Should Managers Shelf Register Secondary Offerings?

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Prior studies examine market overhang (a potential stock price drop caused by a firm's security offer waiting on the shelf to be issued) and the need for underwriter certification associated with shelf-registered equity offerings. We further examine the market overhang issue by comparing underwritten secondary shelf offers to traditional secondary offers, and we investigate the need for underwriter certification by comparing underwritten and nonunderwritten secondary shelf offers by controlling for relative size, preannouncement run-up, and uncertainty about firm value. Our evidence demonstrates secondary shelf offerings do not display market overhang; no certification problem is present with nonunderwritten secondary shelf offers. Thus, shelf registration of secondary offerings appears to have no significant disadvantages and may provide certain advantages over traditional registration.

INTRODUCTION

Shelf registration began when the Securities and Exchange Commission (SEC) enacted Rule 415 on a temporary basis on March 3, 1982 and was made permanent on January 1, 1984.[1] Rule 415 allows a firm to register, through one filing, all the securities it reasonably expects to sell over a subsequent two year period. This shelf registration enables easier timing for an offer and is presumably a less costly mechanism for issuing new securities. Rule 415 marked a significant change in SEC policy because the commission had prohibited delayed security offerings prior to Rule 415 due to potential problems associated with certification of the issuing firm's financial position.

A shelf offering gives management more flexibility and increased opportunity to exploit inside information by selling securities in a favorable market. Rule 415 provides large block traders an outlet for instant secondary offers outside the organized markets.[2]

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[1] Banoff (1984) indicates the integrated disclosure system was initiated to eliminate overlapping disclosure requirements of the Securities Act of 1933 and the Securities Exchange Act of 1934. The 1933 act dealt with providing the required information for the sale of securities to the public. The 1934 act required publicly held companies to update relevant financial information through annual and quarterly reports for daily trading of their securities. In essence, Rule 415 allowed the security offerings registration statement to be incorporated by reference to the firm's periodic reports.

[2] According to Bloch (1986), the annual volume of block trading grew from one-fourth of all shares traded in 1979 to nearly 50 percent in 1983.

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Because the market organization of the NYSE and other stock exchanges is not designed necessarily for block trading, institutional investors often opt for fulfilling block secondary transactions outside of the exchange using upstairs block dealers. Shelf registration provides an institutionalized method to issue a secondary offer instantly. Once the shelf registration statement has been filed, the seller typically will receive calls from time to time from a variety of investment banking firms offering to buy securities at a given set of terms and price.

Smith (1986) indicates some firms may avoid shelf registration because of market overhang. Market overhang is described as a depression in market price created by the security waiting on the shelf and may be caused by differential information between firm management and potential investors. Bhagat, Marr, and Thompson (1985) and Moore, Peterson, and Peterson (1986) find that market overhang during Rule 415's trial period is no more severe for shelf offerings than for traditional filings of common stock. Denis (1991) finds that after controlling for firm risk, market overhang appears to exist at the announcement of primary industrial equity offerings but is more severe for shelf filings. His conclusion, however, is drawn from a limited sample size (N = 9) and a significant difference does not exist between the traditional and shelf registered samples.

Asquith and Mullins (1986) find the two day announcement abnormal return to be approximately -2.0 percent for their sample of registered industrial secondary offers from 1963 through 1981. Mikkelson and Partch (1985) examine registered and unregistered secondary offers of common stock from listed firms from 1972 through 1981. They find a two day announcement effect for registered offers of approximately -2.8 percent and no issuance day effects. They find significant negative announcement day effects for all classes of sellers, although the effects are more negative when sellers are insiders. In addition, they provide weak evidence of a more negative market reaction when the number of shares to be sold is large relative to shares outstanding. Mikkelson and Partch attribute the lack of issuance day effects to a possible combination of the sales effort of the underwriter and possible price-pressures that are only intraday. They conclude that secondary offers convey negative information, insiders' sales signal overvaluation, and large block holders may be better informed than small holders.

