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INITIAL PUBLIC OFFERINGS:
INVESTOR BEHAVIOR AND UNDERPRICING

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ABSTRACT

A questionnaire survey of investors in initial public offerings (IPO's) was undertaken to learn about patterns of investor behavior that might be relevant to theories of their underpricing. Respondents were asked for their perception of the allocation process, their concern with stockbroker or underwriter reputation, their theories of IPO underpricing, and their communications and information sources. Results are interpreted as supporting the notion that there is an element of truth in some existing theories of IPO underpricing, and also suggesting different hypotheses. The impresario hypothesis is that underwriters deliberately underprice to obtain publicity and promote enthusiasm. Other hypotheses suggested by the results are an investor risk perception hypothesis and a fairness-relationship hypothesis.

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INITIAL PUBLIC OFFERINGS:
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We have collected questionnaire survey data concerning investors in initial public offerings (IPO's) of common stock to learn about their behavior, with the purpose of providing new information that will help us to differentiate among several theories of the IPO market.¹ The theories are used to explain the puzzling phenomenon that IPO's tend to be underpriced by their underwriters, i. e., have extremely high average returns between the offering date and the aftermarket, and that the extent of the underpricing tends to show persistent variations through time; see Ibbotson [1975], Ibbotson and Jaffe [1975], Ritter [1984], and Ibbotson, Sindelar and Ritter [1988].

The premise of this survey work is that more information on parameters of investor behavior is needed to understand the IPO underpricing phenomenon. The present IPO literature is hampered by the reliance primarily on conventional theoretical presuppositions that investors are expected utility maximizers. These presuppositions do not allow any serious consideration of the views of the IPO underpricing that are commonly expressed in the industry and in the news media: that underpricing is deliberately planned by underwriters to create a satisfied clientele and that periods of high demand are due to speculative fervor on the part of

¹This work was undertaken with the collaboration of John Pound.

investors.²

There is no reason why the behavior of issue prices of IPO's should be understood primarily in terms of any concepts of efficient markets or rational optimizing behavior of investors. These prices are not market prices, one cannot trade freely at these prices, so apparent profit opportunities cannot be exploited by "smart money". Since the shares in IPO's are rationed, a viable strategy for underwriters is to price IPO's with a particular segment of the market in mind, excluding others who might see profit opportunities. Thus, investor behavior, the behavior of the masses of investors or less rational subgroups of investors, might be an especially important factor in models of these prices, just as models of less rational consumer behavior might explain why retail prices of clothing like \$9.99 are more common than prices like \$10.01.

Data collection on investor behavior may also serve a role in confirming existing theories of IPO underpricing. For example, it would be supportive of the information asymmetry theories if we were to find that investors were aware of such asymmetries and offered them when discussing the IPO market. It would be supportive of the quid-pro-quo theories if investors were aware that giving business to a stockbroker is expected to result in a large allocation in a winning IPO.

²Examples are not hard to find. It is matter-of-factly stated that "The brokerage firms do this [underprice] so that the shares appreciate in the aftermarket and create a satisfied shareholder base for the company." (Fred R. Bleakely, "The Current Bonanza in New Issues," New York Times May 15, 1983, III 10:3.) In one of the hot markets it is stated that "The investing public's keen appetite for securities, reflected by rising prices and the most active dealings in years on the New York Stock Exchange, is spurring a vigorous search for new stock issues by underwriters and their agents." (Mitchell Gorden, "More Companies Offer Stock for First Time; Rising Demand a Lure," Wall Street Journal, February 17, 1961, 1:1.)

It should be stressed that the effort here should not be viewed as trying to choose among competing theories of IPO underpricing, as if only one of these theories is right. Since offering prices are not market prices underwriters have a lot of latitude in their pricing decision, and the freedom to let a lot of considerations affect their behavior. As with many decisions in life, the outcome is the result of the weighing of a lot of pros and cons. It is by no means a sign of a weak theory if we say that many such considerations figure into the pricing decision.

The questionnaire survey reported here asks investors about their trading histories, their perceptions of the allocation process, the perceived importance of broker and underwriter reputation, the theories of IPO investors, and their communications patterns and information sources. Then, this paper will offer some interpretations and conjectures as to the sources of IPO underpricing. I will discuss an "impresario hypothesis" for IPO underwriting, and offer as well as an "investor risk perceptions hypothesis" and a "fairness-relationship hypothesis."

