

SUPPORTING MATERIAL

“Competition and prosociality:

A field experiment in Ghana”

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Experimental Instructions

Introduction

Hello. We would like to welcome you to today's workshop. This workshop is part of a study from the University of Goettingen. Kerstin Grosch is part of a study program called Global Food. The objective of that program is to understand how globalization affects the living conditions of local communities and how local communities adapt to deal with the challenges of globalization. Today's workshop aims at investigating those questions.

Before we get started, I would like you to stand-up and come to the front. Please bring all your personal belongings with you as you might sit at a different place.

Now we will give you a participation number. This number will identify you during the whole workshop. On the tables, you will find the numbers 1 to 15.

Please draw a number from the bag and sit down at the table with the corresponding number.

The workshop will be given in the English language. However, we have individual question rounds where you can ask questions to our assistants in your local language.

What is this workshop about?

During the workshop you will have the opportunity to earn money. The money that you earn during the workshop will be paid in cash at the end of the activity. How much you earn will depend on your decisions and luck - so please listen carefully to the instructions.

How is your payment calculated?

You will receive 2 Ghanaian cedi for participating in the workshop. You will get this payment no matter how you take your decisions in the activities.

[Show at the Poster TW] The workshop is divided into five activities. During each activity you can earn Ghanaian Cedi. Activity three will be paid for sure as we will explain below. For the other four activities we will only select ONE

decision that will be paid at the end. To decide which activity will be the one to be paid we will draw one of these four cards. [*Show the cards numbered 1 to 5 – Except 3*]. After the workshop, you will be asked some questions by our assistants and do some individual activities.

Before we start, let me explain you something else. This study is designed in a way that anonymity of participant's decisions and cash earnings can be assured. To preserve this anonymity, we ask you that from this point on, you do not talk or try to communicate with other participants and that everybody takes precautions to maintain the confidentiality of their materials. Please do NOT talk to other participants or use your mobile phone during the workshop. This said, if at any point you have questions, please do not hesitate to raise your hand and ask us.

It is very important that if you have any question, please ask **us**. We will answer your questions individually. Please wait until one of the assistants comes to you before you ask your question out loud. We ask you for your understanding regarding this rule.

Before we begin, please verify that you have the following items on your desk:

1. Sheets (hold together by a paperclip) turned upside down
2. Six bowls with the individual parts of a ballpoint pen
3. A pen

Please do not turn around the sheets **until we say so**. You will only turn around ONE sheet at a certain time. Don't worry; we make sure that everybody gets the information WHEN to turn around the next sheet.

Your earnings will not only depend on your own decisions but also on the decisions of somebody else in this room.

[Show at the bottom part of poster TW] You will be paired with another participant. We will call this other person **participant B**.

During all five activities in the workshop the pairings will remain fixed and you will always interact with that exact same person. [Example – point at one participant and say that this participant is participant no. 2. He could be the one paired with participant no. 8. Then those two participants will play all five activities together.]

During or after the workshop, you will not get to know who participant B is and participant B will also not learn who you are. However, you will do all five activities with him or her.

We really want to make sure that everybody understands all activities. Therefore, before you make your real decision in each activity, we do trivia quizzes and ask you control questions to check for your understanding. Please, try to answer those as well as you can.

Now, we will start with the first activity.

1 Investment Activity (PGG)

[Poster I1] You and participant B are paired together. Each of you receives 10 Ghanaian Cedi for your individual account. You have to decide how many Cedi you want to transfer to a joint account. You can put all, some or none of your Cedi into the joint account. The distribution of Cedi between your individual account and the joint account can be freely chosen. However, you can only invest in 1 Cedi units. So you can invest 0, 1 Cedi, 2 Cedi, etc. up to 10 Cedi.

Your income from the individual account:

[Poster IA1] Each Ghanaian Cedi you do not invest in the joint account, you can keep for yourself. Nobody except you earns Cedi from your individual account.

Your income from the joint account:

The total amount of money in the joint account is the money you invested plus the money participant B invested. Each of you receives 0.7 times of the money in the joint account back. You and participant B receive therefore the **same** outcome from the joint account. You will **benefit** from the money that participant B put into the joint account. For each joint member, the income from the joint account will be determined as follows:

Income from the joint account = Money in the joint account x 0.7

Your total income:

Your total income consists of the income from your individual account plus the income from the joint account:

Let's see some examples on how the payments are calculated.

[Poster I1; 1st example] In this first example somebody invested 2 Cedi in the joint account and participant B invested 4 Cedi. That means that this person keeps 8 Cedi in his individual account. Each Cedi in the individual account gives 1 Cedi back. Hence, the payment in the individual account is 8 Cedi.

In total there are 6 Cedi in the joint account, 2 Cedi that this person invested plus 4 Cedi that participant B invested. Each Cedi invested in the joint account gives him/her and participant B 0.7 Cedi back. So the income from the joint account is 6 times 0.7 that is 4.2 Cedi for each person in the joint account.

The total payment is the sum of the income in the individual account and the income from the joint account. In total this person would receive 4.2 Cedi from the joint account plus 8 Cedi from the individual account summing up to a total earning of 12.2 Cedi.

[Poster I2] In order to facilitate the calculations, we prepared this table. The numbers in bold in the *rows* indicate your possible investments in the joint account. The numbers in bold in the *columns* indicate the investment of participant B. Coming back to our example, if somebody invested 2 Cedi and participant B invested 4 Cedi in the joint account, the payment is 12.2 Cedi: That is the amount you are earning when you invest 4 and participant B 2. In the table you can look up what your outcome will be depending on your decision and participant B's decision. The outcome in the table corresponds with the outcome we calculated before.

Example 2

Let's have a look at another example.

How much would participant B receive?

[Poster I1; 2nd example] In this example you invested 4 Cedi in the joint account and kept 6 Cedi in the individual account. Participant B invested 2 Cedi in the joint account. The total investment in the joint account is therefore 6 Cedi: 4 that this person invested plus 2 that the other person invested. Each Cedi in the individual account gives 0.7 Cedi back to each person. Hence the earning from the joint account is 6 Cedi times 0.7 that is 4.2 Cedi. The total earnings are composed of the earnings from the individual account and the earnings from the joint account, so in total this person receives 6 from the individual account plus 4.2 from the joint account. In total this person earns 10.2 Cedi.

[Poster I2] Let's take a look at the table now. This person invested 4 Cedi in the joint account and participant B invested 2 Cedi [show numbers with the hands] The income for this participant sums up to 10.2 Cedi.

Let's compare the earnings of the two participants. The participant who invested 2 Cedi in the joint account earns 12.2 Cedi when participant B invested 4 Cedi. The participant who invested 4 Cedi earns 10.2 Cedi when participant B invested 2 Cedi.