This study compares the common stock price behavior associated with registered secondary issues of shelf versus traditional industrial equity offerings, controlling for underwritten versus nonunderwritten offers. Differences between underwritten and nonunderwritten offers may help explain why the use of shelf filings has declined dramatically after the Rule 415 trial period. We find no significant difference, however, in the market reaction between shelf and traditionally underwritten secondary issues. Surprisingly, when comparing underwritten to nonunderwritten secondary shelf offers, we do not find a certification problem as expected. We interpret our findings as indicating there are no significant disadvantages to shelf registering secondary offerings and a possible reason for not shelf registering is that selling shareholders need their funds immediately.

SHELF REGISTRATION AND TESTABLE HYPOTHESES

The enactment of Rule 415, allowing shelf registrations, created a conflict between firms wanting to issue securities and the securities industry. Managers of corporations wanting to issue securities believed the rule would lower compliance costs, facilitate

development of distribution techniques, and decrease the cost of raising funds for the firm. Others in the securities industry countered that the rule was a threat to capital markets and to investors.

One benefit of shelf registration is that it lowers the costs of complying with securities laws: a corporation is required to file only one registration statement for a series of offerings, so the cost of filing several registration statements is eliminated. Denis (1991) documents that industrial firms offering debt and utility firms offering debt and equity appear to find shelf registration useful in this capacity. For our study, however, the benefit of reducing the cost of filing should not make any difference because a given secondary offer is registered only once.

Before shelf registration, most firms used the traditional fixed price negotiated offering. Under this distribution method, the investment bank organizes an underwriting syndicate to buy the entire offering from the issuing firm at a negotiated price to be sold to their customers. Rule 415 initiated three new distribution methods: Dutch auction, bought deal, and the dribble out. In a Dutch auction, the issuing firm decides on an acceptable cost of funds and solicits bids directly from investors, forgoing use of an underwriter. The Dutch auction has been used mainly for securities in which the rate of return is adjusted periodically. Alderson, Brown, and Lummer (1987) find the Dutch auction method to be beneficial for adjustable rate preferred stock. In a bought deal, the issuing firm sells its entire offering to one or two investment banks, which quickly resell the securities to their customers to minimize the risk of market deterioration. Banoff (1984) indicates the bought deal is overwhelmingly the most popular choice of the new distribution techniques for selling securities. The reason for this popularity lies with the rise of the institutional investor who can handle large blocks of securities from the underwriter (if one is used). In essence, the bought deal method can be used in conjunction with the traditional fixed price negotiated offering. With a dribble out, the firm sells small amounts of securities off the shelf registration as buyers appear. Denis (1991) and Bhagat, Marr, and Thompson (1985) indicate this dribble out method has been popular for debt offerings and utility equity offers. They find the dribble out method is not used frequently for industrial equity offers and indicate the reason may be market overhang or firm certification.

Because shelf registration provides the issuing firm flexibility in both timing and pricing of the security offering, another proposed benefit for the firm is an apparent decrease in its cost of funds. Recent studies by Allen, Lamy, and Thompson (1990) and Denis (1993) indicate no decrease in the cost of capital as earlier studies showed (e.g., Kidwell, Marr, and Thompson, 1984, 1987; Rogowski and Sorensen, 1985; Bhagat, Marr, and Thompson, 1985; and Blackwell, Marr, and Spivey, 1990). In our study the cost of funds is irrelevant because the firm does not receive any proceeds for the sale of secondary stock, but timing the sale of secondary equity offers could benefit the selling shareholders of the firm if market overhang is not severe.

