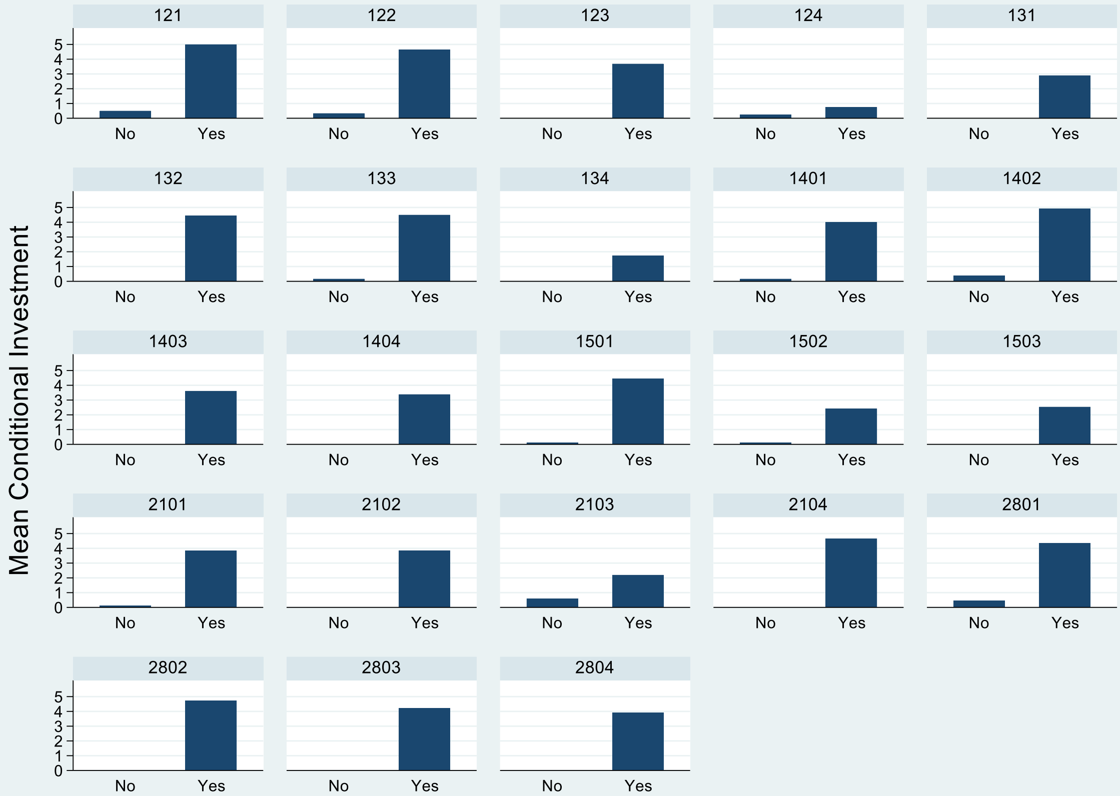
Figure C.1: Baseline

Note: Data is broken down by group and whether investors were advised to invest.

Figure C.2: Signal Revealed

Note: Data is broken down by group and whether investors were advised to invest.

Figure C.3: Signal Report



Note: Data is broken down by group and whether investors were advised to invest.

Figure C.4: High Precision

Note: Data is broken down by group and whether investors were advised to invest.

Appendix D: Behavior of Unclassified Advisors

The circumstances faced by unclassified advisors differ little from those advisors who are classified. Table D1 shows various statistics for the four advisor types from Stage 2: average total investment in Stage 1, average quality, periods with an unambiguous conflict of interest between advisors and investors (θ = 1 or 2), periods with bad signals (signal ≠ quality). Unless otherwise stated, these figures are based on the first half of Stage 2 (Periods 11 – 20) the time period when group behavior is malleable. Automated Advisors are not included, as they by definition cannot choose types. For none of these variables do the values for unclassified advisors stand out as exceptional.

