

“Limited Rationality and Strategic Interaction. The Impact of the Strategic Environment on Nominal Inertia” by Ernst Fehr and Jean-Robert Tyran

Supplementary Materials 2: Appendices

Appendix B – Instructions: contains a translation of the original instructions (from German) for CT, type y . The instructions for CT type x and ST (both types) only differ by the numerical examples provided to participants to explain how to read the payoff tables.

Appendix C – Payoff tables: contains Tables C1-C4 with real payoffs and highlighted best replies. These tables are included to facilitate understanding for the reader (the tables that were used in CT and ST were nominal and had no highlighting).

Appendix D – Payoff tables: contains Tables D1-D4 showing the nominal tables used in the post-shock phase of CT and ST.

Appendix E – Payoff tables: contains Tables E1-E4 showing the real tables used in the pre-shock phase of the control treatments.

APPENDIX B - INSTRUCTIONS

The original instructions were in German. This appendix contains a translation of the instructions used in the complements treatment (CT) for agents of type y .

General instructions for participants

You are participating in a scientific experiment, which is funded by the Swiss National Science Foundation. The purpose of this experiment is to analyze decision-making in experimental markets. If you read the instructions carefully and make appropriate decisions, you may earn a considerable amount of money. At the end of the experiment, all the money you earned will be immediately paid out in cash.

Each participant is paid CHF 15.- for showing up. During the experiment, your income will not be calculated in Swiss Francs but in points. The total amount of points you collected during the experiment will be converted into Swiss Francs, by applying the following exchange rate: **10 Points = 15 centimes**.

Here is a brief description of the experiment. A more detailed description is given below. All participants are in the role of firms, selling some product. In this experiment, there are two types of firms: firms of type x and firms of type y . Each firm has to choose a selling price in each period. The income you earn depends on the price you choose and on the prices all other firms choose.

During the experiment, you are **not allowed to communicate with any other participant**. **If you have any questions, the experimenters will be glad to answer them.** If you do not follow these instructions, you will be excluded from the experiment and deprived of all payments.

The following pages describe the procedures of the experiment in detail.

Detailed information for firms of type *y*

This experiment consists of 15 periods plus one trial period. You are not paid for the trial period. You should nevertheless take the trial period seriously, since you may gain experience in this period. This experience helps you to make decisions in the other periods, which are paid. You are in the role of a firm, just as all the other participants in this experiment. All participants are in **groups of 4**, i.e. every participant is in a group with three other firms. There are two firms of type *x* and two firms of type *y* in every group.

You are a firm of type *y*

Consequently, there are two other firms of type *x* and one more firm of type *y* in your group. None of the participants know which persons are in their group. Yet everybody knows that the group composition remains constant throughout the experiment. The decisions taken by other groups are irrelevant for your group.

In each period, all firms simultaneously decide which selling price they set for the current period. Every firm has to choose an integer price from the interval $1 \leq \text{selling price} \leq 30$.

How much you earn depends on the price you choose and on the average price of all the other firms in your group. Independent of the type, the average price for each firm is calculated by the following formula:

$$\text{Average price} = (\text{Sum of selling prices of the } \underline{\text{other}} \text{ 3 firms}) / 3$$

Consequently, the average price will be in the interval $1 \leq \text{selling price} \leq 30$.

The average price is rounded to the nearest integer.

How to read the income table for a firm of type *y*

The **green** income table shows your *nominal* income in points if you choose a specific price and a specific average price results in this period (see separate table). Your income at the end of the experiment is not based on nominal income in points, but on *real* income in points. The following relation holds between the two:

$$\text{Real income} = \text{Nominal income} / \text{Average price of other firms}$$

This formula holds for all firms. The real point income that will be paid out is rounded in each period to the nearest integer.

Example: Suppose you choose a price of 2 and the actual average price is 4. If this is the case, your nominal point income is 13 points. Your (rounded) real income is 3 points ($= 13 / 4$).

When you decide which price to choose, you do not yet know which average price will actually result in this period. The green income table can consequently help you to calculate your real point income given your **expectation** of the average price of other firms.

Example: Given an expectation about the average price, you can read off the green table the payoff you get when choosing different selling prices. For example, if you expect an average price of 27 and choose a price of 17, your expected nominal income is 55 points, and your expected real income is 2 points ($= 55/27$). If you choose a price of 26 at this expected price, your expected nominal income is 343 points and your expected real income is 13 points ($= 343/27$).

