Unallocated Shelf Registration: Why Doesn't Everybody Use It?

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Abstract

We analyze the costs and benefits of unallocated shelf registration and explore why only a fraction of eligible firms that issue common equity take advantage of this streamlined process. We find unallocated shelf is most cost effective for firms with low information asymmetry. The market does not discount these firms' shares when managers register common equity on shelves. Firms pay lower gross spreads and access the market faster than do firms that use the traditional registration procedure. In contrast, the market deeply discounts the shares of high information asymmetry firms that choose to register and issue common equity off shelves.

> *Investment bankers are advising corporations to file shelf registrations now, rather than waiting until capital is needed. That's because the Securities and Exchange Commission is reviewing all public companies with plans to access the capital markets… This means a potentially lengthy review process with companies running the risk of registration being significantly delayed.…few of them have agreed to it [file shelf registrations] because of a stock overhang, where investors see the pending issue as potentially diluting the stock.*[1]

In 1992, the Securities and Exchange Commission (SEC) adopted a low-cost, streamlined process for raising capital, unallocated shelf registration. Unallocated shelf registration permits a firm to use a single registration statement to simultaneously register many types of securities, including common equity and debt, that it intends to issue over the succeeding two years. The firm can register these securities without specifying the amount of each security to be offered or the expected timing of offerings. Once the firm's registration statement is filed and approved by the SEC, the firm faces no regulatory delays when it issues securities. The purported advantages of unallocated shelf registration (which we refer to throughout the remainder of the paper as "shelf") include flexibility in the timing of sales, reduced regulatory uncertainty, and lower direct issuance costs.

Despite these advantages, only 20% of the equity that is eligible for shelf registration is issued using it. We ask why all firms that can use unallocated shelf registration do not do so. In this paper, we provide an in-depth analysis of the costs and benefits of using shelf to register and issue common equity. We investigate the types of firms that use unallocated shelf, and explore why only a fraction of eligible firms take advantage of this streamlined registration process.

Using a sample of seasoned equity offerings (SEOs) between 1992 and 2003, we find that unallocated shelf registration is a fast, low-cost means of raising common equity relative to the traditional registration procedure. Firms that use shelves to issue common equity take nine days to access the market, but firms that use the traditional registration procedure spend 45 days in registration. The average underwriting spread for unallocated shelf common equity issues is 3.8%, compared to 4.9% for traditional SEOs. When firms issue common equity off shelves, the average SEO discount is 2.1%, compared to a

[1] "Banks Urge Companies to File Shelves Ahead of Need," InstitutionalInvestor.com, 9/14/04.

discount of 2.6% for traditionally registered SEOs, a difference that is statistically significant at the 1% level.

There is, however, a potentially significant cost to registering common equity using unallocated shelf registration. Because the market expects managers to issue equity when it is overvalued, issuing common equity, regardless of registration choice, typically depresses firms' stock prices. On unallocated shelves, managers register up to two years of securities sales—sales that may or may not take place and that may or may not be equity—instead of only the exact amount of their next equity offering. Investors do not know how much will ultimately be issued from shelves or what type of securities will be offered. Investors risk entire shelves being taken down in the form of common equity. Because of this uncertainty, the market may discount share prices well ahead of announcements of actual equity offerings. Price drops that occur when firms file shelves are referred to as "market overhang."

On average, we find no evidence of market overhang in our sample. However, models of asymmetric information such as Meyers and Majluf (1984) and Meyers (1984) predict that stock price declines when firms announce plans to issue equity will vary among firms and be related to firm-specific asymmetric information. Therefore, we test whether registering equity on shelves results in high market overhang if there is high information asymmetry about firm value, or low or nonexistent market overhang for firms with low information asymmetry. The results show that high information asymmetry firms experience large, statistically significant declines in share price when managers register unallocated shelves. In contrast, firms with low information asymmetry experience no market overhang.

We anticipate that few firms will choose registration strategies other than those that are consistent with their information characteristics. If high information asymmetry firms register common equity on unallocated shelves, stock prices are likely to fall. And regardless of which registration strategy firms choose, underwriters will charge fees based on the certification, marketing, and distribution activities required to bring offerings to market. To the extent that high information asymmetry firms must spend more to bring offerings to market, shelf registration will not mitigate these costs. Our findings indicate

high information asymmetry firms choose the traditional registration procedure rather than shelf. Managers select a registration procedure that optimizes their firm's benefits relative to the costs.

We also examine the market response when managers issue common equity from unallocated shelves. The results show that high information asymmetry firms that use shelves have significantly more negative price reactions than do high information asymmetry firms that use the traditional registration procedure. The market's reaction is also more negative for high information asymmetry firms that use unallocated shelves than for low information asymmetry firms that use shelf. These findings suggest that using a shelf is not valuable for all firms, and that its value is related to firms' information characteristics. Our findings also suggest that managers base their registration choices on their firms' information characteristics and the expected market response.

The paper proceeds as follows. In Section I, we describe the details of securities registration. We discuss the potential costs and benefits of shelf relative to the traditional registration procedure. Section II describes our data set. Sections III and IV present our empirical analyses of the cost and benefits of shelf registration. Section V concludes.

