General Instructions *[all treatments]*

Welcome to this economic experiment! In this experiment you can earn money with the decisions you make. How much you earn depends on your own decisions, the decisions of other participants as well as random events. We will not speak of Swiss Francs during the experiment, but rather of points. All your earnings will first be calculated in points. At the end of the experiment the total amount of points you earned in this part will be converted to Swiss Francs at the following rate:

1 point = 0.6 CHF

In addition, you will receive a show up fee of 14 CHF.

From now on you are not allowed to communicate in any other way than specified in the instructions. Please obey to this rule because otherwise we have to exclude you from the experiment and all earnings you have made will be lost. Please also do not ask questions aloud. If you have a question, raise your hand. A member of the experimenter team will come to you and answer your question in private.

The experiment lasts approximately 90 minutes. The experiment consists of three parts that are independent of one another. For each part you will receive specific instructions. These instructions will explain how you make decisions and how your decisions and the decisions of other participants influence your earnings. Therefore, it is important that you read the instructions carefully.

In case you should make losses, the show up fee of 14 CHF is used to cover for these losses. If you make losses exceeding 14 CHF, you will have the options to leave immediately and earn 0 CHF.

Instructions *[Treatment: No Communication]*

We will now describe the general setting you will face during the experiment. At the beginning of the experiment the participants will be divided into buyers and sellers. There will be **6 buyers** and **6 sellers**. You will be one of these buyers or sellers. When you are a buyer (respectively, a seller) you will stay a buyer (respectively, a seller) throughout the experiment. You will not get to know the identity of the buyers or sellers you interact with, neither during nor after the experiment. Similarly, no participant will get to know your identity.

A decision situation will be repeated for **20 periods**. In each period the 6 buyers and the 6 sellers can trade a good in the market. Each buyer wants to buy at most one unit and each seller can produce and sell at most one unit of this good. The seller can be of two different types: **type L** or **type H**. A seller of type L can only produce a low quality good at cost **0.** The buyers' valuation for the low quality good is **5.** Hence, the surplus generated from trading a low quality good is 5. A seller of type H can only produce a high quality good at cost **14.** The buyers' valuation for the high quality good is **19.** Hence, the surplus generated from trading a high quality good is also 5.

We will tell the seller her type (L or H) at the beginning of each period. **In each period there will be 3 type L and 3 type H sellers.** Which sellers are of type L or H is randomly determined. Note that a seller also knows how much her good is worth to the buyers. However, **the buyers do not know the sellers' types** and hence, a buyer does not know whether his valuation for the good is 5 (and the seller's cost is 0) or 19 (and the seller's cost is 14). The buyer only knows that there are 3 low quality sellers (type L) and 3 high quality sellers (type H).

Sellers and buyers interact in this market in two steps:
- First, each buyer is matched to one of the 6 sellers and makes an offer to this seller. The computer randomly determines to which seller a buyer is matched. It is important to understand that a seller may be matched with several buyers or with no buyer at all. Below this is explained in detail.
- Second, sellers receive the offer(s) and accept at most one offer.

We will now explain each step in detail.
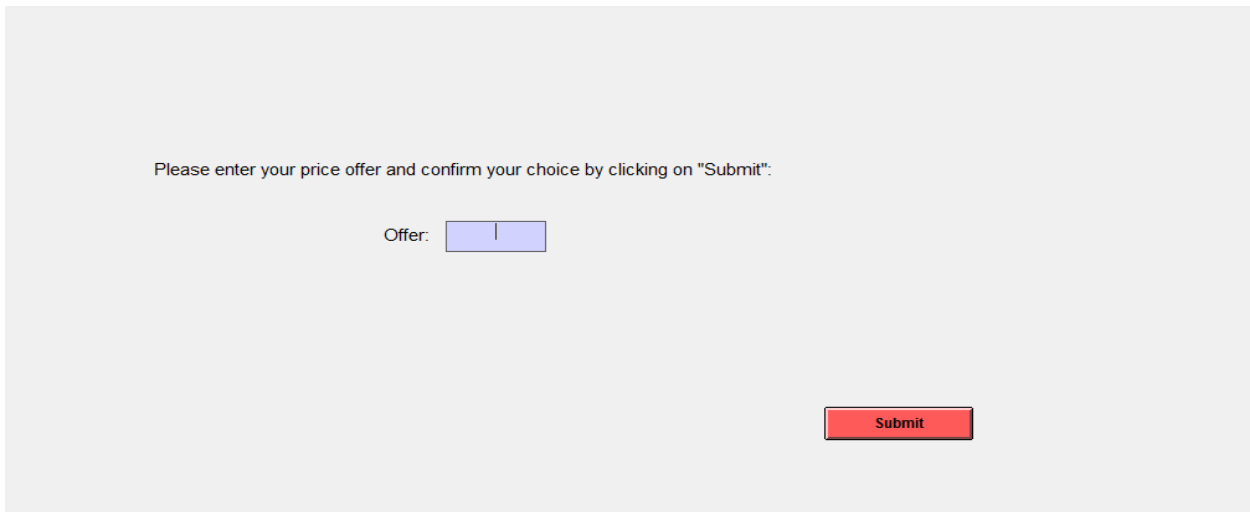
STEP 1: MATCHING & BUYERS MAKE OFFERS

First, sellers and buyers are randomly matched by the computer. More specifically, each buyer is matched to one of the 6 sellers with probability 1/6 (16.6%). More than 1 buyer can be matched to the same seller and some sellers may not be matched with any buyer. For instance, it could be that all 6 buyers are linked to seller number 1. In that case, the other 5 sellers will not be matched with a buyer. The probability for this to happen is very close to zero (it is $(1/6)^6$). At the other extreme, it could happen that each buyer is linked to a different seller and thus all sellers are linked to exactly one buyer. This occurs with a probability of just a little over 0.015 (1.5%). The more likely cases are those in between, where some sellers meet 1 buyer, others meet 2 or even 3 buyers,

and some sellers are not matched with a buyer.

