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MARK HIRSCHEY
KOSE JOHN
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ON THE EXISTENCE OF SUB-STANDARD SECURITY MARKETS: THE IPOs OF BLINDER-ROBINSON

James S. Ang and Stewart L. Brown

ABSTRACT

In a standard security market, it is assumed that market participants are rational, capable of acquiring and utilizing information, fraudulent and opportunistic behaviors do not pay and are avoided, and transaction costs are relatively low. Furthermore, there is no group of participants who are consistent winners or losers; and collectively, no negative net present value projects are undertaken. We label a market as 'sub standard' if most of these conditions do not hold. Theoretically sub-standard markets are predicted to not exist at all, i.e. since even the most sophisticated institutional investors with the least transaction and information costs will not participate. This paper presents evidence of the existence of such 'sub-standard' security market over an extended period. Specifically, we present an in-depth analysis of twelve IPOs, underwritten by Blinder-Robinson. The IPOs were offered during a period when Blinder-Robinson was fighting unsuccessfully against NASD sanctions and SEC suspensions. The study is unique in several ways. It is the first detailed investigation of the market for the very small penny stock issues in which the per share offering prices

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of IPOs were at 5¢ or less and the gross IPO proceeds amount to only a few million dollars. We present evidence on the nature of the companies, the background of the executives and the board of directors and the business and financial characteristics of the IPOs. We also document the differences in the rates of return to various groups involved in the financing or management of these companies: the managers, other insiders, the underwriters and outside investors who invested before, at or after the IPOs. Finally, this study performs an original analysis of the microstructure of the penny stockbroker's operations by analyzing inside and outside bid ask quotes. In addition to broker's markups and markdowns, we have also calculated a measure of the market maker/brokerage house's incentive to its brokers to buy from or sell to their customers.

1. ON THE EXISTENCE OF SUB-STANDARD SECURITY MARKETS: THE IPOs OF BLINDER-ROBINSON

Security markets exist to facilitate trading of claims among strangers, to provide liquidity by minimizing transactions and search costs and to enable businesses to raise funds, etc. Underlying the foundations of the models of "standard security markets" are implicit assumptions and axiomatic propositions that are held to be generally true. For instance, market participants are expected to be rational and capable of making calculations by acquiring and utilizing information. In addition, it is assumed that market participants do not engage in transactions that are wealth reducing. To enable repeated transactions, some participants who have long horizons value records of previous performance and avoid fraudulent and opportunistic behaviors. Transactions occur in the market at relatively low cost because all participants perceive the benefits of trading as exceeding the costs. The expected as well as the realized returns from trading are non-negative. That is, there is no group of participants who are consistent winners or losers. There are no welfare reducing or negative net present value ventures successfully introduced into the market. And demand for securities does not go up with increases in supply simply because participants are unable to discriminate between true value and marketing efforts. When these conditions are not satisfied, the market for securities should theoretically not exist. The "standard" market is widely accepted as a fairly accurate characterization of existing security markets. Thus, the foundations for standard security markets may only be questioned if security markets violating these requirements are shown to exist.

In this paper we present empirical evidence on a security market that seems to have violated the premises of the standard security market. We label it as a sub-standard security market. The sub-standard market in question is the offering and trading of penny stock shares of IPOs underwritten by Blinder-Robinson.[1] These securities were initially priced at or under $0.05 (5 cents) per share and the average issue size was in the range of $3–$4 million.[2] Transactions costs, as measured by the outside (retail) bid/ask spread, are large. Information acquisition and analysis costs are high as these companies have little operating history and provide little data. There are also other implicit costs of trading as the underwriter is also the dominant market maker who sets the price and is often the only source of price quotations and is likely to be on the opposite side of each trade.