Let us take a look at the last example on this poster [show at poster I1; 3rd example]. There, one person invests 4 Cedi and participant B also invests 4 Cedi. In the joint account are therefore 8 Cedi that get multiplied by 0.7. The outcome you receive from the joint money is therefore 8 Cedi times 0.7 which is 5.6. As well as that you kept 6 Cedi in your individual account. When we sum up the outcome from the joint account 5.6 and the outcome from the individual account 6, we get your total outcome for that situation which would be 5.6 plus 6 equals 11.6. We do not need to calculate that – we can also quickly look the outcome up in the table [show at 4/4 at the Poster I2].

[Explain the corners!]

Let's take a look at another example: How much would participants in a match receive if both invest nothing [show at the table 0/0] in the joint account? When both you and participant B invest nothing, both you and participant B keep *all* your money in your individual account and keep your 10 Cedi. When both invest all their money, they both end up with 14 Cedi. [Show at the table with outcomes for “10/10”] Therefore, as both invest more in the joint account, the earnings increase for both players. If one person invests nothing in the joint account at all and participant B puts all his money in the joint account [Show at the table 0/10], participant A will benefit from his contribution to the joint account and the earning for participant A would be 17 Cedi. [Show at the table 10/0] If participant 1 contributes all his money to the joint account and participant B contributes nothing at all – then participant A earns only 7.0 from the joint account and nothing is left in his individual account as he invested all his money in the joint account.

We are now to do a little trivia quiz! Please, I ask two people of you to come to the front. Any volunteers? Please raise your hand! [If there are no volunteers, then just call out two random numbers from 1 to 12. Place them in a way in the front, so they can see the poster with the payoff table]. Welcome to today's first trivia quiz. I will ask you questions one after another. I will call you participant 1, and you participant 2 [look at the respective persons]. I will start with a first question for participant 1:

Participant 1, what is your payoff if you chose to invest 1 Cedi and participant 2 chose to invest 8 Cedi in the joint account? [Answer: 15.3 Cedi. If the right

answer is given, say “well done” and if no answer or a wrong answer is given, ask the audience for help].

Participant 2, what is your payoff if you chose to invest 5 Cedi and participant 1 invests 4 Cedi? [Answer: 11.3 Cedi. If the right answer is given, say “well done” and if no answer or a wrong answer is given, ask the audience for help].

Participant 1, what is your payoff if you chose to invest 3 Cedi and participant 2 invests 10 Cedi? [Answer: 16.1 Cedi. If the right answer is given, say “well done” and if no answer or a wrong answer is given, ask the audience for help].

Participant 2, what is your payoff if you chose to invest 8 Cedi and participant 1 invests 2 Cedi? [Answer: 9 Cedi. If the right answer is given, say “well done” and if no answer or a wrong answer is given, ask the audience for help].

Thank you very much, participant 1 and participant 2, for being candidates in our trivia quiz.

Before we continue, we would like to verify that we had been sufficiently clear with the explanation of the task. Therefore, we will ask you some questions.

Please turn around the page from your sheet package [Take your “show package” and show how to do that]. [Show the sheet control questions and point at the respective positions you are talking about]. We ask you here what your outcome would be if someone called participant A chose a certain amount as a contribution in the joint account and participant B chose a certain contribution for the joint account. We ask you to write down the outcome for participant A in the gaps on the right for those different situations. Similar to the examples we showed you, you can look up your outcome in the table that you find at the bottom of your sheet. [show that in front of you on the “show answering sheet”] Put your finger on the row that shows your investment, for instant 2 Cedi, and the other finger in the column that shows your partners contribution, for instant 4 Cedi. Now look at the cell where the row and the column cross and you can read the outcome for this combination. [Show again on the respective position on the control sheet] This outcome is the outcome you write down in the gap right next to each question on your sheet.

If you have questions, please raise your hand and we will come to help you.

Please start now with answering the questions. Please turn around your sheets as soon as you have answered all questions. Our assistants will then collect the sheets.

Has everybody answered the questions? We will then now collect the sheets. [Assistants collect sheets]. Now, the assistants will check for your understanding. If we see, that many of you have not completely understood this activity, we will explain it to you again. If there are only some that have problems, we will explain it to you individually.

Now we are ready to start. Now you or participant B will receive any information on any investment decisions until the very end of the workshop. We will walk around now and distribute the envelopes while **you turn around the next sheet**. There you see the outcome table again that should help you making your decision. [Wait a little until everybody has turned around the sheet]

Please take now the white envelope and take out the coins copied on paper. Count if you have 10 coins [wait until everybody has done so]. Remember, use the table to decide how much you want to put in the joint account. The money you want to invest in the joint account, you put in the **brown** envelope. The left-over coins, you keep in your individual account. Those coins you please put in the **white** envelope. Make sure that at the end no coin is left on your table.

Does anybody have questions? If yes, please raise your hand now and an assistant will come individually to you!

Now, all questions are answered and we are ready to start. **Please distribute the coins now in the respective envelopes.**

[After ca. 2 minutes]: Has everybody made their decisions? Please raise your hand if you need some additional time. [If somebody does so, wait for another minute – then collect envelopes].

Now your task is to guess how much participant B invested in the joint account. If your guess is right, you earn another 2 Cedi. If your guess deviates 1 unit from the actual investment of participant B you receive 1 Cedi. If your guess deviates 2 units from participant B's investment, you receive 0.5 Cedi.

[Show the respective sheet and point at the row where to make the cross] Please indicate on the vertical axis with a cross how much you expect participant B will invest in the joint account.

Does anybody have questions? If yes, please raise your hand now and an assistant will come individually to you!

Please take your decision now!

Please turn around your sheet when you finished this activity.

We will now collect the envelopes and the answering sheets.

1 Money Allocation Activity (SVO)

In this activity there are two roles: role A and role B. The person in role A has to actively decide how to allocate Cedi between participant B and himself/herself. The person in role B has to accept the preferred allocation by the participant in role A.

You will all actively decide on your preferred allocations (this would be the role A) – however for which role you will be paid will be determined at the end of the workshop by luck.

You will be presented a series of decisions like this one [Poster MA; point at 1st decision set]. Each of the middle lines determines how much you and participant B receive. Looking at the first middle line, the person in role A receives 7.5 Cedi and participant B receives 15 Cedi. As we move to the right, the payment for the person in the role A increases to 8.1, 8.9 up to 12.8. The payment of participant B decreases from 15 to 12.8 at the same time.

The task of the person in role A is to decide on the preferred allocation by marking the midline with a cross on the preferred distribution [show at 2nd illustration on poster MA]. The marked distribution will determine the payments of the person in Role A and person B in Role B. Only ONE distribution can be marked in each question. In our example on this poster the person marked the midline for the allocation where he gets 11.4 Cedi whereas participant B receives 13.4.

