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SEASONED EQUITY OFFERINGS:RIGHTS ISSUE VERSUS UNDERWRITTEN COMMITMENT : THE U.S. ECONOMY IN PERSPECTIVE

Professor RAYMOND A. K. COX, M.B.A., Ph.D., C.F.A., C.C.M.
Faculty of Business & Information Technology (IT)
University of Ontario Institute of Technology
Oshawa, Ontario L1H 7K4, Canada
and
RAM C. ARYAL, M.B.A.
Financial Analyst
RJT Compuquest, Inc.
TORRANCE, California, U.S.A.

Abstract

Capital is constantly being raised in the market to fund firm's expansion, acquisitions, and other strategies. Equity financing for established corporations comes primarily from additions to retained earnings. However, selling new common stock is an option. The issuance of additional shares can be executed by a choice between a rights offering or an underwritten commitment. For firms that have the preemptive right the rights method is obligatory. The remainder of firms, that do not have the preemptive right in their by-laws, have complete liberty to select either of the two methods to raise equity money.

Key Words : Equity financing; Rights offering; Underwritten commitment
JEL Classification : C23, G32, O51

Introduction

In recent times the majority of firms have elected the underwritten commitment. Using investment bankers to distribute shares saddles the corporation with higher flotation costs and deprives the pre-equity issuance shareholders of enjoying the inevitable underpricing of the shares. In addition, underwritten issues must be approved by the Securities Exchange Commission (SEC) in the United States (U.S.A.) causing delays and adding to the cost of raising capital. Furthermore, those investors most inclined to purchase shares of the company would be those who are already owners of the firm. Nonetheless, the number of rights offerings has decreased over time.

This paper explores the impact of seasoned equity offerings, comparing rights to underwritten commitment issues, on the corporation. Three aspects of external equity are studied; (1) short-term effect on stock returns, (2) long-term stock returns, and (3) operating performance.

Prelude

Smith[1] analyzed the choice of method for raising additional equity capital. Rights offerings had significantly lower costs, yet fewer than 10 per cent of offerings employed this method, preferring instead the use of underwriters. It is suggested that underwriters provide monitoring management which makes underwriting advantageous. White and Lusztig[2] found a negative stock return effect from rights offering announcements. Hansen[3] showed that U.S. firms conducting underwritten rights offerings incurred greater flotation costs compared to underwritten public offerings primarily because of priced concessions rather than the fees. Eckbo and Masulis[4] developed a model of choosing the equity flotation method; the choice is between uninsured rights, rights with standby underwriting, and firm-commitment underwriting. The choice depends on shareholder characteristics, information asymmetries, and direct flotation costs. Uninsured rights have adverse-selection

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effects whereas underwriter certification reduces these effects.

Hertzel and Smith[5] found private equity placements were correlated with positive abnormal returns suggested due to undervaluation signals and anticipated monitoring benefits. Tsangarakis[6] analyzed Greek firms, for the period 1981-1990, that issued rights offerings and found contrary evidence, that is, in the announcement period there were statistically significant abnormal positive returns. Moreover, the abnormal returns were associated with the following variables;

- negatively with share ownership diffusion,
- positively with the amount of capital raised relative to existing capital,
- positively with the stock return variance, and
- positively with the growth of the stock market index prior to the offer.

Chan[7], from an Australian (1987-1993) sample, reported an increase in volatility in the post-announcement period versus the pre-announcement period (rights offering) and that impacts the analysis of the underpricing phenomenon. Bohren, Eckbo and Michalsen[8] with an Oslo Stock Exchange sample found firms are more likely to use standby underwriting when shareholder take-up decreases and that there is positive stock market reaction to uninsured rather than insured rights attributed to the asymmetric information theory. Cai[9] showed that Japanese firms raising equity through rights offerings (1971-1986) subsequently suffered in operating performance as well as a decline in stock returns for three years. Bae and Jo[10] examined the information effect of rights offering announcements and found an increase in trading volume post-announcement date along with a decline in stock price volatility from the pre-announcement period to the post-expiration period. Armitage[11] found for United Kingdom (U.K.) issuers of rights offerings that the underwriters did not certify value but rather ensured the capital was raised.

Wu[12] discovered private placement firms have higher information asymmetry than public offering firms. Jayanti[13] presents empirical data for British and German banks, that underwritten (insured) rights offering cause less of a stock price decline than non-underwritten (uninsured) rights offerings. Cronquist and Nilsson[14] indicate for non-U.S. firms (in particular Asia and Europe) those that are family controlled prefer a rights offering versus other equity financing methods so as to prevent dilution of ownership control whereas private equity placements are chosen when the firm is faced with moral hazard, and adverse selection (causing information asymmetry) issues.