Please note that you are in a group with one firm of type y and two firms of type x . To determine the income of the other firm of type y , you have to use the green table. To determine the income of the other two firms of type x , you have to use the blue income table. This table also shows nominal income in points. The same formula as above is used to calculate real payoffs for firms of type x .

What the screens show

On both screens described below, the current period is indicated in the upper left hand corner, and the upper right hand corner displays the number of seconds left for making your decision or viewing the screen.

The upper half of the **input screen** (see figure on next page) has three cells where you can enter your decisions into the computer.

Price decision: Enter an integer number between 1 and 30 into the first cell. You can activate this cell (as well as the other cells) by clicking onto the cell with your mouse. If you want to revise your decision, you can erase the number by hitting the backspace key.

Expected average price: Enter an integer number between 1 and 30 into the second cell. This input does not affect your income and will not be known to other firms. Your payoff will be determined by the actual average price of this period. Please try to indicate an expectation that is as exact as possible, since this is going to help you to make your own price decision.

Confidence: Enter an integer number from 1 to 6 to indicate how confident you are that the average price you expect ($=$ number in the second cell) will actually result.

The numbers stand for:

- 1 = I am not at all confident that my expectation will be correct
- 2 = I am not very confident that my expectation will be correct
- 3 = I am not so confident that my expectation will be correct
- 4 = I am quite confident that my expectation will be correct
- 5 = I am very confident that my expectation will be correct
- 6 = I am absolutely confident that my expectation will be correct

When you have finished entering the numbers into the respective cells, press the **OK-button**. Once you have pressed the button, you can no longer revise your decision for this period.

FIGURE B1: Input screen

Period 1	Remaining time 137
<div style="text-align: right; margin-bottom: 10px;">You are of type X</div> <div style="text-align: right; margin-bottom: 10px;">Your selling price </div> <div style="text-align: right; margin-bottom: 10px;">Which average price do you expect in this period ? </div> <div style="text-align: right; margin-bottom: 10px;">How confident are you that your expectation will be correct? </div> <div style="text-align: right; margin-bottom: 10px;">Indicate a number from 1 (not at all confident) to 6 (absolutely confident) </div> <div style="text-align: right; margin-top: 20px;">OK</div>	
<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> Help </div> <p>Please take your decision. Press the OK - button when you have done so.</p> </div>	

As soon as all firms have chosen their prices, the outcomes of this period will be shown in the outcome-screen.

The upper part of this screen shows the outcomes of the current period. This screen shows your decision in the current period, the average price, your real income in this period, and your total real payoff.

The lower part of this screen displays the outcomes of previous periods.

FIGURE B2: Outcome screen

Period <input style="width: 90%;" type="text"/>	Remaining time (sec) : 50
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Your selling price

actual average price

Your income

total income

Period	your selling price	average price	your income
0			
1			

Help

This screen shows the results of the current period and an overview over past periods.
Press the button when you are ready to continue.

Overview: What you have to do in each period.

In each period, each firm has to choose a price. Any integer price from 1 to 30 can be chosen ($1 \leq \text{selling price} \leq 30$).

- Enter your price decision into the first cell of the input screen.
- Enter the average price you expect to prevail in this period into the second cell ($1 \leq \text{selling price} \leq 30$)
- Enter your degree of confidence in your price expectation into the third cell (numbers 1 to 6).

When you have completed the three cells, press the OK-Button. The remaining time at your disposal for making your decisions is shown in the upper right corner of the screen.

When all participants have made their decisions, or when the time has elapsed, all participants are shown the outcome screen. This screen shows your decisions, actual average prices and your real payoff in points for the current and the previous periods.

To make your decisions, the following aids are at your disposal:

Green income table: Helps you to estimate your expected nominal point income (you are a firm of type y). Your payoff is determined by your real income in points.

You can calculate your real income from the nominal income (= numbers shown in the income table) by applying the following formula:

Real income = Nominal income / Average price of other firms

Blue income table: Helps to estimate the nominal point income of the firms of type x in your group. The payoffs of these firms are also determined by their real point income. To calculate the real income of firms of type x , you also apply the above formula.