II. Registering Common Equity Offerings

A. Traditional Registration Procedure

The Securities Act of 1933 requires firms that offer securities to the public to register them with the SEC. The traditional registration procedure stipulates that firms file registration statements that include preliminary prospectuses that specify information about the firm and the securities being offered for sale. The SEC's staff has the option of reviewing preliminary prospectuses for accuracy and completeness, and in some instances it requests changes. For example, according to the *Report of the Advisory Committee on Capital Raising Activity: July 24, 1996*, the SEC reviewed 14% of SEO filings during the period from January 1994 through December 1995. These staff reviews can take weeks or even months to complete. According to the same report, firms whose filings were reviewed went effective, on average, 32.1 days after the filing of initial preliminary prospectuses. Once the staff approves a

registration statement, declaring it effective, the firm is free to price and sell securities. Firms typically access the market as soon as possible thereafter. Following the sale of securities, the SEC requires firms to file pricing supplements within two days of sale to notify market participants of the exact terms of offerings.

B. Allocated Shelf Registration

In 1969, Congress commissioned the Wheat Report to address problems with the capital raising process. The report criticized the traditional registration procedure as being unnecessarily burdensome and costly. The SEC responded in 1982 by adopting Rule 415, a reform that allows firms to raise capital using allocated shelf registration. Allocated shelf registration permits firms to register a core prospectus that includes the maximum dollar amount of a single type of security that they "reasonably expect to be offered and sold within two years". For example, firms can register either debt or equity on a shelf. After SEC review, the SEC declares firms' shelf registration statements effective, and firms can then sell or take down securities with no further regulatory intervention or delay. Firms that want to further describe the exact securities they plan to sell can do so in preliminary prospectus supplements or in prospectus supplements. Firms must notify the SEC of final pricing information in pricing supplements within two days of sales.

It is important to note that there is no implicit or explicit guarantee that firms will actually raise the capital specified on their shelves. Thus, shelf registrants publicly declare they might raise capital, but they do not specify the actual amounts and timing of offerings. The intention behind allocated shelf registration was to reduce regulatory uncertainty and increase issuer flexibility in both securities design and the timing of sales. Because the shelf rule does not require firms to specify underwriter participation until securities are sold, underwriter competition is purportedly intensified, thereby reducing issuers' direct costs.

Following the introduction of allocated shelf registration, firms quickly began registering debt securities on shelves. By 1991, firms registered approximately 60% of all debt and preferred equity issued

on allocated shelves.[2] In contrast, less than 1% of common equity issued was registered on shelves. [3] Managers reportedly avoided registering common equity on allocated shelves, because they feared doing so would result in high levels of prolonged market overhang.[4] Most empirical studies of allocated shelf common equity offerings during this period, however, find little or no evidence of market overhang.[5] Denis (1991), which finds that use of allocated shelf registration by industrial firms for raising equity during this time was related to firm-specific characteristics,[6] suggests that a self-selection effect may confound the measurement of market overhang.

C. Unallocated Shelf Registration

In 1992 the SEC responded to firms' reluctance to register common equity on allocated shelves by permitting them to register many types of securities—debt, common equity, preferred equity, and others—on a single unallocated shelf registration statement. Under this process, firms do not need to specify the amount of each type of security that they plan to offer. Qualifying firms need only file a core prospectus specifying their potential financing needs over the subsequent two years and listing the securities they might want to issue. As with allocated shelves, firms publicly declare they might raise capital, but do not specify the amount to be raised. Unlike allocated shelves, the types of securities that firms can choose to issue are also uncertain. Relative to the traditional registration procedure, information about the possibility of common equity issuance is disseminated earlier to the market. We depict the two registration-procedure timelines in Figure I.

[Insert Figure I here.]

[2] See U.S. Securities and Exchange Commission Proposing Release No. 33-6943, 7/22/92; 1991 SEC *Annual Report*; and Denis (1991) for further discussion.

[3] Autore, Kumar and Shome (2004) find the use of equity shelf began increasing in 1997. They do not distinguish between allocated and unallocated shelves in their sample. Analysis shows, however, that most of the shelves were allocated shelves. Here we focus on unallocated shelf registration.

[4] Alternatively, managers of firms that need certification by underwriters may not choose to use shelves, because shelf registration might undermine the due diligence process (Denis (1991), Sherman (1999)).

[5] See Bhagat, Marr, and Thompson (1985), Jensen, Hudson, and Sullivan (1995), and Moore, Peterson, and Peterson (1986).

[6] Allen, Lamy, and Thompson (1990) find that large, profitable firms with low debt ratios and volatile capital structures were more likely to use allocated shelf registration to issue debt than use the traditional registration procedure. The study does not, however, investigate the causes of these relations.