Methodology Used

The sample was collected through a search of U.S. non-financial firms Securities Exchange Commission filings with the use of the LexisNexis database. A keyword search was conducted using "rights offerings" and "secondary public offering" for the period of 1997-2004. All the relevant SEC filings were read to ascertain if the offering was consummated. The initial announcement date was recorded. Furthermore, all LexixNexis news items on the firm were examined for the window 30 days before and after the event for confounding events. If a confounding event existed in the surrounding event window the company was deleted from the sample. Moreover, stocks included in the study were required to have a daily stock price available through Finance Yahoo for the period 211 days prior to the announcement date through 30 days after the event date. These criteria made for a sample size of 77. In addition, the long-term stock return performance was examined by gathering the monthly stock returns from two years prior to the event and through two years after the announcement of a seasoned equity offering. The sample size for this part of the study was 69.

Another aspect of the research was to evaluate the operating performance of firms issuing an SEO through a rights offering versus underwritten effort. Various metrics of financial performance were evaluated along the lines of Loughran and Ritter[15]. These measures were:

- return on equity (ROE),
- return on assets (ROA),
- cash coverage ratio defined as earnings before interest, taxes and depreciation divided by interest (EBITD/I),
- fixed assets turnover (FAT),
- inventory turnover, using cost of goods sold (IT),
- average collection period (ACP), and
- operating income to sales (OI/S), and (8) book debt to market value of equity (D/MV).

A trend analysis comparing the year before, of and after the SEO announcement year was conducted with the financial ratios collected from Standard and Poor's Compustat. The sample size was 67 for this state of the study.

For the short-run daily stock return performance of firms announcing an SEO the market model version of the capital asset pricing model with the Standard and Poor's 500 as the market index was utilized. To estimate the baseline return for each stock the 180 day estimation period starting 211 days previous to the event date (t = 0) until

31 days before the announcement was chosen. The estimated parameters, alpha and beta, were then used to compute the abnormal returns for the event window, t = -5 to t = +5, surrounding the SEO announcement.

There are two competing hypotheses to explain the differential excess returns between firms raising equity through a rights offering as opposed to an underwritten commitment. The flotation cost hypothesis states that corporations should minimize these costs of raising capital and accordingly favors rights offering. The competing certification hypothesis asserts that the investment banking syndicate bestows their reputation and thereby certifies the equity issue. Thus, underwritten commitments would cause the short-run abnormal stock returns to be relatively higher.

To test for statistical significance a t-statistic of the difference between mean abnormal returns, assuming unequal variances, of an SEO rights offering versus underwriter commitment is calculated. A positive (negative) t-statistic indicates support for the flotation cost (certification) hypothesis. For an alpha level of 5 per cent two-tail, the critical value is 1.96. The long-run stock performance of firms raising capital through an SEO is studied by comparing the average monthly stock returns for the 2 years before versus after the announcement. A t-statistic is determined for the difference between the mean monthly return for the two year period before and after the SEO announcement. This test is done for each of the equity financing methods; rights offering and underwritten commitment.

It is hypothesized that those firms who chose to be scrutinized through the underwritten process will suffer with a post announcement decline in returns and possibly negative. This is analogous to the previously referred to certification hypothesis. The rationale for such an outcome is that the public information disclosure necessitated by SEC registration is both costly and revealing to competitors. In contrast, firms undergoing a rights offering have not reduced information asymmetry between the firm and stockholders. Wherefore these firms are viewed as riskier and the expected return rises accordingly. This is appropriately named the information asymmetry hypothesis.

On the other hand, for both equity methods, the equity in the capital structure increases causing the financial leverage to decrease. This reduces the probability of bankruptcy resulting in lower financial risk. This financial leverage hypothesis is the underpinning in the expectation that the variance of monthly stock returns should decline after the SEO for both the rights offering and underwriter commitment equity financing methods. Hence, an F-statistic is figured for both equity financing methods comparing the two-year monthly stock return variance before and after the SEO announcement event.