After you marked your preferred allocation with the cross, we write in the upper gap to the right of the question the amount that you would receive if you are selected in role A (which is 11.4) and the amount that participant B will receive (which is 13.4).

What should you avoid? [Point at the poster with the crossed question] Please **do not** make more than one cross. You can only decide on ONE money allocation that is determined by the mid line that connects the two boxes with the corresponding outcomes. If you decided for that ONE allocation, please write the CORRESPONDING outcomes in the right gaps. Do not make allocations up that are not an option in this activity. You *cannot* mark the boxes on the top and bottom, but only the point in the middle line.

We will now do a little trivia quiz! Please, I ask two people of you to come to the front. Any volunteers? Please raise your hand! [If there are no volunteers, then just call out two random numbers from 1 to 12. Place them in a way in the front, so they can see the poster with the decision set]. Welcome to today's first trivia quiz. I will ask you questions one after another. I will call you participant 1, which means that you are in role A, and you participant 2, which means that you take up the passive role B [look at the respective persons]. I will start with a first question for participant 1:

Participant 1, take a look at the first question on the poster. Choose one allocation and point with your finger on the respective middle line. In that allocation you chose: How much would **you** earn?

Participant 2, in that chosen allocation from participant A, how much would you get? [if no answer or a wrong answer is given, ask the audience for help].

Participant 1, take another look at the first question on the poster. Choose one allocation and point with your finger on the respective middle line. In that allocation you chose: How much would **you** earn?

Participant 2, in that chosen allocation from participant A, how much would you get? [if no answer or a wrong answer is given, ask the audience for help].

Thank you very much, participant 1 and participant 2, for being candidates in our trivia quiz.

Before we continue, we would like to verify that we had been sufficiently clear with the explanation of the task. Therefore, we will ask you some questions.

[Point at the bottom of the poster]: If a participant who is selected in role A, has taken the following decision (made the cross at a certain position), how much would he receive?

How much would participant B receive?

Please turn around the next sheet from your sheet package for answering the control questions [wait for some seconds until everybody has done so]. Have a look at what are the preferred allocations of that person in that example you can see in front of you. That person marked his preferred allocation with a cross at the midline. What are the outcomes for *that* person and participant B? Please write down the missing outcomes to the right of each of the three questions for the person and participant B.

Do you have any questions? Please raise your hand!

Do you have any other questions?

Start now with answering the control questions! [After a while ask everybody if they have finished. If not they should raise their hands. Then control sheets get collected].

We will now collect your answering sheets. Our assistants will quickly check if everybody in the room has understood the task. If there are some people that are still a little unsecure with the task, they will be approached by one of our assistants. [Look to the assistants and see if there is a person that needs further explanation – if so, wait until assistant approached that person and explained the task again to him/her].

In this activity there are not right or wrong answers. That is all about your personal preferences.

In this activity you will make six decisions. If this activity is chosen for payment, we will randomly select one question for payment at the end of the workshop. Remember that only one activity will be selected for payment.

After you have made your decision, write the resulting distribution of Cedi if you were selected in role A in the gaps on the right. As you can see, your choices influence both the amount of Cedi you receive as well as the amount participant B receives.

Please turn around the next sheet now. [Wait some seconds until everybody has done so]. Remember how to approach the task [point again at the poster]: Look at each of the six different questions carefully. Decide for your preferred allocation and make your cross at the respective midline. Then fill out the gaps to the right and write down the respective outcomes for yourself and participant B.

Does anybody have questions? If yes, please raise your hand now and an assistant will come individually to you!

Now we are ready to start. Please make your decisions for each questions now!

[Ask after some minutes: Who has not finished this task?]

We now collect your sheets and start afterwards with the next activity.

Ballpoint-Activity – Comp

In this activity, your task is to put together ballpoint pens. On your table, you find 6 boxes with the different parts of a pen. [Take the different parts and show each of the parts to the participants]. To assemble the pen, you need a spring, the refill, the upper brass tube and the lower brass tube. First, put the spring on top of the refill. Then insert the refill with the spring into the upper brass tube. The last step is to set the lower brass tube on top and turn it until it is fixed on the lower part. Now we see that the pen is working – that means that if we push the button the ballpoint pen is retractable.

You will have eight minutes for accomplishing this task. Afterwards, your ballpoint pens will be collected and we will count how many of your assembled ballpoint pens work. Only pens that are functioning (pressing the push button either exposes or retracts the ballpoint) will be counted. Please do not tell any other one in the room how many ballpoint pens you managed to assemble.

Your **earnings** in this activity depend on the performance of participant B. The person in the team who puts more ballpoint pens together will earn 15 Cedi [CL 12 Cedi]. The person who puts together less ballpoint pens than participant B will earn 5 Cedi [CPL 8 Cedi]. In case of a draw, we will randomly assign a “winner”. You will receive your earnings depending on your performance in any case. Only ballpoint pens that work will be counted. The average number of ballpoint pens that people had put in this task is 40. After you accomplished that task, you will get an envelope with your payoff for this task enclosed.

Are there any questions? Please raise your hand if so.

We will now do a little trivia quiz! Please, I ask two people of you to come to the front. Any volunteers? Please raise your hand! [If there are no volunteers, then just call out two random numbers from 1 to 12.]

Welcome to today’s trivia quiz. I will ask you now questions one after another. I will call you participant 1 and you participant 2 [look at the respective persons]. I will start with a first question for participant 1:

Participant 1, how much would you earn if you assembled 20 ballpoint pens and participant 2 32 ballpoint pens? [Answer is 5 or 8 respectively. If no answer or a

wrong answer is given, ask the audience for help]. How much would participant B earn? 12 / 8

Participant 2, how much would you earn if you assembled 41 ballpoint pens and participant 2 40 ballpoint pens? [Answer is 15 or 12 respectively. If no answer or a wrong answer is given, ask the audience for help]. How much would participant B earn? 12 / 8

Participant 1, how much would you earn if you assembled 63 ballpoint pens and participant 2 51 ballpoint pens? [Answer is 15 or 12 respectively. If no answer or a wrong answer is given, ask the audience for help]. How much would participant B earn?

Participant 2, how much would you earn if you assembled 18 ballpoint pens and participant 2 55 ballpoint pens? [Answer is 5 or 8 respectively. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 2 earn?

Thank you very much, participant 1 and participant 2, for being candidates in our trivia quiz.