The idea is not that you calculate all these probabilities in detail (although you can do some calculations if you like). What is important is that **as a buyer you are matched with only one seller, but several buyers may be matched with the same seller.** This implies in particular that if you are a buyer, the seller who receives your offer could also receive other offers. To give an idea, the probability to be the only offerer for a seller is given by $(5/6)^5 = 0.4$, since each buyer meets a different seller with probability 5/6 and there are 5 other buyers. As a seller, you will sometimes receive several offers and sometimes no offer at all.

Once the computer has randomly matched buyers and sellers, buyers make price offers to the sellers. **Each buyer makes an offer to exactly one seller. The seller who receives the offer is randomly determined by the computer** (the matching is explained above). When making offers, buyers do not know how many other buyers are matched with the same seller.

Offers have to be between 0 and 19 and can be as exact as to the second decimal place. Hence, offers of 1, 7.9, 16.11 are possible. Offers of -3, 5.557, 19.2 are not possible. Below you are shown a screenshot of the buyers' decision screen in step 1: buyers choose an offer.

STEP 2: SELLERS ACCEPT OR REJECT OFFERS

In the second step, sellers decide which offer (if any) to accept. If a seller does not receive an offer, she cannot trade. If a seller receives 1 or more offers (see step 1 to understand how more than one offer can be received) she can accept at most one of these. A seller can also reject all offers. See the screenshot below for an example where a seller received 2 offers.

This is period 1. You are a low quality seller.

Buyers have now made their offers. Below you can see the offers you received. You can select at most one offer that you want to accept. Note that you can also reject all offers.

Offer   Accept

2.7   ☐

You have received **2** offer(s). Recall that you are a **low** quality seller.

Please select the offer you would like to accept. You can accept at most one offer. You can also reject all offers. Confirm your choice by clicking on "Submit":

Submit

Offer   Accept

3.0   ☐

If the seller accepts an offer, she produces the good and sells it to the buyer at the agreed price. The payoffs of the seller and the buyer who has made the offer are determined as follows.

Seller's payoff   =   Accepted Offer - Production Cost
Buyer's payoff   =   Valuation of the Good - Accepted Offer

To calculate payoffs, recall the valuations and costs:
Seller's production cost:
- **low quality good: 0**
- **high quality good: 14**

Buyer's valuation:
- **low quality good: 5**
- **high quality good: 19**

As an example, consider a buyer who offers a price of 6 and a seller who accepts this offer. If the seller is a type L (low quality) seller, his payoff is (Accepted Offer – Production Cost) = 6-0 = 6. The buyer's payoff is (Valuation – Accepted Offer) = 5-6 = -1. On the other hand, if the seller is a type H (high quality) seller, his payoff if he accepts the offer is (Accepted Offer – Production Cost) = 6-14 = -8. The buyer's payoff in this case is (Valuation – Accepted Offer) = 19-6 = 13.

The sellers who did not receive an offer or rejected all offers earn a payoff of 0. The buyers whose offers were rejected also earn a payoff of 0.

Once sellers have decided which offers to accept (if any) and the goods are traded, you are shown your earnings in this period. Then the next period starts (there are 20 periods). The setting is the same in all periods. As a seller you may sometimes be type L and sometimes type H.

Instructions *[Treatment: Communication First]*

We will now describe the general setting you will face during the experiment. At the beginning of the experiment the participants will be divided into buyers and sellers. There will be **6 buyers** and **6 sellers**. You will be one of these buyers or sellers. When you are a buyer (respectively, a seller) you will stay a buyer (respectively, a seller) throughout the experiment. You will not get to know the identity of the buyers or sellers you interact with, neither during nor after the experiment. Similarly, no participant will get to know your identity.

A decision situation will be repeated for **20 periods**. In each period the 6 buyers and the 6 sellers can trade a good in the market. Each buyer wants to buy at most one unit and each seller can produce and sell at most one unit of this good. The seller can be of two different types: **type L** or **type H**. A seller of type L can only produce a low quality good at cost **0.** The buyers' valuation for the low quality good is **5.** Hence, the surplus generated from trading a low quality good is 5. A seller of type H can only produce a high quality good at cost **14.** The buyers' valuation for the high quality good is **19.** Hence, the surplus generated from trading a high quality good is also 5.