The question is posed as to how the operating performance of firms obtaining capital through SEOs would change subsequent to the equity infusion. Firms would improve the equity safety margin and thereby see a change in the financial leverage metrics (debt-to-market value and cash coverage ratios). Initially, the increase in both assets and equity may cause a drag effect on the ROA and ROE. Then again, the equity may have been used to pay down costly debt resulting in an augmentation of the ROA and ROE. For the asset management ratios it would appear there is no a priori expectation for a diversion in the operating performance. To discern an alteration over time in the operating performance a z-statistic is computed based on the Wilcoxon signed-rank sum test (between the year prior to versus after the event) of the median of the financial ratios. Differences between firms that choose the two alternative equity methods may arise due to the dissimilarity of monitoring and information release. Companies raising equity through an underwriter commitment publicly signal their strength in contrast to firms issuing rights. A t-statistic is numerated for the difference in the ratio means for the two equity financing methods.

Research Findings

Reviewing **Table 1** for the short-run stock return effect of announcing a seasoned equity offering the evidence reinforces other studies of the negative stock returns effect of issuing equity. Both rights offerings and underwritten commitment announcements are associated with negative returns. The negative abnormal stock returns are statistically significant with a rights offering for the event window of days -1, 0, +1 (alpha equal to 5 per cent) whereas underwritten commitment announcements experience negative excess returns for event windows: (1) day 0, +1, (2) day -1, 0, +1, (3) days + 1, + 2 and (4) days 0, +1, +2 (alpha equal to 1 per cent). However, the abnormal returns for the difference between rights versus underwritten issues are positive for varying event windows except for the window of days -1, 0. Nonetheless, the statistical significance is somewhat

TABLE 1
SHORT-RUN STOCK RETURN EFFECT : STANDARDIZED CUMULATIVE ABNORMAL RETURNS
(t-statistics in parenthesis)

	Event Windows by Day Range				
Rights	-1,0	0,+1	-1,0,+1	+1,+2	0,+1,+2
	-0.251 (-1.06)	-0.295 (-1.36)	-0.349 (-2.17)*	0.008 (0.03)	-0.087 (-0.38)
Underwritten	0.004 (0.02)	-0.579 (-3.01)*	-0.382 (-2.41)*	-0.620 (-2.82)*	-0.593 (-3.23)*
t-statistic for difference	-0.88	0.98	0.15	1.80	1.71

Note : * denotes statistical significance at an alpha level of 5 per cent

weak. Only event windows of days +1, +2 and days 0, +1, +2 are significant at an alpha level of 10 per cent. These findings give support, albeit weak, for the flotation cost hypothesis.

The long-run effects of SEOs measured by the biannual monthly stock return before and after the SEO announcement are presented in **Table 2**. Rights offerings post-announcement are presented in **Table 2**. Rights offerings post-announcement stock returns exceed (and are positive) pre-announcement stock returns and are highly significant (alpha of 1 per cent) generating a t-statistic of 5.08. This is in contrast to underwritten commitment issues where the post-announcement stock return declines versus pre-announcement returns but both before and after returns are positive. This drop in returns for underwritten commitment offering is highly statistically significant (alpha of 1 per cent) with a t-statistic of -5.97. If the 2 methods of raising new equity financing had not been disentangled the overall effect for all SEOs would not have indicated a significant effect. These results discredit the certification hypothesis and favors firms who choose rights offerings as opposed to the underwritten commitment methods of raising equity financing.

TABLE 2
LONG-RUN STOCK RETURN EFFECT
Average Monthly Returns for Two-Year Periods

	Before	After	t-statistic
Rights	-0.008	0.042	5.08*
Underwritten	0.078	0.009	-5.97*
All SEOs	0.033	0.062	-0.64

Note:*denotes statistical significance at an alpha level of 1 per cent

Observing **Table 3** for the stock risk effect, measured by the variance of the monthly returns for the two-year periods before and after the SEO announcement, lends support for the risk of the stock decreasing after an equity infusion. The fall in the stock return variance is not statistically significant. However, for the rights offering an F-statistic greater than 1 would contribute to an increased adjusted R-square in a multiple linear regression. The underwritten commitment having an F-statistic of 2.62 is weakly significant at an alpha of 12 per cent.

