YES, WALL STREET, THERE IS A JANUARY EFFECT!

EVIDENCE FROM LABORATORY AUCTIONS*

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ABSTRACT

There is a large literature using financial market data to explore the causes of a "January effect" which produces higher stock prices in January than in other months of the year. We present the first experimental study of this phenomenon in the context of two well-known auction experiments. After controlling for variables that could influence subjects' bids such as differences in private values, cumulative earnings, and learning effects, the prices in the January markets were systematically higher than those in December, a difference that is economically large and statistically significant. The results provide support for the conjecture that psychological factors may contribute to the well-documented January effect in empirical stock market data.

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I. Introduction

Over six decades ago, Wachtel (1942) described a "January effect" in stock prices. Specifically, after controlling for standard variables that are known to influence prices, there remains an unexplained component to a pattern of higher returns in January relative to the rest of the year. Many studies have explored a large number of non-psychological factors that might explain this observation, but these economic variables have not fully explained the January effect. Further, these variables cannot be controlled in naturally occurring markets. Hence, we present a set of laboratory experiments to investigate this phenomenon in settings that completely rule out the non-psychological explanations discussed below.

The experiments described in this paper generate an economically large and statistically significant January effect among the student subjects who participated in the auctions. After controlling for variables that could influence subjects' bids such as differences in private values, cumulative earnings, and learning effects, the prices in the January markets were systematically higher than those in December. These results suggest that subconscious psychological factors influence behavior in laboratory markets and thus, could be a source of bias in naturally occurring markets. Section II reviews empirical studies of the January effect in financial markets. Section III describes the experimental environments used to investigate the January effect and Section IV concludes.

II. The January Effect

Rozeff and Kinney (1976) find that the average return on an equal-weighted index of New York Stock Exchange prices from 1904 through 1974 was 3.5 percent during January and only about 0.5 percent during the other months. Keim (1983) shows that nearly half of the excess returns for small firms occurred during January and, moreover, half of the January returns

came during the first five days of the month, particularly on the first trading day. Gultekin and Gultekin (1983) document evidence of seasonality, mainly a January effect, in stock returns in 13 of 17 countries studies. More recently, Schwert (2003) concludes that the January effect weakened in the period from 1980 – 2001, but that it still existed.

Proposed explanations of the January effect include tax-loss selling, window dressing, increased liquidity at the end of the year, market microstructure effects, real economic changes such as macroeconomic news or changes in risk premia, and investor psychology. The tax-loss selling hypothesis holds that sales in mid-December to establish tax losses tend to drive security prices below what they should be in light of earnings. Reinganum (1983), Jones et al., Apenbrink (1991), Sias and Starks (1997), and Poterba and Weisbenner (2001) present evidence consistent with the hypothesis. Roll (1983) also finds some evidence consistent with tax-loss selling, but calls the explanation "patently absurd." Even if investors sell stocks for tax reasons, other investors would buy those stocks in anticipation of the price increase in January, thus eliminating the January effect. In addition, Brown et al. (1983), Berges et al. (1984), and Kato and Schallheim (1985) show that the January effect occurs in international markets in which there are no capital gains taxes and in international markets which the tax year does not begin in January. DeBondt and Thaler (1985) find that stock portfolios consisting of stocks with relatively poor returns over a five-year period had unusually large January returns, long after any tax benefits gained from selling the stocks at the end of the year.

Window-dressing refers to fund managers selling shares at the end of the year that have declined sharply in value and buying them back at the beginning of the new year. Lakonishok et al. (1991) find that in every quarter, funds sell poorly performing stocks and that this pattern accelerates in the fourth quarter. Chen and Singal (2004) argue that if window dressing drives the

January effect, a similar pattern should exist during other quarters. They study the June through July period and conclude that window dressing does not cause the January effect.