We will tell the seller her type (L or H) at the beginning of each period. **In each period there will be 3 type L and 3 type H sellers.** Which sellers are of type L or H is randomly determined. Note that a seller also knows how much her good is worth to the buyers. However, **the buyers do not know the sellers' types** and hence, a buyer does not know whether his valuation for the good is 5 (and the seller's cost is 0) or 19 (and the seller's cost is 14). The buyer only knows that there are 3 low quality sellers (type L) and 3 high quality sellers (type H).

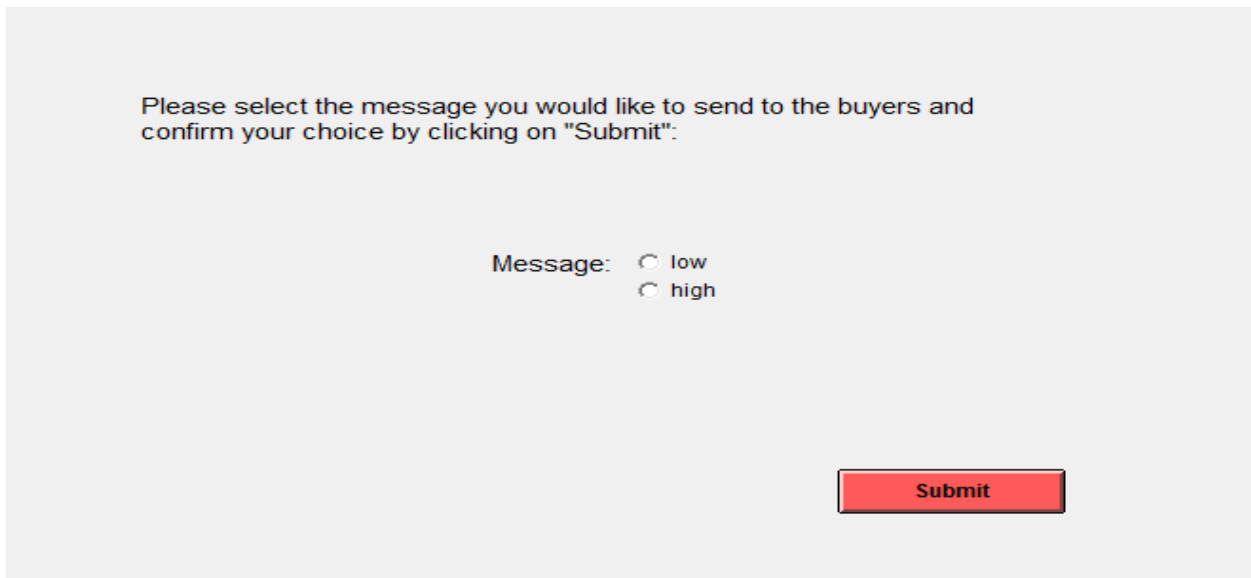Sellers and buyers interact in this market in three steps:
- First, sellers send messages "low" or "high" to all buyers. This generates 2 submarkets.
- Second, each buyer chooses a submarket "low" or "high" and makes an offer in this submarket. It is important to understand that buyers choose the submarket in which they want to make an offer and the offer they want to make. However, the computer randomly determines to which exact seller in the chosen submarket the offer goes. The implications are discussed below in detail.
- Third, sellers receive the offer(s) and accept at most one offer.

We will now explain each step in detail.

STEP 1: SELLERS SEND A MESSAGE

Before sellers and buyers potentially trade, each seller can send a message. The two possible messages are **"low"** and **"high"**. The messages are sent at no costs and both types of sellers (L and H) may send both

messages. That is, type L may send message "low" or "high" and likewise for type H. What happens with these messages? When buyers make their offers (see step 2 below), they are first informed about how many of the 6 sellers sent message "low" and how many sent message "high". Buyers can then choose to make an offer either to the sellers who sent "low" or to the sellers who sent "high". Therefore, the way we think about the messages is that they divide the initial market into two submarkets "low" and "high". For instance, suppose 2 sellers sent message "low" and 4 sellers message "high". Then buyers are given the choice between offering in submarket "low" with 2 sellers or submarket "high" with 4 sellers. Below you see a screenshot of the sellers' decision screen.

Please select the message you would like to send to the buyers and confirm your choice by clicking on "Submit":

Message: ○ low
          ○ high

[Submit]

STEP 2: BUYERS CHOOSE SUBMARKETS AND MAKE OFFERS

In this step, buyers make price offers to the sellers. **Each buyer makes an offer to exactly one seller. A buyer can choose in which submarket "low" or "high"** (generated by the messages in step 1) **he wants to make an offer. However, to which specific seller the offer is made is randomly determined by the computer.** In particular, a seller may receive an offer from several buyers or may not receive an offer at all. Let us give an example.