Before we continue, we would like to verify that we had been sufficiently clear with the explanation of the task. Therefore we will ask you some questions on the respective outcomes depending on your own performance and the performance of participant B. For that, **please turn around the next sheet**. [Wait some seconds until everybody has done so]. We ask you to write down your respective outcome on the right gap for each of the three questions. **Remember:** The participant that assembled more ballpoint pens in this task will earn 15 Cedi [CL 12 Cedi] whereas the participant that assembles less earns 5 Cedi [CL 8 Cedi]. Please start answering the questions now. [Wait until everybody has done so and collect the answering sheets.]

Our assistants will now collect the answering sheets. They check if you got the answers right. No problem if you did not get the answers right in the first place! The assistants will approach participants that they feel need some further explanation.

Before we start with the task, **you can try out how to assemble ONE ballpoint-pen**. You will not receive any payment for the ballpoint pen that you put together in this practice round.

We start now with the practice round. Please start now with practicing with only ONE ballpoint-pen!

Please check whether your ballpoint pen is working. Now, please disassemble the ballpoint pen you just assembled in the practice round. [Wait a bit until everybody has done so].

We are now ready to start with this activity. I will start the stopwatch. As soon as the time runs out I say stop. Please stop working then immediately and raise both hands [show how to raise the hands]. Afterwards our assistants will bring you bags with your participant number in which you can put the assembled ballpoint pens.

Are there any questions? Please raise your hand and we will come to help you.

After our countdown, you will have eight minutes to work on the task. We tell you when the time has run out. Please stop working when we say “Time is over”.

Please start after counting: 3, 2, 1, start

... [subjects work on the task]

“There is 1 minute left” / “There are 15 seconds left”

... “3, 2, 1... stop and raise your hands! Please do not work any longer. We collect and count the assembled ballpoint pens now.”

[Go around, put ballpoint pens in the respective bags, bring them to the front, count pens with the back facing the participants.]

We ask you now for some patience. The assistants will now count your assembled ballpoint pens. You will receive your payoff for this task in a white envelope then.

I will distribute some drinks now to shorten the time of waiting. Please, do not talk to any other participant and stay at your seat.

DO NOT CONTINUE THE ACTIVITY UNLESS FEEDBACK WAS GIVEN

[Feedback is given: envelopes with money in it will be distributed]

Please look inside the envelope but do not let anybody in this room know how much money is in there. This outcome you get for your performance in the ballpoint pen activity. Leave the envelope on your table and take the money out as soon as we have finished ALL activities.

Ballpoint Activity –Threshold

In this activity, your task is to put together ballpoint pens. On your table, you find 6 boxes with the different parts of a pen. [Take the different parts and show each of the parts to the participants]. To assemble the pen, you need a spring, the refill, the upper brass tube and the lower brass tube. First, put the spring on top of the refill. Then insert the refill with the spring into the upper brass tube. The last step is to set the lower brass tube on top and turn it until it is fixed on the lower part. Now we see that the pen is working – that means that if we push the button the ballpoint pen is retractable.

You will have eight minutes for accomplishing the task. Afterwards, your ballpoint pens will be collected and we will count how many of your assembled ballpoint pens work. Only pens that are functioning (pressing the push button either exposes or retracts the ballpoint) will be counted. Please do not tell any other one in the room how many ballpoint pens you managed to assemble.

What can you earn in this task? You can earn 15 Cedi [TL 12 Cedi] if you put together equal or more ballpoint pens than the average person does. If you put less ballpoint pens together than the average person then you earn 5 Cedi [TL 8 Cedi]. You will receive your earnings depending on your performance in any case. Only ballpoint pens that work will be counted. The average number of ballpoint pens that people had put in this task is 40.

Are there any questions? Please raise your hand if so.

We will now do a little trivia quiz! Please, I ask two people of you to come to the front. Any volunteers? Please raise your hand! [If there are no volunteers, then just call out two random numbers from 1 to 12.]

Welcome to today's trivia quiz. I will ask you now questions one after another. I will call you participant 1 and you participant 2 [look at the respective persons]. I will start with a first question for participant 1:

Participant 1, how much would you earn if you assembled 20 ballpoint pens and participant 2 32 ballpoint pens? [Answer is 5 or 8. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 2 earn?
5 / 8

Participant 2, how much would you earn if you assembled 41 ballpoint pens and participant 1 40 ballpoint pens? [Answer is 12 or 15. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 2 earn?
12 / 15

Participant 1, how much would you earn if you assembled 63 ballpoint pens and participant 2 51 ballpoint pens? [Answer is 12 or 15. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 2 earn?
12 / 15

Participant 2, how much would you earn if you assembled 18 ballpoint pens and participant 1 55 ballpoint pens? [Answer is 5 or 8. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 1 earn?
12 / 15

Thank you very much, participant 1 and participant 2, for being candidates in our trivia quiz.

Before we continue, we would like to verify that we had been sufficiently clear with the explanation of the task. Therefore we will ask you some questions on the respective outcomes depending on your own performance and the performance of participant B. For that, **please turn around the next sheet.** [Wait some seconds until everybody has done so]. We ask you to write down your respective outcome on the right gap for each of the three questions. **Remember:** The person that assembled more or equal than 40 ballpoint pens in this task will earn 15 Cedi [TL 12 Cedi] whereas the participant that assembles less than 40 ballpoints will earn 5 Cedi [TL 8Cedi]. Please start answering the questions now. [Wait until everybody has done so and collect the answering sheets.]

Before we start with the task, you can try out how to assemble ONE ballpoint-pen. You will not receive any payment on the ballpoint pen that you put together in this practice round.

We start now with the practice round. Please start now with practicing with only ONE ballpoint-pen!

Please check whether your ballpoint pen is working. Now, please disassemble the ballpoint pen you just assembled in the practice round. [Wait a bit until everybody has done so].

We are now ready to start with this activity. I will start the stopwatch. As soon as the time runs out I say stop. Please stop working then immediately and raise both hands [show how to raise the hands].

Are there any questions? Please raise your hand and we will come to help you.

After our countdown, you will have eight minutes to work on the task. We tell you when the time has run out. Please stop working when we say “Time is over”.

Please start after counting: 3, 2, 1, start

... [subjects work on the task]

“There is 1 minute left” / “There are 15 seconds left”

... “3, 2, 1... stop and raise your hands! Please do not work any longer. We collect and count the assembled ballpoint pens now.”

[Go around, put ballpoint pens in the respective bags, bring them to the front, count pens with the back facing the participants.]

We ask you now for some patience. The assistants will now count your assembled ballpoint pens. Then, we will see if you managed to assemble more or less than 40. You will receive your payoff for this task in a white envelope then.

I will distribute some drinks now to shorten the time of waiting. Please, do not talk to any other participant and stay at your seat.