Outcome screen: Displays your selling price, the actual average price and your real income for the present and the previous periods.

Do you have any questions?

Control questions

You have to answer all of the following questions. If you do not answer a question, you will be excluded from the experiment and all payments. Wrong answers do not have any consequences. If you have any questions, please ask us.

1. Please indicate an expectation for the average price of other firms from 1 to 30.
Expected average price
2. Please indicate a selling price from 1 to 30.
Selling price
3. What is your expected nominal income in points at the prices you indicated in 1) and 2)?
Your nominal income
4. What is your expected real income at the prices you indicated in 1) and 2)?
Your real income
5. Suppose you choose a price of 1. The other firm of type y chooses a price of 30.
The first firm of type x chooses a price of 7 and the second firm of type x chooses a price of 23.
 - a) What is your average price at the (fictitious) prices?
What is your nominal income?
What is your real income?
 - b) What is the average price of the other firm of type y ?
What is the nominal income of this firm?
What is the real income of this firm?
 - c) What is the average price of the first firm of type x ?
What is the nominal income of this firm?
What is the real income of this firm?
 - d) What is the average price of the second firm of type x ?
What is the nominal income of this firm?
What is the real income of this firm?

REAL PAYOFF TABLE C1: COMPLEMENTS, POST-SHOCK, TYPE X

selling price	Average price of other firms																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	39	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	20	20	39	20	9	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	9	9	20	39	20	9	5	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	5	5	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	3	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	2	3	3	5	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
7	2	2	2	3	5	9	20	39	20	9	5	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
8	2	2	2	3	3	5	9	20	39	20	9	5	5	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1
9	2	2	2	2	2	3	5	9	20	39	20	9	9	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1
10	1	2	2	2	2	3	3	5	9	20	39	20	20	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1
11	1	2	1	2	2	2	2	3	5	9	20	39	39	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1
12	1	2	1	2	2	2	2	3	3	5	9	20	20	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1
13	1	2	1	2	1	2	2	2	2	3	5	9	9	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2	2	2
14	1	1	1	1	1	2	2	2	2	3	3	5	5	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2	2
15	1	1	1	1	1	1	1	2	2	2	2	3	3	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2
16	1	1	1	1	1	1	1	2	2	2	2	3	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2
17	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	3	3	3	3	3	3
18	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	9	20	39	20	9	5	5	5	5	5	5	5
19	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	5	9	20	39	20	9	9	9	9	9	9	9
20	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	3	5	9	20	39	20	20	20	20	20	20	20
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	39	39	39	39	39	39
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	20	20	20	20	20	20
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	9	9	9	9	9	9
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	5	5	5	5	5	5
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

REAL PAYOFF TABLE C2: COMPLEMENTS, POST-SHOCK, TYPE Y

Average price of other firms																														
selling price	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2	9	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
3	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
4	39	20	9	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
5	20	39	20	9	5	3	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7	5	9	20	39	20	9	5	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
8	3	5	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9	2	3	5	9	20	39	20	9	5	3	2	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	
10	2	3	3	5	9	20	39	20	9	5	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	
11	2	2	2	3	5	9	20	39	20	9	5	5	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	
12	2	2	2	3	3	5	9	20	39	20	9	9	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	
13	1	2	2	2	2	3	5	9	20	39	20	20	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	
14	1	2	2	2	2	3	3	5	9	20	39	39	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	
15	1	2	1	2	2	2	2	3	5	9	20	20	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	
16	1	2	1	2	2	2	2	3	3	5	9	9	9	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	
17	1	2	1	2	1	2	2	2	2	3	5	5	5	9	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	
18	1	1	1	1	1	2	2	2	2	3	3	3	3	5	9	20	39	20	9	5	3	2	2	2	2	1	1	1	1	
19	1	1	1	1	1	1	1	2	2	2	2	3	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2	
20	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	
21	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	
22	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	
23	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	2	3	5	9	20	39	20	9	5	3	3	3	3	
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	20	9	5	5	5	5	
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	20	9	9	9	9	
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	20	20	20	20	
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	39	39	39	
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	20	20	20	
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	9	9	9	
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	5	5	5	