Ogden (1990) argues that the substantial increase in business activity near the end of the calendar year results in greater profits in December and the corresponding increase in liquidity in January puts upward pressure on stock prices. This liquidity hypothesis does not explain why the January effect exists primarily among small stocks as greater profits would presumably cause the entire market to increase. Further, both the liquidity and window-dressing hypotheses are subject to Roll's critique that the market should exploit such obvious mispricing.

Keim (1989) shows that there are systematic tendencies for December closing prices to be recorded at the bid and January closing prices to be recorded at the ask, a pattern that may contribute to the January effect. Later studies, though, such as Jones et al. (1991), Poterba and Weisbenner (2001), and Chen and Singal (2004), explicitly account for this market microstructure issue and still find a January effect.

Seyhun (1988) investigates the possibility that higher January returns represent compensation for the increased risk of trading against informed investors, and concludes that increased risk does not cause the January effect. Seyhun (1993) argues that the January puzzle is greater than previously thought because omitted risk factors cannot explain the January effect. Christie-David and Chaudhry (2000) find that returns on interest-rate instruments respond differently to macroeconomic announcements in January compared to other months and conclude that their results are consistent with either the tax-loss selling or window-dressing explanations. Lu and Ma (2004) show that positive earnings news partially accounts for the January effect in the second half of the month, but cannot explain the effect in the first half of the month.

Some analysts argue that investor psychology may cause the January effect. Shiller (1999), for example, links the January effect to the tendency of individuals to place particular events into mental compartments: "If people view the year end as a time of reckoning and a new year as a new beginning, they may be inclined to behave differently at the turn of the year, and this may explain the January effect."[1] Economics experiments are an ideal environment to test whether psychological effects alone can generate higher prices in January than in December because the fundamental explanations of the January effect discussed above can be controlled in the laboratory.[2]

III. Experimental Analysis

We explore the existence of a January effect in two very different auction environments spanning three calendar years. Of course, a much longer time horizon would be necessary to study the January effect with naturally occurring data. There are many factors, such as macroeconomic news and earnings announcements, that affect asset prices. Hence, a January effect could not be identified with only four months of empirical data, since it would be impossible to determine that it was not caused by some common shock to market participants.

The laboratory setting, on the other hand, allows us to control for factors that might otherwise influence subjects' behavior. If groups of people take part in identical laboratory markets in two consecutive December and January periods and the groups bid significantly higher in the January experiments, the only possible explanations are that the December and January groups differ in some relevant way or there is a psychological effect that explains the results. Although we cannot completely rule out the possibility that the December and January subjects differed along an unobservable dimension, these groups were virtually identical in every

observable respect. In particular, we compared subjects by age, gender, race, proportion of economics majors, household income, employment status, and country of origin, performing difference of means and difference of proportions tests as appropriate. We found no significant differences between the January and December subjects in either experiment. In the case of the double auction experiment we could further conclude that our January and December subjects did not differ significantly in their risk preferences, as measured by the Holt and Laury (2002) lottery choice survey.

Further, it is unlikely that a common unobserved shock that affected all the subjects created the pattern in bidding that we observed. The unobserved shock would have had to occur in the December and January periods of both 2003 – 2004 and 2004 – 2005 and systematically bias the bids upwards in January of both periods. That type of shock would presumably affect U.S. equity markets, but there is no empirical evidence of that occurring. The S&P 500 Index rose 19.21 points from its close in December 2003 through the end of January 2004 while it fell 30.65 points from its close in December 2004 through the end of January 2005. Average returns in December 2003 and December 2004 do not differ significantly from those in January 2004 and January 2005, respectively. Returns on the CRSP Equal-Weighted Index during those periods show similar patterns, except the January 2005 returns are significantly lower than the December 2004 returns. Thus, U.S. equity prices made relatively small moves in opposite directions during the two time periods, a pattern that suggests there were not common shocks that generated the results in the experiments described below.

A. Common Value Auction

We based one series of experiments on the common value auction design developed by Holt and Sherman (2000). Two bidders receive private signals about the value of a prize. The value of the prize is the average of the two signals. Each bidder knows her own signal and knows the range of possible values for the other bidder's signal before making a bid. The two bids are placed simultaneously and the higher bidder wins the prize amount minus her bid.