Table D1: Early circumstances for advisor types

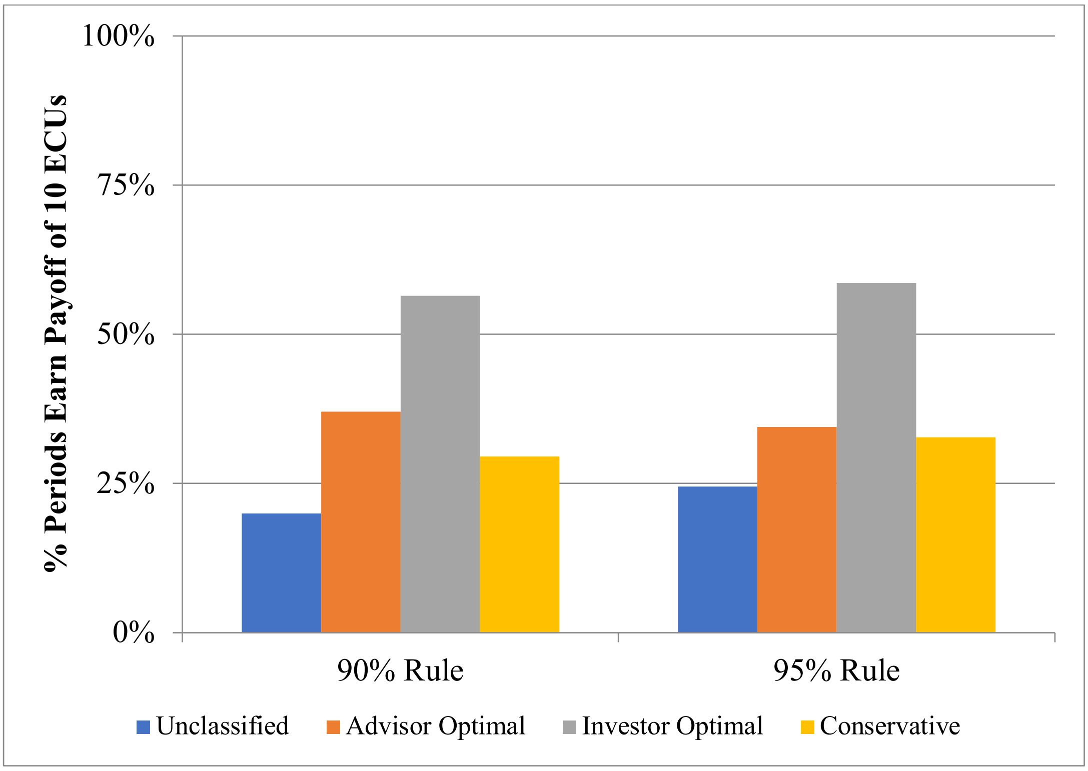
Type	Investment Periods 1 - 10	Quality Periods 11 - 20	Conflict Periods 11 - 20	Signal ≠ Quality Periods 11 - 20
Unclassified	1.57	2.43	28.6%	17.1%
Advisor Optimal	1.98	2.33	27.5%	15.8%
Investor Optimal	2.19	2.50	27.0%	11.7%
Conservative	1.27	2.19	25.5%	20.5%

Many unclassified advisors are actually quite consistent in their behavior. If we only require consistency with an advisor's type in 90% (18 of 20 periods) of Stage 2 periods, rather than 95%, the number of unclassified advisors in Stage 2 drops from 28 to 16 (out of 84 non-automated advisors). Using this more liberal criterion has little effect on the results reported in Figure 3. This can easily be seen in Figure D.1, which shows the percentage of periods, by advisor type, in which the advisor earned the high payoff of 10 ECUs, but using the 90% classification rule instead of the 95% rule. As in Figure 3, data is drawn from Period 21 – 30. The cluster of bars on the right side of the figure uses the 95% rule for classification and replicates that right-hand cluster of bars from Figure 3. The left-hand cluster uses the 90% rule for classification. The two panels differ little, indicating robustness of the relationship between earnings and strategies to different classification rules.

Looking more at the details of how unclassified advisors behave, many are unclassified because they are making random mistakes. It is extremely hard to justify a decision to recommend investment following a signal of 0 or to not recommend investment following a signal of 5. The unclassified types make these sorts of mistakes in 8.4% of possible observations versus 0.5% for classified advisors. Of the eleven advisors who ever make such a mistake in Stage 2, nine are unclassified, including all four advisors who made more than one such mistake. Not surprisingly, the advisors who make such mistake are poor performers. Over the course of Stage 2, they only earn a payoff of 10 ECUs in 19% of periods as compared with 46% for other (non-automated) advisors.