REAL PAYOFF TABLE C3: SUBSTITUTES, POST-SHOCK, TYPE X

selling price	Average price of other firms																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	39	39	39	39	39	39	39
2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	3	5	9	20	39	20	20	20	20	20	20	20	20
3	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	5	9	20	39	20	9	9	9	9	9	9	9	9
4	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	9	20	39	20	9	5	5	5	5	5	5	5	5
5	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	3	3	3	3	3	3	3
6	1	1	1	1	1	1	1	2	2	2	2	3	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2
7	1	1	1	1	1	1	1	2	2	2	2	3	3	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2	2
8	1	1	1	1	1	2	2	2	2	3	3	5	5	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2	2	2
9	1	2	1	2	1	2	2	2	2	3	5	9	9	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2	2	2	2
10	1	2	1	2	2	2	2	3	3	5	9	20	20	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1
11	1	2	1	2	2	2	2	3	5	9	20	39	39	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1
12	1	2	2	2	2	3	3	5	9	20	39	20	20	20	9	5	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1
13	2	2	2	2	2	3	5	9	20	39	20	9	9	9	5	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1
14	2	2	2	3	3	5	9	20	39	20	9	5	5	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
15	2	2	2	3	5	9	20	39	20	9	5	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
16	2	3	3	5	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	3	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	5	5	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	9	9	20	39	20	9	5	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	20	20	39	20	9	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	39	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	20	20	9	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	9	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	5	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	2	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

REAL PAYOFF TABLE C4: SUBSTITUTES, POST-SHOCK, TYPE Y

	Average price of other firms																													
selling price	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	39	39	39	39
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	20	20	20	20	20
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	20	9	9	9	9	9
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	5	9	20	39	20	9	5	5	5	5	5
5	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	2	3	5	9	20	39	20	9	5	3	3	3	3	3
6	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2
7	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2
8	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2
9	1	1	1	1	1	1	1	2	2	2	2	3	2	3	5	9	20	39	20	9	5	3	2	2	2	2	2	2	2	2
10	1	1	1	1	1	2	2	2	2	3	3	3	3	5	9	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1
11	1	2	1	2	1	2	2	2	2	3	5	5	5	9	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1
12	1	2	1	2	2	2	2	3	3	5	9	9	9	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1
13	1	2	1	2	2	2	2	3	5	9	20	20	20	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1
14	1	2	2	2	2	3	3	5	9	20	39	39	39	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1
15	1	2	2	2	2	3	5	9	20	39	20	20	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1
16	2	2	2	3	3	5	9	20	39	20	9	9	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1
17	2	2	2	3	5	9	20	39	20	9	5	5	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
18	2	3	3	5	9	20	39	20	9	5	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
19	2	3	5	9	20	39	20	9	5	3	2	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	3	5	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	5	9	20	39	20	9	5	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	9	20	39	20	9	5	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	20	39	20	9	5	3	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	39	20	9	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	20	9	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	9	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