DO NOT CONTINUE THE ACTIVITY UNLESS FEEDBACK WAS GIVEN

[Feedback is given: envelopes with money in it will be distributed]

Please look inside the envelope but do not let anybody in this room know how much money is in there. This outcome you get for your performance in the ballpoint pen activity. Leave the envelope on your table and take the money out as we have finished all activities.

Ballpoint Activity – Random

In this activity, your task is to put together ballpoint pens. On your table, you find 6 boxes with the different parts of a pen. [Take the different parts and show each of the parts to the participants]. To assemble the pen, you need a spring, the refill, the upper brass tube and the lower brass tube. First, put the spring on top of the refill. Then insert the refill with the spring into the upper brass tube. The last step is to set the lower brass tube on top and turn it until it is fixed on the lower part. Now we see that the pen is working – that means that if we push the button the ballpoint pen is retractable.

You will have eight minutes for accomplishing the task. Afterwards, your ballpoint pens will be collected and we will count how many of your assembled ballpoint pens work. Only pens that are functioning (pressing the push button either exposes or retracts the ballpoint) will be counted. Please do not tell any other one in the room how many ballpoint pens you managed to assemble.

Your **earnings** in this activity depend on participant B. One person in the team will earn 15 Cedi [RL 12 Cedi] whereas the other person will earn 5 Cedi [RL 8 Cedi]. We will randomly decide who will receive 15 Cedi [RL 12 Cedi] or 5 Cedi [RL 8 Cedi]. You will receive your earnings in any case. Only ballpoint pens that work will be counted. The average number of ballpoint pens that people had put in this task is 40. After you accomplished that task, you will get an envelope with your payoff for this task enclosed.

Are there any questions? Please raise your hand if so.

We will now do a little trivia quiz! Please, I ask two people of you to come to the front. Any volunteers? Please raise your hand! [If there are no volunteers, then just call out two random numbers from 1 to 12.]

Welcome to today's trivia quiz. I will ask you now questions one after another. I will call you participant 1 and you participant 2 [look at the respective persons]. I will start with a first question for participant 1:

Participant 1, how much would you earn if you assembled 20 ballpoint pens and participant 2 32 ballpoint pens? [Answer: 5 or 15 [8 or 12]. If no answer or a

wrong answer is given, ask the audience for help]. How much would participant 2 earn? 5 or 15 [8 or 12].

Participant 2, how much would you earn if you assembled 41 ballpoint pens and participant 1 40 ballpoint pens? [Answer is 5 or 15 [8 or 12]. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 2 earn? 5 or 15 [8 or 12].

Participant 1, how much would you earn if you assembled 63 ballpoint pens and participant 2 51 ballpoint pens? [Answer is 5 or 15 [8 or 12]. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 2 earn? 5 or 15 [8 or 12].

Participant 2, how much would you earn if you assembled 18 ballpoint pens and participant 1 55 ballpoint pens? [Answer is 5 or 15 [8 or 12]. If no answer or a wrong answer is given, ask the audience for help]. How much would participant 1 earn? 5 or 15 [8 or 12].

Thank you very much, participant 1 and participant 2, for being candidates in our trivia quiz.

Before we continue, we would like to verify that we had been sufficiently clear with the explanation of the task. Therefore we will ask you some questions on the respective outcomes depending on your own performance and the performance of participant B. For that, **please turn around the next sheet**. [Wait some seconds until everybody has done so]. We ask you to write down your respective outcome on the right gap for each of the three questions. **Remember:** We will randomly assign either you or participant a payoff of 15 Cedi or 5 Cedi [RL 12 Cedi or 8 Cedi]. Please start answering the questions now. [Wait until everybody has done so and collect the answering sheets.]

Before we start with the task, you can try out how to assemble ONE ballpoint-pen. You will not receive any payment on the ballpoint pen that you put together in this practice round.

We start now with the practice round. Please start now with practicing with only ONE ballpoint-pen!

Please check whether your ballpoint pen is working. Now, please disassemble the ballpoint pen you just assembled in the practice round. [Wait a bit until everybody has done so].

We are now ready to start with this activity. I will start the stopwatch. As soon as the time runs out I say stop. Please stop working then immediately and raise both hands [show how to raise the hands].

Are there any questions? Please raise your hand and we will come to help you.

After our countdown, you will have eight minutes to work on the task. We tell you when the time has run out. Please stop working when we say “Time is over”.

Please start after counting: 3, 2, 1, start

... [subjects work on the task]

“There is 1 minute left” / “There are 15 seconds left”

... “3, 2, 1... stop and raise your hands! Please do not work any longer. We collect and count the assembled ballpoint pens now.”

[Go around, put ballpoint pens in the respective bags, bring them to the front and count pens with the back facing the participants.]

We ask you now for some patience. The assistants will now count your assembled ballpoint pens. You will receive your payoff for this task in a white envelope.

I will distribute some drinks now to shorten the time of waiting. Please, do not talk to any other participant and stay at your seat.

DO NOT CONTINUE THE ACTIVITY UNLESS FEEDBACK WAS GIVEN

[Feedback is given: envelopes with money in it will be distributed]

Please look inside the envelope but do not let anybody in this room know how much money is in there. This outcome you get for your performance in the ballpoint pen activity. Leave the envelope on your table and take the money out as we have finished all activities.

2 Investment Activity (PGG)

[Poster I1] We will now do the investment activity again. You have been already part of the investment activity earlier on. We will quickly remind you what this activity was about: You received 10 Cedi. This money you have in your individual account. [Poster I1] You have to decide how much you want to keep and how much you want to invest in the joint account with participant B. Each Cedi kept in your individual account, will give you one Cedi back. Only *you* receive Cedi from the individual account. Each Cedi that you contribute to the joint account will be summed up with the contribution of participant B and multiplied by 0.7. Both you and participant B receive the same number of Cedi from the joint account independently on how much each of you two invests.

Do you have any questions? Please raise your hand!

You can now turn around the next sheet which you use as an orientation for your outcome only. Our assistants will now walk around and give you your envelopes back. Remember, you will get the white one which represents your individual account and you will get the brown envelope representing the joint account. [Wait until everybody got their envelopes back]. Please take now the white envelope and take out the coins. Count if you have 10 coins. Then, please put in the white envelope the amount of money you want to keep in your individual account and in the brown envelope the amount of money you want to invest in the joint account. Make your decision now.

Now your task is to guess how much participant B invested in the joint account. If your guess is right, you earn another 2 Cedi. If your guess deviates 0.5 units from the actual investment of participant B you receive 1 Cedi. If your guess deviates 10 units from participant B's investment, you receive 0.5 Cedi.

[Show the respective sheet and point at the row where to make the cross] Please indicate on the vertical axis with a cross how much you expect participant B will invest in the joint account.

Please turn around your sheet when you finished this activity.

