Chapter 2

Is There an Information Endowment Effect?

Summary 2 This paper reports the results of an experiment in which subjects were endowed with information that could help them to answer a series of general-knowledge questions. Experimental evidence suggests that there is an endowment effect for goods. On average, an individual who is endowed with a coffee mug or chocolate bar demands a much higher price to sell than an unendowed person is willing to pay to acquire the same good. This study shows that a similar phenomenon does not exist when the endowment consists of information rather than goods. The results suggest that the endowment effect operates primarily on preferences as opposed to judgment. Subjects in the experiment appear not to open separate mental accounts for monetary rewards and the endowed information.

2.1 Introduction

Experimental evidence indicates that, for a range of consumption goods, individuals generally demand a higher price for selling a good with which they are endowed than they would be willing to pay to acquire the same good (Knetsch (1989), Kahneman, Knetsch, and Thaler (1990), List (2003)). This behavioral anomaly has been termed the endowment effect (Thaler (1980)). The implications of consumption endowment effects are far-reaching. For example, endowment effects cause the Coase Theorem to no longer hold, invalidating neoclassical welfare
economics (Kahneman (1979)). Given the profound implications of endowment effects for goods, it is important to understand what causes endowment to affect behavior. It appears that agents open separate accounts for different goods and for money, causing them to demand higher selling prices and to be reluctant to trade endowed goods for unendowed goods. This paper reports the results of an experiment that endows subjects with items that are valuable but cannot be consumed. The experimental design makes it possible to see whether the endowment effect causes agents to open a separate account when the endowment consists of information rather than goods.

The endowment effect is a specific example of the more general phenomenon of loss aversion. Empirical examples of loss aversion include an unwillingness of real estate and stock market investors to sell assets for less than they paid for them (Genesove and Mayer (2001), Odean (1998)). In this case, the loss aversion reflects the fact that agents maintain separate mental accounts for different assets...

In the experiment, students at Loyola Marymount University first answered general knowledge questions about past temperature and recent gas prices in Bangkok and Boston. In separate research (Healy (2004)), I asked the same questions to 130 students at Thammasat University (a top-ranked university in Bangkok) and 116 MIT students. Information endowments were sealed envelopes containing summary statistics about how the Thammasat and MIT students had answered the questions. In one experimental treatment, subjects were endowed either with summary statistics about MIT students’ opinions for the temperature in Boston (question 1) or gas prices in Boston (question 2). Subjects who were endowed with information pertaining to question 1 (question 2) were given the opportunity to trade for information pertaining to question 2 (question 1), before they observed the information contained in an envelope. After trading, subjects observed the information in their possession and they were given the opportunity to revise their answers. The trading data provides evidence against the presence of an information endowment effect. Of the 84 subjects, 43 (51%) traded. This is a stark contrast with previous research that has looked at goods such as chocolate bars or mugs, which find that 85%-90% of subjects choose to keep their endowed good.

To provide additional evidence about the presence or absence of information endowment effects, the same subjects also participated in a second treatment in which they were given the
opportunity to buy and sell information pertaining to the questions about Bangkok. Subjects were either endowed with summary statistics about Thammasat students’ opinions about the temperature in Bangkok (question 3) or gas prices in Thailand (question 4). The experimental design elicited from subjects endowed with information about question 3 (question 4) the price at which they were willing to sell their endowment and the price at which they were willing to buy information about question 4 (question 3). This design allows me to see if subjects put a higher value on information because it is part of their endowment.\footnote{An endowment effect could arise either because subjects undervalue goods or information that is not part of the endowment or because the endowment is overvalued. Kahneman, Knetsch, and Thaler (1990) and List (2003) present evidence suggesting that the endowment effect arises primarily through inflated WTA values rather than depressed WTP values.}

In keeping with the trading results, the data cannot reject the hypothesis that a subject’s valuations of information are not affected by whether that information is part of her endowment.