In its Adopting Release 33-6964, the SEC expressed its hope that issuers would use this new, more flexible registration procedure for common equity. The purported benefits of issuing common equity using unallocated shelf are threefold. First, by registering common equity on unallocated shelves, managers avoid an SEC review of offerings at the time of sale and hence, regulatory uncertainty and the possibility of delay. Thus, firms using unallocated shelves should be able to fulfill their funding needs more quickly than would firms using the traditional registration procedure. Second, because firms avoid possible regulatory delays, they should be able to better exploit pricing opportunities in the market. Whether stock price movements arise from economy-wide or firm-specific sources, managers have incentives to issue common equity when stock prices are high.[7] Third, managers who register and take common equity off shelves should encounter a more competitive underwriting market and have lower direct issuance costs. Because firms that register core prospectuses typically have no immediate capital-raising needs, underwriters have less bargaining power over fees than they do when firms want to go to market quickly. When common equity is taken down, because many of the regulatory hurdles have already been met, due diligence is generally shorter and fees are lower. The result is that firms issuing common equity off shelves are likely to incur lower direct issuance costs than are firms issuing equity using the traditional registration procedure. Consistent with this argument, Bhagat, Marr, and Thompson (1985) and Blackwell, Marr, and Spivey (1990) document lower issuance costs for common equity offerings from allocated shelves in the early and mid-1980s.[8] Denis (1993), however, documents that some cost differences might arise from differences in the characteristics of the firms that choose to issue common equity off allocated shelves.

Potentially offsetting these benefits is the cost of market overhang. Models of capital structure such as Myers (1984) and Myers and Majluf (1984) show that the stock prices of firms are likely to fall

[7] Kidwell, Marr, and Thompson (1987) find no evidence of timing ability in debt offerings, although Thatcher and Thatcher (1988) and Kadapakkam and Kon (1989) document some benefit.

when they issue common equity, regardless of whether managers use unallocated shelf or the traditional registration procedure. Consistent with these predictions, prior research shows that stock prices fall by 2% to 4% when firms announce common equity issuances.[9] As previously discussed, placing common equity on unallocated shelves may exacerbate the cost of issuing equity that arises from information asymmetry.

Ambarish, John, and Williams (1987), Myers and Majluf (1984), and Cooney and Kalay (1993) show, however, that not all common equity issuances must connote bad news to the market, and that the market response to announcements of offerings should vary across firms. Extending the logic of these models to shelf, we anticipate that firms with high levels of information asymmetry will likely incur severe market overhang when registering common equity on shelves. Firms with low information asymmetry, however, should experience little, if any, market overhang. The market also should not respond negatively to common equity issuances if firms have valuable investment opportunities and limited free cash flow (Jensen (1986)). Because these firms have little financial slack, new investment is subjected to market scrutiny, and managers should invest only in profitable projects.

To date, there is limited research examining managers' choice of registration strategy. Previous studies show, however, that managers actively manage the security offering process in numerous other ways. For example, Booth and Smith (1986) show that managers choose high-quality underwriters as certification agents to mitigate the adverse impact of issuing common equity. Managers issue debt when interest rates are low and common equity when stock prices are high. Graham and Harvey (2001), in a survey of CFOs, document that 67% of managers admit that "the amount by which our stock is undervalued or overvalued by the market" was an important factor in their decision to issue common equity. Bayless and Chaplinsky (1996) documents firms are sensitive to information asymmetry in the market when raising capital because it affects the contracting costs due to adverse selection. Following

[8] Kidwell, Marr, and Thompson (1984, 1987) document reduced costs for issuing debt from allocated shelves. Hansen (1986), however, argues firms with low issuance costs under the traditional registration procedure may have preferentially adopted allocated shelf registration and continued to experience lower issuance costs. Consistent with this hypothesis, Allen, Lamy, and Thompson (1990) fail to find cost savings after accounting for differences in the types of firms using allocated shelves for debt offerings.

this line of research, we investigate whether information asymmetry affects firms' choice of registration strategy and whether firms benefit from having registration options.

II. Data

We examine the characteristics of firms that filed common equity on unallocated shelves between the date of unallocated shelf adoption, October 29, 1992, and December 31, 2001. Only firms eligible to register securities on Form S-3 can register securities on unallocated shelves. Eligibility for Form S-3 is restricted to firms that meet the following requirements:

1. The aggregate market value of voting shares held by nonaffiliates must be at least $75 million.
2. The firm must not have defaulted on debt, preferred stock or rental payments.
3. The firm must meet all SEC disclosure requirements for the last 12 months.
4. The firm's debt must be investment grade.

Because the financial information for REITS and financial services firms differs from that of other firms, we eliminate such firms from the sample. We also remove ADRs from the sample, because their filing requirements differ from those of domestic firms.

We then examine common equity takedowns from these shelves for the two-year period following their registration. (We note that given the 10/29/92 adoption date, issuers had only 71 days in 1992 during which to file shelves. None took common equity off shelves during this period.) We compare the characteristics of these firms with those of firms that were eligible to use unallocated shelf, but whose managers chose instead to use the traditional registration procedure to issue common equity.

Using information on unallocated shelf registrations and takedowns from SEC filings and Securities Data Corporation New Issues Database, we find that during the period we study, 438 issuers registered $680 billion of securities on 722 unallocated shelves that included common equity. Table I shows that firms registered $543 million of securities per unallocated shelf. In addition to common equity, 97% of the shelves included straight debt, 81% included preferred equity, 3% included convertible debt, 59% included convertible equity, and 40% included other types of debt. The table indicates that over

[9] See, for example, Asquith and Mullins (1986), Masulis and Korwar (1986), and Mikkelson and Partch (1985, 1986).

time, firms have increasingly registered unallocated shelves that include common equity, and that the size of unallocated shelves has risen.

