

SELF-UNDERWRITTEN IPOs

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ABSTRACT

The main goal of this research work is the analysis of a sample of self-underwritten IPOs. The analysis includes the IPOs' underpricing; long-term performance; lockup and quiet period; and risk. The results of this study suggest that there are no significant differences on the level of underpricing between self-underwritten IPOs and conventional IPOs underwritten by independent underwriters. The only significant result about the long-run performance of self-underwritten IPOs is on the subsample of nonpenny stocks, where the larger the firm the lower the long-run performance.

INTRODUCTION

The only two references about self-underwritten IPOs are by Muscarella and Vetsuypens [5] and Chen and Lin [2]. Muscarella and Vetsuypens [5] test Baron's [1] model of IPOs. Their evidence contradicts Baron's [1] model since their sample of self-underwritten offerings show statistically significant underpricing comparable to that of other IPOs underwritten by independent investment banks. Chen and Lin [2] find that old, large, and low-risk self-underwritten IPOs have a positive relation with the level of underpricing. They also find that self-underwritten IPOs have less risk than regular IPOs. The sample of self-underwritten IPOs in this paper is different from that of Muscarella and Vetsuypens [5] and Chen and Lin [2]. Muscarella and Vetsuypens's [5] sample includes just investment banks who market their own securities and Chen and Lin's [2] sample includes just venture-capital backed IPOs. Chen and Lin's results [2] are similar to those of Muscarella and Vetsuypens's [5], but Chen and Lin [2] interpret their results as evidence that supports the legal liability hypothesis. This hypothesis is backed up by several authors (e.g., Ibbotson [4], Tinic [6]; Hughes and Thakor [3]) who suggest that underwriters underprice IPOs in order to reduce the risk of future litigations or lawsuits associated with inappropriate wording in the offering prospectus. My sample of self-underwritten IPOs is unique in that it includes both investment banks and no investment banks. The main sample is divided into three subsamples. The first subsample is named penny stocks because its IPOs have an offer price between \$5 and \$1. The second subsample is called nonpenny stocks because it consists of IPOs with an offer price greater than \$5. Finally, the last subsample consists of investment banks or underwriters that participate in their own IPOs as lead or co-managing underwriter. A control sample of traditional underwritten IPOs is obtained from Securities Data Corporation Global New Issues Database for each subsample. To qualify as a control firm, the IPO must be underwritten and must be in the same four- or three-digit Standard Industrial Classification (SIC) code, the closest size match possible, and the closest IPO date possible.

HYPOTHESES

In the special case of the Muscarella and Vetsuypens's sample of investment bank IPOs, the incentive of overpricing should not exist given the risks that such overpricing implies for the underwriter. However, in the case of noninvestment bank firms, the major incentive is to maximize the proceeds from the IPOs. In other words, the major incentive of self-underwritten IPOs is to leave the least possible money on the table. The investment banks have a strong incentive to underprice their own IPO. This underpricing will

“leave a good taste” among the investment community and since these banks expect to sell future issues other than their own, so its self-underwritten IPO represents a major precedent about their future performance as underwriters. On the other hand, the firms of the sample that are not underwriters have a strong incentive to reduce the level of underpricing in order to maximize the proceeds of the IPOs. In the sample of self-underwritten IPOs, the issuer and the underwriter are the same, so investors will demand a high level of underpricing to compensate the conflict of interest between investors and issuer. The issuer may take advantage of private information that investors lack, so investors will demand more underpricing to take this risk. When the directors and officers (D&O) ownership is high, the top management has a greater incentive to take advantage of any private information since their personal wealth is at stake. Investors perceive this increased risk and will demand an even higher compensation to invest in these IPOs. The sample of self-underwritten IPOs of this essay lacks of an independent underwriter to certify the quality of the issue. Since self-underwritten IPOs lacks of independent underwriters, this may create uncertainty among investors that may affect the level of underpricing. Consequently, it is reasonable to expect some difference on the level of underpricing between self-underwritten IPOs and regular IPOs. However, the long-run performance of the sample should be similar to that of those IPOs of my control sample underwritten by independent investment banks.