The rest of this paper is organized as follows. In Section II, I describe the first part of the experimental design, which involved a simple trading experiment, and the results. Section III describes the experimental design and results relating to the treatments that elicited the monetary values that subjects attached to endowed information relative to other information. In Section IV, I discuss the results’ implications for our understanding of consumption endowment effects and describe evidence confirming the efficiency of the information market in the experiment. Section V concludes.

\section{Experimental Design I}

\subsection{The questions}

To test for an information endowment effect, I follow a design similar to that employed in papers that have tested for a consumption endowment effect (Knetsch (1989), Kahneman, Knetsch, and Thaler (1990), and List (2003)). These papers test for an endowment effect by employing two treatments. Subjects are endowed with a good in one treatment and a different good in the other. My design differs from previous efforts in that subjects are endowed with information that can help them answer a series of questions.

To start the experiment, each subject took a seat at a study carrel that contained a sealed
manila envelope that they were instructed not to open.\footnote{The full set of experimental instructions are available from the author upon request.} Like List’s (2003) procedure when providing goods endowment, the subjects were given the manila envelopes at the start of the experiment, so as to maximize the time that subjects possessed their endowments before making decisions. Subjects were not informed of the envelopes’ contents. Each of the six experimental sessions had fourteen students. Subjects were told that they would be answering some general-knowledge questions about Boston and Bangkok and that they would receive payment for each question on which their answer was among the five closest to the correct answer. They then answered the following four questions:

Question 1: From 1961-90, what was the average high daily temperature in Boston?

Question 2: On October 1, 2003, what was the average price of a gallon of premium gasoline in Boston?

Question 3: From 1961-90, what was the average high daily temperature in Bangkok?

Question 4: On October 1, 2003, what was the average price of a gallon of premium gasoline in Bangkok?

The subjects answered each question without knowing the contents of the manila envelopes that they had been given. Their answers were collected before proceeding to the two kinds of treatments: 1) treatments that involved trading of information, and 2) treatments that involved auctions where subjects had the opportunity to buy and sell information.

2.2.2 Information trading

After handing in their answers to the four questions, subjects were told that their manila envelopes contained information that could help them to answer the questions. Each envelope contained two smaller sealed envelopes, one that pertained to a question about Boston and another that pertained to a question about Bangkok. Subjects were told to leave the envelope pertaining to the Bangkok question in the manila envelope and to put the envelope that had information pertaining to the Boston question onto the desk in front of them. Half of the subjects were endowed with envelopes that pertained to question 1 and the other half were
endowed with envelopes that pertained to question 2. Three sessions of 14 subjects each were endowed with information about temperature and the other three sessions of 14 subjects each were endowed with information about gas prices.

Each envelope contained the median answer given by 116 MIT students who answered either question 1 or question 2. Subjects were told about the university where this data was collected as well as the date of collection. For example, the subjects who were endowed with information about question 1 had in front of them an envelope like the one in Figure 1.

The information in the envelopes was collected as part of a separate study (Healy (2004)). In that study, I asked each of the four questions to 116 introductory economics students at MIT.

The first test of an information endowment effect involves giving the subjects who are endowed with information about Boston temperature to trade their endowments for information about gas prices in Bangkok. If there is no information endowment effect, then half the subjects are expected to trade their endowments. Previous research (Knetsch (1989)) has found that 89% of subjects choose to keep a coffee mug and 90% of subjects keep a chocolate bar when given the opportunity to trade, evidence of a strong consumption endowment effect. If there
is an information endowment effect, less than half of the subjects are expected to trade their envelopes. If this is the case, subjects attach a higher value to information with which they are endowed than to information with which they are not endowed.

To make the test of an endowment effect valid, the pieces of information that can be traded need to be of similar value. To see if this was the case, I asked 46 people whether they would prefer to observe the median answer about Boston temperature or to observe the median answer about gas prices in Boston. Of those 46 respondents, 21 preferred to observe information about Boston temperature, so that the hypothesis that half the people would choose information about temperature and the other half would choose information about gas prices cannot be rejected. This test showed that the two pieces of information were sufficiently close in value that they could be used in a trading exercise.