Turning to systematic changes in behavior over time, unclassified advisors become more conservative across Stage 2. Comparing Periods 11 – 20 with Periods 21 – 30, the frequency of advising investment by unclassified advisors drops from 60% to 42%. If we classify advisors in ten period blocks (requiring 90% consistency with a rule) rather than the entirety of Stage 2, the movement across time shows up as a decrease in advisors classified as Advisor Optimal and an increase in more conservative types. This is *not* consistent with a story that most unclassified advisors started as Investor Optimal but gave up.

Figure D.1: Comparing cutoff rules for advisor type assignment



Appendix E: Instructions for Baseline **Not for Publication**

<u>ID Screen</u> *turn off cell phones, ipods*

Before starting the experiment, we would like to randomly assign everyone a participant ID number. You will find your ID number on an index card in the right-hand corner of your desk. This number is your participant number for the experiment. Your participant number will be the same for the entire experiment. This number is private and should not be shared with anyone.

→*Pass out envelopes (or cards).*

Before proceeding, please enter your participant number in the box below. Please enter the number exactly as it appears on your card. One you have entered it and clicked "Continue" you will be asked to confirm your choice. Please check to make sure you entered the number correctly before clicking again to proceed.

<u>General Information</u>

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 25 ECU. Upon completion of the experiment, your earnings will be converted to dollars and you will be paid privately, by check. The exact amount you receive will be determined during the experiment and will depend on your decisions and the decisions of others.

The identities of participants will remain confidential, meaning that at no point in time will we identify the role or actions of any individual to other participants. In other words, the actions that you take during this experiment will remain confidential.

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 these rules or otherwise behaving in a disruptive fashion will be asked to leave the experiment and will not be paid.

Please click "Continue."

Description of Stages, Rounds, and Groups

This experiment will consist of three stages (I, II, and III). Right now, we will only go through the instructions for Stage I. You will receive new instructions later for Stages II and III.

Stage I will last for 10 rounds. In each round, you will be in a six-person group with five other participants. The participants you are grouped with will be the same for all rounds of Stage 1.

Your group will consist of participants in two roles. Five of the participants will participate in the experiment in the role of *Player A*. These participants will make decisions in Stage I. The remaining participant in each group will be in the role of *Player B.* Player B will not make any choices in Stage I. Instead, this participant will be able to observe the outcomes for their group in each round of Stage I.

You will be informed of your role (*Player A* or *Player B*) prior to the beginning of Stage 1.

Description of the Decision Task in Stage I

In Stage I, the five *Player As* in each group will begin each round with an endowment of 7 ECU. If you are a *Player A*, you will decide individually whether to invest your 7 ECU endowment into an investment opportunity or to keep it. You cannot split your endowment – you must either invest all 7 ECU or keep all 7 ECU. Therefore, each *Player A*'s only decision in each round is whether to invest or keep their endowment.

All *Player As* will make their decisions at the same time. This means that *Player As* will not know whether the other members of their group have invested or kept their endowments when making their own investment decisions.

Description of Player A Payoffs

If you are a *Player A* and you choose to keep your endowment, you will retain your initial 7 ECU. This will be your payoff for the round.

If you choose to invest your endowment, your payoff will depend on the total number of *Player As* in your group, including you, that invest (*Total_Invest*) and the quality of the investment opportunity (*Quality*).

The *Quality* of the investment opportunity will be drawn randomly in each round from the numbers 0, 1, 2, 3, 4, 5, or 6. Each number is equally likely to be drawn. In other words, the chance of each of these numbers being drawn is 1/7. A new *Quality* is drawn in each round, so knowing the quality drawn in the previous round tells you nothing about the quality drawn for the current round. **You will not know the quality of the investment opportunity when you decide to invest.**

Your payoff will be determined by the following equation:

$$Player\ A\ Payoff = Quality + Total\_Invest$$

You will not need to remember this formula. It is provided to let you know exactly how payoffs for *Player As* are calculated. When you make your choice in a round, you will see a Player A Payoff Table, which will show you the possible payoffs for combinations of *Quality* and *Total_Invest*.

Description of Player A Payoff Tables

When you make your decision in each round, you will see a payoff table similar to the one below that will show your payoffs if you invest, for each possible combination of how many ***total*** group members invest and *Quality* of the investment opportunity.