In studying the possibility of a January effect, this design offers two important advantages. First, the analytical solution to this game is relatively simple and second, the auction shares important similarities with the financial markets that others have studied in the context of the January effect. Both, for example, involve a "prize" of uncertain value and private signals of that value.

Holt and Sherman (2000) derive two game-theoretic models of bidding behavior in common value auctions: "Rational" and "Naïve" bidding. Naïve bidders are those who fail to realize that winning the auction puts an upper limit on the other player's private value signal, and who consequently overbid. Rational bidders do not fall prey to this error. Holt and Sherman (2000) show that it is rational for players in this two-person auction to bid one half of their own private value signal. The naïve bidding strategy is more complicated and depends on a bidder's degree of risk aversion.[3]

Holt and Sherman (2000) report bids that are significantly higher than the rational bid and in many cases, higher than the naïve bid. There is a well developed experimental literature on common value auctions which is reviewed in Kagel and Levin (2002). In general, other research has confirmed the results reported in Holt and Sherman; bidders frequently fall prey to the winner's curse which results in significant overbidding relative to the rational Nash equilibrium.

A.1. Procedures

Eighty undergraduate students from the College of William and Mary were recruited from a variety of classes to serve as subjects in this experiment. Each group of 10 people participated in one session consisting of two treatments with 15 decision-making rounds per treatment.[4] Each session lasted approximately one hour. Four sessions were conducted in December 2003 and four were conducted in January 2004.[5] Experimental conditions were virtually identical across sessions; only the calendar date, the time of day and the subject group differed.[6] At the beginning of each session, subjects were read the instructions and offered the opportunity to ask questions.[7] The experiment was conducted over a computer network in the Experimental Economics Laboratory at the College of William and Mary using the *V*econlab software.[8]

At the beginning of each decision-making round, subjects were randomly paired. Pairings were anonymous and subjects were separated by dividers that prevented them from making eye contact or looking at another person's computer screen. Each pairing represented a distinct first-price auction, with a single prize to be awarded to one member of the pair. Once subjects were paired, each person saw a private value signal, drawn independently from a uniform distribution between 0 and 10 for treatment A and between 0 and 5 for treatment B. The prize value for each pair was the average of the two value signals shown to the subjects in that pair. Each subject knew her own private value and the probability distribution of the value signals, but not the value signal of the other member of the pair.

After both subjects placed their bids, the prize was awarded to the high bidder in each pair.[9] The winner earned the difference between the true prize value and her bid. Negative earnings were subtracted from a subject's cumulative earnings. Earnings were cumulative across

rounds and treatments. To reduce the probability of negative cumulative earnings, each subject received an initial, one-time endowment of $7 at the beginning of the session. Cumulative earnings were paid in cash at the end of each session and averaged $6.99 for the December group and $7.22 for the January group.

A. 2. Results

The data for this experiment consist of a total of 2130 observations from 76 experimental subjects: 38 in December and 38 in January.[10] Consistent with previous experimental research, we find significant overbidding, relative to the rational Nash prediction. Overall, subjects' bids were approximately eighty-two percent of their signals, relative to the Nash prediction of fifty percent. Other summary statistics appear in Table I. The mean bid for the month of January is approximately $0.24 higher than that of December with approximately equal variances in the two months. An unconditional difference of means test allows us to reject the null hypothesis of equal means at the one percent level. Note however that the average private value signal in the month of January is higher than that of December (4.145 versus 3.859), which likely explains part of the mean bid disparity between the two months. Hence, we estimate econometric models that explain bidding behavior and control for the subject's signal,[11] cumulative earnings, round, gender,[12] day of the week, and month of the year.