NOMINAL PAYOFF TABLE D1: COMPLEMENTS, POST-SHOCK, TYPE X

selling price	Average price of other firms																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	39	78	60	34	24	19	17	16	16	16	16	17	18	19	20	20	21	21	22	23	24	25	25	26	27	28	30	31	32	33
2	20	40	117	80	43	29	23	20	18	18	17	18	19	20	21	21	21	22	23	23	24	25	26	27	28	29	30	31	32	33
3	9	17	60	156	100	52	34	26	22	20	19	19	21	22	22	22	22	23	23	24	25	25	26	27	28	29	30	31	32	34
4	5	10	26	80	195	120	60	38	29	25	22	21	23	25	24	23	23	24	24	24	25	26	26	27	28	29	31	32	33	34
5	3	6	14	34	100	234	140	69	43	32	27	24	26	28	26	25	25	25	25	25	26	26	27	28	29	30	31	32	33	34
6	2	5	10	19	43	120	273	160	77	48	36	30	32	34	30	28	27	26	26	26	27	27	27	28	29	30	32	33	34	35
7	2	4	7	13	24	52	140	312	180	86	53	39	42	45	37	32	30	29	28	28	28	28	28	29	30	31	32	33	35	36
8	2	4	6	10	16	29	60	160	351	200	95	58	62	67	49	39	34	32	30	29	29	29	29	29	31	32	33	34	35	37
9	2	3	5	8	12	19	34	69	180	390	220	103	112	120	72	52	42	36	33	32	31	30	30	30	32	33	34	35	37	38
10	1	3	5	7	10	15	23	38	77	200	429	240	260	280	129	77	55	44	39	35	33	32	32	31	33	34	35	37	38	39
11	1	3	4	6	9	12	17	26	43	86	220	468	507	546	300	138	82	58	47	41	37	35	34	33	34	36	37	39	40	41
12	1	3	4	6	8	11	14	20	29	48	95	240	260	280	585	320	146	86	61	49	43	39	36	35	37	38	40	41	42	44
13	1	3	4	6	7	10	12	16	22	32	53	103	112	120	300	624	340	155	91	65	52	45	40	38	40	41	43	44	46	48
14	1	2	4	5	7	9	11	14	18	25	36	58	62	67	129	320	663	360	163	96	68	54	47	42	44	46	48	49	51	53
15	1	2	4	5	7	8	10	13	16	20	27	39	42	45	72	138	340	702	380	172	101	71	57	49	51	53	55	57	59	61
16	1	2	4	5	6	8	10	12	14	18	22	30	32	34	49	77	146	360	741	400	181	106	74	59	62	64	66	69	71	74
17	1	2	4	5	6	8	9	11	13	16	19	24	26	28	37	52	82	155	380	780	420	189	110	78	81	84	87	91	94	97
18	1	2	3	5	6	7	9	10	12	15	17	21	23	25	30	39	55	86	163	400	819	440	198	115	120	125	130	134	139	144
19	1	2	3	5	6	7	9	10	12	14	16	19	21	22	26	32	42	58	91	172	420	858	460	206	215	224	232	241	249	258
20	1	2	3	5	6	7	8	10	11	13	15	18	19	20	24	28	34	44	61	96	181	440	897	480	500	520	540	560	580	600
21	1	2	3	4	6	7	8	10	11	13	14	17	18	19	22	25	30	36	47	65	101	189	460	936	975	1014	1053	1092	1131	1170
22	1	2	3	4	6	7	8	9	11	12	14	16	17	18	21	23	27	32	39	49	68	106	198	480	500	520	540	560	580	600
23	1	2	3	4	6	7	8	9	11	12	13	15	16	18	20	22	25	29	33	41	52	71	110	206	215	224	232	241	249	258
24	1	2	3	4	5	7	8	9	10	12	13	15	16	17	19	21	23	26	30	35	43	54	74	115	120	125	130	134	139	144
25	1	2	3	4	5	7	8	9	10	11	13	14	16	17	18	20	22	25	28	32	37	45	57	78	81	84	87	91	94	97
26	1	2	3	4	5	7	8	9	10	11	13	14	15	16	18	20	21	24	26	29	33	39	47	59	62	64	66	69	71	74
27	1	2	3	4	5	6	8	9	10	11	12	14	15	16	18	19	21	23	25	28	31	35	40	49	51	53	55	57	59	61
28	1	2	3	4	5	6	8	9	10	11	12	14	15	16	17	19	20	22	24	26	29	32	36	42	44	46	48	49	51	53
29	1	2	3	4	5	6	8	9	10	11	12	13	15	16	17	18	20	21	23	25	28	30	34	38	40	41	43	44	46	48
30	1	2	3	4	5	6	7	9	10	11	12	13	14	15	17	18	20	21	23	24	27	29	32	35	37	38	40	41	42	44