TABLE 3
STOCK RISK EFFECT
Variance of Monthly Returns for Two-Year Periods

	Before	After	t-statistic
Rights	0.003	0.002	1.16
Underwritten	0.002	0.001	2.62
All SEOs	0.004	0.002	2.34

Examining **Table 4** for the operating performance impact shows differences between firms that choose rights versus underwritten for an SEO. Firms that go the right offering route are in a much weaker operational performance condition. Drastically lower profitability,

TABLE 4
MEDIAN FINANCIAL RATIOS BY YEAR

Rights								
Year	**ROE**	**ROA**	**EBITB/IC**	**FAT**	**IT**	**ACP**	**OI/SALES**	**D/MV**
-1	-24.09	-17.6	-0.605	2.31	5.03	51.96	-6.509	0.74
0	-15.53	-12.85	0.357	2.53	4.77	58.15	0.016	0.36
1	-14.62	-13.1	0.549	2.94	5.35	55.37	-0.346	0.13
z-statistic	-1.114[a]	-1.635[a]	0.000[c]	-2.324[a]	-0.274[a]	-0.638[b]	-0.811[a]	-3.543[b]

Underwritten								
Year	**ROE**	**ROA**	**EBITB/IC**	**FAT**	**IT**	**ACP**	**OI/SALES**	**D/MV**
-1	6.561	2.307	7.574	1.54	5.56	59.37	9.763	0.04
0	7.459	4.272	21.821	1.37	5.18	56.94	12.215	0
1	6.083	4.734	18.695	1.54	5.03	52.42	12.1335	0
z-statistic	-0.037[b]	-0.812[a]	-2.659[a]	-0.265[b]	-0.343[b]	-1.515[b]	-1.564[a]	-2.559[b]

All SEOs								
Year	**ROE**	**ROA**	**EBITB/IC**	**FAT**	**IT**	**ACP**	**OI/SALES**	**D/MV**
-1	-15.31	-7.615	1.483	1.74	5.407	57.74	1.836	0.127
0	-0.956	-1.705	2.698	1.43	4.774	57.547	6.477	0.022
1	-2.022	-1.597	2.983	1.61	5.349	55.227	7.639	0.033
z-statistic	-1.029[a]	-1.879[a]	-2.054[a]	-1.424[a]	-0.021[a]	-1.584[b]	-1.698[a]	-4.431[b]

Between Rights and Underwritten Methods (t-statistics)								
Year	**ROE**	**ROA**	**EBITB/IC**	**FAT**	**IT**	**ACP**	**OI/SALES**	**D/MV**
-1	-2.05	-2.58	-1.41	1.95	0.17	0.59	1.02	1.87
0	-2.79	-2.85	-1.64	1.04	0.24	1.14	-0.14	2.36
1	-0.71	-1.85	-2.92	0.74	-0.01	1.06	-1.22	2.38

Notes:
For Wilcoxon rank sum z-statistic test
a. based on negative ranks; b. based on positive ranks; c. the sum of negative ranks equals the sum of positive ranks.

much greater financial leverage and less efficient asset management are connected to rights offering firms versus better operational performance for underwritten commitment firms. This would be expected given that the underwritten commitment issue puts the firm under the scrutiny of investment bankers, lawyers, accountants and the SEC before the stockholders evaluate the offering. This is opposite to a rights issue where only the stockholders investigate the worth of the offering. The boost in equity that lowers the financial leverage of the firm seems not to have much of a statistically significant impact on the operational performance of the corporation

except for the financial leverage ratios. Using the Wilcoxon signed rank sums test, the debt-to-market value ratio does significantly decrease after the SEO for both equity financing methods. For the cash coverage ratio, underwritten commitments firms significantly improve but not for rights offering firms. There are some apparent changes in performance such as an improvement in the ROA and FAT for rights offering firms and ACP and OI/S for underwritten commitment firms. Nevertheless, changes are for the most part weak when matched to the statistical significance critical value. Otherwise, firms that obtain equity via a SEO do not change their underlying operational performance but merely amend their capital structure.

Conclusions

This paper investigates the short and long-run effects on stock returns, as well as impact of operational performance, on firms undergoing a SEO. Firms can choose either a rights offering or an underwritten commitment issue to carry out a SEO. The empirical evidence shows that the announcements for both types of equity financing methods are received negatively by shareholders. However, rights offering are comparatively received better than underwritten commitment in the near term.

Moreover, the favorable stock return treatment of firms choosing rights offerings (over underwritten commitments) extends to the long-run at the two-year mark. Firms employing either of the SEO methods experience a decrease in stock return variance but not to a statistically significant degree. The noticeable effects of SEOs on the risk and return of the firm's stock do not extend to the operational performance of the company subsequent to the SEO announcement. Only the decrease in the debt-to-market value is significantly correlated with rights offering and underwritten commitment issues. The latter method is also correlated with an augmentation in the cash coverage ratio. Otherwise, the change in operational performance is not strongly statistically significant. Future research may focus on why firms choose one method over the other.

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