Suppose 2 buyers decide to make an offer in submarket "low". Also suppose that there are 2 sellers in this submarket (that is, 2 sellers sent message "low"). Thus, the 2 buyers' offers can be received only by one of the 2 sellers in the same submarket and not by a seller in submarket "high". It is randomly determined by the computer to which of the 2 sellers in submarket "low" the offer goes. In this example with 2 sellers, each buyer's offer is made to a specific seller in submarket "low" with probability 0.5 (50%). This means that either 1 of the sellers receives both offers or each seller receives 1 offer. More precisely, the probability that a specific seller receives 2 offers is $0.5^2=0.25$. This corresponds to the probability that buyer 1 offers to this seller (50%) times the probability that buyer 2 also offers to this seller (50%). Of course, then the probability that a seller receives no offer is also 0.25. The probability that both sellers receive one offer is 2 * 0.5 * (1-0.5)=0.5, where the 2 occurs,

because there are two ways this can happen (Buyer 1 offers to seller 1 and buyer 2 to seller 2, or buyer 1 offers to seller 2 and buyer 2 to seller 1). In summary, in a submarket with 2 sellers and 2 buyers the probability of a seller to receive no offer is 0.25, the probability of a seller to receive 1 offer is 0.5, and the probability to receive 2 offers is 0.25.

These probabilities depend of course on the number of buyers and sellers in a submarket. A submarket may contain a different number of buyers and sellers than in the above example. The idea is not that you calculate all these probabilities in detail (although you can do some calculations if you like). What is important is that given you are in a specific submarket (a group of sellers who sent the same message together with a group of buyers who chose to make an offer to these sellers), your offer as a buyer only goes to one of the sellers and each seller has the same probability to receive your offer.

The above implies in particular that if you are a buyer and there are a lot of buyers in the same submarket as you, the seller who receives your offer is likely to also receive other offers. On the other hand, if you are the only buyer in a submarket, you are certain that your offer will be the only one. Of course, you do not know how many buyers make offers in the same submarket when you make your offer.

A similar remark holds for sellers. If you are a seller, the more sellers are in the same submarket as you, the lower your probability to receive many offers and the higher your probability to receive no offer. If you are the only seller in a submarket and there is at least one buyer who makes an offer in this submarket, you are certain to receive this offer.

Let us give one more example. Suppose 1 seller sends message "high" and 5 sellers send message "low". Also suppose that, after observing the sellers' messages, 5 buyers choose to offer in submarket "high" and 1 buyer chooses to offer in submarket "low". Then the seller in submarket "high" is certain to receive 5 offers and each of the 5 buyers competes with 4 other offers. On the other hand, in submarket "low" only 1 of the 5 sellers will receive an offer from the buyer and the buyer will not compete with any other offer.

Finally, note that offers have to be between 0 and 19 and can be as exact as to the second decimal place. Hence, offers of 1, 7.9, 16.11 are possible. Offers of -3, 5.557, 19.2 are not possible. Below you are shown a screenshot of the buyers' decision screen in step 2: buyers choose a submarket and an offer.

STEP 3: SELLERS ACCEPT OR REJECT OFFERS

In this final step, sellers decide which offer (if any) to accept. If a seller does not receive an offer, she cannot trade. If a seller receives 1 or more offers (see step 2 to understand how more than one offer can be received) she can accept at most one of these. A seller can also reject all offers. See the screenshot below for an example where a seller received 2 offers.

If the seller accepts an offer, she produces the good and sells it to the buyer at the agreed price. The payoffs of the seller and the buyer who has made the offer are determined as follows.

Seller's payoff   =   Accepted Offer - Production Cost

Buyer's payoff   =   Valuation of the Good - Accepted Offer

To calculate payoffs, recall the valuations and costs:

Seller's production cost:
- **low quality good: 0**
- **high quality good: 14**

Buyer's valuation:
- **low quality good: 5**
- **high quality good: 19**

This is period 1. You are a low quality seller.

Buyers have now made their offers. Below you can see the offers you received. You can select at most one offer that you want to accept. Note that you can also reject all offers.

Offer	Accept
2.7	☐

You have received **2** offer(s). Recall that you are a **low** quality seller.

Please select the offer you would like to accept. You can accept at most one offer. You can also reject all offers. Confirm your choice by clicking on "Submit":

Submit

Offer	Accept
3.0	☐

As an example, consider a buyer who offers a price of 6 and a seller who accepts this offer. If the seller is a type L (low quality) seller, his payoff is (Accepted Offer – Production Cost) = 6-0 = 6. The buyer's payoff is (Valuation – Accepted Offer) = 5-6 = -1. On the other hand, if the seller is a type H (high quality) seller, his payoff if he accepts the offer is (Accepted Offer – Production Cost) = 6-14 = -8. The buyer's payoff in this case is (Valuation – Accepted Offer) = 19-6 = 13.

The sellers who did not receive an offer or rejected all offers earn a payoff of 0. The buyers whose offers were rejected also earn a payoff of 0.

Once sellers have decided which offers to accept (if any) and the goods are traded, you are shown your earnings in this period. Then the next period starts (there are 20 periods). The setting is the same in all periods. As a seller you may sometimes be type L and sometimes type H.

Instructions *[Treatment: Matching First I]*

We will now describe the general setting you will face during the experiment. At the beginning of the experiment the participants will be divided into buyers and sellers. There will be **6 buyers** and **6 sellers**. You will be one of these buyers or sellers. When you are a buyer (respectively, a seller) you will stay a buyer (respectively, a seller) throughout the experiment. You will not get to know the identity of the buyers or sellers you interact with, neither during nor after the experiment. Similarly, no participant will get to know your identity.