A. Survey Design

A.1 The Three Samples

Questionnaires were sent out to three samples, the first two representing IPO investors, the third (the control sample) representing a random sample of all investors. In all three samples, respondents were asked to name an IPO (or, for the control sample, a common stock) that they had purchased recently, which would be referred to in subsequent questions as the COMPANY. This was done so that we could ask concrete questions about

one investment, rather than ask respondents to think of all the investments they had made.

There is some difficulty in obtaining a list of IPO investors that is truly random. For the IPO investors, we obtained two lists of investors that we thought would contain a high proportion of such investors, and yet contain no obvious important sample selection biases.

IPO Investors Sample 1 (IPO-1)

We purchased a mailing list of probably active high income investors from a mailing list company W. S. Ponton, Inc, a specialist in investor mailing lists. This list, entitled their "High Grade Multi-Investor" list is described in the Ponton Investor List Catalog Vol. VIII by "names on three or more mailing lists - net worth generally over \$250,000.00." This list is composed of names on three or more of the Ponton mailing lists that are suggestive of high-income active investors. The Ponton lists are from directories of customers of brokerage houses, lists of investment seminar attenders, lists of respondents to ads relating to investments, lists of persons mentioned in newspaper articles, yacht owners, aircraft owners, doctors, etc. Appearing on three or more of these lists is taken to indicate a likely active investor. Most of the lists described in their catalog are used to produce the high grade multi-investor list. However, no use is made of some of their more unusual lists (lists of gamblers, cattle, or new movie investors). We were given a random selection from the entire United States, from which we sent out 500 questionnaires in February, 1987. One week after the initial mailing a postcard was sent reminding them to fill out the questionnaire, three weeks after the initial mailing a second letter was sent with a replacement questionnaire. We received 53 responses

from investors who said they had purchased or seriously considered purchasing an IPO. Note that the response rate on our questionnaire should not be calculated as 53/500, since the number of individuals in our sample who had purchased or seriously considered purchasing an IPO was likely to be less than 500.

IPO investors Sample 2 (IPO-2) We purchased a mailing list of subscribers to the publication New Issues Alert. New Issues Alert, published by Export Newsletter Association in Boca Raton Florida, is an 8-page monthly reporting on new stock offerings. The subscription price for the newsletter is \$119.00 per year. One thousand questionnaires were sent to these in February 1987; no more mailings were made to these. We had 100 responses who indicated that they purchased or considered purchasing an IPO.

Control Sample (CONTROL) We purchased a list of high income Americans provided by Survey Sampling, Inc., who specialize in producing true random samples of the United States population. This list was not intended to be an investor list. They described the list we purchased as "geographic area: all continental U. S., demographic selection: \$70,000.00 to no limit." Five hundred questionnaires were sent out in July, 1986. One week later, a reminder postcard was sent, and then two more reminder letters with replacement questionnaires went out, the last in September 1986. For this sample, the first question on the questionnaire inquired whether they had purchased common stock. We received 156 usable completed responses who answered yes.

Analysis of Samples

Table 1 shows some comparisons of the three samples on various

measures.

The IPO-1 sample closely resembles the CONTROL sample in most dimensions. This is as we would expect, since we know of no biases which would make these samples different from a random sample of the wealthy investing public. The average income is a little higher in the IPO-1 sample, representing, in effect, a different cutoff income for the samples. The IPO-2 sample is somewhat different. They are more likely to describe their investments as risky than are individuals in the other samples. They are somewhat more likely to use "sophisticated" investments such as futures and stock options, and much more likely to have invested in gold or silver. Since they have taken the trouble to subscribe to a specialized publication, it is not surprising that they are more likely to do unusual investments.

B. Survey Results

It should be noted first that the IPO surveys were mailed out during a "cold" market for IPO's. According to Ibbotson, Sindelar and Ritter [1988], the average initial return on IPO's in 1987 was 10.39% and in 1986 was 9.99%, compared with the average initial return of 20.25% for 1977 to 1987. Since the IPO market was (and still is) cold, we are not in the best situation to find evidence of fads or related judgmental errors among IPO investors. Still, the initial returns in the 10% range are quite high when compared with other investments, since the return is earned over a few days at most.