We now collect your answering sheets.

2 Money Allocation Activity (SVO)

In this activity we repeat the money allocation activity. We will shortly summarize this activity for you. [Show poster MA] In this activity one person is selected to take up role A. This person has to decide on the preferred allocation of income between himself/herself and participant B. Participants in role B have to accept any Cedi allocation chosen by the participant in role A.

[Point at the respective places on the poster] Remember the approach for this task: First, look carefully at the question and decide on your preferred allocation. Mark the midline for that particular allocation. Then write down the respective outcome on the gaps to the right of each decision set.

You will be making six decisions and you can only make ONE mark for each question.

If this activity is chosen for payment at the end, we will randomly select one for payment among the six questions.

Do you have any questions? Please raise your hand!

Now, we would like to start. **Please turn around the last sheet for today.** [Wait some seconds]. Please mark the midline for the distribution you prefer for each question and write down the corresponding outcomes on the right of each question. Please turn around your sheet when you finished this activity.

Selection of activity for payment

This was the last activity for this workshop. Now we will select which activity will be paid. Please select one of these four cards. [Show the cards with the numbers 1 to 4] The activity selected for payment is the activity No. X

[If the selected activity is the allocation activity] In this activity, we have two roles. Kerstin will select who takes up the role A and who takes up the role B. [Select one card for each pair]. In this activity you took six decisions. Now we will select which of the decisions is paid [select one of six cards]. The selected decision for payment is the decision X. In this decision, the allocation decision was to distribute ... [Show the respective answering sheet]

Material

We kindly ask you to leave all ballpoint pens here. We plan to run more workshops the upcoming days and are reliant on all the material. Please, also take out the money your earned in activity 3 from the white envelope and leave the envelope on the table. Thank you for your understanding.

Confidentiality

We ask you not to talk to your colleagues or to anybody else about the content of today's workshop. As well as that, please keep the information that you can earn money in this workshop confidential. Otherwise, you take away the nice surprise from other potentially invited participants to this workshop. Furthermore, we ask you not to talk even with the other people in the room about your earnings. How much you will earn depends on your decisions but also on luck. If you talk to other participant's about your earning it does not say anything about how well you made your decisions.

Questionnaire

While we estimate the payments, we kindly ask you to help us filling out a questionnaire. Our assistants will approach you one by one. Those who finished filling out the questionnaire, please stay around for some time until Kerstin did the calculations for your payments. Please bring the questionnaire with you. Those who are not yet ready, please wait until one of our enumerators approaches

you. The ones that are not filling out questionnaires are free to walk around in the room. Everybody is free to take one package of biscuits and one soft drink.

End

[payment is given and receipt is signed.]

Appendix “Answering Sheets” Experiment

Figure 1: Control Questions for "Investment Activity"

Control questions

How many Cedis would participant A earn if:

... participant A invested 2,0 and participant B 7,0 GHC _____

... participant A invested 2,0 and participant B 2,0 GHC _____

... participant A invested 0 and participant B 0 GHC _____

... participant A invested 5,0 and participant B 0 GHC _____

... participant A invested 9,0 and participant B 3,0 GHC _____

		Participant B										
		0,0	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0	9,0	10,0
Participant A	0,0	10,0	10,7	11,4	12,1	12,8	13,5	14,2	14,9	15,6	16,3	17,0
	1,0	9,7	10,4	11,1	11,8	12,5	13,2	13,9	14,6	15,3	16,0	16,7
	2,0	9,4	10,1	10,8	11,5	12,2	12,9	13,6	14,3	15,0	15,7	16,4
	3,0	9,1	9,8	10,5	11,2	11,9	12,6	13,3	14,0	14,7	15,4	16,1
	4,0	8,8	9,5	10,2	10,9	11,6	12,3	13,0	13,7	14,4	15,1	15,8
	5,0	8,5	9,2	9,9	10,6	11,3	12,0	12,7	13,4	14,1	14,8	15,5
	6,0	8,2	8,9	9,6	10,3	11,0	11,7	12,4	13,1	13,8	14,5	15,2
	7,0	7,9	8,6	9,3	10,0	10,7	11,4	12,1	12,8	13,5	14,2	14,9
	8,0	7,6	8,3	9,0	9,7	10,4	11,1	11,8	12,5	13,2	13,9	14,6
	9,0	7,3	8,0	8,7	9,4	10,1	10,8	11,5	12,2	12,9	13,6	14,3
	10,0	7,0	7,7	8,4	9,1	9,8	10,5	11,2	11,9	12,6	13,3	14,0

Figure 2: Expected Contribution of Participant B in "Investment Activity"

Expected Investment

		Participant B										
		0,0	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0	9,0	10,0
YOU	0,0	10,0	10,7	11,4	12,1	12,8	13,5	14,2	14,9	15,6	16,3	17,0
	1,0	9,7	10,4	11,1	11,8	12,5	13,2	13,9	14,6	15,3	16,0	16,7
	2,0	9,4	10,1	10,8	11,5	12,2	12,9	13,6	14,3	15,0	15,7	16,4
	3,0	9,1	9,8	10,5	11,2	11,9	12,6	13,3	14,0	14,7	15,4	16,1
	4,0	8,8	9,5	10,2	10,9	11,6	12,3	13,0	13,7	14,4	15,1	15,8
	5,0	8,5	9,2	9,9	10,6	11,3	12,0	12,7	13,4	14,1	14,8	15,5
	6,0	8,2	8,9	9,6	10,3	11,0	11,7	12,4	13,1	13,8	14,5	15,2
	7,0	7,9	8,6	9,3	10,0	10,7	11,4	12,1	12,8	13,5	14,2	14,9
	8,0	7,6	8,3	9,0	9,7	10,4	11,1	11,8	12,5	13,2	13,9	14,6
	9,0	7,3	8,0	8,7	9,4	10,1	10,8	11,5	12,2	12,9	13,6	14,3
	10,0	7,0	7,7	8,4	9,1	9,8	10,5	11,2	11,9	12,6	13,3	14,0

Figure 3: Control Questions for "Allocation Activity"