A decision situation will be repeated for **20 periods**. In each period the 6 buyers and the 6 sellers can trade a good in the market. Each buyer wants to buy at most one unit and each seller can produce and sell at most one unit of this good. The seller can be of two different types: **type L** or **type H**. A seller of type L can only produce a low quality good at cost **0.** The buyers' valuation for the low quality good is **5.** Hence, the surplus generated from trading a low quality good is 5. A seller of type H can only produce a high quality good at cost **14.** The buyers' valuation for the high quality good is **19.** Hence, the surplus generated from trading a high quality good is also 5.

We will tell the seller her type (L or H) at the beginning of each period. **In each period there will be 3 type L and 3 type H sellers.** Which sellers are of type L or H is randomly determined. Note that a seller also knows how much her good is worth to the buyers. However, **the buyers do not know the sellers' types** and hence, a buyer does not know whether his valuation for the good is 5 (and the seller's cost is 0) or 19 (and the seller's cost is 14). The buyer only knows that there are 3 low quality sellers (type L) and 3 high quality sellers (type H).

Sellers and buyers interact in this market in three steps:
- First, each buyer is matched to one of the 6 sellers and each seller sends a message to the buyers. The seller can send a message "low" or "high" to her matched buyer(s). The computer randomly determines to which seller a buyer is matched. It is important to understand that one seller may be matched with several buyers or with no buyer at all. Below this is explained in detail.
- Second, each buyer observes the message of the seller he is matched with as well as the messages sent by the other sellers and chooses the offer he wants to make.
- Third, sellers receive the offer(s) and accept at most one offer.

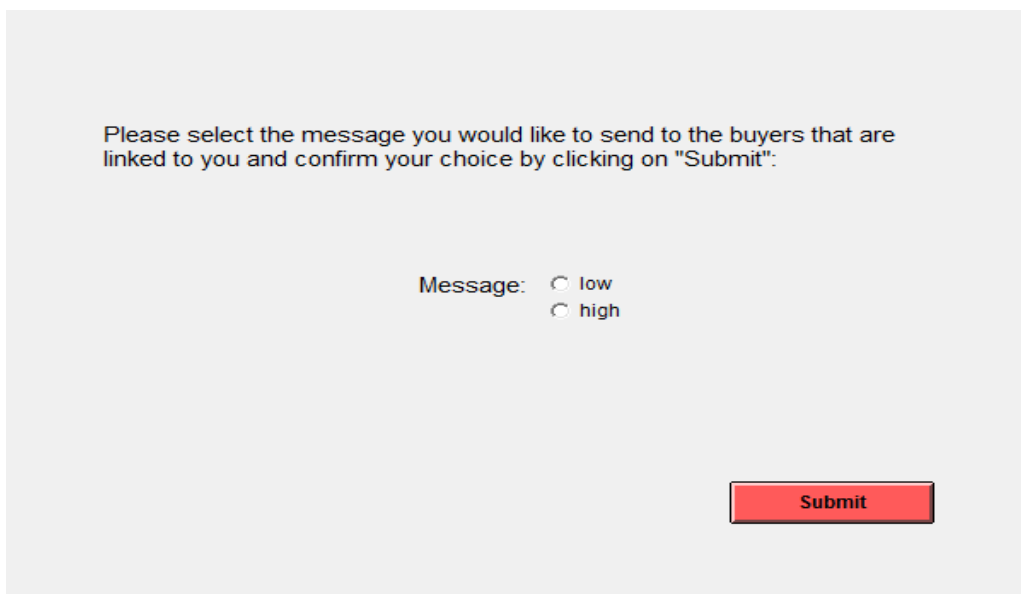We will now explain each step in detail.

STEP 1: MATCHING & SELLERS SEND A MESSAGE

First, sellers and buyers are randomly matched by the computer. More specifically, each buyer is matched to one of the 6 sellers with probability 1/6 (16.6%). More than 1 buyer can be matched to the same seller and some

sellers may not be matched with any buyer. For instance, it could be that all 6 buyers are linked to seller number 1. In that case, the other 5 sellers will not be matched with a buyer. The probability for this to happen is very close to zero (it is $(1/6)^6$). At the other extreme, it could happen that each buyer is linked to a different seller and thus all sellers are linked to exactly one buyer. This occurs with a probability of just a little over 0.015 (1.5%). The more likely cases are those in between, where some sellers meet 1 buyer, others meet 2 or even 3 buyers, and some sellers are not matched with a buyer.

The idea is not that you calculate all these probabilities in detail (although you can do some calculations if you like). What is important is that **as a buyer you are matched with only one seller, but several buyers may be matched with the same seller.** This implies in particular that if you are a buyer, the seller who receives your offer could also receive other offers. To give an idea, the probability to be the only offerer for a seller is given by $(5/6)^5 = 0.4$, since each buyer meets a different seller with probability 5/6 and there are 5 other buyers. As a seller, you will sometimes receive several offers and sometimes no offer at all.

Before sellers and buyers potentially trade, **each seller can send a message**. The two possible messages are **"low"** and **"high"**. The messages are sent at no costs and both types of sellers (L and H) may send both messages. That is, type L may send message "low" or "high" and likewise for type H. What happens with these messages? When buyers choose their offers (see step 2 below), they are first informed about the message sent by the seller they are matched with as well as the number of sellers who sent message "low" and the number of sellers who sent message "high". Below you see a screenshot of the sellers' decision screen.