Trading history among respondents (Table 2) shows that most IPO investors are repeat purchasers of IPO's. They do not generally "flip," that is buy and sell promptly in the aftermarket, instead the investment

tends to be made for something on the order of a year. Most IPO investors deal with only one broker, and despite the rationing of IPO's which are highly profitable on average, make no attempt to find other brokers who will ration them shares in the IPO's. These results are consistent with a relationship of trust between client and broker.

Investors in IPO's do perceive that the allocation process works as it has been hypothesized in the IPO literature (Table 3). Their allocations of shares, and especially in winning IPO's, are thought to be related to business given the broker. The average investor reports getting about 80% of the shares requested, and only about 60% of the shares requested in winning IPO's. This percent is low enough, given the high variance of IPO returns, to be consistent with the notion that the expected initial return is not high if weighted by the amounts one is allocated. The fact that the second percent quoted above is lower shows that the investors are aware of the "winner's curse" phenomenon in the IPO market.

Investors in IPO's are very much concerned with the reputation of both the broker and the underwriter (Table 4). Slightly less than half of the investors rely on stockbrokers for the decision to buy in an IPO. Investors confirm that they feel they need some compensation for the winner's curse problem (they stay away from IPO's that other investors know more about) in accordance with Rock's [1986] theory of IPO underpricing.

Respondents were asked for the reason why they invested in the company: "Can you state, in a few words, the theory that led you to invest in (or consider investing in) the COMPANY's stock? Put the theory as you would have put it to convince a trusted friend to buy the stock." The most common answer for both IPO samples was to refer to a story about the product or

concept of the firm. Of the IPO-1 respondents, 25% said this, of the IPO-2 respondents, 38.5% said this. These were generally nonquantitative stories about the "quality" of the product or the outlook for growth, without any explicit evaluation whether the IPO was priced well. In an earlier paper (Shiller and Pound [1988]) about stock market investors in general we noted that investors tend to tell stories about the stock without reference to price, as if price did not matter, and we find this tendency in the IPO market as well. The second most common answer for both IPO groups was that a stockbroker had advised the purchase (21% of IPO-1 and 13% of IPO-2), followed by claims that the management of the issuing firm was good (13% of IPO-1 and 13% of IPO-2). References to historically high returns on IPO's were made by 8% of the IPO-1 investors and 10% of the IPO-2 investors. References to "hot" underwriters were made by 5% of the IPO-2 investors, but by none of the IPO-1 investors. From all these answers, it is apparent that the modal answer is one that the investor chose the IPO because of its product or concept. While the historically high returns on IPO's were mentioned by only 8 to 10 percent of the respondents, we think that the evidence suggests that these high returns are very much on investors' minds. A question like this is perhaps construed as asking for a story or concept, and not a factor specific to the entire IPO market.

Respondents were asked to classify the reasons they give, see Table 5, top. IPO investors are somewhat more likely than our control investors to think that they are buying in IPO's for reasons of market psychology. There is some tendency among IPO investors to think that they are riding a wave of investor popularity. Somewhat less than half of the IPO investors appear to be trading on the IPO market itself, thinking that IPO's do well because of

investor psychology. This evidence is consistent with the traditional notion of a self-conscious speculative bubble.

Communications patterns among IPO investors (Table 6) are conducive to the sort of interpersonal interaction that is necessary for speculative enthusiasm to develop. However, by some measures this communication is less intense than in ordinary issues. The subscribers to the New Issue Alert seem particularly to be relative loners, who read and invest rather than talk and invest. However, interpersonal communication operates at a substantial level for all investors.

Most investors had not done any careful calculations or study before investing in their IPO. Thus, the reputation of the broker and underwriter is especially likely to be important to them, and the sense of trust in their relationship.

C. Speculative Enthusiasm and the Impresario Hypothesis

The idea is commonplace in the popular literature that speculative behavior, behavior characterized by investor enthusiasm not grounded in objective information, is important to understanding the IPO market. The idea has been brought up in the scholarly literature but usually dismissed with little serious attention.