TABLE I ABOUT HERE

We estimate our model under three different regimes: robust ordinary least squares, random effects, and clustered ordinary least squares. Under ordinary least squares, a Breusch-Pagan test allows us to reject the null hypothesis of homeskedasticity at the one percent level. We therefore use robust, heteroskedasticity-consistent standard errors. In both the random effects

model and the pooled model with clustering, we group by individual subject. The results appear in Table II.

TABLE II ABOUT HERE

In all three regressions the coefficient on *January*, a dummy variable that takes a value of one if the corresponding bid was placed in January, is about 0.20, which is statistically significant at the ten percent level or higher. Thus, *ceteris paribus*, January bids are about $0.20 higher than December bids, an amount equal to more than six percent of the mean December bid. Further, the estimates of this coefficient are stable across the specifications, suggesting that any individual effects, if present, are small. The variable *Signal* is positive and significant at the one percent level in all regressions. In addition, *Cumulative Earnings*, *Male*, and *Round* are negative and significant at the one percent level in all regressions. Finally, the variable *Monday* is positive and significant at the ten percent level in the pooled model without clustering.

In summary, consistent with other studies, we find a general pattern of overbidding relative to the rational Nash prediction in a common value auction experiment. In addition, the degree of overbidding is significantly higher in January than in December. Bids decrease as subjects accumulate more money and experience in the auction, but they do not fall to the predicted level in 20 rounds of play. Note that in this auction environment, higher bids result in lower earnings for subjects, *ceteris paribus*, since all subjects are potential buyers. Next we describe an auction environment with buyers and sellers, so higher bids are better for some subjects and worse for others.

B. Double Auction Experiment

The double auction experiment was invented by Nobel laureate Vernon Smith (1962). Market participants are designated to be either buyers or sellers. Buyers are assigned a dollar value and they earn the difference between this value and the price they negotiate for a trade. Sellers are assigned a dollar cost and they earn the difference between the price they negotiate and their cost. To negotiate trades, buyers make "bids" and sellers make "asks." Bids and asks are displayed in a queue that is updated as new prices are proposed. At any point during a trading period, a buyer can accept an outstanding ask or a seller can accept an outstanding bid. We use the box design version of the double auction market with multiple equilibria: All buyers have the same value ($7) and all sellers have the same cost ($5), so the supply and demand curves form a box. Further, we have five buyers and five sellers in each market, so all prices between seller cost and buyer value are consistent with theory.

Market rules prohibit subjects from trading at a loss so using this setup, with a box design and multiple equilibria, market prices are always consistent with theory. In general, Holt and Davis (1993) report no consistent pattern of results with this design. There is some evidence that prices in the initial round of the experiment anchor prices for the subsequent rounds. There is additional evidence that psychological factors influence the division of surplus in this setting. Specifically, Ball et al. (2001) used this design to examine the effect of laboratory-induced status on earnings. They induced status by awarding gold stars to certain subjects. In all cases, the stars were awarded randomly but, in some sessions subjects were told that the stars were awarded based on the results of an economics trivia quiz. Ball et al. (2001) report that status results in higher prices when the sellers have status and it results in lower prices when the buyers have status, regardless of whether the traders perceive the status as real or random.

This evidence that psychological factors can influence market outcomes makes this particular double auction design an appealing setting to study the January effect. An additional advantage of this design is that subjects face a very simple decision making problem, so decision error should play little to no role in outcomes. Finally, behavior in this market should not be affected by risk preferences, since there is no uncertainty about the value of the good being traded.

B.1. Procedures

One hundred and twenty undergraduate students from the College of William and Mary were recruited from a variety of classes to serve as subjects in this experiment. Each group of ten people participated in one session consisting of a short lottery choice survey followed by a ten round market experiment. Each session lasted approximately one hour and fifteen minutes. Six sessions were conducted in December 2004 and six were conducted in January 2005. Experimental conditions were virtually identical across sessions; only the calendar date, the time of day and the subject group differed.[13] At the beginning of the market trading, subjects were read the instructions and offered the opportunity to ask questions.[14] The experiment was conducted over a computer network in the Experimental Economics Laboratory at the College of William and Mary using the *V*econlab software.