Institutional investors, the market participants who are the least handicapped trading in this market due to their lower transaction costs, strong bargaining position vis-à-vis the market maker, lower information acquisition costs and processing ability, do not trade in this market. Thus, in theory this market should not exist. (If the lowest cost participant does not participate, nobody should). And yet, it existed as these IPOs shares were sold to small investors, who had to pay high transaction costs, and made decisions with very little information, and thus, were predicted not to participate in the first place. Furthermore, we present evidence to show:

1. Welfare reducing investments were funded i.e. negative NPV IPOs are offered successfully, on a regular basis.
2. Even though the financial characteristics of the IPOs were of extraordinary high risk, the experiences of various groups were quite different. Certain groups of investors in the sub-standard market consistently earned positive returns. Some earned several times the amount of the original investment e.g. corporate insiders, underwriters and first day IPO flippers. On the other hand, other groups of investors consistently lost money i.e. outsiders who purchased shares prior to IPO, at one day after IPO and at post IPO offerings suffered heavy, if not complete, loss.
3. Marketing efforts on the supply side appeared to affect the amount of a security demanded. Market-makers such as Blinder-Robinson would change the payoff incentive to brokers in order to increase transactions rather than change the price. Analysis of micro-structure reveals that the daily adjustments fell mainly on the inside (wholesale) bid/ask spread, which affected the compensation to brokers, while the outside (retail) bid/ask spread change little, or did not change at all from day to day. Thus, our analysis of market microstructure reveals some unique aspects of the pricing and commission structure of penny stockbrokers. Of particular interest is the way Blinder-Robinson used inside and outside bid ask spreads to direct brokers efforts. We find that there was a much greater incentive given to brokers to have customers buy than to have customers sell.

4. Vital informations that could result in an unfavorable valuation of the shares, or might even cause the offering to fail were available, but apparently not utilized. For instance, there was adverse information such as pre-offering attempts to beef up the financials, questionable use for the funds raised such as for executive compensation or unspecified or "blind" purposes. Other relevant information that were apparently ignored include a great discrepancy between the estimated value of the issue obtained from the IPO companies own reported financial record and the offering price, and the adverse reputation of the underwriters where record of its serious legal difficulties with the security regulators, SEC and NASDAQ, that were also disclosed.
5. Outside investors also failed to take into account of the very high transaction costs implicit in the outside bid/ask spread. They are of such magnitude that, for the majority of securities, the prospect of breaking even when purchasing at the post offer first day price and after is practically non-existent.

2. DATA

We were able to obtain complete information of twelve IPOs brought to market by Blinder-Robinson (BR hereafter) in the period from late 1985 through late 1988. Information on the companies and financial statements prior to the IPO was obtained from S-18 and other disclosure statements filed with the SEC. Post-IPO financial information was obtained from SEC filings including 8K and 10K reports. Price information was obtained from broker quote sheets, pink sheets, the National Stock Summary and related information (10K, Moody's Industrial Manual). All information used in this paper is obtained from public records.

3. RESULTS AND ANALYSIS

3.1 The Characteristics of the Issuing Companies and the IPOs

Appendix 2 profiles the companies in the sample. The brief history traces the founding of the company, the nature of their business, the IPO and important subsequent events. In general the companies had been recently incorporated, had positive net worth but were not profitable. They represented a wide range of types of business. Three firms were in the food business (two restaurant chains and one distributing company). There was a toy company, a tool company, a finance

Table 1. Summary Issue Information for the Blinder-Robinson's IPOs.

The adjusted number of shares offered includes the original number of shares offered as reported in the offering prospectuses, the shares from the exercise of the underwriter's (Blinder Robinson) overallotment option, cheap stocks and warrants offered to the underwriters, and shares to be offered by the existing shareholders. Seafood's amended registration indicated that the major shareholder/president of the company was registering an additional 63,420,000 shares. Tele-Art is the only IPO with unit offering. Each unit is consisting of 1 share common stock, 1/5 share 'A' warrants at 100% premium over offer price, and 1/5 share of 'B' warrant at 200% premium over offer price.