In spite of empirical evidence demonstrating lower SEC compliance costs, development of new distribution methods, and flexibility in pricing and timing of the offer, not all published comments about shelf registration have been positive. The prohibition of delayed offerings prior to Rule 415 is based on the SEC's requirement that timely information be available as a base for prospective investors' security purchases. The rapid sale

of securities through a shelf registration has come under fire because of the underwriter's lack of time to investigate the financial status of the issuing firm thoroughly, leading to a certification problem. Denis (1991) shows that only the best quality firms issuing primary industrial equity can use the shelf procedure because the uncertainty about lower quality firms in the market necessitates underwriter's certification. Rule 415 also may jeopardize the capital market by encouraging greater concentration of investment bankers, as securities sell so rapidly that underwriting syndicates may not be formed (e.g., Banoff, 1984). Despite these concerns, Banoff, Rogowski, and Sorensen (1985), and Auerbach and Hayes (1986) point out that shelf registration has not posed any particular threat to the SEC's system disclosing information or exacerbated the concentration of underwriters.

Previous research on shelf filings has neglected to examine the market reaction to secondary shelf filings. A closer examination of secondary shelf filings is needed to understand the decline in the number of shelf-registered offers. We find a dramatic drop in the use of secondary shelf offers after 1983: firms may have scaled back the number of shelf-registered secondary offerings because of the more stringent requirements for shelf registrations following the trial period.[3] We find that 78 of the 181 secondary offers made during the trial period would have met the stricter requirements. In the posttrial period, 75 of the 134 offers identified met the new shelf requirements. Therefore, while stricter requirements may be one plausible explanation for the drop in shelf filings, other possibilities include a market unfavorable for equity offers in the post-1983 period, a certification problem, and market overhang. We test whether secondary shelf filings have declined as a result of market overhang or a certification problem.

First, as shelf offerings are the delayed offers that the SEC had prohibited in the past because of possible information differences between better informed management and outside investors, we hypothesize shelf announcements will cause a more negative market reaction than traditional filings. Second, as Denis's (1991) study indicates there is a certification problem associated with primary shelf equity filings, we separate shelf offers into underwritten and nonunderwritten filings. It is anticipated that underwritten shelf announcements will display stock movements more similar to underwritten traditional filings despite the possible differential information problem of shelf registration. In this case, the information problem should be less severe because underwriters certify the offer. Because there is a potential certification problem associated with nonunderwritten shelf filings, we predict a more negative market reaction to the announcement of a nonunderwritten shelf filing.

[3] When Rule 415 was made permanent, eligibility for shelf registering securities was limited to firms that could file SEC form S-3 or F-3. Requirements to file this form are

- The firm has to have met SEC disclosure requirements for the prior three year period;
- The firm needs stock outstanding worth at least $150 million or worth at least $100 million if its trading volume is greater than three million shares annually; and
- The firm sells investment grade debt securities and has not defaulted on any debt, preferred stock, or rental payments in the prior three year period.

SAMPLE AND METHODOLOGY

The sample of shelf and traditional registered secondary industrial common stock offerings on the NYSE and AMEX exchanges and the National Association of Securities Dealers' Automated Quotation System (NASDAQ) is obtained using the *Investment Dealers Digest*, the *Wall Street Journal*, and the Securities and Exchange Commission's registration and offering statistics (ROS) file covering the period March 1982 through December 1989. The security announcement is first identified in the *Investment Dealers Digest* and the announcement and offer date is verified using the *IDD*, the ROS file, or the *Wall Street Journal*. The frequency distribution of the shelf and traditional secondary filings (Table 1) shows fewer shelf offerings by firms on NASDAQ as compared to NYSE and AMEX listed firms. This evidence provides support for Denis's (1991) conclusion that shelf offerings tend to be restricted to well-known firms that need no certification by an underwriter.

Table 1—Frequency of Shelf and Traditional Secondary Common Stock Offers[a]

Year	Secondary Shelf Offerings[b]		Secondary Traditional Offerings	
	NYSE & AMEX	NASDAQ	NYSE & AMEX	NASDAQ
1982	36	19	11	5
1983	52	23	18	17
1984	3	1	10	9
1985	6	2	15	10
1986	5	4	13	13
1987	2	0	7	9
1988	0	0	6	5
1989	0	0	4	10
Total	104	49	84	78

[a]The sample of shelf and traditional registered offerings of industrial secondary common stock is collected from the *Investment Dealer's Digest* and then verified by the Securities and Exchange Commission's Registration and Offering Statistics File or the *Wall Street Journal* from 1982 through 1989