The theory of speculative behavior that often seems to be suggested in the popular literature is that an increase in investor enthusiasm between the offering date and the aftermarket accounts for the increase in price between these dates. But, just because the dynamics of price between the offering date and the aftermarket are the concern of our speculation

theories, does not mean that we must attribute these dynamics to changes in investor behavior over this short interval of time. A more attractive theory of underpricing of IPO's is that the underwriters deliberately underprice them because of their perceptions of individual speculative behavior, so that the price increase that tends to follow is not due to any change in investor behavior then. Underwriters may do so if the underpricing creates a favorable impression among their clients when price increases in the aftermarket.

Observing one's investment increase in value by 20% within a few days may create a vivid impression among investors, and may redound to the credit of the stockbroker who advised the investment. If underwriters can create such a reputation for themselves and for stockbrokers who market the issues, then this reputation may help them to get better prices for future issues. Issuing firms would rather that underwriters marketed their issue at a market clearing price, but are nonetheless happy to do business with an underwriter whose reputation increases the value of their issue above what they could get for it if they tried to underwrite their own issue, or if they dealt with an underwriter who was not "hot" at the time. This impresario theory of underpricing of IPO's does not require that underwriters have a "monopsony" as adduced the literature to explain the intentional underpricing of issues by underwriters (see for example Ritter [1974]).

I call this an impresario hypothesis because it is the same theory that explains why impresarios may sometimes underprice tickets to concerts, so as to enhance the reputation of the performer (by creating a jam-packed auditorium and long lines for tickets) and thereby increasing the prices

they can charge for subsequent concerts.

The impresario hypothesis is not likely to be the only explanation of IPO underpricing. The other theories in the literature, such as the information asymmetry and litigation avoidance theories, are likely also to play a role in IPO underpricing. But the circumstantial evidence that the impresario underpricing does play a role in this phenomenon is substantial. We saw above that the reputation of the stockbroker and underwriter are important factors on the minds of IPO investors. Since as we have seen most IPO investors do not do quantitative research on the investments themselves, they must be trusting in others to evaluate investments for them. Investors seem to have at hand for quick retelling the "story" about the investments, but not the comparisons that must be made to know whether the price is a good one. Since investors are not evaluating the job stockbrokers or underwriters are doing on such comparisons, then, they must look at the returns that the broker or underwriter earned for the investor or his or her friends in the recent past.

It is significant that most investors do not attempt to buy an initial public offering from more than one broker. While many investors are aware of the high initial returns that IPO's tend to earn, and a substantial minority of the investors say they would be discouraged from buying an IPO if the overall market looked less encouraging, they still do not feel sure enough about the market that they would try a serious strategy of buying all IPO's. The majority say they would tend to stay away from an IPO that they felt other investors knew more about.

This means that many investors are viewing their past successes with IPO investments as related to their own information sources, substantially

their knowledge of their broker and underwriter, and not as a return just for the fact of having invested in a random IPO. This in turn means that the high initial returns are likely to be enhancing the reputation of the underwriter of the issue.

For this theory to hold up, it is necessary that investors do not generally fully realize that the high initial returns are due to a decision by underwriters to underprice. Other evidence suggests that it is likely that most investors are at least partially fooled by such a strategy. In a questionnaire study of home buyers in a recent California real estate boom, (Case and Shiller [1988]) we found that the underpricing that resulted in selling prices above the asking price in about 8% of sales was misinterpreted by buyers. They tended to view the selling prices above asking prices as evidence of investor panic, rather than of the occasional underpricing errors that must be made by some sellers in an up market.

While changes in investor enthusiasm over a few days do not play a role in the price change between the offering and the aftermarket, we hypothesize that changing enthusiasm does play a role in the dynamics of the "hot" issue markets that occur from time to time. The dynamics of "hot" issue markets are sufficiently slow that their appearance and disappearance could be explained in terms of contagion models of investor communications, like the one described in Shiller and Pound [1989]. In terms of average initial returns, hot markets come and go over periods of years. There was a "hot" IPO market in 1961, another in 1967-8, another in the early 1970's, another in the late 1970's and early 1980's. We hypothesize that there are periodic "fads" in which investors show great enthusiasm for IPO's, and that part of the dynamics of the fads is the observation among investors of the high

initial returns. During these fads underwriters and stockbrokers may find it profitable to sell very underpriced new issues to generate publicity and protect their reputation as dealers who can get their investing clients in on the action. The tendency for high initial returns to come and go is likely to be the same as the tendency for impresarios to underprice some concerts and not others: one underprices a concert only if one thinks that the impression given by the underpricing will pay off in subsequent receipts, which is only if concertgoers are paying attention to the underpricing and are willing to believe that the performer is a star. Ultimately, underwriters can use very high initial returns to facilitate the spread of fads only if a fad is already in the works. No one can manage public opinion so well as to know how predictably to start a fad.