Notice that the message above the table reminds you that if you keep your endowment you will earn 7 ECU regardless of the quality of the investment opportunity.

Please look at an overhead screen as we go through some examples on how to read the *Player As*' payoff tables.

<u>Description of Player B Payoffs</u>

If you are a *Player B*, your payoffs will depend on the total number of *Player As* in your group that invest (*Total_Invest*) and on the *Quality* of the investment opportunity (*Quality*).

Your payoff will be determined by the following equation:

Player B Payoff = 10 if *Quality* = 0 and *Total_Invest* = 0
Player B Payoff = 10 if *Quality* ≥ 1 and *Total_Invest* = 5
otherwise *Player B Payoff* = 2

You will not need to remember this formula. It is provided to let you know exactly how payoffs for *Player Bs* are calculated.

<u>Description of Player B Payoff Tables</u>

The payoff table below shows a *Player B*'s payoffs for each possible combination of how many *Player As* in the group invest (*Total_Invest*) and *Quality* of the investment opportunity. Please look at an overhead screen as we go through some examples on how to read the *Player Bs*' payoff tables.

Player Bs will not have any decisions to make during Stage 1.

<u>Description of Player B Information About Quality of the Investment Opportunity</u>

At the beginning of each round, the *Player B* will receive an estimate of the quality of the investment opportunity. There is an 80% chance that the estimate *Player B* receives is correct and a 20% chance that it is incorrect. In other words, there is a 4 in 5 chance that the estimate *Player B* receives will be exactly equal to the true quality of the investment opportunity, and a 1 in 5 chance that the estimate *Player B* receives will be equal to some number other than the true quality of the investment opportunity.

If *Player B* receives an incorrect estimate, each of the six possible incorrect values is equally likely. In other words, if the estimate is ***not*** equal to the true quality of the investment opportunity, there is a 1 in 6 chance that it is equal to each of the other six possible qualities.

So, for example, if the *Quality* in a round is 3, then there is an 80 percent (4 in 5) chance that Player B will receive an estimate equal to "3", and there is a 20 percent chance (1 in 5) that Player B will receive an estimate equal to one of the other possible values of *Quality* ("0", "1", "2", "4", "5", "6"). Each of the other possible estimates is equally likely. For instance, if you do not receive an estimate of 3 (the true value of *Quality*), there is a 1 in six chance that you will receive an estimate of 7.

This estimate is *private* information. In other words, the *Player B* can see the estimate, but the *Player A*s will never be told what estimate he received.

Sample Decision Task Screen for Player As (*subjects see sample decision screen)*

When *Player As* make a decision, they will see a screen like the one shown below. Note that you will always see a payoff table for *Player As* and *Player Bs* whenever you make a decision. The screen also reminds you that *Player As* who choose not to invest will receive a payoff of 7 ECU. To see what the payoffs will be for a specific quality of the investment opportunity, click on the corresponding button between the two payoff tables. The payoffs for this quality of the investment opportunity will be highlighted in the payoff tables.

To make a decision as a *Player A*, click either on the button labeled "Don't Invest" or "Invest". You will be asked to confirm your decision. You have up to [30] seconds to make a decision, though you may make and confirm your decision sooner than that if you wish. If you have not clicked on a button and confirmed your choice in this time, the computer will prompt you to make your choice.

Feedback

Once all the *Player As* in your group have made their choice, all *Player As* will see a screen displaying their own investment decision for the round, the number of other *Player As* who choose to invest, and the total number of *Player As* in the group who chose to invest for the round (*Total_Invest*). Notice that the *Total_Invest* amount is the sum of your investment choice and the number of other *Player As* choosing to invest. All *Player As* will also see the *Quality* of the investment opportunity, their payoff, and the payoff for Player B. A summary of this information for previous rounds will also be available.

The *Player B* in each group will see a similar screen that provides the total number of *Player As* in the group who chose to invest for the round (*Total_Invest*), the *Quality* of the investment opportunity, their payoff, and the payoffs for Player As. *Player B* also sees a summary of this information for previous rounds.

Quiz

To make sure that everyone understands the instructions for Stage I, please take a moment to answer the following questions. Once everyone has responded correctly, we will proceed to the first round of Stage 1.