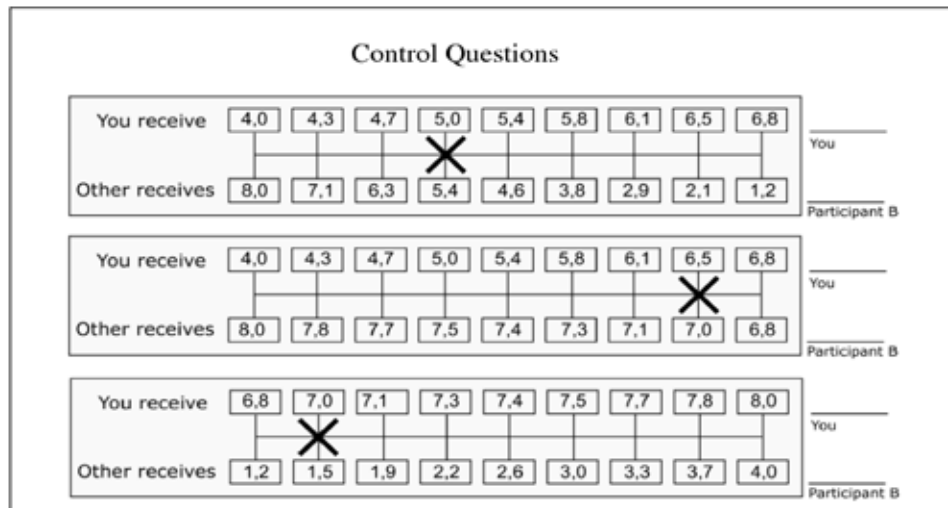


Figure 4: Answering Sheet for "Allocation Activity"

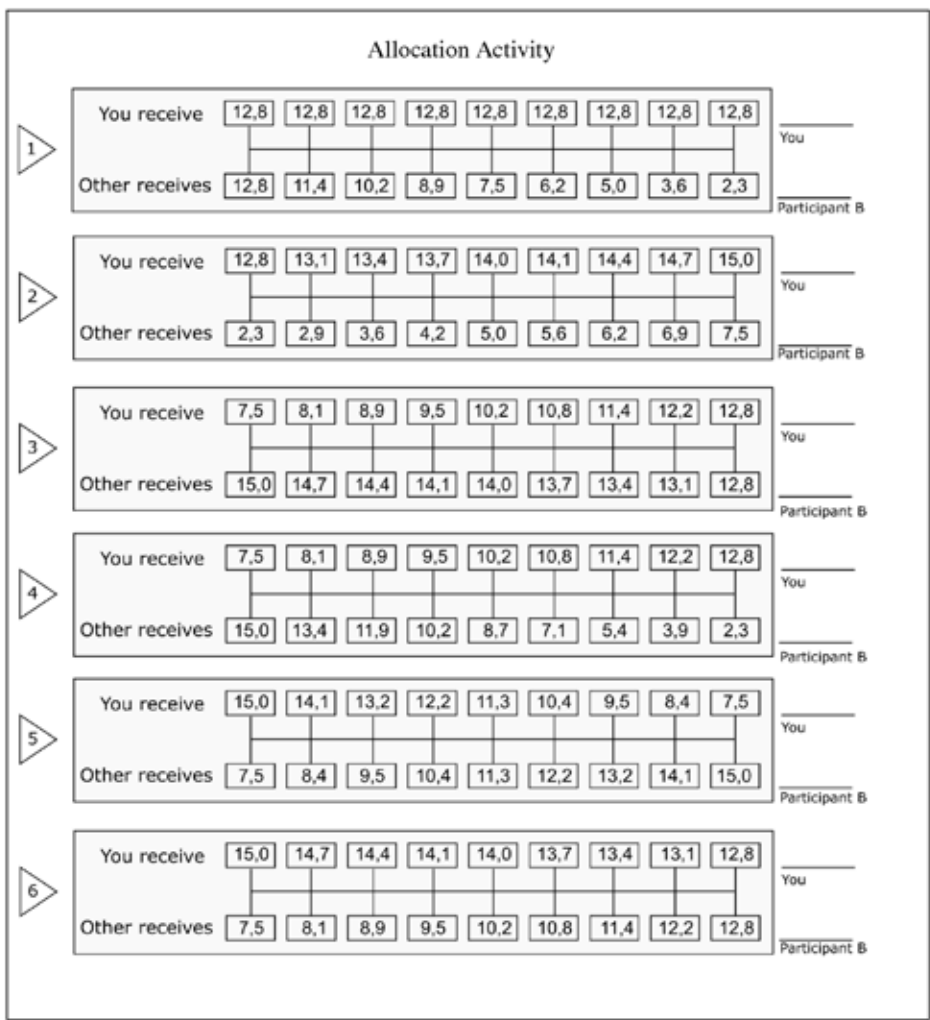



Figure 5: Control Questions for "Ballpoint Pen Activity"

Control Questions (Ballpoint)	
1. How many Cedi does participant A earn if: Participant A put together 32 ballpoint pens and participant B 37?	_____
2. How many Cedi does participant A earn if: Participant A put together 45 ballpoint pens and participant B 53?	_____
3. How many Cedi does participant A earn if: Participant A put together 28 ballpoint pens and participant B 67?	_____

Appendix "Poster" Experiment






Figure 6: Introductory Poster ("TW")

 **Today's Workshop** TW

Activities and Earnings:


- 5 different activities



1 2 3 4 5


- Payment:  ?  ?  !  ?  ?

Draw of a number card (1, 2, 4, 5) at the end of the workshop to decide which activity will be paid!

Group Formation:

YOU  ?

YOU  Participant B



 1 2 3 4 5 

Figure 7: Poster for "Investment Activity" ("IA")