Please select the message you would like to send to the buyers that are linked to you and confirm your choice by clicking on "Submit":

Message: ○ low
           ○ high

Submit

STEP 2: BUYERS MAKE OFFERS

In this step, buyers make price offers to the sellers. **Each buyer makes an offer to exactly one seller.** The seller who receives the offer is randomly determined by the computer (see stage 1 for an explanation of the

matching). **When buyers choose their offer they observe the message "low" or "high" sent by the seller they are matched with as well the overall number of "low" and "high" messages that were sent.** However, buyers do not know how many other buyers are matched with the same seller.

Offers have to be between 0 and 19 and can be as exact as to the second decimal place. Hence, offers of 1, 7.9, 16.11 are possible. Offers of -3, 5.557, 19.2 are not possible. Below you are shown a screenshot of the buyers' decision screen in step 2: buyers observe the message and choose an offer.

	The message sent by the seller you are linked to is:
	Message: **high**
Number of sellers who sent message "low": **3**	
Number of sellers who sent message "high": **3**	Please enter your price offer and confirm your choices by clicking on "Submit":
	Offer: [ ]
	Submit

STEP 3: SELLERS ACCEPT OR REJECT OFFERS

In this final step, sellers decide which offer (if any) to accept. If a seller does not receive an offer, she cannot trade. If a seller receives 1 or more offers (see step 1 to understand how more than one offer can be received) she can accept at most one of these. A seller can also reject all offers. See the screenshot below for an example where a seller received 2 offers.

If the seller accepts an offer, she produces the good and sells it to the buyer at the agreed price. The payoffs of the seller and the buyer who has made the offer are determined as follows.

Seller's payoff = **Accepted Offer - Production Cost**
Buyer's payoff = **Valuation of the Good - Accepted Offer**

To calculate payoffs, recall the valuations and costs:
Seller's production cost:
- **low quality good: 0**
- **high quality good: 14**

Buyer's valuation:
- **low quality good: 5**

- **high quality good: 19**

This is period 1. You are a low quality seller.

Buyers have now made their offers. Below you can see the offers you received. You can select at most one offer that you want to accept. Note that you can also reject all offers.

Offer	Accept
2.7	☐

You have received **2** offer(s). Recall that you are a **low** quality seller.

Please select the offer you would like to accept. You can accept at most one offer. You can also reject all offers. Confirm your choice by clicking on "Submit":

Submit

Offer	Accept
3.0	☐

As an example, consider a buyer who offers a price of 6 and a seller who accepts this offer. If the seller is a type L (low quality) seller, his payoff is (Accepted Offer – Production Cost) = 6-0 = 6. The buyer's payoff is (Valuation – Accepted Offer) = 5-6 = -1. On the other hand, if the seller is a type H (high quality) seller, his payoff if he accepts the offer is (Accepted Offer – Production Cost) = 6-14 = -8. The buyer's payoff in this case is (Valuation – Accepted Offer) = 19-6 = 13.

The sellers who did not receive an offer or rejected all offers earn a payoff of 0. The buyers whose offers were rejected also earn a payoff of 0.

Once sellers have decided which offers to accept (if any) and the goods are traded, you are shown your earnings in this period. Then the next period starts (there are 20 periods). The setting is the same in all periods. As a seller you may sometimes be type L and sometimes type H.

Instructions *[Treatment: Matching First II]*

We will now describe the general setting you will face during the experiment. At the beginning of the experiment the participants will be divided into buyers and sellers. There will be **6 buyers** and **6 sellers**. You will be one of these buyers or sellers. When you are a buyer (respectively, a seller) you will stay a buyer (respectively, a seller) throughout the experiment. You will not get to know the identity of the buyers or sellers you interact with, neither during nor after the experiment. Similarly, no participant will get to know your identity.

A decision situation will be repeated for **20 periods**. In each period the 6 buyers and the 6 sellers can trade a good in the market. Each buyer wants to buy at most one unit and each seller can produce and sell at most one unit of this good. The seller can be of two different types: **type L** or **type H**. A seller of type L can only produce a low quality good at cost **0.** The buyers' valuation for the low quality good is **5.** Hence, the surplus generated from trading a low quality good is 5. A seller of type H can only produce a high quality good at cost **14.** The buyers' valuation for the high quality good is **19.** Hence, the surplus generated from trading a high quality good is also 5.

We will tell the seller her type (L or H) at the beginning of each period. **In each period there will be 3 type L and 3 type H sellers.** Which sellers are of type L or H is randomly determined. Note that a seller also knows how much her good is worth to the buyers. However, **the buyers do not know the sellers' types** and hence, a buyer does not know whether his valuation for the good is 5 (and the seller's cost is 0) or 19 (and the seller's cost is 14). The buyer only knows that there are 3 low quality sellers (type L) and 3 high quality sellers (type H).