After I explained to subjects the types of available information, subjects who were endowed with information about question 1 (question 2) were given the opportunity to trade their endowment for information about question 2 (question 1). I and an assistant approached each carrel and placed an envelope pertaining to the other question next to the endowment envelope. Each subject indicated which piece of information they wished to keep by pointing to her chosen envelope. The unchosen envelope was taken away from each carrel.

Once trading was complete, subjects opened their envelopes and provided final answers to each of the questions. The ways in which subjects updated their answers is discussed in Section 4.

2.2.3 Part I Results

The evidence from the trading treatments provides strong evidence against an information endowment effect (Table 1). Of the 84 subjects who participated in the experiment, 43 (51%) traded their endowment envelope for an envelope that contained information about the other question. Overall, there was a small preference for information about temperature. 24 (57%) of the subjects who were endowed with information about temperature traded their endowments for information about gas prices. Only 19 (45%) of the subjects who were endowed with information about gas prices traded their endowments for information about temperature.

These results indicate that, in contrast to the previously cited research that documents the
presence of endowment effects when subjects are endowed with goods like mugs or chocolate bars, subjects do not show an information endowment effect. This is evidence consistent with the idea that the endowment effect does not cause subjects to open a separate mental account when they are endowed with information.

One interesting element of heterogeneity emerges from the trading data that is also repeated in the auction treatments in the next section. The propensity to trade is significantly higher for men than for women. Table 2 describes the discrepancy for men and women. While 19 of the 29 men (66%) traded, only 24 of the 55 women (44%) traded their envelopes. In aggregate, the larger share of women in the sample led to the overall trading volume being closer to 50%.

The experimental design that was implemented here was meant to eliminate any possible spurious causes of an endowment effect. In contrast to other endowment effect experiments, any minimal transaction cost was eliminated by having subjects point at the envelope they wished to choose. Placing the second envelope in the carrel and asking the subjects to point at their preferred envelope eliminates non-trading as a default option. As discussed earlier, the subject possesses the endowment envelope from the start of the experiment, giving the subject significantly longer to form an attachment to that envelope as opposed to the one for which she could trade.

To provide a second test for the presence of information endowment effects, I also conducted an auction exercise for information relating to the two questions about Bangkok. The results that I find there are broadly similar to what I find with the trading treatments. Interestingly, the pattern of a greater preference for endowed information among women as compared to men also carries over to the auction treatment.

2.3 Experimental Design II

2.3.1 Information auctions

After the trading experiment was completed, the same subjects participated in a treatment which elicited the values that they attached to information with which they were endowed and to other information. The subjects were told to take the other small envelope out of the manila envelope and put it on their desk in front of them. They were told the envelope that they had
been given contained the median answer given by 130 students at Thammasat University (a
top-ranked university in Bangkok) who answered questions 3 and 4. Subjects were told about
the university where this data was collected as well as the date of collection. Everyone in a
given session was endowed with the same information. Half of the sessions and half of the
participants involved subjects who were endowed with question 3 information; the other half
involved subjects who were endowed with question 4 information.

Again, I conducted a test to check to see if information pertaining to question 3 was of
similar value to information pertaining to question 4. I asked the same 46 people who stated
their preferences for question 1 versus question 2 whether they would prefer to observe the
median answer about Bangkok temperature or to observe the median answer about gas prices
in Bangkok. Of those 46 respondents, 24 preferred to observe information about Bangkok
temperature, so that the hypothesis that half the people would choose information about tem-
perature and the other half would choose information about gas prices cannot be rejected. This
test showed that the two pieces of information were sufficiently close in value that they could
be used in the auction treatments.

Subjects were again told both verbally and on their envelopes that the piece of information
available to them on a given question was the median answer given by the Thai students. The
subjects were also informed that the Thai students were asked to answer the questions in units
that were familiar to them and that the median answer had been translated into units that
were familiar to Loyola Marymount students.