Evidence that there is some truth to this interpretation of the dynamics of hot and cold markets takes several forms. The extent of interpersonal communications documented above would certainly support a contagion of interest story. Moreover, respondents report that the communications had a serious nature: they tended to think that they made friends likely to purchase IPO's. Such a contagion of interest story is further supported by the observation that volume of new issues tends to be high 6 to 12 months after periods of high initial returns (Ibbotson, Sindelar and Ritter [1988]). Such a lag is what one might expect of contagion models of investor communications [Shiller and Pound, 1989].

Other Behavioral Hypotheses for IPO Underpricing.

Other hypotheses relevant to IPO underpricing are also suggested by these results. These are not proposed as stand-alone theories of IPO

underpricing, but as considerations that underwriters have in mind when deciding how much to underprice an issue.

One is a simple investor risk perception hypothesis. Since there is great uncertainty as to the price that a share will have in the aftermarket, investors in IPO's must be compensated for this uncertainty. This is different from the risk aversion hypothesis discussed by Tinic [1988], who speaks of the risk aversion of underwriters rather than of the ultimate investors. The risk that individual investors in IPO's incur is substantial: Ibbotson [1975] found that for the period 1960 through 1969 investors in IPO's had about an equal chance of making positive or negative return, the positive expected return coming because the distribution of returns is positively skewed.

Since, as we have seen, investors in IPO's do not diversify away the risk of their IPO investments, investing in only a small number themselves, the shape of this distribution is likely to matter to their sense of satisfaction in their investment. They are likely to have an impression as to the shape of this distribution for investments sold by their broker, from their own experience and from the conversations with friends that were documented above. That the shape of the distribution of an individual investment should matter to an investor, rather than the contribution of that investment to the investor's portfolio, is of course contrary to modern portfolio theory. But it is consistent with the principle of "mental accounting" proposed by Shefrin and Statman [1985], drawing on the Prospect Theory of Kahneman and Tversky [1979]. The mental accounting principle is that "decision makers tend to segregate the different types of gambles into separate accounts, and then apply prospect theoretic decision rules to each

account by ignoring possible interactions."³ Of course, if we discard modern portfolio theory for the pricing of IPO's it does not follow that we should discard the theory for other applications. As noted above, the IPO market is special in that quantities are rationed to a certain clientele.

Underwriters may tend to feel that if they priced IPO's so as to make expected initial returns equal to zero, thereby causing most investments in IPO's to result in a loss, it would destroy the sense of good will that investors feel toward the stock broker. The observation of Beatty and Ritter [1986] that expected initial return is positively related to ex ante uncertainty would appear to be supportive of this investor perception theory.

Another possible consideration for the time pattern of IPO initial returns is a "fairness-relationship" hypothesis. Since the IPO investment is made within an ongoing relationship of trust between investor and broker, considerations of "fair pricing" may play an important role. Kahneman, Knetsch and Thaler [1987] have documented that such considerations play an important role in many economic decisions, and that the decisions as to what is fair are based on a complicated set of social norms. Case and Shiller [1988] have documented that such fairness considerations play a role in certain investment decisions as well. It could be that some conventional standards for IPO pricing are applied, and investors feel that they are treated fairly if their initial returns mimic the rest of the market, whether hot or cold.

One aspect of the IPO underpricing that seems not to be explained in terms of the impresario hypothesis (or any of the other hypotheses in the

³Shefrin and Statman, [1985].

literature) is the periods of persistent negative initial returns. According to Ibbotson, Sindelar, and Ritter [1988], the year 1973 had an average initial return of -17.82%, 1974 had -6.98%, and 1975 had an -1.86%. The appearance of persistent bust markets as well as persistent hot markets suggests that there is a sort of sluggishness in underwriter pricing, resulting in both positive or negative initial returns depending on market price relative to the conventional price.