Sellers and buyers interact in this market in three steps:

- First, each buyer is matched to one of the 6 sellers and each seller sends a message to the buyers. The seller can send a message "low" or "high" to her matched buyer(s). The computer randomly determines to which seller a buyer is matched. It is important to understand that one seller may be matched with several buyers or with no buyer at all. Below this is explained in detail.
- Second, each buyer observes the message of the seller he is matched with and chooses the offer he wants to make.
- Third, sellers receive the offer(s) and accept at most one offer.
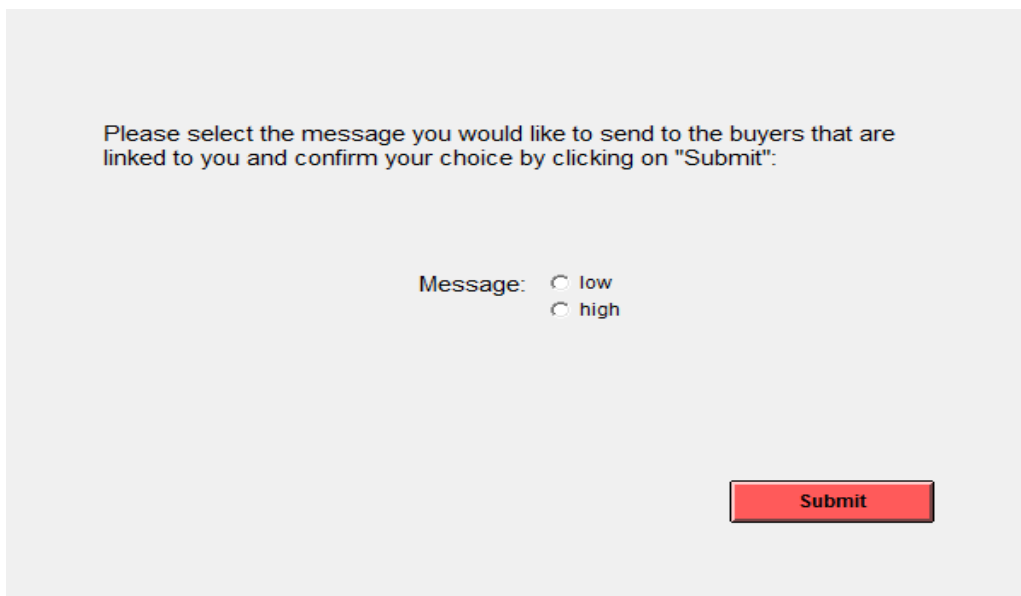
We will now explain each step in detail.

STEP 1: MATCHING & SELLERS SEND A MESSAGE

First, sellers and buyers are randomly matched by the computer. More specifically, each buyer is matched to one of the 6 sellers with probability 1/6 (16.6%). More than 1 buyer can be matched to the same seller and some

sellers may not be matched with any buyer. For instance, it could be that all 6 buyers are linked to seller number 1. In that case, the other 5 sellers will not be matched with a buyer. The probability for this to happen is very close to zero (it is $(1/6)^6$). At the other extreme, it could happen that each buyer is linked to a different seller and thus all sellers are linked to exactly one buyer. This occurs with a probability of just a little over 0.015 (1.5%). The more likely cases are those in between, where some sellers meet 1 buyer, others meet 2 or even 3 buyers, and some sellers are not matched with a buyer.

The idea is not that you calculate all these probabilities in detail (although you can do some calculations if you like). What is important is that **as a buyer you are matched with only one seller, but several buyers may be matched with the same seller.** This implies in particular that if you are a buyer, the seller who receives your offer could also receive other offers. To give an idea, the probability to be the only offerer for a seller is given by $(5/6)^5 = 0.4$, since each buyer meets a different seller with probability 5/6 and there are 5 other buyers. As a seller, you will sometimes receive several offers and sometimes no offer at all.

Before sellers and buyers potentially trade, **each seller can send a message**. The two possible messages are **"low"** and **"high"**. The messages are sent at no costs and both types of sellers (L and H) may send both messages. That is, type L may send message "low" or "high" and likewise for type H. What happens with these messages? When buyers choose their offers (see step 2 below), they are first informed about the message sent by the seller they are matched to. Below you see a screenshot of the sellers' decision screen.

Please select the message you would like to send to the buyers that are linked to you and confirm your choice by clicking on "Submit":

Message: ○ low
          ○ high

Submit

STEP 2: BUYERS MAKE OFFERS

In this step, buyers make price offers to the sellers. **Each buyer makes an offer to exactly one seller.** The seller who receives the offer is randomly determined by the computer (see stage 1 for an explanation of the matching). **When buyers choose their offer they observe the message "low" or "high" sent by the seller**

they are matched to. However, buyers do not know how many other buyers are matched with the same seller.

Offers have to be between 0 and 19 and can be as exact as to the second decimal place. Hence, offers of 1, 7.9, 16.11 are possible. Offers of -3, 5.557, 19.2 are not possible. Below you are shown a screenshot of the buyers' decision screen in step 2: buyers observe the message and choose an offer.

STEP 3: SELLERS ACCEPT OR REJECT OFFERS

In this final step, sellers decide which offer (if any) to accept. If a seller does not receive an offer, she cannot trade. If a seller receives 1 or more offers (see step 1 to understand how more than one offer can be received) she can accept at most one of these. A seller can also reject all offers. See the screenshot below for an example where a seller received 2 offers.

If the seller accepts an offer, she produces the good and sells it to the buyer at the agreed price. The payoffs of the seller and the buyer who has made the offer are determined as follows.