[b]The trial period for Rule 415 was March 1982 through December 1983. Possible reasons for the reduction in shelf registrations after the trial period may be due to stricter eligibility requirements, an unfavorable equity market, a certification problem, market overhang, or the need for immediate funds

Table 2—Distribution Methods of Shelf Secondary Offers[a]

Year	NYSE & AMEX		NASDAQ	
	Bought Deal	Dribble Out	Bought Deal	Dribble Out
1982	4	32	0	19
1983	16	36	4	19
1984	2	1	1	0
1985	5	1	1	1
1986	2	3	0	4
1987	0	2	0	0
1988	0	0	0	0
1989	0	0	0	0
Total	29	75	6	43

[a]Information on the distribution method for the secondary shelf offers was obtained from the *Investment Dealer's Digest* and the Securities and Exchange Commission's Registration and Offering Statistics File. Rule 415 initiated three new distribution methods: Dutch auction, bought deal, and the dribble out. The Dutch auction distribution method was not used for the secondary shelf offerings. The bought deals are fixed price underwritten offers while the dribble out offers are nonunderwritten

From our sample of registered industrial secondary equity offers, it appears the dribble out method has been used extensively. Of 153 shelf filings, 118 used the dribble out method and had no underwriter; the remaining 35 were underwritten and used the bought deal method with a negotiated fixed price. Table 2 shows the distribution methods used by year for the shelf filings.

We examine the stock price reaction to shelf and traditional offering announcements through a standard event study methodology similar to Mikkelson and Partch (1988). We calculate market model abnormal returns from 60 days before the initial equity filing date through 20 days after the first offering date. The abnormal return for security i on day t, AR_{it}, is calculated:

$$(1)\ AR_{it} = R_{it} - a_i - b_i R_{mt},$$

where:

R_{it} = The return on security i for day t; and

a_i and b_i = The estimated ordinary least squares (OLS) market model intercept and slope coefficients, respectively, for security i, which describe the relationship between the returns of the security and the returns of the CRSP equally weighted market index for day t, R_{mt}.

Parameters a_i and b_i are estimated over a 250 day period ending 61 days prior to the offering announcement date.[4]

Statistical tests involving the abnormal returns assume that the individual abnormal returns are normal and independent across time and securities and are based on the following Z-statistic,

$$(2)\ Z = \frac{1}{\sqrt{N}} \sum_{i=1}^{N} \left[\frac{\sum_{t=t_1}^{t_2} AR_{it}}{\sqrt{VAR \sum_{t=t_1}^{t_2} AR_{it}}} \right]$$

where:

t_1 = The first day of the interval;

t_2 = The last day; and

N = The number of observations.

As in Mikkelson and Partch (1988), the variance of the sum of individual abnormal returns is used to adjust for the dependence created by our cumulating individual abnormal

[4] We also calculate abnormal returns based on parameters estimated from a post-estimation period and find results similar to those reported.

returns calculated with a single set of market model estimates of a_i and b_i. Variance of the cumulated abnormal return of security i is calculated:

$$(3)\ \mathrm{Var}\left[\sum_{t=t_1}^{t_2} AR_{it}\right] = V_i^2\left[T + \frac{T^2}{ED} + \frac{T^2(\bar{R}_{MT} - \bar{R}_M)^2}{\sum_{i=1}^{ED}(R_{mi} - \bar{R}_M)^2}\right]$$

where:

V^2 = The estimated residual variance from the market model regression for firm i;
T = The number of days in the event interval being examined and equals $t_2 - t_1 + 1$; and
R_{MT} = The average market return over ED days used to estimate the market model.

The hypothesis we tested for each subperiod is that the abnormal return is equal to zero.