NOMINAL PAYOFF TABLE D2: COMPLEMENTS, POST-SHOCK, TYPE Y

selling price	Average price of other firms																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	5	6	7	8	9	10	10	11	12	13	13	15	16	17	18	18	19	20	21	22	23	24	25	26	27	27	29	30	31	32
2	9	10	10	10	10	11	11	12	12	13	14	15	16	17	18	19	20	20	21	22	23	24	25	26	27	28	29	30	31	32
3	20	17	14	13	12	12	12	13	13	14	14	16	17	18	18	19	20	21	21	22	23	24	25	26	27	28	29	30	31	32
4	39	40	26	19	16	15	14	14	14	15	15	17	18	18	19	20	20	21	22	23	23	24	25	26	27	28	29	30	31	32
5	20	78	60	34	24	19	17	16	16	16	16	18	19	19	20	20	21	21	22	23	24	25	25	26	27	28	29	30	31	32
6	9	40	117	80	43	29	23	20	18	18	17	19	21	20	21	21	21	22	23	23	24	25	26	27	27	28	29	30	31	33
7	5	17	60	156	100	52	34	26	22	20	19	21	23	22	22	22	22	23	23	24	25	25	26	27	28	28	30	31	32	33
8	3	10	26	80	195	120	60	38	29	25	22	24	26	25	24	23	23	24	24	24	25	26	26	27	28	29	30	31	32	33
9	2	6	14	34	100	234	140	69	43	32	27	30	32	28	26	25	25	25	25	25	26	26	27	28	28	29	30	31	32	34
10	2	5	10	19	43	120	273	160	77	48	36	39	42	34	30	28	27	26	26	26	27	27	27	28	29	29	31	32	33	34
11	2	4	7	13	24	52	140	312	180	86	53	58	62	45	37	32	30	29	28	28	28	28	28	29	29	30	31	32	33	34
12	2	4	6	10	16	29	60	160	351	200	95	103	112	67	49	39	34	32	30	29	29	29	29	29	30	30	32	33	34	35
13	1	3	5	8	12	19	34	69	180	390	220	240	260	120	72	52	42	36	33	32	31	30	30	30	31	31	32	33	35	36
14	1	3	5	7	10	15	23	38	77	200	429	468	507	280	129	77	55	44	39	35	33	32	32	31	32	32	33	34	35	37
15	1	3	4	6	9	12	17	26	43	86	220	240	260	546	300	138	82	58	47	41	37	35	34	33	33	33	34	35	37	38
16	1	3	4	6	8	11	14	20	29	48	95	103	112	280	585	320	146	86	61	49	43	39	36	35	34	34	35	37	38	39
17	1	3	4	6	7	10	12	16	22	32	53	58	62	120	300	624	340	155	91	65	52	45	40	38	37	36	37	39	40	41
18	1	2	4	5	7	9	11	14	18	25	36	39	42	67	129	320	663	360	163	96	68	54	47	42	40	38	40	41	42	44
19	1	2	4	5	7	8	10	13	16	20	27	30	32	45	72	138	340	702	380	172	101	71	57	49	44	41	43	44	46	48
20	1	2	4	5	6	8	10	12	14	18	22	24	26	34	49	77	146	360	741	400	181	106	74	59	51	46	48	49	51	53
21	1	2	4	5	6	8	9	11	13	16	19	21	23	28	37	52	82	155	380	780	420	189	110	78	62	53	55	57	59	61
22	1	2	3	5	6	7	9	10	12	15	17	19	21	25	30	39	55	86	163	400	819	440	198	115	81	64	66	69	71	74
23	1	2	3	5	6	7	9	10	12	14	16	18	19	22	26	32	42	58	91	172	420	858	460	206	120	84	87	91	94	97
24	1	2	3	5	6	7	8	10	11	13	15	17	18	20	24	28	34	44	61	96	181	440	897	480	215	125	130	134	139	144
25	1	2	3	4	6	7	8	10	11	13	14	16	17	19	22	25	30	36	47	65	101	189	460	936	500	224	232	241	249	258
26	1	2	3	4	6	7	8	9	11	12	14	15	16	18	21	23	27	32	39	49	68	106	198	480	975	520	540	560	580	600
27	1	2	3	4	6	7	8	9	11	12	13	15	16	18	20	22	25	29	33	41	52	71	110	206	500	1014	1053	1092	1131	1170
28	1	2	3	4	5	7	8	9	10	12	13	14	16	17	19	21	23	26	30	35	43	54	74	115	215	520	540	560	580	600
29	1	2	3	4	5	7	8	9	10	11	13	14	15	17	18	20	22	25	28	32	37	45	57	78	120	224	232	241	249	258
30	1	2	3	4	5	7	8	9	10	11	13	14	15	16	18	20	21	24	26	29	33	39	47	59	81	125	130	134	139	144