Before observing any information pertaining to either question 3 or question 4, subjects
were informed that they were then going to participate in two auctions: one auction in which
they could buy information and another in which they could sell information. Subjects who
were endowed with information about question 3 (question 4) were told that they would be
able to bid on the opportunity to buy the median Thammasat answer for question 4 (question
3) and that they would also participate in an auction in which they could sell the information
that they had been given that pertained to question 3 (question 4).

In the buying auction, subjects would provide the price that they would be willing to pay
(WTP) for information about question 4 (question 3). All of the bids would be collected and
the five highest bidders would be declared the winners of the auction. They would receive
envelopes with information pertaining to question 4 (question 3) and would pay the amount of the sixth highest bid. Subjects were given a $5 budget for buying information and told that any unused amount from this budget would be added to their payments. In the selling auction, subjects would provide the price that they would be willing to accept (WTA) to sell the information they had been given about question 3 (question 4). All of the selling bids would be collected and the five lowest bidders would be declared the winners of the auction. They would hand in their envelopes and each would receive the amount of the sixth lowest bid.

Similar to List’s (2003) field experiments with sports memorabilia, the subjects were told that, under this mechanism, it was in their interest to choose selling and buying prices that reflected the actual values that they put on the information. This fact was demonstrated through a simple practice auction that demonstrated how the auction mechanism worked.

When practice was complete, each subject wrote down her WTP for question 4 (question 3) information and her WTA for her endowed question 3 (question 4) information. Each subject did this by checking off her selected bid from the choices that ranged from $0.25 to $5.00 in increments of $0.25. Then the bids were collected and the winners were announced, first for the buying auction and then for the selling auction. Some subjects ended up with no information, some had information about only one question, and others had information about both question 3 and question 4. After all transactions were complete, subjects were instructed that they could open their envelopes and examine the information. Subjects then gave their final answers to questions 3 and 4.

2.3.2 Part II results

The buying and selling prices that the subjects chose provide further evidence against the presence of a significant endowment effect. In keeping with the results from the trading experiment, the female subjects put higher relative value on endowed information than do the male subjects. For women, in fact, the selling price for information is significantly higher than the buying price, although the difference in prices is not large. In the overall data, there is no significant difference between the average buying and selling prices. The average chosen buying bid is slightly lower than the average chosen selling bid.

Table 3 describes the general results from the auctions. The average buying price (WTP)
was $2.49 and the average selling price (WTA) was $2.81. The difference between the two is not significant at conventional levels. These results contrast with the large and significant differences between WTP and WTA that have been found when subjects are endowed with goods.

The general equality between the mean WTP and WTA in the overall sample extends to the two treatments. For the group that was endowed with the median Thai answer about the Bangkok temperature (question 3), the mean WTP was $2.60 and the mean WTA was $2.88. For the group endowed with gas price (question 4) information, the mean WTP was $2.38 and the mean WTA was $2.74. In each case, the difference between the WTP and WTA was not significant, so that the null hypothesis of no endowment effect cannot be rejected.

The small difference between the mean WTA and the mean WTP comes entirely from the female subjects in the sample. Table 4 shows the breakdown of WTP and WTA values by gender. Male subjects actually had a slightly larger WTP than WTA, although the difference is insignificant ($2.68 compared to $2.51). Female subjects had a significantly smaller mean WTP compared to mean WTA ($2.38 compared to $2.97). This corresponds to the trends that were observed in the trading treatments. Relative to the male subjects, the female subjects put higher value on endowed information compared to the other available information. In the aggregate, in each case, the null hypothesis of no information endowment effect cannot be rejected. In the auction treatment, the WTA is significantly larger for women, although the difference between the WTA and the WTP is still much smaller than the differences found when subjects are endowed with goods such as mugs.\(^3\)

While the average WTP and WTA values are generally of similar magnitude, some interesting behavior underlies this similarity. Specifically, a large group chose $3 as the selling price. Of the 82 subjects who participated in the auctions, 18 (22%) chose exactly $3. In both the buying or selling auctions, no other price was chosen half as frequently. Figures 2 and 3 show the full distribution of chosen buying and selling prices. Subjects appear to perhaps think more carefully about their buying prices then they do about the selling prices. The tendency to settle on a whole dollar amount may reflect a coarser valuation of the endowed information.