Table 3—Event Study Excess Return Results (percent) and Z-values (in parentheses)[a]

Interval of Trading Days[b]	Total Event Period March 1982 to December 1989 Secondary Shelf Offerings NYSE & AMEX Offers	Secondary Shelf Offerings NASDAQ Offers	Secondary Traditional Offerings NYSE & AMEX Offers	Secondary Traditional Offerings NASDAQ Offers
AD -60 to AD -2	1.13 (0.18) N = 104	1.73 (-0.35) N = 49	2.38 (1.49) N = 84	3.65 (2.45) N = 76
AD -1 to AD	-1.34[c] (-4.50) N = 104	-2.15[d] (-4.71) N = 49	-2.86[c] (-9.16) N = 84	-3.73[d] (-9.64) N = 76
AD +1 to ID -1	0.62 (-0.11) N = 22	-4.73 (1.98) N = 5	-0.76 (-1.66) N = 79	-1.19 (-1.46) N = 76
ID	-0.21 (-0.83) N = 29	0.22 (-1.04) N = 6	-1.20 (-4.59) N = 84	-0.65 (-2.45) N = 76
ID +1 to ID +20	0.47 (0.98) N = 29	-3.01 (-0.55) N = 6	0.69 (1.12) N = 84	2.29 (2.91) N = 76

[a]The null hypothesis is that the average prediction error equals zero

[b]AD is the announcement date and ID is the offering date

[c]The average excess returns are statistically different for the shelf and the traditional offerings at the 0.01 level

[d]The average excess returns are statistically different for the shelf and the traditional offerings at the 0.05 level

EMPIRICAL RESULTS

Abnormal returns are estimated over the event period representing 60 days prior to the filing announcement of the equity shelf or traditional issue through the issuance date. The announcement date (AD) is identified as the earlier of two dates: the day the equity offering announcement is reported in the *Wall Street Journal* or the registration filing date from *Investment Dealers Digest*. The issuance date (ID) is also located in either the *Wall Street Journal* or the *Investment Dealers Digest*. The total event period is divided into five nonoverlapping subperiods: the preannouncement run-up or the days leading to the announcement period (AD -60 to AD -2); the two day filing announcement period (AD -1 and AD); the interim period or the day after the announcement to one day before the issuance (AD +1 to ID -1); the issuance event day (ID); and the post-issuance period (ID +1 to ID +20). Average excess returns separated by exchanges for the shelf and traditional samples and their associated test statistics are provided in Table 3.

Opposite of what we hypothesize, abnormal returns for the two day announcement period drop less for shelf than for traditional offers. There is a significant difference between the shelf and traditional secondary announcement reactions at the 0.01 level for offers on the NYSE and AMEX exchanges and at the 0.05 level for offers on the NASDAQ exchange. Bhagat, Marr, and Thompson (1985) report a less negative excess return at the two day announcement for primary shelf equity offers than primary nonshelf equity offers, but they do not find a significant difference between the announcement reactions. Results for the traditional secondary filings at the two day announcement are consistent with those reported by Hudson, Jensen, and Pugh (1993) for listed and NASDAQ firms.

Our evidence suggests there is not a market overhang problem for the secondary shelf offers. For the observations where the offer is verified, the interim period, issuance day, and post-issuance subperiods are similar; regardless of exchange, there is no significant difference between shelf and traditional offers at the 0.05 level. We could not identify in either the *Wall Street Journal* or *Investment Dealers Digest*, however, the first issuance date for the dribble out method. (This problem affects 118 out of 153 shelf filings reported.) Because there are apparently no differences in either shelf or traditional offerings according to exchange listing for the two day announcement period, we combine the shelf offerings and the traditional filings from each exchange for further analysis.

