

Profit sharing & peer reporting

Jeffrey Carpenter* Andrea Robbett† Prottoy Akbar‡

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1 Appendix - Experimental Instructions

Practice round instructions

The following instructions were provided to participants in all four treatments.

Hello and welcome to our experiment. Please follow along with these instructions as I read them aloud.

Payment and Confidentiality

You will be taking part in an experiment studying interactions within an office environment. You will play multiple periods of the same decision-making game. In addition to the \$5 that you will be paid for showing up, you have the opportunity to earn an additional amount of money based on your decisions if you follow these instructions carefully.

You will be grouped with three other participants in the room and randomly assigned the role of either a Worker or a Manager such that each group has exactly 3 Workers and 1 Manager. You will stay in the same role and group for the entire duration of the experiment. During the experiment, earnings will be calculated in terms of experimental dollars and then translated at the end of the experiment into real dollars at the following exchange rate:

250 Experimental Dollars (E\$) = \$1 (Managers)

*Department of Economics, Middlebury College and IZA, jpc@middlebury.edu.

†Department of Economics, Middlebury College, arobbett@middlebury.edu.

‡Department of Economics, University of Pittsburgh, paa36@pitt.edu.

33 Experimental Dollars (E\$) = \$1 (Workers)

Please note that any and all decisions that you make or responses that you provide during the experiment are strictly confidential and anonymous. We intend to use the data collected from the study for academic work as it relates to economic decision making. To assure your decisions are confidential, we ask that you do not speak to each other until the entire session ends.

Worker Instructions

If you are a Worker, you will be paid a fixed wage of E\$50 in each period. Every period, you have the option to choose how much effort you want to put into your work. Your effort will be a number from 1 unit to 8 units. Effort is costly, and your payoff is the difference between the wage and your cost of providing effort. Specifically, it costs you E\$5 for each unit of effort and your earnings would be given by:

$$\text{Your payoff in E\$ (at the end of each period)} = 50 - (\text{Effort} \times 5)$$

The table below shows the amount that a Worker would earn for the period, for each possible effort level he or she chose (in E\$):

Your Effort							
1	2	3	4	5	6	7	8
45	40	35	30	25	20	15	10

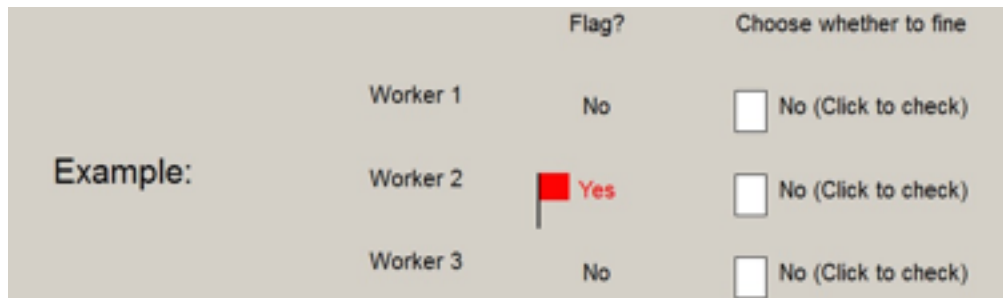
Towards the end of each period, each Worker will be able to see the effort put in by each of his or her peer Workers. The Manager will see the total effort put in, but will not see each individual's effort until the very end of the period.

Instead, the Manager may see a signal or a “flag” that is weakly related to your effort. After each Worker has chosen his or her effort for the period, the Manager will see a screen, similar to the picture below, listing each of the Workers in the group. A flag may appear beside one or more of the Workers, indicating to the Manager that this Worker may have chosen low effort. The flag appears randomly, but the likelihood that it appears depends on the Worker's effort.

Specifically, the probability that the flag appears = .53 - .03 times Effort. Note, however, that this means that Workers who put in high effort will still sometimes be flagged and that Workers who put in low effort often will not be flagged. The table below shows the possible effort choices and the likelihood that a Worker making that choice will be flagged.

Effort	1	2	3	4	5	6	7	8
Likelihood of Flag	0.50	0.47	0.44	0.41	0.38	0.35	0.32	0.29

For example, if you choose the minimal effort (Effort = 1), you will be flagged with probability 0.5 (half of the time). If you choose the maximum effort (Effort = 8), you will be flagged with probability 0.29. For efforts in between, your likelihood of being flagged will be in between these amounts. After viewing this information, the Manager may choose to impose a fine of E\$20 on any Worker(s) in the group. The Worker numbers will be randomly reassigned each period, so that participants will not be able to track any individual's choices across periods.



Manager Instructions

If you are a Manager, you will receive a payment of E\$100 each period. In addition, you will receive any profits of your firm, which depends on the effort Workers collectively put into work. Each unit of effort put in by a Worker increases firm profits by E\$25. The firm's profits are therefore equal to 25 times the total effort of all Workers, minus the wages that the Workers receive (E\$50 each). Your payment is thus given by:

Your payoff in E\$ (at the end of each period) = $100 + 25 \times \text{Total sum of Worker effort} - (3 \text{ Workers}) \times (\text{Worker wage of } 50)$

The table below shows your earnings for each TOTAL effort level put in by the Workers in your group. (Recall that Workers' effort levels must be between 1 and 8.)