Issuers	Date of Issue	Offer Price Per Share	Original No. of Shares Offered	Adjusted No. of Shares Offered	Gross $ of Proceeds Raised	Pre Offer Book Equity	% Share Retained by Pre-Offer Shareholders	Times Offer Price Per Share to Pre-Offer Book Value
1. Allertec	4/4/86	1¢	120,000,000	142,000,000	$1,420,000	$56,592	61.8%	14.7×
2. Amereco Environment	4/3/87	5¢	60,000,000	70,950,000	$3,547,500	$581,935	60.2%	9.3×
3. HDL Communications	3/3/87	2¢	112,500,000	132,187,500	$2,643,750	$230,624	70.0%	14.6×
4. Pasta Via	12/6/85	1¢	150,000,000	187,500,000	$1,875,000	$86,219	57.1%	13.4×
5. Paul's Place	11/12/86	1¢	170,000,000	203,150,000	$2,031,500	$36,867	65.3%	103.5×
6. Seafood Inc.	7/6/87	4¢	90,000,000	108,000,000	$4,319,200	$533,161	54.2%	13.7×
7. Tekna-Tool	12/7/87	5¢	100,000,000	118,000,000	$4,720,000	$705,574	61.3%	10.5×
8. Tele-Art	9/19/86	5¢	100,000,000	125,000,000	$5,750,000	$2,203,000	57.0%	4.77×
9. Thermacor	1/17/86	2¢	75,000,000	91,250,000	$1,825,000	$88,173	55.2%	25.5×
10. Trudy	7/14/87	4¢	100,000,000	118,065,000	$4,722,600	$1,350,368	63.2%	3.5×
11. Western Acceptance Corporation	9/17/87	4¢	62,500,000	70,746,480	$2,829,860	$761,520	50.5%	11.7×
12. Worldwide Bingo	8/6/86	1¢	150,000,000	179,625,000	$1,796,250	$153,375	55.3%	14.7×

company, a vanity press company, a specialty laboratory, an electronics manufacturer, a company that produced broadcast promotion packages and finally, a company that was developing a line of thermal reduction devices.

By 1993, all of the companies in the sample, with one exception, had either filed for bankruptcy, ceased operation and become inactive or had experienced mergers/buyouts which resulted in the original companies ceasing to exist, or even in the same line of business. The one exception is Tele-Art.

Table 1 lists the companies and presents summary information concerning the IPO issues. The issues were brought to market with offering periods between December 1985 and December 1987. Offer prices ranged from one to five cents per share with four issues at one cent, two issues at two cents, three issues at four cents and three issues at five cents.

The average number of shares in each issue was in excess of 100 million. Interestingly, this number is as many shares, if not more, than the typical security listed on the New York Stock Exchange. On average there were 10–20% more share actually offered than reported in the original offering prospectus. This extra supply of shares offered came about because of BR's overallotment (or greenshoe) option, and arrangements to allow BR to buy stock at deep discounts, i.e. cheap stock and warrants, and shares to be offered by the existing shareholders.

On average each IPO had gross proceeds of about \$3.1 million with a range of \$1.4 to \$5.8 million. Thus, our sample is smaller than typically found in studies of small IPO, e.g. Guenther and Willenborg (1999). Interestingly, all of the companies show positive pre-offering book equity, which averages about \$0.6 million. Thus, on average each offering raised between five and six times its original book value. (a later table will show that a significant portion of the pre-offer equity is due to pre-offering window dressing). In spite of this, the original owners retained the majority (60% on average) of shares and voting rights in the companies. The offering price to the purchasers of the IPO averaged twenty time the pre offer book value per share. The range was from 3.5 times (Trudy) to 103.5 times (Pauls Place). In general Table 1 shows that outside investors paid a rather high premium as measured by the high average offer price to pre-offering book value. Such high valuations associated with unproven small firms could only be warranted if future expected cash flows could justify them. This issue is examined in Table 5.

Table 2 profiles the issuing firms in the period before the IPO. The typical (median) firm had been in business only about six months. Firms were generally small with a median number of employees of ten people and were dominated by inside directors.

The characteristics and nature of the principals of the firms are often relied upon to highlight the legitimate nature of business enterprise of sample firms.