1. Suppose that the *Quality* in a round is 1. Suppose that the total number of Player As who invested (*Total_Invest*) is 2.

What is the payoff for a Player A who invested?

What is the payoff for a Player A who kept the endowment?

What is the payoff for Player B?

2. Suppose that the *Quality* in a round is 5. Suppose that the total number of Player As who invested (*Total_Invest*) is 4.

What is the payoff for a Player A who invested?

What is the payoff for a Player A who kept the endowment?

What is the payoff for Player B?

3, Suppose that the *Quality* in a round is 7.

The estimate of investment quality that Player B receives is 80% likely to be 7. (T/F)

The estimate of investment quality that Player B receives will never be 4. (T/F)

The Player As can see what estimate the Player B has received. (T/F)

Stage II

We have now concluded Stage I of the experiment. Stage II will consist of 20 rounds.

Your group in Stage II is the same six participants as in Stage I and the roles are the same as well. In Stage II, the *Player A*s will again choose in each round whether or not to invest in an investment opportunity. The payoff of a *Player A* will be determined, as before, by their investment decision, the investment decision of other *Player As*, and the quality of the investment opportunity for that round. The payoff tables used for *Player A*s in Stage II are the same as those used in Stage I. The payoff of the *Player B* will once again be determined by the total number of *Player A*s choosing to invest and the quality of the investment opportunity. The payoff tables used for *Player B*s in Stage II are the same as those used in Stage I. This means that, in Stage II, the payoffs for everyone in your group will be determined in the same way as in Stage I.

The five *Player A*s in each group will again receive no information about the quality of the investment opportunity for that round. The *Player B* in each group will once again receive an estimate of the quality of the investment opportunity. Once again, there is an 80% chance that this estimate gives the true quality of the investment opportunity. The *Player B*'s estimate is private information that will never be seen by the *Player A*s.

After seeing his the estimate, the *Player B* will then send a message to all *Player A*s in the group. This message will include a recommendation to either "Invest" or "Not Invest." All *Player A*s will see the same message from the *Player B* before making their investment decision for the round.

<u>Sample Decision Task Screen for Player Bs (</u>*subjects see sample decision screen)*

When *Player Bs* make a decision, they will see a screen like the one shown below. Note that you will always see a payoff table for *Player As* and *Player Bs* whenever you make a decision. The screen also reminds you that *Player As* who choose not to invest will receive a payoff of 7 ECU.

At the top of your screen, the estimate you received of the *Quality* of the investment opportunity is shown in **BOLD** type.

To choose the advice you give to the *Player A*s in your group, click either on the button labeled "Don't Invest" or "Invest". After you click on one of these buttons, you will be asked to confirm you decisions. All the Player As in your group will see your recommendation prior to making their decisions in the round.

You have [30] seconds to make your decisions. If you have not clicked on a button for your report and your advice and confirmed your choice in this time, the computer will prompt you to make your decision.

<u>Sample Decision Task Screen for Player As (</u>*subjects see sample decision screen)*

The only change in *Player As'* decision screen for Stage II is that you will now see the advice [and report] from *Player B* shown in **BOLD** print at the top of your screen. Remember, all of the *Player A*s in your group see the same advice [and report]. Otherwise, making a decision works exactly the same way as in Stage 1.

Results of Each Round

At the end of each round, *Player A*s will see the same information they saw in Stage I plus they will now also see the advice [and report] sent by the *Player B* in their group. Player As will *not* see the estimate that the Player B actually received.

*Player B*s will see their estimate for that round, as well as the advice [and report] sent to *Player A*s. *Player B*s will also see all the information they saw in Stage I, including the true quality of the investment opportunity.

Stage III

We have now concluded Stage II of the experiment. Stage III will consist of 20 rounds. The rules are identical to Stage II with one exception. The five *Player A*s in each group will stay in the same group and in the same role. The *Player B*s are going to be randomly assigned to a new group. It is possible that the same *Player B* will be assigned to your group as in Stages I and II. If so, we will let you know that all members of the group are the same as in Stages I and II. Otherwise, you will receive information about Player B's choices in Stage 2.

Final Screen

The experiment has now ended. Below you will see a summary of the experiment. You will also see the ECU you earned from the experiment, and your total earnings in dollars, including your $10 show-up fee.

Thank you for participating. You will now privately receive your payment, by check.