Summary statistics for the total shelf and traditional secondary offerings are reported in Table 4. Shelf offerings are separated according to whether they are nonunderwritten (dribble out method) or are underwritten (bought deal and/or fixed price method). All of the traditional filings are underwritten. We hypothesize that underwritten shelf offers should be similar to traditional offers, and our announcement returns support this conclusion. The 59 day run-up and two day announcement returns are similar for underwritten shelfs and underwritten traditional offers, while the returns for nonunderwritten shelfs appear to be less negative. We find that the variance of firms registering nonunderwritten shelf offers appears similar to that of firms using traditional registration and that the variance of firms underwriting their shelf filing is less than that of firms with traditional offers. It appears that Denis's (1991) conclusions from his study of primary industrial equity which indicate firms that use shelf registration will have less risk are based on a sample of shelf filings primarily composed of underwritten shelf offers. We find that the

Table 4—Summary Statistics of Shelf and Traditional Secondary Offers

	Secondary Shelf Offerings		Secondary Traditional Offerings
	Nonunderwritten	Underwritten	Underwritten
Mean two day abnormal return (%)	-1.43	-2.17	-3.27
Median two day abnormal return (%)	-1.11	-1.35	-3.08
	N = 118	N = 35	N = 162
Mean 59 day run-up (%)	1.98	-0.08	-0.33
Median 59 day run-up (%)	0.47	1.84	-0.15
	N = 118	N = 35	N = 162
Mean variance[a] (%)	0.08	0.04	0.07
Median variance (%)	0.06	0.03	0.05
	N = 115	N = 35	N = 143
Mean and median of the number of shares registered divided by the total number outstanding (%)	4.80	7.37	15.73
	2.40	2.40	10.69
	N = 117	N = 32	N = 160
Mean and median of the market value of equity just prior to registration in millions of dollars.	448.34	837.39	460.22
	202.27	495.62	223.58
	N = 118	N = 35	N = 162
Mean and median number of days between registration and offering	n.a.	23	17
	n.a.	8	11
		N = 35	N = 162

[a]The mean or median variance represents the mean or median of the variances of the market-model residuals over a 250 day period beginning 500 days prior to the offering announcement

size of the secondary shelf offers is smaller than traditional offers, with nonunderwritten shelf offers being smaller than underwritten shelf offers. Examining the market value of the equity of the firms registering underwritten shelf offers shows these firms are larger than the firms registering traditional or nonunderwritten shelf filings. When comparing underwritten shelf to underwritten traditional offers (as Denis indicates), only larger well-recognized firms appear to be able to use the shelf procedure. Contrary to Denis, smaller firms are offering nonunderwritten shelf offers, although there may be a certification problem present. Similar to Denis, we do not find a difference between the time it takes in bringing an underwritten shelf or traditional offer to market.

Cross-sectional regressions of abnormal returns for the two day announcement period are estimated using four independent variables:

1. Relative size of the offering (SIZE);
2. Cumulative abnormal return (CAR) representing a 59 day run-up prior to the announcement of the equity offer;
3. Variance (VAR) which is assumed to proxy investors' uncertainty about firm value; and
4. Type of registration (SH).[5]

[5] Although not reported, we analyze the Rule 415 trial period separately but find results similar to the total event period. We also analyze the sample of firms making secondary offers that meet the posttrial period registration requirements, with results consistent with those reported.

Variables one and two are examined because prior work has established their explanatory power (e.g., Asquith and Mullins, 1986; Masulis and Korwar, 1986). Also, there appear to be size differences, as shown in Table 4, between shelf and traditional offers. With VAR, we test the certification hypothesis to see whether the level of uncertainty about firm value before the offering is related to the two day announcement period price effect.

It is hypothesized that shelf and traditional filings react differently in the market. A market overhang problem is anticipated with shelf offerings that are underwritten or nonunderwritten because they are delayed offers. To examine whether there is a difference between shelf and traditional offerings, as reported in Table 2, we add a dummy variable SH to the regression analysis, where SH equals one if the filing is shelf registered, zero otherwise. In addition, interaction variables using SH are included in a separate regression to test whether there are differences in the coefficients of the other independent variables based on the offer filings as shelf or traditional.