Tinic [1988] has proposed that underpricing of IPO's may be due to the threat of litigation. Underpricing of IPO's is taken to reduce the probability that underwriters or stockbrokers will be sued for misrepresenting the issue. Tinic's argument is in fact a special case of the fairness-relationship hypothesis. Litigation is not the only way to express displeasure at an underwriter. Tinic's own evidence suggests that the fairness-relationship hypothesis extends beyond the effects of formal litigation. Tinic collected data on 70 IPO's in the years 1923 to 1930, before the Securities Act of 1933 which has been the basis for litigation in IPO cases. He found no evidence of such litigation in this period. He found that the initial returns were lower in this period than in the post-1933 period, but still large and positive.

Table 1
Characteristics of the Samples

	IPO-1	IPO-2	CONTROL
I. Sample Size	53	100	156
II. Average Income	\$181,400	\$53,600	\$113,000
III. Other Investments:	23%	29%	35%
Savings Bonds	23%	29%	35%
Commodity Futures	19%	36%	35%
Treasury Bills	29%	20%	34%
Gold or Silver	17%	49%	19%
Stock Options	25%	37%	26%
IV. Average Age (inferred from age brackets data)			
	51	48	52
V. Retired			
	27%	20%	18%
VI. "Most other holdings are risky and speculative."			
	22.0%	55%	
VII. "Most other holdings are safe and unexciting."			
	78.0%	45%	
VIII. "Are you currently an investment professional? (for example, stockbroker, investment advisor, or investment banker)"			
	7.8% yes	6.2% yes	5.3% yes

Table 2

Investment History

How many initial public offerings did you invest in during each of the following years?

	IPO-1	IPO-2
in 1982	0.167 (0.075)	0.586 (0.272)
in 1983	0.333 (0.115)	0.844 (0.214)
in 1984	0.452 (0.144)	1.124 (0.224)
in 1985	0.667 (0.160)	1.373 (0.232)
in 1986	0.738 (0.158)	1.850 (0.283)

What is the shortest period for which you held an initial public offering, from the date of purchase to the date of sale?

IPO-1	IPO-2
38.4 weeks (10.9 weeks)	21.3 weeks (3.3 weeks)

What is the average or typical period for which you held an initial public offering, from the date of purchase to the date of sale?

IPO-1	IPO-2
68.4 weeks (10.8 weeks)	48.5 weeks (4.9 weeks)

Approximately what percent of your holdings of stocks, bonds and other financial assets was in the COMPANY after you made your most recent purchase?

IPO-1	IPO-2	CONTROL
6.74% (1.75%)	9.25% (1.89%)	12.85% (1.98%)

Have you ever attempted to purchase stock in one initial public offering through more than one stockbroker?

IPO-1	IPO-2
27.5% yes 72.5% no (6.2%)	33.7% yes 66.3% no (4.8%)

What is the maximum number of brokers from whom you attempted to purchase stock in one particular initial public offering?

IPO-1	IPO-2
1.81 (0.18)	1.86 (0.27)

Table 3

Investor Perceptions of Allocation Process

Do you find that you are more likely to be allocated shares in an IPO if you do a lot of other business with the stockbroker?

IPO-1	IPO-2
59.5% yes	63.3% yes
9.5% no	5.6% no
31.0% no opinion	31.1% no

Do you find that you are more likely to be given shares in a winning IPO if your broker owes you a favor or is seeking more business from you?

IPO-1	IPO-2
45.2% yes	58.9% yes
21.5% no	14.4% no
33.3% no opinion	26.7% no opinion

Thinking back across all the IPO's you've tried to purchase, how many shares have you generally been allocated, compared to how many you wanted to get? Give a rough percentage.

IPO-1	IPO-2
79.8%	80.5%
(4.8%)	(3.6%)

Thinking back across all the IPO's you've tried to purchase, consider those IPO's whose price actually went up 10% or more right after the offering date, making a nice profit for those who were allocated shares. What percent of the shares of those have you been allocated?

IPO-1	IPO-2
63.9%	58.4%
(8.6%)	(5.1%)

Note: Standard errors are in parentheses.

Table 4

Importance of Underwriter and Stockbroker Reputation

Would you be more likely to buy an IPO that is underwritten by a particular investment bank or investment bank consortium?