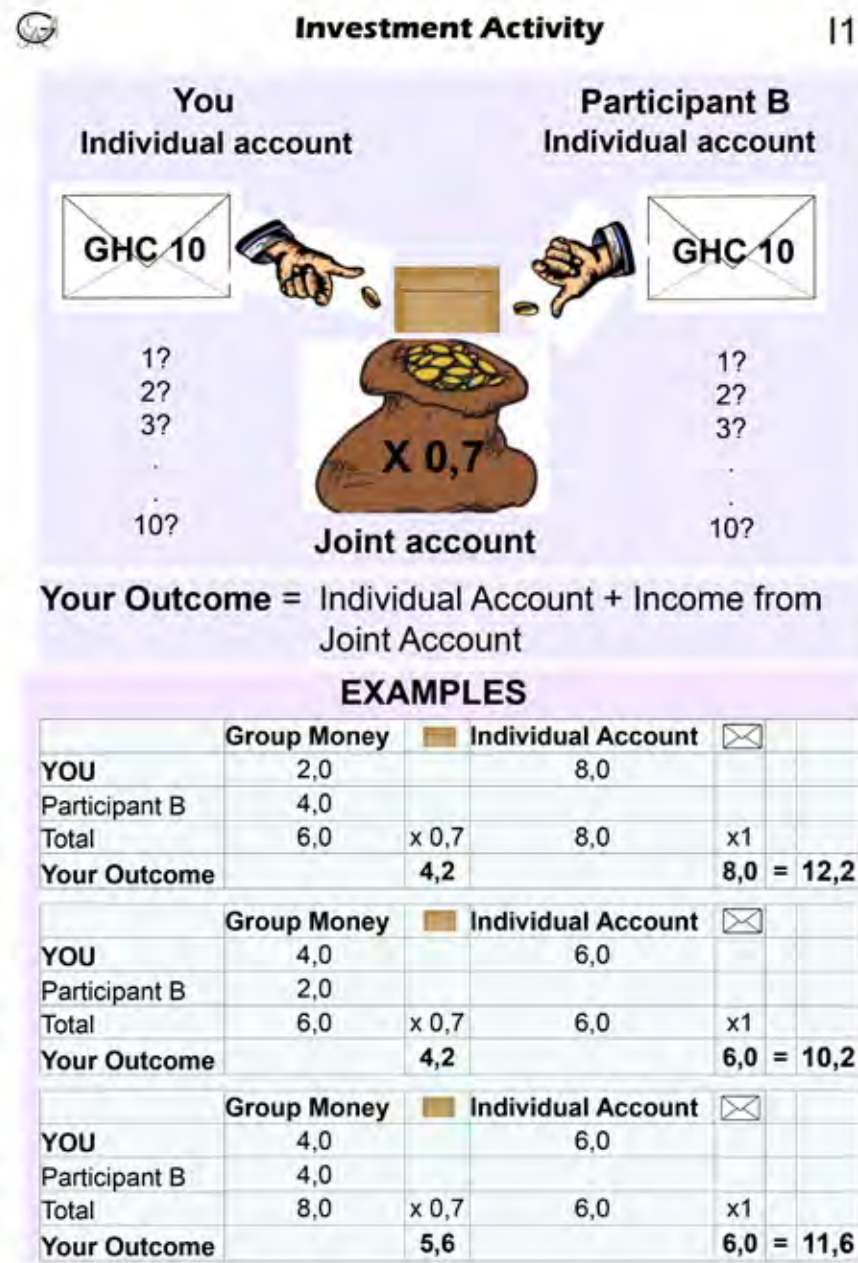


Figure 8: Poster Payoff Matrix for "Investment Activity" ("I2")



Investment Activity

I2

		Participant B										
		0,0	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0	9,0	10,0
YOU	0	10,0	10,7	11,4	12,1	12,8	13,5	14,2	14,9	15,6	16,3	17,0
	1,0	9,7	10,4	11,1	11,8	12,5	13,2	13,9	14,6	15,3	16,0	16,7
	2,0	9,4	10,1	10,8	11,5	12,2	12,9	13,6	14,3	15,0	15,7	16,4
	3,0	9,1	9,8	10,5	11,2	11,9	12,6	13,3	14,0	14,7	15,4	16,1
	4,0	8,8	9,5	10,2	10,9	11,6	12,3	13,0	13,7	14,4	15,1	15,8
	5,0	8,5	9,2	9,9	10,6	11,3	12,0	12,7	13,4	14,1	14,8	15,5
	6,0	8,2	8,9	9,6	10,3	11,0	11,7	12,4	13,1	13,8	14,5	15,2
	7,0	7,9	8,6	9,3	10,0	10,7	11,4	12,1	12,8	13,5	14,2	14,9
	8,0	7,6	8,3	9,0	9,7	10,4	11,1	11,8	12,5	13,2	13,9	14,6
	9,0	7,3	8,0	8,7	9,4	10,1	10,8	11,5	12,2	12,9	13,6	14,3
	10,0	7,0	7,7	8,4	9,1	9,8	10,5	11,2	11,9	12,6	13,3	14,0

Figure 9: PosterMoney Allocation Activity ("MA")



Money Allocation Activity

MA

1. Look carefully at the Question:

You receive	7,5	8,1	8,9	9,5	10,2	10,8	11,4	12,2	12,8	_____
Other receives	15	14,7	14,4	14,1	14,0	13,7	13,4	13,1	12,8	Participant B

2. Make your cross (only ONE):

You receive	7,5	8,1	8,9	9,5	10,2	10,8	11,4	12,2	12,8	_____
Other receives	15	14,7	14,4	14,1	14,0	13,7	13,4	13,1	12,8	Participant B

↓

3. Write down the corresponding outcomes:

You receive	7,5	8,1	8,9	9,5	10,2	10,8	11,4	12,2	12,8	11,4
Other receives	15	14,7	14,4	14,1	14,0	13,7	13,4	13,1	12,8	13,4

↓

Do not:

You receive	7,5	8,1	8,9	9,5	10,2	10,8	11,4	12,2	12,8	12,8
Other receives	15	14,7	14,4	14,1	14,0	13,7	13,4	13,1	12,8	15

↓

Control Questions:



You receive	7,5	8,1	8,9	9,5	10,2	10,8	11,4	12,2	12,8	?
Other receives	15	14,7	14,4	14,1	14,0	13,7	13,4	13,1	12,8	?

Appendix “Survey Measures”

Inequality Aversion:

Round	Option 1 YOU / Partner	Option 2 YOU / Partner	Decision
Env	0,50 / 0,50	0,50 / 1,00	<input type="checkbox"/>
Pro	0,50 / 0,50	0,50 / 0,00	<input type="checkbox"/>
Sha	0,50 / 0,50	1,00 / 0,50	<input type="checkbox"/>

Time Preferences:

								
Your Decision	Kilos of Seed Abdu	Kilos of Seed Bara	Yield Abdu	Yield Bara	Total Yield	Yield Abdu	Yield Bara	Total Yield
	0	10	0	1000	1000	0	1000	1000
	1	9	300	900	1200	0	900	900
	2	8	600	800	1400	0	800	800
	3	7	900	700	1600	0	700	700
	4	6	1200	600	1800	0	600	600
	5	5	1500	500	2000	0	500	500
	6	4	1800	400	2200	0	400	400
	7	3	2100	300	2400	0	300	300
	8	2	2400	200	2600	0	200	200
	9	1	2700	100	2800	0	100	100
	10	0	3000	0	3000	0	0	0

Preferences for Competition

- **Round 1:** In this round, you will be matched with someone else in this room. Kerstin will draw any other participant number afterwards to determine your matched partner. Depending on who of you two will hit the marble more often,

will get GHC2,5 whereas the other one receives GHC0,5. Start now with your ten throws!

- **Round 2:** In this round, you will get for each hit GHC 0,25! Start now with your 10 throws!
- **Round 3:** In this round, you can decide on how you want to be paid:
 - Option 1:** Get paid GHC 0,25 for each marble hit

Option 2: Become matched with somebody else and you will receive GHC2,5 if your performance is better than the performance of your matched partner. Otherwise you will receive GHC0,5.

For which option do you decide? OPTION |_____|

[Let participant do the activity and report the performance and decision on report-table]

Round	Performance
1	
2	
3	