NOMINAL PAYOFF TABLE D3: SUBSTITUTES, POST-SHOCK, TYPE X

selling price	Average price of other firms																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	1	2	3	4	6	7	8	10	11	13	14	17	18	19	22	25	30	36	47	65	101	189	460	936	975	1014	1053	1092	1131	1170
2	1	2	3	5	6	7	8	10	11	13	15	18	19	20	24	28	34	44	61	96	181	440	897	480	500	520	540	560	580	600
3	1	2	3	5	6	7	9	10	12	14	16	19	21	22	26	32	42	58	91	172	420	858	460	206	215	224	232	241	249	258
4	1	2	3	5	6	7	9	10	12	15	17	21	23	25	30	39	55	86	163	400	819	440	198	115	120	125	130	134	139	144
5	1	2	4	5	6	8	9	11	13	16	19	24	26	28	37	52	82	155	380	780	420	189	110	78	81	84	87	91	94	97
6	1	2	4	5	6	8	10	12	14	18	22	30	32	34	49	77	146	360	741	400	181	106	74	59	62	64	66	69	71	74
7	1	2	4	5	7	8	10	13	16	20	27	39	42	45	72	138	340	702	380	172	101	71	57	49	51	53	55	57	59	61
8	1	2	4	5	7	9	11	14	18	25	36	58	62	67	129	320	663	360	163	96	68	54	47	42	44	46	48	49	51	53
9	1	3	4	6	7	10	12	16	22	32	53	103	112	120	300	624	340	155	91	65	52	45	40	38	40	41	43	44	46	48
10	1	3	4	6	8	11	14	20	29	48	95	240	260	280	585	320	146	86	61	49	43	39	36	35	37	38	40	41	42	44
11	1	3	4	6	9	12	17	26	43	86	220	468	507	546	300	138	82	58	47	41	37	35	34	33	34	36	37	39	40	41
12	1	3	5	7	10	15	23	38	77	200	429	240	260	280	129	77	55	44	39	35	33	32	32	31	33	34	35	37	38	39
13	2	3	5	8	12	19	34	69	180	390	220	103	112	120	72	52	42	36	33	32	31	30	30	30	32	33	34	35	37	38
14	2	4	6	10	16	29	60	160	351	200	95	58	62	67	49	39	34	32	30	29	29	29	29	29	31	32	33	34	35	37
15	2	4	7	13	24	52	140	312	180	86	53	39	42	45	37	32	30	29	28	28	28	28	28	29	30	31	32	33	35	36
16	2	5	10	19	43	120	273	160	77	48	36	30	32	34	30	28	27	26	26	26	27	27	27	28	29	30	32	33	34	35
17	3	6	14	34	100	234	140	69	43	32	27	24	26	28	26	25	25	25	25	25	26	26	27	28	29	30	31	32	33	34
18	5	10	26	80	195	120	60	38	29	25	22	21	23	25	24	23	23	24	24	24	25	26	26	27	28	29	31	32	33	34
19	9	17	60	156	100	52	34	26	22	20	19	19	21	22	22	22	22	23	23	24	25	25	26	27	28	29	30	31	32	34
20	20	40	117	80	43	29	23	20	18	18	17	18	19	20	21	21	21	22	23	23	24	25	26	27	28	29	30	31	32	33
21	39	78	60	34	24	19	17	16	16	16	16	17	18	19	20	20	21	21	22	23	24	25	25	26	27	28	30	31	32	33
22	20	40	26	19	16	15	14	14	14	15	15	16	17	18	19	20	20	21	22	23	23	24	25	26	27	28	29	30	31	33
23	9	17	14	13	12	12	12	13	13	14	14	15	16	18	18	19	20	21	21	22	23	24	25	26	27	28	29	30	31	32
24	5	10	10	10	10	11	11	12	12	13	14	15	16	17	18	19	20	20	21	22	23	24	25	26	27	28	29	30	31	32
25	3	6	7	8	9	10	10	11	12	13	13	14	16	17	18	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
26	2	5	6	7	8	9	10	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	27	28	29	30	31	32
27	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23	24	25	26	27	29	30	31	32
28	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20	21	22	23	24	25	26	27	28	29	31	32
29	2	3	4	6	7	8	9	10	11	11	12	13	15	16	17	18	18	19	20	21	22	23	24	25	26	27	28	29	30	31
30	1	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

