The Apple Market

A Simple Trading Pit Experiment

An experiment from the book

Experiments with Economic Principles

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Student's Manual

I. Instructions for participants

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https://econclassexperiments.com/experiments/applemarket

You will be better prepared to participate in this experiment if you read these instructions and answer the warm-up exercises beforehand.

Please bring a mobile device with internet connection and an up-to-date browser. Make sure that Javascript is enabled and cookies are allowed (normally this is a default setting in many browsers). We recommend using Firefox. Do not use Internet Explorer. Make sure your battery is fully charged. Close all other apps and do not open them during the experiment.

A Introduction

It is a sunny Saturday morning at the Farmers' Apple Market. You and your classmates have come to the Market to buy and sell apples. Demanders value apples according to their Buyer Value. Suppliers must pay their Seller Cost if they want to sell a bushel of apples.

In any single round of trading, buyers cannot buy and sellers cannot sell more than one bushel of apples, nor can anyone buy or sell fractions of a bushel of apples.

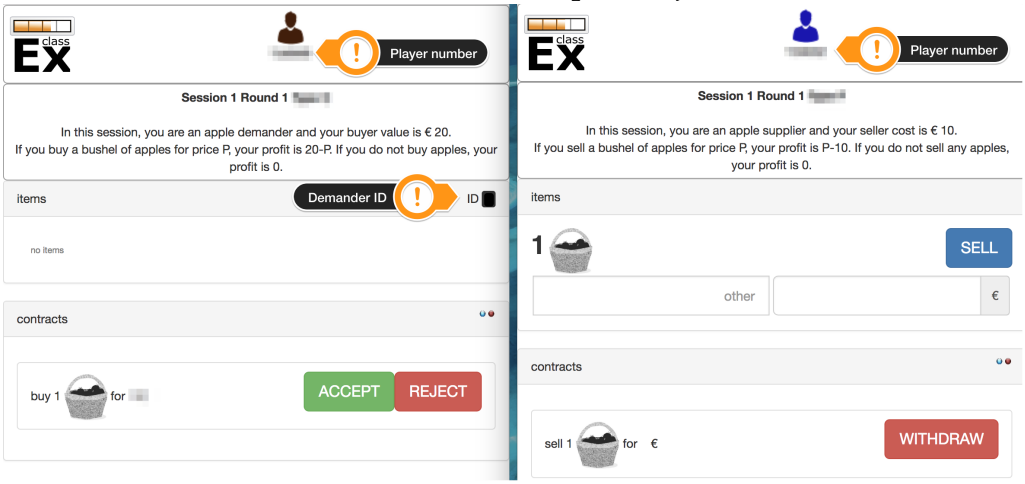
Your role and the distribution of Buyer Values and Seller Costs are the same in each round, but they may change from one session to another.

B Instructions to Participate

In this experiment you will try to make profits by buying or selling (imaginary) bushels of apples. You will be either a supplier or a demander in each market session. (see Figure 1). Your objective is to make as much profit as possible. Profit will be measured in "laboratory currency units", though we will denote the units with the € sign.

If you are a supplier, you can sell at most one bushel of apples per round. If you sell a bushel of apples for a price P, and your Seller Cost is SC, then your profit is the difference, $P - SC$. If you don't sell any apples, your profit is zero. Sometimes you may not find a demander who is willing to pay you as much as your Seller Cost. If this is the case, you

Figure 1: **Screen for Demander (left) and Supplier (right).** If a supplier wants to sell a bushel of apples she enters the price and the ID of the demander. The demander can then accept or reject the offer.



are better off not selling your apples and taking zero profits rather than selling for a loss.

If you are a demander, you can buy at most one bushel of apples per round. If your Buyer Value is BV, and you buy a bushel of apples for a price P, your profit will be $BV - P$. If you cannot find a supplier who is willing to sell you a bushel of apples for your buyer value or less, then you are better off not buying any apples and taking zero profits.

Sellers and buyers must find each other and agree on a price. If they reach an agreement, the seller should type the price and the buyer ID into her screen and click the "SELL" button. The buyer must accept the offer to finalize the contract. The sales contract is then displayed as accepted in the contract section.

Click HERE if you need information on how to trade in CLASSEX .

C Warm-up Exercises

After reading the instructions for this experiment, please check your understanding by answering the following questions and recording what you expect to happen. Answers to the warm-up exercises can be found at

the end of the document HERE.

Suppose that a supplier with a Seller Cost of 20€ meets a demander who has a Buyer Value of 40€.

W.1 If this supplier sells a bushel of apples to this demander for a price of 35€, how much profit will the supplier make?

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And how much profit would the demander make?

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How much is the total profit obtained by both traders? (Find this by adding the buyer's profits to the seller's profits)

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W.2 What is the *highest* price of apples that would permit both the seller and the buyer to make a profit of 1€ or more?

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If this price is charged, how much is the sum of buyer's profits plus seller's profits?

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W.3 What is the *lowest* price of apples that would permit both the seller and the buyer to make a profit of 1€ or more?

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At this price, how much is the sum of buyer's profits plus seller's profits?

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W.4 More generally, suppose that a seller with Seller Cost SC sells a bushel of apples to a buyer with Buyer Value BV for a price of P. Then the seller's profit is $P - SC$. Write an expression for the buyer's profit.

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Adding these two expressions together, the total profits of buyer and seller are given by

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Does the sum of their profits depend on the price?

W.5 If a buyer and a seller make a deal, the seller will have higher profits the (higher? lower?) the price

And the demander will have higher profits the (higher? lower?) the price

Before participating in an experiment, it is useful to think about what you expect to happen and to to record your prediction. After the experiment, look back at your notes and compare your expectations with what actually happened. If you are surprised by the result, reflect on your priors and the theory and see if you can make sense of your new experience.

W.6 Think about how you will behave the first time that you are in the market and you start bargaining with another student. Here are examples of strategies you *might* use.

- Ask the other person to make you an offer and split the difference between that person's offer and your cost if you are a supplier, or your buyer value and the offer if you are a demander.
- "Shop around" until you have had at least two offers, then take the better one.
- Look for a price that is at least as good as the average of the prices that have been posted on the blackboard so far.

There are many other strategies you could adopt and there is no single right answer. You are welcome to change your plan after you have had some experience, but it is a good idea to have an idea of what you will do at the beginning.

Answers to Warm-up Exercises

W.1: 15€, 5€, 20€; **W.2**: 39€, 20€; **W.3**: 21€, 20€; **W.4**: $BV - P$, $BV - SC$, no.