Seller's payoff   =   **Accepted Offer - Production Cost**
Buyer's payoff   =   **Valuation of the Good - Accepted Offer**

To calculate payoffs, recall the valuations and costs:
Seller's production cost:
- **low quality good: 0**
- **high quality good: 14**

Buyer's valuation:
- **low quality good: 5**

- **high quality good: 19**

This is period 1. You are a low quality seller.

Buyers have now made their offers. Below you can see the offers you received. You can select at most one offer that you want to accept. Note that you can also reject all offers.

Offer	Accept
2.7	☐

You have received **2** offer(s). Recall that you are a **low** quality seller.

Please select the offer you would like to accept. You can accept at most one offer. You can also reject all offers. Confirm your choice by clicking on "Submit":

[Submit]

Offer	Accept
3.0	☐

As an example, consider a buyer who offers a price of 6 and a seller who accepts this offer. If the seller is a type L (low quality) seller, his payoff is (Accepted Offer – Production Cost) = 6-0 = 6. The buyer's payoff is (Valuation – Accepted Offer) = 5-6 = -1. On the other hand, if the seller is a type H (high quality) seller, his payoff if he accepts the offer is (Accepted Offer – Production Cost) = 6-14 = -8. The buyer's payoff in this case is (Valuation – Accepted Offer) = 19-6 = 13.

The sellers who did not receive an offer or rejected all offers earn a payoff of 0. The buyers whose offers were rejected also earn a payoff of 0.

Once sellers have decided which offers to accept (if any) and the goods are traded, you are shown your earnings in this period. Then the next period starts (there are 20 periods). The setting is the same in all periods. As a seller you may sometimes be type L and sometimes type H.

Instructions Lie Aversion Task [message sender]

In the following part of the experiment, you will be randomly matched with one other participant. Neither of you will ever know the identity of the other. We ask you to choose one of the two following possible messages, which you will send to your counterpart:

Message A: ``Option A will earn you more money than option B.''

Message B: ``Option B will earn you more money than option A.''

We will show the other participant your message, and ask him to choose either option A or option B. The other participant's choice determines his / her own as well as your payoff. Your message is the only information the other participant obtains, in particular he or she does not observe the list of payoffs corresponding to each option. After choosing an option, your counterpart will only learn his or her own earnings, but neither the amount you earned nor the earnings he or she could have obtained if choosing the other option.

We will pay both of you according to the option chosen by your counterpart. Any profits will be added to your earnings from the previous part of the experiment and paid to you in cash at the end of the experiment. The exchange rate for this part of the experiment is 1 experimental point = 0.3 CHF.

On the next screen, a series of payoff pairs (one payoff for you and one payoff for your counterpart) will be shown. The other participant does not observe the payoff pairs. For each payoff pair, we ask you to send message A or message B. Recall that the payoffs only depend on which option (A or B) the other participant chooses and not directly on your message. One of the eight payoff pairs will be randomly chosen for payment.

List of Payoffs

Payoff Pair	Payoffs Option A	Payoffs Option B	Message
1	you: 9 other: 11	you: 11 other: 9	Message A ◯ ◯ Message B
2	you: 8 other: 12	you: 12 other: 8	Message A ◯ ◯ Message B
3	you: 7 other: 13	you: 13 other: 7	Message A ◯ ◯ Message B
4	you: 6 other: 14	you: 14 other: 6	Message A ◯ ◯ Message B
5	you: 5 other: 15	you: 15 other: 5	Message A ◯ ◯ Message B
6	you: 4 other: 16	you: 16 other: 4	Message A ◯ ◯ Message B
7	you: 3 other: 17	you: 17 other: 3	Message A ◯ ◯ Message B
8	you: 2 other: 18	you: 18 other: 2	Message A ◯ ◯ Message B

[We also elicited the sender's belief about whether or not the receiver will follow the recommended action.]

Instructions Lottery Task

In the following part of the experiment, you will have the choice to participate in a lottery in which you can win or lose money. Any profits or losses will be added to your earnings from the previous part of the experiment and paid to you in cash at the end of the experiment.

On the next screen, you will see 6 different lotteries. For each lottery, you may choose to *accept* the lottery or to *decline* the lottery. After you have made a selection for each of the lotteries, one of the lotteries will be randomly selected by the computer. If you have decided to accept the selected lottery, the computer will determine whether you win or lose the lottery. The probability that you win the lottery is 50% for all 6 lotteries. If you chose to decline the selected lottery, nothing happens and your income will stay the same.

Lotteries

Lottery	Decline or Accept
1. a 50% chance of winning 6 CHF and a 50% chance of losing 2 CHF.	Decline ○ ○ Accept
2. a 50% chance of winning 6 CHF and a 50% chance of losing 3 CHF.	Decline ○ ○ Accept
3. a 50% chance of winning 6 CHF and a 50% chance of losing 4 CHF.	Decline ○ ○ Accept
4. a 50% chance of winning 6 CHF and a 50% chance of losing 5 CHF.	Decline ○ ○ Accept
5. a 50% chance of winning 6 CHF and a 50% chance of losing 6 CHF.	Decline ○ ○ Accept
6. a 50% chance of winning 6 CHF and a 50% chance of losing 7 CHF.	Decline ○ ○ Accept