NOMINAL PAYOFF TABLE D4: SUBSTITUTES, POST-SHOCK, TYPE Y

selling price	Average price of other firms																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	1	2	3	4	6	7	8	9	11	12	13	15	16	18	20	22	25	29	33	41	52	71	110	206	500	1014	1053	1092	1131	1170
2	1	2	3	4	6	7	8	9	11	12	14	15	16	18	21	23	27	32	39	49	68	106	198	480	975	520	540	560	580	600
3	1	2	3	4	6	7	8	10	11	13	14	16	17	19	22	25	30	36	47	65	101	189	460	936	500	224	232	241	249	258
4	1	2	3	5	6	7	8	10	11	13	15	17	18	20	24	28	34	44	61	96	181	440	897	480	215	125	130	134	139	144
5	1	2	3	5	6	7	9	10	12	14	16	18	19	22	26	32	42	58	91	172	420	858	460	206	120	84	87	91	94	97
6	1	2	3	5	6	7	9	10	12	15	17	19	21	25	30	39	55	86	163	400	819	440	198	115	81	64	66	69	71	74
7	1	2	4	5	6	8	9	11	13	16	19	21	23	28	37	52	82	155	380	780	420	189	110	78	62	53	55	57	59	61
8	1	2	4	5	6	8	10	12	14	18	22	24	26	34	49	77	146	360	741	400	181	106	74	59	51	46	48	49	51	53
9	1	2	4	5	7	8	10	13	16	20	27	30	32	45	72	138	340	702	380	172	101	71	57	49	44	41	43	44	46	48
10	1	2	4	5	7	9	11	14	18	25	36	39	42	67	129	320	663	360	163	96	68	54	47	42	40	38	40	41	42	44
11	1	3	4	6	7	10	12	16	22	32	53	58	62	120	300	624	340	155	91	65	52	45	40	38	37	36	37	39	40	41
12	1	3	4	6	8	11	14	20	29	48	95	103	112	280	585	320	146	86	61	49	43	39	36	35	34	34	35	37	38	39
13	1	3	4	6	9	12	17	26	43	86	220	240	260	546	300	138	82	58	47	41	37	35	34	33	33	33	34	35	37	38
14	1	3	5	7	10	15	23	38	77	200	429	468	507	280	129	77	55	44	39	35	33	32	32	31	32	32	33	34	35	37
15	1	3	5	8	12	19	34	69	180	390	220	240	260	120	72	52	42	36	33	32	31	30	30	30	31	31	32	33	35	36
16	2	4	6	10	16	29	60	160	351	200	95	103	112	67	49	39	34	32	30	29	29	29	29	29	30	30	32	33	34	35
17	2	4	7	13	24	52	140	312	180	86	53	58	62	45	37	32	30	29	28	28	28	28	28	29	29	30	31	32	33	34
18	2	5	10	19	43	120	273	160	77	48	36	39	42	34	30	28	27	26	26	26	27	27	27	28	29	29	31	32	33	34
19	2	6	14	34	100	234	140	69	43	32	27	30	32	28	26	25	25	25	25	25	26	26	27	28	28	29	30	31	32	34
20	3	10	26	80	195	120	60	38	29	25	22	24	26	25	24	23	23	24	24	24	25	26	26	27	28	29	30	31	32	33
21	5	17	60	156	100	52	34	26	22	20	19	21	23	22	22	22	22	23	23	24	25	25	26	27	28	28	30	31	32	33
22	9	40	117	80	43	29	23	20	18	18	17	19	21	20	21	21	21	22	23	23	24	25	26	27	27	28	29	30	31	33
23	20	78	60	34	24	19	17	16	16	16	16	18	19	19	20	20	21	21	22	23	24	25	25	26	27	28	29	30	31	32
24	39	40	26	19	16	15	14	14	14	15	15	17	18	18	19	20	20	21	22	23	23	24	25	26	27	28	29	30	31	32
25	20	17	14	13	12	12	12	13	13	14	14	16	17	18	18	19	20	21	21	22	23	24	25	26	27	28	29	30	31	32
26	9	10	10	10	10	11	11	12	12	13	14	15	16	17	18	19	20	20	21	22	23	24	25	26	27	28	29	30	31	32
27	5	6	7	8	9	10	10	11	12	13	13	15	16	17	18	18	19	20	21	22	23	24	25	26	27	27	29	30	31	32
28	3	5	6	7	8	9	10	10	11	12	13	14	16	16	17	18	19	20	21	22	23	24	25	25	26	27	28	29	31	32
29	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23	24	25	26	27	28	29	30	31
30	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20	21	22	23	24	25	26	27	28	29	30	31