METHODOLOGY

The underpricing of self-underwritten IPOs is determined as the 1-day holding period return. The following ordinary least square (OLS) regression model with a set of independent variables is applied:

$$UP_{it} = a_{1i} + a_2IB_{it} + a_3HO_{it} + b_1OWN_{it} + b_2AGE_{it} + b_3PROCEED_{it} + b_4RELPRIC_{it} + b_4LOCKPER_{it} + \mu_t + e_i \quad (1)$$

IB_{it} is a dummy variable that takes the value of one if the firm is a financial service firm and zero otherwise. HO_{it} is a dummy variable that takes the value of one if the offer price exceed the highest price quoted in the preliminary prospectus and zero otherwise. OWN_{it} is the percentage of shares of stock owned by D&O of IPO i . AGE_{it} is the age of the firm i measured by the number of years from its foundation to time t . $PROCEED_{it}$ is the natural logarithm of the offer size of IPO i . $RELPRIC_{it}$ is the relative change in offer price. $LOCKPER_{it}$ is logarithm of the length of the lockup period measured in days. Finally, e_i is the error term. The methodology used to determine the long-run performance of self-underwritten IPOs requires calculating the buy and holding return for each firm. Raw returns are determined for both the acquirers and the matches by: $R_{j,T} = \Pi (1 + r_{jt}) - 1$ and $R_{BM,T} = \Pi (1 + r_{BMt}) - 1$ for $t = 6, 9, 12, 15$ and 18 months. The benchmark adjusted buy and hold abnormal return is thus calculated as: $BHAR_{j,T} = \Pi (1 + r_{jt}) - \Pi (1 + r_{BMt})$. The average buy and hold abnormal returns for period T , $ABHAR_T$, is calculated as: $ABHAR_T = (1/N) \sum BHAR_{jT}$ for firms $j = 1$ to N for period T . The cross-sectional differences are determined as follows:

$$ABHAR_{Ti} = a_{1i} + a_2IB_{it} + b_1OWN_{it} + b_2AGE_{it} + b_3SIZE_{it} + e_i, \quad (2)$$

$SIZE_{it}$ is a control variable that measures the IPO's size as the natural logarithm of the market value of the firm's equity calculated on the first trading day.

EMPIRICAL RESULTS

Table 1 shows the results of the cross-sectional analysis of the buy and hold abnormal returns ($ABHAR_{Ti}$) for the subsample of nonpenny stocks during the period (+1, +6) months. The only coefficient that is significant at 5 percent level is associated with the IPO's size. This regression model is

applied over the three benchmarks of the buy and hold abnormal returns during the first 6, 12, 18, and 24 months of the firm's life. The size of the IPO was the only independent variable that is statistically significant at conventional levels. Overall, these results suggest that the larger the firm, the lower the buy and hold abnormal returns. Table 2 shows the results of the cross-sectional regression model used to

Table 1: Cross-sectional Analysis of the $ABHART_i$ for the Subsample of Nonpenny Stocks. Period (+1, +6) months.

Variable	Parameter Estimate	t Value
Intercept	3.27345	2.18
IB_{it}	0.28143	0.48
OWN_{it}	-1.06387	-1
AGE_{it}	0.000010	0.37
$SIZE_{it}$	-0.19054	-2.12

Note: Heteroscedasticity-consistent t-statistics (White, 1980) are used to measure significance of parameter estimates.

test the effect of the proposed independent variables on the underpricing for the subsample of nonpenny stocks. No independent variable is statistically significant at conventional levels, except the age of the firm. According to this result, older firms have a higher level of underpricing than younger firms. This result is similar to that of Chen and Lin [2] who find that old, large, and low-risk self-underwritten IPOs have a positive relation with the level of underpricing. The same regression model is applied to the subsample of nonpenny stocks and its matching group together, but including the dummy variable SU_{it} that takes the value of one if the firm is a self-underwritten IPO and zero otherwise. According to this table, the condition of self-underwritten IPO (SU_{it}) has no significant effect on the level of underpricing between the subsample of nonpenny stocks and its

control group. However, the level of D&O ownership (OWN_{it}), the relative change in offer price ($RELPRIC_{it}$), the calendar year indicator to control for seasonal effects related to hotter and colder IPO markets (μ_t); and the age of the firm (AGE_{it}) have all a positive and significant effect on the level of underpricing. The first three independent variables are significant at 10 percent level of confidence and the last one at the 5 percent level of confidence. This result means that old nonpenny stocks, with a large percentage of D&O ownership, large relative change in offer price and that went public recently have a high degree of underpricing. Data about D&O ownership is obtained from the firms' proxy statements and prospectus.