Each subject was randomly assigned to be a seller or a buyer for all ten trading rounds. Value and cost information was privately revealed on each subject's computer screen. In addition, subjects were separated by dividers that prevented them from making eye contact or looking at another person's computer screen. Subjects were told that values and costs may vary from person to person and would remain the same for all rounds of the experiment. Each trading round lasted three minutes. Cumulative earnings, which averaged $5.07 for the December group

and $5.20 for the January group, were added to a $7.50 show up fee and additional earnings from a lottery choice game and paid in cash at the end of each session.

B.2. Results

The data for this experiment consist of 1076 observations from 116 experimental subjects: 58 in December and 60 in January. Summary statistics appear in Table III. Prices in the first round of the December auctions averaged $5.97, which is just below the midpoint of the equilibrium price range. Prices in the first round of the January auctions were significantly higher, averaging $6.21. There is a general downward trend in prices across rounds in both months, with prices falling more in January than in December. However, the mean price for the month of January was still significantly higher (by about $0.07) than that of December in the pooled results.

TABLE III ABOUT HERE

As noted above, the one empirical regularity that has been established with the multiple equilibria box design is that first round prices influence prices in subsequent rounds. As a consequence, the only truly independent observations are those from the first round of each session. We therefore estimate two models of market prices, one using first round prices only and one using all trading rounds. The regression models use the same controls as those in the common value auctions. In all regression models, a dummy variable is included to control for the fact that we had only eight subjects in one session of the experiment.[15] In the first round estimation model, the variables for cumulative earnings and round are omitted as they are no longer relevant. We use ordinary least squares with heteroskedasticity-consistent standard errors to estimate the model and the results appear in Table IV.

TABLE IV ABOUT HERE

As with the common value auction, we find that prices are higher in January than in December. For the regressions using only the first round results, the variable *January* is positive and significant at the one percent level with a coefficient of 0.370. Thus, *ceteris paribus*, prices in January are $0.37 higher than in December, an amount equal to more than six percent of the mean December bid. The variables *Eight Participants* and *Monday* are also positive and significant at the one and ten percent levels respectively.[16] A gender-specific effect does not appear to be present in this experiment.

In summary, prices in a double auction market start higher, but declined faster in January than in December. Even when price dynamics are taken into account, prices were still significantly higher in January. Prices were also higher on Mondays than on Wednesdays or Fridays, which is inconsistent with a "blue Monday" effect.

IV. Conclusion

In the first experimental test of the January effect, we find an economically large and statistically significant effect in two very different auction environments with two distinct groups of subjects. Further, the experiments spanned three different calendar years, with one pair of auctions conducted in December 2003 and January 2004 and another pair of auctions conducted in December 2004 and January 2005. Even after controlling for a wide variety of auxiliary effects, we find the same result. Barring a major unobservable difference between our January and December subjects in *both* study years, it appears that a psychological effect makes subjects willing to pay higher prices in January. While caution must be exercised in applying laboratory results directly to non-experimental settings, there are reasons to believe that these results can be generalized to naturally occurring situations, including financial markets.[17]

First, the break between fall and spring semesters for students is analogous to the break that many market participants take between Christmas and New Year's. U.S. financial markets are closed on Christmas and New Year's Day and typically close early for Christmas Eve and New Year's Eve. During the remaining days between the two holidays, trading volume is much lower than the rest of December and January, and many market participants take holidays during the same time period that students have winter break. If the January effect in these laboratory auction markets is attributable to a change in students' mindsets across the winter holidays, that effect may exist in professional traders whose industry has a similar, albeit shorter, winter break. A second reason why these results might be extrapolated from the laboratory to Wall Street is that many William and Mary students go on to work in finance-related fields. In fact, it is very likely that some of the subjects in the experiments reported here are now Wall Street traders. Hence any year end (or holiday) psychological effect they feel as students is likely to carry over as they enter the work force.