\(^3\)As a rough rule, endowment increases valuation by a factor of two in the cases of goods such as mugs (Knetsch (1989), Kahneman, Knetsch, and Thaler (1990)).
It is still clear that, while it seems subjects treat selling somewhat differently than they do buying, there is no systematic difference between WTP and WTA values. Endowment does not increase how the subjects value information.

2.4 Discussion

2.4.1 How information was used

This experimental design, in contrast to previous work that looked at goods, makes it possible to investigate how endowment affects utilization. Does being endowed with information cause an individual to weight it differently? Other research has found that agents are more willing to not view a movie if it they were given it for free than if they had paid for it ( ). Agents were less willing to ignore sunk costs when they paid for the item that they would be returning without using. This research makes it possible to specifically answer the question of how endowment affects utilization. One way to get at this question would involve seeing if an agent uses a coffee mug more when she is endowed with it rather than paying for it.

Here, it is possible to test the hypothesis that subjects use information the same whether they were endowed with it or they had to pay for it. This involves making the assumption that subjects’ buying and selling prices reflect their valuations in the same way. The close correspondence between the mean WTP and WTA values justifies this assumption. Given this assumption, we can look at how the people who choose high valuations use the information for a given question. For example, consider a subject who values a question’s information at $4.00. If the subject is endowed with the information, her selling bid would fail. If she is not endowed, her buying bid would be successful and she would acquire the information. We can compare how the endowed person treats the information compared to the unendowed person.

Table 6 describes the median answers that were available to be seen. For each question, the median answer that a subject could have observed is quite close to the correct answer. A significant number of subjects who observed information simply chose the observed median when picking a final answer, both for question 3 and for question 4. Of those 49 subjects who kept their endowed information by failing to win the selling auction, 25 (51%) chose the answer they observed. Of those 32 subjects who obtained information by winning the buying auction,
15 (47%) chose exactly the answer that they observed.

More generally, the way in which subjects update their answers upon observing information can be captured by defining the magnitude of the update to be:

\[
\text{Weight given to observed median} = \max \left( 1, 1 - \frac{\text{Final answer} - \text{Observed median}}{\text{Initial answer} - \text{Observed median}} \right)
\]

The weight is bounded from above at one to account for subjects like the one who initially answered 74°F for question 3, observed the Thai median of 90°F and then gave a final answer of 93°F. The weight captures the extent to which subjects change their answers after observing information. If a subject does not change her answer, the estimated weight is zero. If a subject chooses the observed median, the estimated weight is one.

Table 7 shows the average weights for subjects who observed their endowed information since their selling bids failed and for subjects who observed information that they purchased. The table shows that the information is used in similar ways whether it is endowed or purchased. The average weight that endowed subjects use is 0.87, compared to an average weight of 0.91 for subjects who purchased their information. Due to the fact that there were only five winners (out of 14 subjects) in the buying and selling auctions in each session, the average winning buying price is somewhat higher than the average winning selling price. To ensure that information is treated in the same way independent of whether it is endowed or purchased, the second row in Table 7 looks at how information is treated for the 22 highest buying bids and 22 highest selling bids. In each case, subjects put an average weight of 0.89 on the observed information.

The results make it clear that endowment does not affect how the information is used. Subjects use the information they observe in nearly identical ways whether the information is purchased or endowed.

### 2.4.2 Subject earnings and information valuation

The experimental design also makes it possible to look at whether or not subjects appropriately value the information available to them. The results here are only suggestive, since the information available to subjects happens to be quite close to the correct answers, as is seen in Table 6. This should not be surprising to the subjects, since it could be reasonably expected that
residents of Boston or Bangkok would have precise knowledge of gas prices and temperature there.