Table 2. Profile of Issuing Firms Before IPOs.

The source of information is the Form S-18, Registration Statement under the Securities Act of 1933. Since there are twelve firms in the sample, the median is calculated as the average of the sixth and seventh ranked firms. The number of employees is calculated on basis of full time equivalent where part time employment is counted as half full time.

		Median	Minimum	Maximum
1.	Months in Business Prior to IPO	6.5	3	111
2.	Number of Employees	10	2.5	1,100
3.	Board of Directors			
	Total	5	2	7
	Outside	1	0	2
4.	Auditors (n=12)			
	Majors			6
	Others			6
5.	Operating officer's background (n = 27)			
	Had responsible position in a major corporation			13
	Had relevant experience			14
6.	Officers and director's who were (n = 57) graduate of elite private universities			14
7.	Firms with officers or directors who were related (n = 12)			6
8.	Firms with Board members associated with venture capital firms			6

Half had auditing firms from the major accounting firms and about half of the operating officers had held responsible position in major corporations. About 25% of the officers and directors were graduates of elite private universities, and half of the firms had board members associated with venture capital firms or promoters. However, half of the firms had officers or directors related by blood or marriage to each other.

The picture that emerges from Table 2 is somewhat surprising. The issuers appeared to have identifiable products, experienced managers, some with good background, use mostly large auditing firms, and like most IPOs were not profitable mainly because they were less established, i.e. younger. Given the legal problems of BR at the time and the general poor repute of penny stock issues and firms,[3] the firms and principles in the sample appeared to be of surprisingly high quality.

Finally, we examine in Table 3 the announced intended use of funds from IPOs. It is of interests that a significant percentage of the funds (36.1%) are

Table 3. Proposed Uses of Proceeds from IPOs.
The Proceed is Net of Underwriter's Fees.

	Uses	No. of Firm	Mean	Min	Max
1.	Product and process development including fees, review, permit, etc.	5	22.7%	16.3%	34.6%
2.	Product promotion: sales, marketing, advertising	9	22.3%	1.4%	41%
3.	Fixed asset investments	7	33.7%	8.8%	65.3%
4.	Various fees to consultants	8	3.2%	1.1%	6.1%
5.	Administrative cost	5	23.2%	13.1%	34.4%
6.	Working capital inventory	9	33.5%	8.2%	51%
7.	Reduce debt	2	12.5%	2%	23%
8.	Blind e.g. unspecified acquisitions	6	36.1%	13.6%	58.8%

designated for unspecified uses such as acquisitions and some are to payoff debt to insiders (average 12.5%) etc. The impact of this coupled with the relatively lower dollar commitments by insiders would further reduce the quality of the IPO for prospective investors and increase the risk inherent in the investment.

3.2 Pre-Offering Window Dressing

One of the reasons for the positive pre-offer book value of the firms in the sample is that there were significant efforts to beef up the book equity of the firms prior to the IPO. Table 4 analyzes the source of pre-offer book equity in the year prior to the IPO. Most of the firms had cumulative deficits prior to the offering and would have had negative equity had it not been for pre-offering maneuvers.

Table 4. Beefing Up Stockholder's Equity and Other Pre-Offering Maneuvers: A Summary of Increases in the Equity Account in the Period 12 Months Prior to IPOs.

	Cash contributions from private pre-IPO offering of Equity			Non-cash Increases as % of Book Equity:			
	Shares in Private Offer[1]	Private Offer Price	$ Received	Exchange	Other	Total Increase[3]	Pre-Offer
Issuers	Shares in IPO	IPO Price	Pre-Offer Book Equity	Debt for Stock	Transactions[2]	to Equity	Stock Splits
1. Allertech	145%	25%	117.3%	—	11.4%	11.4%	900:1
2. Amereco	—	—	—	17.1%	3.5%	138%	8,480:1
3. HDL	22.2%	36%	76.5%	124.7%	—	201.2%	1,446:1
4. Pasta Via	77.7%	13%	121%	72.3%	—	150%	1,102:1
5. Paul's Place	35%	17%	271%	144%	95%	510%	2,803:1
6. Seafood Inc.	4.7%	66%	17.4%	73.3%	68.6%	159.3%	5,000,000:1
7. Tekna-Tool	—	—	—	—	—	—	185.7:1
8. Tele-Art	—	—	—	—	—	—	—
9. Thermacor	109%	26%	99%	—	—	—	99%
10. Trudy	—	—	—	27.7%	—	27.7%	1,500:1
11. Western Acceptance	18.3%	66.4%	116.3%	55.7%	—	172%	2,822:1
12. World Wide Bingo	27.8%	17%	30.2%	—	—	30.2%	6,269:1