[Insert Table I here.]

Table II presents information on takedowns from unallocated shelves that included common equity and SEOs that used the traditional registration procedure. From the 722 unallocated shelves, 226 firms took common equity off 373 times. An additional 65 shelves had no securities taken down. A total of 216 firms that registered common equity on unallocated shelves never issued common equity off their shelves.

[Insert Table II here.]

Of the unallocated shelves that had securities taken down, firms raised $84 billion in common equity, $549 billion in straight debt in 899 offerings, and $15 billion in preferred equity in 68 offerings. They raised $720 billion in 1,507 offerings of other classes of securities. Note that for most medium-term-note programs that are registered on shelves, firms file prospectus supplements that specify the amounts and general terms of the medium-term notes. When firms actually sell notes, they file pricing supplements indicating the exact terms of offerings. To avoid double counting note sales, we include information from prospectus supplements, rather than pricing supplements.

Issuers that were eligible to issue common equity from unallocated shelves registered $341 billion in common equity in 2,608 traditional registration offerings. The average size of these offerings is $131 million, compared to an average common equity takedown from a shelf of $224 million.

To investigate the types of firms that adopt different registration strategies, we use financial information from Compustat and the Center for Research in Security Prices (CRSP), and trade and quote data from the New York Stock Exchange's TAQ Database. Table III shows that shelf registrants have greater market capitalization and more total assets than firms that choose the traditional registration procedure. The median market capitalization of shelf registrants is $3 billion, but it is $592 million for other firms. Similarly, firms that registered common equity on unallocated shelves have total assets of

$2.9 billion, but other firms have total assets of only $148 million. To the extent that larger firms are followed by more analysts than are smaller firms and that analyst coverage dispels uncertainty about firm value, this finding suggests that shelf registrants have lower information asymmetry than do firms that use the traditional registration procedure.

[Insert Table III here.]

Table III also shows that shelf registrants are more financially leveraged than are firms that choose the traditional registration procedure. The median unallocated shelf firm has long-term debt-to-total assets of 28.3%, whereas the median firm that uses the traditional registration procedure has long-term debt-to-total assets of 12.3%. These results suggest that shelf registrants might need to raise equity rather than debt more than other firms. If true, the market may respond less negatively to common equity filings on shelves than to filings of traditional SEOs.

Firms that choose the traditional registration procedure to issue common equity have average stock-return volatility, measured as the standard deviation of daily stock returns calculated over the previous calendar year, of 3.4%. Shelf registrants have average stock-return volatility of 2.2%. The option to access the market quickly and take advantage of windows of pricing opportunity should be greatest for firms with high stock-return volatility. The results show, however, that shelf registrants, which presumably can access the market faster than can firms that use the traditional registration procedure, have lower volatility than these other firms. One possible interpretation is that the market reacts negatively when firms with high return volatility choose shelf, thus creating an incentive for the managers of these firms to use the traditional registration procedure.

We also compare market-to-book and free cash flow ratios. We follow Pilotte (1992) and Jung, Kim, and Stulz (1996) by defining market-to-book as [market value of common equity + total assets – book value of common equity] divided by total assets. We define free cash flow as [operating income after tax + non-operating income after tax – change in net working capital – net capx – interest expense – common stock dividends – preferred stock dividends] divided by total assets. The average market-to-book

ratio and free cash flow-to-assets of unallocated shelf registrants are 1.69% and -11.1%, respectively, but 3.93% and -29.3% for firms that use the traditional registration procedure. Firms using the traditional registration procedure have stronger investment opportunities, but less financial slack than firms using shelf. Shelf registrants are also more profitable than these other firms. The average return on equity of unallocated shelf firms is 10.81% and 9.36% for traditional SEO firms.

Following Copeland and Galai (1983), Glosten and Milgrom (1985), Corwin (2003), and Wu (2004), we measure information asymmetry as percentage bid-ask spread. Table III shows that shelf registrants have lower percentage bid-ask spreads, measured over the calendar month before the event day, than do firms using the traditional registration procedure. Firms that use unallocated shelf have percentage bid-ask spreads of 0.55%. Firms that use the traditional registration procedure have percentage spreads of 1.50%. This difference is statistically significant at the 0.0001 confidence interval using both t- and Kruskal-Wallis tests. The finding suggests that firms with high information asymmetry prefer to use the traditional registration procedure, rather than shelf.

Theoretical models of bid-ask spreads decompose spreads into order processing, inventory, and adverse selection components. Empirical estimates of these components are often outside plausible bounds, making decompositions difficult to implement (Clarke and Shastri (2000)). Therefore, in our multivariate tests to isolate the adverse-selection or information asymmetry component, we control for liquidity by including share turnover, rather than by decomposing spreads. Table III indicates that turnover, which we define as daily trading volume as a percentage of shares outstanding measured over the 60 trading days preceding the filing of a registration statement, is lower for shelf registrants than for firms that raise equity using the traditional registration procedure. This finding may be due in part to shelf registrants preferentially listing on the NYSE. Firms that list on the NYSE typically have lower reported trading volume, because trades are reported only once, but trades may be reported multiple times in the NASDAQ broker market. Table III shows that 80% of firms that register common equity on shelves are listed on the NYSE, but only 31% of firms that use the traditional registration procedure are listed there.