Subjects whose initial answers to the questions are further from the correct answers value the available information somewhat higher than do the subjects with more accurate initial answers, however the differences are not significant. Table 8 displays the results of regressing the distance between subjects’ initial answers and the correct answer on the revealed valuation of that information. For each question, there is no significant difference. The point estimates for question 3 predict that a subject whose answer is 2 degrees further from the correct answer of 90°F would value the information at $1 higher. The point estimates for question 4 indicate that a subject whose answer is $0.10 further from the correct answer of $1.42 would place $1 higher value on information pertaining to that question.

The results of the auction confirm that the auctions, in particular the buying auctions, work well. Table 9 shows the results from regressing subjects’ total payments on their buying bids, their selling bids, and both of these. In each case, the estimated coefficients on the buying bid and selling bid variable are close to zero and the hypothesis that information valuation is independent of subjects’ payments cannot be rejected. The coefficient is almost exactly zero in the case of the buying auctions, corresponding to the earlier empirical finding that subjects were more willing to carefully specify their buying prices than their selling prices. In both auctions, the evidence shows that the markets find an efficient price. The buying and selling prices are set such that, whether or not they win the auction, subjects on average do equally well.

This finding that the winning bids are efficient confirm the earlier findings that there is no information endowment effect. When subjects are endowed with information, markets work well and behavioral anomalies do not occur.

2.5 Conclusion

This paper reports the results of an unusual experiment that endowed subjects with information rather than goods. Previous experiments have provided evidence suggesting the existence of an endowment effect for goods. If correct, this anomaly calls into question the assumptions
underlying our most basic models of consumer behavior. Given the far reaching implications of 
the endowment effect, it is important to understand what mechanism underlies this behavioral 
anomaly.

The results in this paper point towards the endowment effect operating on preferences as 
opposed to judgment. If an agent values a good such as a coffee mug at twice as high a price 
if the mug is part of her endowment, either she could believe that the coffee mug is actually 
worth twice as much to the average consumer or she could understand that the mug was only 
more valuable to her without having her perceptions of its general value being affected. In the 
latter case, the agent’s preferences are affected by endowment; in the former case, the agent’s 
judgment is affected.

The experimental design eliminated the possibility of the endowment effect operating on 
preferences. Since the information could not be consumed, it does not enter the utility function. 
Any information endowment effect could only be reflected through judgment. Someone could 
irrationally believe that their information was better than it was because it belonged to them. 
The results reported here show that this is not the case. No information endowment effect 
arises. Here, at least, endowment does not distort judgment. This provides evidence pointing 
towards the endowment effect exerting influence only on agents’ preferences and not on their 
judgment.
Bibliography


### Table I
Summary Statistics for the Trading Experiment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percent traded</th>
<th>( p )-value for test of trading volume = 50%</th>
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<tbody>
<tr>
<td>All subjects (( n = 84 ))</td>
<td>51%</td>
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<tr>
<td>Endowed with question 1</td>
<td>57%</td>
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<td>Endowed with question 2</td>
<td>45%</td>
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a. Question 1 refers to the January temperature in Boston.
b. Question 2 refers to gas prices in Boston.

### Table II
Summary Statistics for the Trading Experiment, by Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percent traded</th>
<th>( p )-value for test of trading volume = 50%</th>
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<tbody>
<tr>
<td>All subjects (( n = 84 ))</td>
<td>51%</td>
<td>0.83</td>
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<tr>
<td>Male subjects (( n = 29 ))</td>
<td>66%</td>
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<td>Female subjects (( n = 55 ))</td>
<td>44%</td>
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### Table III
Summary Statistics for Auction Treatments

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<th>Variable</th>
<th>WTP mean</th>
<th>WTA mean</th>
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<tr>
<td>All subjects (n=82)</td>
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<td>Endowed with question 1 (n=40)</td>
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#### A. Mean buying and selling prices

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#### B. Median buying and selling prices

- Question 3 refers to the January temperature in Bangkok and Question 4 refers to gas prices in Bangkok.
- Standard deviations are in parentheses.
- Two subjects in the first session refused to participate in the auctions.