Table 2: Cross-sectional Analysis of the Underpricing

Subsample	Nonpenny Stocks		Nonpenny stocks and Its Matching Group Together		Investment Banks (Underwriters) and Its Matching Group Together.		Penny Stocks and Its Matching Group Together.	
	Parameter Estimate	t-stat	Parameter Estimate	t-stat	Parameter Estimate	t-stat	Parameter Estimate	t-stat
Intercept	-166.05026	-1.42	-127.5478	-1.83	14.88779	0.46	5387.4483	2.09
SU_{it}			-0.12816	-0.81	-0.02613	-0.3	-3.38283	-0.09
IB_{it}	0.16744	0.57	0.23772	1.32			25.69284	3.08
OWN_{it}	0.09574	0.17	0.54238	1.81	0.57431	2.94	7.40125	0.86
AGE_{it}	0.0000227	2.21	0.0000111	2.3	-5.2E-07	-0.09	-0.000787	-0.71
$PROCEED_{it}$	-0.00918	-0.08	0.03106	0.42	-0.00343	-0.06	0.56463	0.33
$RELPRIC_{it}$			1.88391	1.89	0.14997	1.26	21.18311	0.91
$LOCKPER_{it}$	-0.04032	-0.43	-0.0152	-0.22	-0.00785	-0.48	-1.82229	-0.28
μ_t	0.08303	1.42	0.06337	1.82	14.88779	0.46	-2.69322	-2.1

Note: Heteroscedasticity-consistent t-statistics (White, 1980) are used to measure significance of parameter estimates.

Table 2 also shows the results of the same regression model but applied to the subsample of investment banks and its matching group together. It includes the dummy variable SU_{it} described before, but now the independent variable IB_{it} is omitted because all firms in this subsample and its control group are

financial firms. The results again show that the condition of self-underwritten IPO (SU_{it}) has no significant effect on the level of underpricing. The results suggest that the level of D&O ownership (OWN_{it}) is the only independent variable that has a positive and significant effect at 5 percent level on the degree of underpricing of the subsample of investment banks. Table 2 also shows the results of the same regression model again but applied to the subsample of penny stocks only. The model includes the dummy variable SU_{it} described before. The results are all insignificant at conventional levels.

CONCLUSIONS

Self-underwritten IPOs can be defined as those that are conducted without the participation of any investment bank or underwriter at all. Based on the descriptive statistics, most self-underwritten IPOs (55.06 percent) went public in the last few years: 2000–2004. These self-underwritten IPOs are rarely acquired, rarely fail, and none of them was withdrawn. The main conclusion is that there are no significant differences on the level of underpricing between self-underwritten IPOs and conventional IPOs underwritten by independent underwriters. Self-underwritten IPOs of penny stocks have high levels of underpricing, long-run performance and standard deviation of daily stock returns which are significant at conventional levels of confidence. These high levels of underpricing, long-run performance, and risk can be explained by the fact that these firms are penny stocks, which are highly risky firms. The cross-sectional analysis of the level of underpricing for nonpenny stocks provides evidence that old firms, with large percentage of D&O ownership, large relative change in offer price and firms that went public recently have a high degree of underpricing. Old investment banks also have high levels of underpricing. However, the condition of self-underwritten IPO has no significant effect on the level of underpricing for any subsample: nonpenny stocks, penny stocks, and investment banks or underwriters. The standard deviation of daily stock returns for the subsample of investment banks is statistically different from its control group during the first year after the IPO. Also, the standard deviation of daily stock returns for the subsample of penny stocks is statistically different from its control group for 1 month, 3 months, and 1 year after going public. These results partially confirm the hypothesis that self-underwritten IPOs have high price volatility because of the lack of a lead underwriter to engage in price stabilization activities. IPOs of investment banks experience a lower aftermarket volume than that of the control sample. This result suggests that investment banks carefully select the investors for their own IPOs in order to avoid those investors with low time horizon that are just seeking large returns in short periods of time.

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