In addition to measuring information asymmetry using percentage bid-ask spread, we use two other metrics for information asymmetry. Following Corwin (2003), we use firm size, which we define as market capitalization on the day before the offer. Second, we use the dispersion of analyst earnings forecasts, obtained from the IBES database. Under both measures our analyses produce qualitatively similar results to those using percentage bid-ask spread. We present results, however, using only bid-ask spread. Because firm size captures a number of economically important concepts besides information asymmetry, it is not the best measure of information asymmetry for this study. We do not report results using analyst forecast dispersion, because it significantly truncates our sample due to a selection bias in the reporting of analyst coverage of firms.

III. Univariate Analyses of Costs and Benefits of Unallocated Shelf Registration

A. Costs of Registering and Issuing Common Equity from Shelves

The cost of using unallocated shelf potentially includes market overhang when core prospectuses are filed and downwards pressure on share prices when equity issuances are announced. The cost of the traditional registration procedure is limited to the market's response when share sales are disclosed. To compare the cost of using unallocated shelf with that of using the traditional registration procedure, we compare the cumulative abnormal returns (CARs) around shelf registration and common equity takedown dates with the CARs around traditional equity registration dates.

In Panel A of Table IV, Shelf Registration CAR is defined as the four-day (day -1 to day +2) CAR around the earlier of filings of unallocated shelves and filing announcements. We define Equity TD CAR as the four-day CAR around the earlier of the announcement of a takedown, the filing of a prospectus with the SEC, and the offering date. The Combined Shelf Registration and Equity TD CAR is the sum of the four-day CAR at the first indication of a filing of an unallocated shelf and the four-day CAR at the first indication of a common equity takedown off the shelf. For firms that use the traditional registration procedure, we define the event day as the earlier of when they first file a preliminary prospectus or announce an offering. We measure CARs as returns in excess of the CRSP

NYSE/NASDAQ/Amex value-weighted index returns and collect press announcements from The New York Times and The Wall Street Journal.

[Insert Table IV here.]

Panel A of Table IV shows the mean (median) CAR when firms file shelves is -0.24% (-0.16%), which is not statistically different from zero. The results show no evidence of market overhang. This result is consistent with the argument advanced by Heron and Lie (2004) that shelf registrations convey less unfavorable information than traditional offerings, and thus the market reacts less negatively.[10] Alternatively the result might be due to the negative reaction to the presence of common equity on shelves being offset by a positive market reaction to the presence of debt. The reactions could cancel each other out, resulting in no market overhang.

Our analysis thus far ignores differences in firm characteristics. Based on the results of previous research, we anticipate that the market response to unallocated shelf filings should be negatively related to information asymmetry. To test this relation, we divide firms into quartiles based on their percentage bid-ask spreads. Because spreads decline over time, we define new quartile breaks each calendar year. We also partition the calendar year 1997 into two periods around the date when minimum tick sizes changed from eighths to sixteenths.

When we partition the data by information asymmetry, we find that market overhang is related to firm-specific information asymmetry. For high information asymmetry firms that file unallocated shelves, market overhang is severe. In Table IV, Panel B shows the mean (median) CAR when firms file them is -2.10% (-1.86%). In contrast, the mean (median) CAR when low information asymmetry firms file shelves is just -0.24% (-0.22%). This decline is not statistically different from zero. The Kruskal-Wallis test indicates statistically significant differences in distributions across quartiles.

We next examine the market's reaction when firms issue common equity and present the details in Table IV. Panel A shows that the mean (median) CAR when firms take common equity off shelves is -1.35% (-1.42%). When firms use the traditional registration procedure, they experience a mean (median)

CAR of -2.05% (-2.49%). The difference in the market's reaction to the different registration procedures is not surprising, because the firms that take common equity off shelves have already informed the market of the possibility of equity issuance (and therefore may be experiencing market overhang).

When we combine the CARs for firms that file shelves and take down common equity, we find the mean (median) CAR is -1.72% (-1.64%). The median combined CAR is statistically less negative than is the CAR when firms use the traditional registration procedure. Overall, the results show that using shelves is less costly in terms of market reaction than is the traditional registration procedure.

As previously discussed, the market's reaction to shelf registration and common equity takedown should be negatively related to information asymmetry. In Table IV, Panel B, high information asymmetry firms that choose to take common equity off shelves are further discounted by the market. The mean (median) CAR at common equity takedown is -1.26% (-1.56%), for a mean (median) combined CAR at shelf filing and takedown of -3.76% (-4.34%). When information asymmetry is low, both the mean and median CARs at equity takedown are -1.07%, for mean and median combined CARs at shelf filing and takedown of -1.07%. The Kruskal-Wallis test indicates statistically significant differences in distributions across quartiles. Again, we find a negative relation between combined market reaction and information asymmetry.

By comparison, the mean (median) CAR for traditionally registered SEOs in the high information asymmetry group is -1.25% (-2.50%), which is both economically and statistically less negative than -3.76% (-4.34%). The mean (median) CAR for low information asymmetry firms that use the traditional registration procedure is -2.14% (-2.09%). It is economically and statistically significantly more negative than the mean (median) combined CAR for low information asymmetry firms at shelf filing and takedown of -1.07% (-1.07%). Thus, for firms with low information asymmetry, unallocated shelf registration imposes lower costs than does the traditional registration procedure, but for firms with high information asymmetry, shelf is more costly.