### Table IV
Summary Statistics for Auction Treatments, by Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>WTP mean</th>
<th>WTA mean</th>
<th>p-value for test of mean WTP = mean WTA</th>
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<tr>
<td>All subjects (n=82)</td>
<td>$2.49</td>
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<td>Male subjects (n=29)</td>
<td>$2.69</td>
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<td>Female subjects (n=53)</td>
<td>$2.38</td>
<td>$2.97</td>
<td>0.02</td>
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- Standard deviations are in parentheses.
Table V
Winning Selling and Buying Prices, by Session

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<tr>
<th>Session</th>
<th>Winning buying price</th>
<th>Winning selling price</th>
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<td>1</td>
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</tr>
<tr>
<td>6</td>
<td>$2.50</td>
<td>$2.25</td>
</tr>
</tbody>
</table>

a. In sessions 1, 3, and 5, subjects were endowed with information about Bangkok temperature. In sessions 2, 4, and 6, subjects were endowed with information about gas prices in Bangkok.
b. The winning buying price was the sixth-highest bid; the winning selling price was the sixth-lowest bid.

Table VI
Median and Correct Answers to the Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Median answer given by MIT or Thammasat students</th>
<th>Correct answer</th>
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<td>A. Questions about Boston</td>
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<tr>
<td>1</td>
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<td>2</td>
<td>$1.80</td>
<td>$1.90</td>
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<tr>
<td>B. Questions about Bangkok</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>90°F</td>
<td>90°F</td>
</tr>
<tr>
<td>4</td>
<td>$1.51</td>
<td>$1.42</td>
</tr>
</tbody>
</table>

a. Questions 1 and 3 refer to the high daily January temperature; questions 2 and 4 refer to gas prices.
b. For questions 1 and 2, the median refers to the distribution of MIT student answers.
For questions 3 and 4, the median refers to the distribution of Thammasat student answers.
### A. Endowed subjects

*All subjects whose selling bids fail ($n = 49$)*

- Average weight: 0.87
- 22 highest selling bids: 0.89

*22 highest buying bids: 0.89*

### B. Subjects who purchased information

*All subjects whose buying bids win ($n = 32$)*

- Average weight: 0.91
- 22 highest buying bids: 0.89

#### a. In sessions 1, 3, and 5, subjects were endowed with information about Bangkok temperature. In sessions 2, 4, and 6, subjects were endowed with information about gas prices in Bangkok.

#### b. The winning buying (selling) price was the sixth-highest (sixth-lowest) bid.

### Table VIII

#### Relationship Between Accuracy of Initial Answer and Information Valuation

<table>
<thead>
<tr>
<th>Question</th>
<th>Regression coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Question 3: Bangkok temperature</strong>&lt;br&gt;Both buying and selling bids ($n = 82$)</td>
<td>2.04 (1.28)</td>
</tr>
<tr>
<td>Just buying bids ($n = 40$)</td>
<td>0.91 (1.80)</td>
</tr>
<tr>
<td>Just selling bids ($n = 42$)</td>
<td>3.05 (1.92)</td>
</tr>
</tbody>
</table>

| **A. Question 4: Bangkok gas prices**<br>Both buying and selling bids ($n = 82$) | 0.10 (0.13) |
| Just buying bids ($n = 42$) | -0.15 (0.18) |
| Just selling bids ($n = 40$) | 0.29 (0.20) |

#### a. Standard errors are in parentheses.

#### b. For questions 1 and 2, the median refers to the distribution of MIT student answers.

For questions 3 and 4, the median refers to the distribution of Thammasat student answers.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Regression coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Selling bid</td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>(0.32)</td>
</tr>
<tr>
<td>Buying bid</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>(0.34)</td>
</tr>
<tr>
<td>Constant</td>
<td>15.27</td>
</tr>
<tr>
<td></td>
<td>(1.00)</td>
</tr>
</tbody>
</table>

a. Standard errors are in parentheses.
Figure 2: Histogram for chosen buying prices

Figure 3: Histogram for chosen selling prices