Our regression analysis fails to find a market overhang problem associated with our sample of shelf filings. The market reaction to an announcement of a shelf offering is significantly less negative than that to traditional filings, as shown with cross-sectional regression (1) in Table 5. The dummy variable SH is positive and significant at the two day announcement, indicating less of a price drop associated with a shelf registered sec-

Table 5—Regression Results Using Two Day Abnormal Returns of Shelf and Traditional Secondary Offers (test statistics in parentheses)

	Total Event Period March 1982 to December 1989 Industrial Secondary Shelf and Traditional Offerings[a]			
	Underwritten and Nonunderwritten Offers		Only Underwritten Offers	
Variable[b]	(1)	(2)	(3)	(4)
Intercept	-0.02	-0.02	-0.02	-0.02
	(-5.18)	(-3.69)	(-3.70)	(-3.73)
SIZE	-0.02	-0.02	-0.02	-0.02
	(-1.32)	(-1.09)	(-1.43)	(-1.10)
SH*SIZE		-0.02		-0.14
		(-0.43)		(-1.63)
CAR	-0.04	-0.03	-0.03	-0.03
	(-2.79)	(-1.49)	(-1.45)	(-1.50)
SH*CAR		-0.02		0.02
		(-0.71)		(0.37)
VAR	-7.94	-14.50	-14.01	-14.50
	(-2.35)	(-3.24)	(-3.23)	(-3.27)
SH*VAR		16.37		8.94
		(2.36)		(0.41)
SH	0.01	0.00	0.00	0.01
	(2.85)	(0.37)	(0.61)	(0.83)
N	287	287	173	173
R^2	0.10	0.11	0.09	0.11
F-statistic	7.48	5.14	4.35	2.91

[a]Of the 287 underwritten and nonunderwritten observations used in the regressions, 141 are underwritten nonshelf, 32 are underwritten shelf offers and 114 are nonunderwritten shelf filings

[b]The variable SIZE represents the shares registered divided by the total number of shares outstanding; the variable CAR represents a 59 day cumulative abnormal return prior to the announcement; the variable VAR represents the variance of the market-model residuals over the 250 day period beginning 500 days prior to the announcement; and the variable SH represents a dummy variable where SH equals 1 if the offering is shelf registered and 0 otherwise

ondary equity offer. Similar to Masulis and Korwar (1986), we find a negative relationship between the stock price run-up and the two day excess returns at the announcement. Mikkelson and Partch (1988) interpret this negative relationship to indicate managers sell shares to take advantage of favorable markets. The relative size of the offer is not significant at the 0.05 level of confidence. This indicates that, given the range of relative sizes observed, larger offerings do not generate greater overhang. The proxy variable for firm risk is statistically significant; that is, a greater stock price drop is associated with firms having greater uncertainty surrounding their secondary offering of equity.

When we add the interaction variables using the dummy variable SH in cross-sectional regression (2), the proxy for firm uncertainty, VAR, is still negative and significant. It is interesting that the proxy interaction variable for shelf (delayed) offers is positive and significant at the 0.05 level, indicating less uncertainty associated with firms filing shelf offers. This evidence is consistent with Denis's (1991) contention that shelf filings are used by firms with lower risk where certification is less important. The evidence in Table 5 shows that managers can avoid at least part of the drop in stock price normally associated with the announcement of a secondary offer if their firm is well-known and they can file a shelf registration. We also find no difference in the relative size of the offers or in the preannouncement run-up between shelf and nonshelf offers.

In addition, we report in cross-sectional regressions (3) and (4) in Table 5 results for just the underwritten shelf and nonshelf offers. In this case, there is no difference between the two types of registration. The reported differences between shelf and traditional registrations reported in regressions (1) and (2) are driven by the nonunderwritten shelf offers. There does not appear to be any advantage to shelf registering instead of traditional registration if the offer is underwritten. This evidence shows that to avoid the stock price drop associated with the announcement of secondary offers, managers should shelf register and use the dribble out method.