[10] Heron and Lie (2004) examine 256 allocated and unallocated shelves over the period 1980 through 1998.

For firms using the traditional registration procedure to issue common equity, we find the market's reaction is not related to information asymmetry. The Kruskal-Wallis test indicates no differences in distributions across quartiles. This result eliminates liquidity as an explanation for the cross-sectional differences in market reaction to shelf registrations. If liquidity was driving the results, we should also observe cross-sectional variation in spreads for traditional SEOs. An interpretation is that the traditional registration procedure, by design, mitigates information asymmetry. Shelf registration, on the other hand, was not intended to resolve information asymmetry, but rather to provide a quick, low cost means of raising capital.

B. Benefits of Issuing Common Equity from Shelves

The purported benefits of unallocated shelf registration, which accrue at the time of equity issuance, are a minimization of the costs of issuing equity. The benefits of using shelf to issue equity potentially include paying lower underwriter fees, incurring smaller SEO discounts, accessing the market faster, and improving managers' timing ability relative to using the traditional registration procedure. Table V contains details of the costs for both shelf and traditional equity issuers.

Table V shows the average gross spread for common equity takedowns from shelves is 3.8%, but the gross spread for common equity issuances using the traditional registration procedure is 4.9%, a difference that is statistically significant at the 0.0001 level. The gross spreads of shelf registrants do not include any fees paid when they register core prospectuses. However, interviews with investment bankers and shelf registrants indicate these expenses are generally negligible, and thus gross spreads are a reasonable proxy for total fees.

[Insert Table V here.]

A second cost of issuing equity is the price give-up required to place offerings. In Table V, we compare the average price discount of common equity takedowns to that of traditional SEOs. We compute SEO Discount as the offer price relative to the closing price the day before the offering. When firms issue common equity off shelves, we find offerings are priced 2.1% below the previous day's

closing price whereas traditional SEOs are priced 2.6% below. These findings suggest that shelf issuers do not discount their shares as much as traditional SEO issuers.

Table V also shows that shelf registrants that issue common equity take nine days to access the market, but firms that use the traditional registration procedure spend 45 days in registration. This difference is statistically significant. Thus firms that take common equity off shelves access the market faster than do firms that use the traditional registration procedure.

Avoiding unanticipated regulatory delays should also allow managers to exploit short-term pricing opportunities. We, therefore, anticipate that firms taking common equity off unallocated shelves do so at relatively high prices compared to traditional SEOs. We create a variable, Price Percentile, to capture managers' exploitation of pricing opportunities. For firms that issue common equity off shelves, we use daily closing prices to measure the price percentile at which they issue common equity, beginning with the date at which they file a core prospectus and continuing through the next two years. We anticipate that if managers can take common equity off shelves for two years, they will try to exploit pricing opportunities over that period. For firms that use the traditional registration procedure, we subtract 267 days from the date that firms file their first preliminary prospectus. We select 267 days, because that is the average length of time between core prospectus filings and common equity issuances off shelves. We then measure the price percentile at which the firm issues common equity over the next two years. The idea is that managers anticipate exploiting pricing opportunities over some time horizon. To compare the price exploitation activities of managers who use the traditional registration procedure to those of managers who file shelves, we hold duration constant.[11]

Table V shows that firms profit from pricing opportunities by using both unallocated shelf and the traditional registration procedure. Firms that use unallocated shelves do so at a price in the 69th percentile. This percentile is statistically greater than the 50th percentile (p-value 0.0001, not tabled), which is what we would expect if firms price randomly over the period. However, the results indicate that

[11] We use price percentile rather than price run-up or pre-offer return, because price percentile implicitly controls for cross-sectional variations in stock-return volatility.

firms that use the traditional registration procedure price in the 76th percentile. Firms that use unallocated shelf do not exploit market timing opportunities as vigorously as do firms that use the traditional registration procedure. Consistent with these results, Heron and Lie (2004) find little evidence of market timing ability for shelf issuers. They conclude that shelves are used to fulfill capital immediacy needs rather than exploit temporary pricing opportunities.[12]

IV. Multivariate Analyses of Costs and Benefits of Unallocated Shelf Registration

The univariate results demonstrate that the characteristics of firms that file shelves differ from those that use the traditional registration procedure. They also show that firms experience different levels of costs and benefits from the two registration options. Here we further examine these results in multivariate settings.

A. Selection Bias

We start by examining the market's reaction to unallocated shelf registrations, correcting for a potential selection bias in the type of firm that chooses to use shelf. We estimate a Heckman two-stage model, where the first stage estimation is a probit model of the choice of using shelf versus traditional registration. The results are presented in Column 1 of Table VI. The dependent variable, Shelf Registration, is an indicator variable equal to one if a firm files an unallocated shelf including equity, and zero if it raises common equity using the traditional registration procedure.

[Insert Table VI here.]