Notes: 1. Shares in IPOs include only the number of shares stated in the registration statement. Overallotment options and cheap stock granted to the underwriters are not included.
2. Examples of other non cash transactions are: (1) Issuer sold stocks to an affiliated company owned by insiders in exchange for a note (loan) to pay, the effects on the balance sheet are an increase in asset (notes receivable) and in equity; (2) Acquire a bankrupt company in a non cash transaction by agreeing to assume some debt, possibly at discount. The difference between the book value of the acquired/bankrupt firm and the assumed debt was recorded as an increase in asset and equity; (3) Issuers sold stock to an outside venture capital firm for cash, whose amount was equal or less than the contract fee for future consulting service; and, (4) Issued stocks in exchange for services rendered.
3. Issuers with sizable cumulative deficits could show new equity contributions, cash and non-cash, to exceed reported book equity prior to offering that included these additions.
4. Issuers that did not attempt to beef up equity account had sizeable equity prior to offering; computed as % of net offer proceeds, these are: Tekna Tool = 17.5%, Tele Art = 56%, Amereco = 21.6%, and Trudy 37.5%.

The issuing firms used various ways to pad their book equity. These methods included selling cheap stocks, i.e. at deep discount, debt to stock conversion and some non-cash, perhaps, questionable maneuvers.

Without the window dressing to book equity the pre-offering financial situation would have appeared to be even weaker than reported. In particular, the book values reported would be substantially less than those in Table 1, and the IPO offer prices would command even higher premia. The window dressing could contribute to the success of the stock issue offering and increase the amount raised.

3.3 A First Look at Ex-Post Results and Some Comparisons

A way to look at the "reasonableness" in the pricing of these penny stock IPOs is by comparing (i) what IPO investors paid to (ii) estimates of the value of the firms based on cash flows before and after IPOs. Table 5 presents the results of this analysis.

The imputed value of the firms (line 1) based on the IPO offer price (gross dollars at offer divided by the fraction of the total shares offered) had a mean value of about \$8 million for all twelve firms. The range was from \$3.8 million to \$16.8 million. Thus, based on the average, the total imputed value of the twelve firms was about 100 million dollars.

Lines 2 and 3 of Table 5 look at the value based on pre-IPO cash flows and lines 4 and 5 look at post-IPO cash flows. Based on the average of the two or three years of cash flows prior to the IPO the average firm value was about half a million dollars (450,000) with a range of 0.7 million to 5.2 million. Based on the average, a very rough estimate of the value of the twelve firms in aggregate is about 5 million dollars or roughly 5% of the value imputed from the offer prices. The corresponding number for the value based on the cash flows in the year prior to the IPO is about \$10 million or 10% of the value imputed from the offer prices.

Negative cash flows from operations in the years after the IPO (lines 4 and 5 of Table 5) resulted in negative firms values based on cash flows. The average liquidation value of the firms in the sample (exclusive of Tele-Art for which there was no data) based on the last financial statement filed with the SEC. was about 0.35 million dollars. Thus, the aggregate liquidation value for the twelve firms was roughly 4 million or 4% of the value imputed from the offer price.

It is also of interest to look at the financial results before and after the IPO in somewhat more detail. Table 6 compares sales, expenses, income and cash for two years prior to the IPO, the IPO year and three years post-IPO. Generally, part of the funds raised were used for expansion and thus sales increased.