IPO-1	IPO-2
58.3% yes	56.1% yes
41.7% no	43.9% no
(7.1%)	(5.0%)

Do you know the name of the lead underwriter for this IPO?

IPO-1	IPO-2
39.7% yes	63.8% yes
60.3% no	36.2% no
(6.7%)	(5.2%)

Was a stockbroker influential in your decision whether to buy stock in the COMPANY?

IPO-1	IPO-2	CONTROL
41.5% yes	46.5% yes	36.6% yes
58.5% no	53.5% no	63.4% no
(6.8%)	(5.0%)	(3.9%)

Do you generally stay away from IPO's that you think other investors know more about unless you think they're a really great buy?

IPO-1	IPO-2
71.7% yes	50.5% yes
28.3% no	49.5% no
(6.6%)	(5.2%)

Note: Standard errors are in parentheses.

Table 5

Investment Theories

Can you state, in a few words, the theory that led you to invest in (or consider investing in) the COMPANY's stock? Put the theory as you would have put it to convince a trusted friend to buy the stock Which of the following better describes the above theory?

	IPO-1	IPO-2	CONTROL
A theory about the kinds of stocks that are becoming attractive to investors	41.7% (7.5%)	63.7% (5.0%)	34.6% (4.2%)
A theory about fundamentals, such as profits or dividends	58.3% (7.5%)	36.3% (5.0%)	65.4% (4.2%)

Do you remember thinking that purchasing stock in any initial public offering is likely to be a good investment regardless of the fundamentals of the particular company, because these investments generally do well?

	IPO-1	IPO-2
yes	33.0%	40.8%
no	66.0%	59.2%
	(7.0%)	(5.0%)

Do you remember thinking that regardless of the fundamental value of the COMPANY its performance was likely to be determined by the attitudes of other investors?

	IPO-1	IPO-2
yes	39.3%	60.0%
no	60.8%	40.0%
	(7.4%)	(4.9%)

If the IPO market in general had looked less encouraging, that would have discouraged me from investing in the COMPANY.

	IPO-1	IPO-2
yes	43.2%	41.5%
no	56.8%	58.5%
	(8.1%)	(5.4%)

Prior to purchasing (or considering purchasing) stock in the COMPANY, did you feel that it was important to purchase COMPANY stock right away, due to some short-lived profit opportunity?

	IPO-1	IPO-2	CONTROL
yes	52.0%	66.7%	33.3%
no	48.0%	33.3%	66.7%
	(7.1%)	(4.7%)	(4.0%)

Table 6

Investor Communications and Information Sources

Was another person you spoke to, besides a stockbroker, influential in your decision whether to buy stock in the COMPANY?

IPO-1	IPO-2	CONTROL
49.1% yes	21.4% yes	32.9% yes
50.9% no	78.6% no	67.1% no
(6.9%)	(4.1%)	(3.8%)

Was the fact that someone (whom you know or know of) bought stock in the COMPANY influential in your decision whether to buy?

IPO-1	IPO-2	CONTROL
37.7% yes	14.1% yes	28.1% yes
62.3% no	85.9% no	71.9% no
(6.7%)	(3.5%)	(3.6%)

How many friends, business associates, and other potential investors would you guess you have talked to about the COMPANY since the time you first became interested in the COMPANY?

IPO-1	IPO-2	CONTROL
9.23	5.46	19.7
(2.37)	(1.11)	(7.31)

How many of these people would you guess became very likely to purchase COMPANY stock as a result of your conversations?

IPO-1	IPO-2	CONTROL
2.48	1.69	7.09
(0.80)	(0.41)	(0.50)

When you made the decision whether to purchase the COMPANY stock, had you recently conducted your own analysis of the COMPANY and its likely stock performance? This might involve using Value Line, other reports, computerized databases, etc.

IPO-1	IPO-2	CONTROL
23.5% yes	36.8% yes	23.1% yes
76.5% no	63.2% no	76.9% no
(5.9%)	(4.9%)	(3.5%)

Have you done (or read about or talked with others about) any calculations of what the true fundamental value of a share in the COMPANY was, and compared the price of a share with this value?

IPO-1	IPO-2
37.3% yes	20.4% yes
62.7% no	79.6% no
(6.8%)	(4.1%)

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