The independent variables consist of information asymmetry when shelves are filed and stock-return volatility. We expect that shelf usage is negatively related to information asymmetry and positively related to stock-return volatility. We anticipate that Shelf Registration is positively related to investment opportunities, as measured by the market-to-book ratio, and negatively related to free cash flow. We control for firms' exchange listing, share turnover, firm size, leverage, industry, and calendar year. To control for the impact of differences in asset size on the probability of shelf usage, we include

[12]To the contrary, based on pre-offering price run-ups, Autore, Kumar and Shome (2004) document that allocated shelf issuers have superior timing ability.

firm size, as measured by the log of assets. We also control for firm leverage, which we measure by total debt divided by total assets. This variable captures the ability of firms to raise debt rather than having to resort to common equity (Galai and Masulis (1976)). We control for one-digit SIC and include calendar year indicators.

The results in Table VI, Column 1 show that the likelihood that firms register common equity on unallocated shelves depends on the potential costs and benefits from doing so. We find that firms with low information asymmetry are more likely to register common equity on unallocated shelves than use the traditional registration procedure. In terms of benefits, we find that stock-return volatility and the likelihood that firms use shelf are positively related. Thus, the firms we anticipate would benefit the most from the pricing option are more likely to use shelf. This finding is consistent with results presented for allocated shelves in Autore, Kumar and Shome (2004).

Contrary to our expectation, the results show that investment opportunities is not related to unallocated shelf use. Shelf use, however, is negatively related to free cash flow. When financial resources are tight, the market does not appear to interpret common equity issuances as negative signals about firm value, and thus firms are willing to use shelf. Firms that are listed on the NYSE are more likely to use shelf than are firms listed on NASDAQ. Our results also indicate that firm size and leverage are positively related to shelf use. Firms that are relatively large and therefore more likely to have deep analyst coverage and low information asymmetry are more likely to use unallocated shelves than are smaller firms. Similarly, firms with high financial leverage are more likely to use shelves. It appears they may do so, at least in part, because they have few options for additional debt issuance, and so the specter issuing equity does not send a negative signal to the market.

B. Multivariate Analyses of the Costs of Unallocated Shelves

Table VI, Columns 2-4 show the second stage estimations of market reaction to shelf usage controlling for the selection bias. In Column 2 we examine the impact of information asymmetry on the market's reaction to the registration of common equity on core prospectuses controlling for firm-specific

characteristics. The dependent variable, Shelf Registration CAR, is defined as the four-day CAR around the earlier of the filing of unallocated shelves and filing announcements. We include the following independent variables: Information Asymmetry (Shelf); Exchange Listing; Turnover; Investment Opportunities; Free Cash Flow; and stock-return volatility (Volatility). Following Krasker (1986), we also control for the size of shelves. Issuances of new shares can create permanent price pressure if demand curves are downward sloping or temporary price pressure of issues causes liquidity shocks. We measure shelf size (Shelf Amount) as the total dollar amount of securities registered on unallocated shelves. We control for the percentage of securities registered on shelves that can dilute common equity (Equityness). We anticipate that the market will react negatively to unallocated shelves that have a large proportion of securities that can dilute firms' common equities.

Consistent with Myers and Majluf (1984), the results indicate the stock market's reaction is significantly and negatively related to information asymmetry. When information asymmetry is large, the market revises its estimate of firm value downwards. The results indicate no relation between market returns and investment opportunities or free cash flow. Firms' opportunities and financial slack do not appear to affect the market's reaction to the filing of shelves.

The market's reaction is positively and significantly related to Lambda, indicating that market response is related to firms' choice of registration strategy. Conditional on whether a firm chooses to file a shelf containing common equity, the CAR at announcement is significantly less negative for shelf filers than for traditional SEO issuers.

We also test if the market anticipates whether firms will take common equity off shelves in the future (the results are not tabled). We re-estimate the second stage of the Heckman model and include an indicator variable that equals one if a firm takes common equity off its shelf, and zero otherwise. We find no evidence the market systematically discounts the price of shares of firms that later take down equity.

The estimations shown in Columns 3 and 4 of Table VI examine the market response at the time of the common equity takedown and the combined return at the filing of shelves and equity takedowns

and include only the common equity offerings from unallocated shelves. In Column 3, we define Equity TD CAR as the four-day CAR around the earlier of the announcement of a takedown, the filing of a prospectus with the SEC, and the offering date. The Combined Shelf Registration and Equity TD CAR in Column 4 is the sum of a four-day CAR at the filing of an unallocated shelf and the four-day CAR at the first indication of a common equity takedown off the shelf.

In Table VI, Column 3, we include as independent variables information that the market can observe when core prospectuses are filed: Information Asymmetry (Takedown), Exchange Listing, Turnover, Investment Opportunities, and Free Cash Flow. We also use independent variables reflecting information about specific common equity offerings. These variables are Proceeds Raised, Gross Spread, Days in Registration, Overnight, and Price Percentile. We anticipate that CARs is negatively related to Proceeds Raised and fees charged by investment banks as a percent of offerings (Gross Spread). Large offerings tend to exert downward pressure on share prices, and in this setting, gross spread reflects the difficulty of underwriting an issue, because investment banks charge more for facilitating difficult offerings.