In addition to contributing to a large empirical literature on the January effect, the results presented here are important for behavioral economics in general. While economics experiments have revealed that non-theoretical factors such as envy and concerns for fairness play an important role in economic decision making, few have explored subconscious psychological effects like the one we document here. However, we have established that non-rational considerations can significantly alter economic behavior in a laboratory setting.

Endnotes

[1] See Shiller (1999), p. 1317.

[2] In the only other experimental study of stock market calendar effects of which we are aware, Pettengill (1993) examined the "Blue Monday" effect, which attributes variations in equity returns across weekdays to investor mood shifts. He conducted a simulation in which subjects divided their portfolios among T-bills, blue-chip stocks, and small stocks and found that some subject groups invested significantly more money in stocks on Friday and significantly more in T-bills on Monday.

[3] Specifically, the naïve bidding rule is: $b_i = 0.25L + \left(\frac{1}{4-2r}\right)v_i$,where b_i is a given bidder's bid, v_i is her private value signal, L is the range of signal values and r is the bidder's coefficient of risk aversion.

[4] Session 1 only included one treatment.

[5] A more comprehensive study of monthly effects in experimental auctions would include auctions in every month to determine how January differs from all other months. Budget constraints forced us to limit the control to one month, with December the logical choice.

[6] We used a between-subjects design to avoid learning effects associated with having the same group of subjects participate twice in the same experiment. To control for learning effects using a within-subjects design would have required that half of the subjects participate in December and then again in January and the other half of the subjects would first participate in January and then return in December of the same year. Potential learning effects with a 12-month delay would likely be different from learning effects with a one-month delay. Using different subjects in December and January allowed us to avoid this complication.

[7] The instructions are available on the *V*econlab web site at http://veconlab.econ.virginia.edu/admin.htm.

[8] The *V*econlab software was developed by Charles Holt of the Department of Economics at the University of Virginia and is available at http://veconlab.econ.virginia.edu/admin.htm.

[9] In the event of a tie bid, the winner was determined by a random draw.

[10] A computer problem required us to drop the observations of two of our original 78 subjects.

[11] Table II reports results from linear specifications, but we also explored the possibility of nonlinear bidding behavior by including a squared term for the variable *signal*. This term was found to be insignificant and had no effect on the significance of our variables of interest.

[12] Gender effects in experiments are discussed in Eckel and Grossman (2005).

[13] As described in footnote 6, we used a between-subjects design to avoid potential learning effects associated with having a group of subjects participate in two session of the same experiment.

[14] The instructions are available on the *V*econlab web site at http://veconlab.econ.virginia.edu/admin.htm.

[15] This smaller number of traders was not part of the original experimental design, but was the result of unusually low attendance for one session of the experiment.

[16] We note a particularly strong weekday effect in the pooled regression results. The Variable *Monday* is significant at the one percent level with a coefficient of 0.592. However, the coefficient and the level of significance fall in the one-round estimation, suggesting that inter-round dependency might be affecting this coefficient.

[17] An obvious, but costly, extension of this study is to replicate the experiments with a subject pool of professional traders. The study of subject pool effects is a relatively new but rapidly growing area of experimental economics and such an extension would be a valuable addition to this literature.

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Table I
Descriptive Statistics for Common Value Auction Experiment

Table I presents descriptive statistics for our 2003-2004 Common Value Auction Experiment. Results are based on 990 observations in December and 1140 observations in January. *Bid* is a given subject's bid for the common value "prize," *Signal* her private value signal, and *Cumulative Earnings* her cumulative earnings up to the point of the bid in question. Statistical significance at the 10, 5, and 1 percent levels is indicated by *, **, and ***, respectively.