We predict that the market reaction to the announcement of nonunderwritten shelf filings is more severe than with underwritten shelf filings because of the certification issue. To examine whether there is a difference between underwritten and nonunderwritten offerings, we add a dummy variable NONUNW to the regression analysis, where NONUNW equals one if the filing is nonunderwritten and zero otherwise. In addition, interaction variables using NONUNW are included to test whether there are differences in the coefficients of the other independent variables based on the offer filing being underwritten or not. Cross-sectional regressions are estimated for the shelf sample and reported in Table 6. Unexpectedly, we do not find a more severe market reaction associated with our sample of nonunderwritten filings. As shown in cross-sectional regressions (1) and (2) of Table 6, the market reaction to the announcement is the same whether the offer is underwritten or nonunderwritten. The only statistically significant variable at the 0.05 level shows the 59 day run-up is inversely related to the two day abnormal return. This again may indicate managers are trying to sell equity in a favorable market. It would appear from Table 4 and equation (2) in Table 6 that the only difference between underwritten and nonunderwritten offers is that nonunderwritten offers are smaller in size (although the coefficient on size is not significant at the 0.05 level). The insignificant positive coefficient of the variable that proxies firm risk indicates there is no certification problem.

Table 6—Regression Results Using Two Day Abnormal Returns of Underwritten and Nonunderwritten Shelf Secondary Offers (test statistics in parentheses)

Variable[b]	Total Event Period March 1982 to December 1989 Industrial Secondary Shelf[a] (1)	(2)
Intercept	-0.02	-0.01
	(-2.66)	(-0.58)
SIZE	-0.03	-0.15
	(-0.77)	(-1.83)
NONUNW*SIZE		0.16
		(1.67)
CAR	-0.05	-0.01
	(-2.84)	(-0.23)
NONUNW*CAR		-0.04
		(-0.88)
VAR	0.80	-5.56
	(0.14)	(-0.26)
NONUNW*VAR		6.29
		(0.28)
NONUNW	0.00	-0.01
	(0.60)	(-0.61)
N	146	146
R^2	0.07	0.09
F-statistic	2.52	2.01

[a]Of the 146 underwritten and nonunderwritten shelf observations used in the regressions, 32 are underwritten shelf offers and 114 are nonunderwritten shelf filings

[b]The variable SIZE represents the shares registered divided by the total number of shares outstanding; the variable CAR represents a 59 day cumulative abnormal return prior to the announcement; the variable VAR represents the variance of the market-model residuals over the 250 day period beginning 500 days prior to the announcement; and the variable NONUNW represents a dummy variable where NONUNW equals 1 if the offering is nonunderwritten and 0 otherwise

It appears that when the market knows managers will use the dribble out method under shelf registration, there will be less of a stock price reaction at the announcement of the filing. A possible reason for this smaller negative reaction is that the announcement of the filing may not convey the same degree of negative information that the announcement of underwritten shelf and traditional offers does. Announcements of underwritten shelf and traditional offers may signal overvaluation by the seller because the offer will be made shortly after the filing. In the shelf offering using the dribble out method, the announcement of the registration does not necessarily convey the same negative information because there is no reason to expect the shares will be sold immediately. The dribble out method indicates to investors the shares are priced correctly and sellers are willing to wait for their funds from the secondary sale. Our results show that sellers of secondary shares suffer a smaller stock price drop when their shares are sold if they are willing to allow the selling to take place over a potentially longer time frame. This indicates another possible reason shelf registration for secondary offers has declined: sellers are unwilling to wait for buyers to appear to sell their shares because they need the funds immediately.

CONCLUSION

Our paper compares the market reactions to announcements of secondary equity shelf filings and traditionally registered filings. A less negative market reaction associated with

shelf offers is found, indicating there is no market overhang problem. We show that certification is not a problem for firms using the shelf procedure. As indicated by Denis (1991), this reaction is expected if firms with lower risk not needing certification use shelf offerings. In addition, we find no certification problem when we compare the market reactions to announcements of underwritten and nonunderwritten secondary shelf offers. Our findings indicate there are situations where managers would act in shareholders' best interests by shelf registering secondary equity offers and using the dribble out method. It appears managers do not shelf register and use the dribble out method simply because selling shareholders want their proceeds from the sale immediately.

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