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550

Toward the end of the period you will be shown the total effort provided by your group, but will not see each individual Worker's effort. Instead, you may see flags beside some of the Workers. As described on the previous page, Workers who put in lower effort are more likely to have a flag beside their name – but it is also likely that Workers who chose high effort are wrongly flagged or that Workers who did choose low effort are not flagged. Lastly, you will be able to fine any of the three Workers. The E\$20 fine will be deducted from the Worker's payoff for the period and will cost you E\$5 for each Worker that you fine.

At the end of the period, after you have chosen whether fine anyone, you will see the actual effort chosen by each Worker. The Worker numbers will be randomly reassigned the following period, so you will not be able to track a Worker's choices across periods.

Summary of Instructions

- 1) Each Worker independently decides how much effort to put into working.
- 2) Workers see the effort put in by other Workers in their group. Managers only see the total effort, but may also see a “flag” next to the Workers' ID #, which is weakly associated with how much effort that Worker chose.
- 3) The Manager has the option to fine any of the three Workers. We will now play a 5 period practice round. There will be no payments for these periods, as they are designed to familiarize you with the task before subsequent paid periods. After the practice, additional instructions may be provided before the paid periods begin.

Instructions for Main Experiment

The following instructions were provided to participants in the Profit Sharing & Peer Reporting treatment. Similar instructions were provided for the Profit Sharing, Fixed Wage & Peer Reporting, and Fixed Wage treatments, but with the descriptions of the profit sharing incentives, reporting system, or both removed, respectively.

That concludes the practice rounds. The paid periods will now begin. You will play 10 periods with the same group and your role (Manger or Worker) will be the same as in the practice periods. The following change is being made to the instructions: Workers now share in the profits of the firm (including both the return on Worker effort and the cost of paying wages). Recall that the firm's profits are: $25 \times (\text{Total Effort}) - (3 \text{ Workers}) \times (\text{Wage of } 50)$. Each Worker will receive 12% of the firm's profits and the Manager will receive the remaining 64% of the profits. For the Workers, this means that payoffs will now depend on your own effort and on the effort of the two other Workers. Your payoffs in each case are given by the table below.

		Your Effort							
		1	2	3	4	5	6	7	8
Total Effort of the other two Workers	2	36	34	32	30	28	26	24	22
	3	39	37	35	33	31	29	27	25
	4	42	40	38	36	34	32	30	28
	5	45	43	41	39	37	35	33	31
	6	48	46	44	42	40	38	36	34
	7	51	49	47	45	43	41	39	37
	8	54	52	50	48	46	44	42	40
	9	57	55	53	51	49	47	45	43
	10	60	58	56	54	52	50	48	46
	11	63	61	59	57	55	53	51	49
	12	66	64	62	60	58	56	54	52
	13	69	67	65	63	61	59	57	55
	14	72	70	68	66	64	62	60	58
	15	75	73	71	69	67	65	63	61
	16	78	76	74	72	70	68	66	64

Interpretation of the table: The columns are labeled 1 through 8 along the top of the table and refer to the effort levels you could choose. The rows are labeled 2 through 16 along the left side of the table and refer to the efforts that the other two Workers could choose in total. The cells show the E\$ you would receive in each case. For example, imagine everyone chose effort 4. To find your payoff, we would look in the column marked "4" for your effort and in the row marked "8" for the total efforts of the two others. We find that your payoff is E\$ 48.

Please note:


o As you increase your own effort, your earnings decrease by 2 (we can see this by looking from left to right in any row of the table).

o For each extra unit of effort by one of the other Workers, your earnings increase by 3 (we can see this by looking from top to bottom in any column of the table).

If you are a Manager, you will still receive a payment of E\$ 100 each period. In addition, you will receive 64% of any profits of your firm. As before, firm profits are given by Firm Profits = 25 x (Total sum of Worker effort) - (3 Workers) x (Worker wage of 50) Your payoff in E\$ (at the end of each period) = 100 + 0.64 x Firm Profits The table below shows your earnings for each TOTAL effort level put in by the Workers in your group. (Recall that Workers' effort levels must be between 1 and 8.)

Total Effort by Workers																							
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340	356	372	388		

An additional change is also being made to the instructions: Just as in the practice round, Workers will see the effort choices of each Worker in their group toward the end of the period. However, Workers now have the opportunity to “report” one or more of their peer Workers to the Manager for putting in low effort. Just as before, a flag may appear to the Manager, weakly based on the Worker’s efforts. If you send a report, it will appear alongside any flag. The picture below shows what the Manager will see. It costs you E\$5 for each report that you send to the Manager.

	Flag?	# of Reports	Choose whether to fine E\$5 per fine
Worker 1	No	1	<input type="checkbox"/> No (Click to check)
Worker 2	 Yes	0	<input type="checkbox"/> No (Click to check)
Worker 3	 Yes	2	<input type="checkbox"/> No (Click to check)

To summarize,

- 1) Each Worker independently decides how much effort to put into working.

2) Workers see the effort put in by other Workers in their group. Workers can report either or both of their peer Workers to the Manager for low effort. Managers only see the total effort, but may also see a “flag” next to the Workers’ ID #, which is weakly associated with how much effort that Worker chose. They also see how many low effort reports the Worker received from their peer Workers.

3) The Manager has the option to fine any of the three Workers.