	December 2003		January 2004	
Variable	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Bid	3.15	1.71	3.39	1.73
Signal	3.86	2.66	4.15	2.72
Cumulative Earnings	6.99	3.34	7.22	4.33
Participants	38		38	
Male Participants	19		16	
Monday Experiments	2		0	
Difference of Means Test For Bids in December and January (t)	3.16***			

Table II
Regression Results for Common Value Auction Experiment

Table II presents the regression results from our 2003-2004 Common Value Auction experiment. *Bid* is a given subject's bid for the common value "prize," *January* is a dummy variable that takes on the value one if the corresponding bid was placed during the month of January, *Signal* is a subject's private value signal, *Cumulative Earnings* is a continuous variable to test for a cumulative earnings effect, *Round* is included to test for a time trend, the dummy variable *Monday* is included to test for a weekday effect, and the dummy variable *Male* is included to test for a gender-specific effect. Statistical significance at the 10, 5, and 1 percent levels is indicated by *, **, and ***, respectively.

	Robust OLS		GLS, Random Effects		OLS, Cluster	
Bid	**Coefficient**	**t**	**Coefficient**	**z**	**Coefficient**	**t**
Signal	0.41	37.20***	0.40	43.71***	0.41	19.24***
Cumulative Earnings	-0.07	-8.01***	-0.06	-7.73***	-0.07	-4.96***
Monday	0.12	1.67*	0.12	0.91	0.12	0.89
January	0.20	3.61***	0.21	1.76*	0.20	1.66*
Round	-0.04	-13.44***	-0.04	-15.30***	-0.04	-7.96***
Male	-0.31	-6.18***	-0.32	-3.31***	-0.31	-3.09***
Constant	2.77	24.14***	2.75	20.04***	2.77	13.04***
R^2	0.588		0.588		0.588	
F	464.34***				140.91***	
Wald Chi-Square			3049.20***			
Number of Obs.	2130		2130		2130	
Number of Groups			76		76	

Table III
Descriptive Statistics for Double Auction Experiment

Table III presents descriptive statistics for our 2004-2005 Double Auction Experiment. Pooled results are based on 514 observations in December and 562 observations in January. First round results are based on 52 observations in December and 56 observations in January. *Market Price* is the price at which a given subject agreed to buy or sell a unit and *Cumulative Earnings* her cumulative earnings up to the point of the transaction in question. Statistical significance at the 10, 5, and 1 percent levels is indicated by *, **, and ***, respectively.

	Pooled Data				First Round			
	December 2004		January 2005		December 2004		January 2005	
Variable	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Market Price	5.91	0.53	5.98	0.55	5.97	0.56	6.21	0.56
Cumulative Earnings	5.07	4.00	5.20	4.07				
Participants	58		60		58		60	
Male Participants	32		31		32		31	
Monday Experiments	3		3		3		3	
Difference of Means Test for Market Prices in December and January (t)	2.24**				2.19**			

Table IV
Regression Results for Double Auction Experiment

Table IV presents the regression results from our 2004-2005 Double Auction Experiment. *Market Price* is the price at which a given subject agreed to buy or sell a unit, *January* is a dummy variable that takes on the value one if the corresponding bid was placed during the month of January, *Signal* is a subject's private value signal, *Cumulative Earnings* is a continuous variable to test for a cumulative earnings effect, *Round* is included to test for a time trend, the dummy variable *Monday* is included to test for a weekday effect, and the dummy variable *Male* is included to test for a gender-specific effect. *Eight Participants* is a dummy variable to control for the effect of fewer market participants in one session of our experiment. We use ordinary least squares with heteroskedasticity-consistent standard errors to estimate the model. Statistical significance at the 10, 5, and 1 percent levels is indicated by *, **, and ***, respectively.

	Pooled Data		**First Round Only**	
Market Price	**Coefficient**	**t**	**Coefficient**	**T**
Cumulative Earnings	0	-0.11		
January	0.23	8.76***	0.37	3.48***
Monday	0.59	21.48***	0.16	1.81*
Male	-0.01	-0.37	0.05	0.50
Eight Participants	1.07	45.64***	0.87	8.46***
Round	-0.02	-2.59***		
Constant	5.56	137.80***	5.71	49.61***
R^2	0.40		0.19	
F	418.30***		22.87***	
Number of Obs.	1076		108	