The relation between the market's reaction and Days in Registration is ambiguous. Slow offerings provide market participants time to assimilate information, potentially mitigating an adverse market response. Managers are also less likely to be able to exploit short-term pricing opportunities in slow, rather than fast, offerings. In either case, the market should respond less favorably to quick offerings from shelves than slow offerings. On the other hand, long marketing periods can indicate that underwriters are having difficulties placing securities. If this effect dominates, the market will respond less favorably to slow offerings from unallocated shelves than quick offerings. We expect a negative relation between CAR and whether managers take offerings to market overnight. If there is little or no advance notice of issues, offerings will surprise market participants.

One of the costs of issuing equity is that the market expects managers to issue equity when prices are high. If managers aggressively exploit pricing opportunities in this manner, the market should respond

negatively. We include the Price Percentile of the actual offering to capture managers' timing ability. Price Percentile should be negatively related to market reaction.

Column 3 of Table VI shows that when shares are issued, there is no statistically significant relation between the market reaction and information asymmetry. It appears a firm's information asymmetry is already impounded in its share price. As before, we control for share liquidity, as reflected by firms' exchange listing and share turnover. The results indicate that the market responds more positively to common equity issuances by firms that are listed on the NYSE than to offerings by NASDAQ firms. Again, this result can arise from trades being counted multiple times for firms listed on NASDAQ and from the market responding negatively to offerings by NASDAQ firms.

The market's reaction is positively related to investment opportunities. When firms' investment opportunities are good, the market responds positively to issuing equity from shelves. Consistent with Jensen (1986), the market responds negatively when firms have financial slack. Contrary to the predictions of information and price pressure models, the results indicate that the market's reaction to takedowns is positively related to proceeds raised. One interpretation is that large issues reduce uncertainty about firms' future use of shelves, and the market values such resolution of uncertainty positively.

The market's reaction is negatively related to gross spread. When offerings are difficult to transact, the market discounts stock prices. We find no relation between market response around common equity takedowns and either the time spent in registration or whether shares are placed overnight. The market's reaction is negatively related to the price percentile at which stock is issued. The market responds more negatively when managers aggressively exploit pricing opportunities. The market's reaction is, however, positively and significantly related to Lambda. Conditional on a firm choosing to file common equity on a shelf, the CAR when equity is taken down is significantly less negative for shelf filers than for traditional SEO issuers.

In the estimation in Column 4 of Table VI, we include both Information Asymmetry (Shelf) and Information Asymmetry (Takedown). Because we are modeling the combined CAR, we consider the effect of information asymmetry when shelves are registered as well as when common equity is taken down. Having done so, we do not find a relation between the combined CAR and information asymmetry at either time. One interpretation of this result is that the effect of information asymmetry on market response is fully captured in firms' registration choices; i.e., firms choose registration strategies that are consistent with their information characteristics and so there is no residual information. Market response and investment opportunities are positively related, but market response is negatively related to free cash flow.

The results show the combined CAR is positively related to Gross Spread and Days in Registration. Stock prices fall when firms issue common equity that is difficult and costly to underwrite, but increase when the market has time to assimilate information. The results show that the combined return is also positively related to Lambda. The CAR when common equity is taken down is significantly less negative for shelf filers than for traditional SEO issuers, if these filers choose to file shelves containing common equity.

C. Multivariate Analyses of the Benefits to Unallocated Shelves

In Table VII we examine in multivariate settings whether issuers receive benefits from issuing equity off shelves relative to using the traditional equity registration procedure. The dependent variables in the estimations in Table VII include Gross Spread, SEO Discount, Days in Registration, and Price Percentile. In each of the estimations, we control for Information Asymmetry, Exchange Listing, Turnover, Volatility, industry, and calendar year. Where appropriate, we also control for market condition, as measured by the S&P 500 Price Percentile, Proceeds Raised, Dilution, and whether offerings are offered overnight. We calculate the S&P 500 Price Percentile for each offering as the percentile at which the S&P 500 traded over the same period as the offering's Price Percentile. In

Columns 1, 3, 4, and 5, we include Choice, which equals one if a firm issues common equity from an unallocated shelf, and zero if it uses the traditional registration procedure.

[Insert Table VII here.]

The results in Column 1 of Table VII indicate that Gross Spread is positively related to Information Asymmetry and Volatility, as well as the S&P 500 Price Percentile and Dilution. When the value of firms are uncertain, offerings are difficult to place (as evidenced by high return volatility or being relatively large) or markets are hot, underwriters demand high fees. Gross Spread is negatively related to Proceeds Raised, evidence of at least some fixed costs in the underwriting business. The negative relation between Gross Spread and Overnight is consistent with overnight offerings requiring relatively few underwriter resources. Importantly, we find that Gross Spread is positively related to Choice. Shelf registrants pay lower fees when they issue common equity than issuers that use the traditional registration procedure.

We next estimate a Heckman two-stage model of the determinants of Gross Spread, correcting for the potential selection bias in the type of firm that chooses to use shelf. The first stage estimation is the probit model presented in Column 1 of Table V. The results of the second stage estimation are shown in Column 2 of Table VII. In contrast to the dependent variables in the estimations in Columns 3, 4, and 5 of Table VII that represent firm choice (e.g. SEO Discount, Days in Registration, and Price Percentile), Gross Spread in Column 2 represents underwriters' fee responses, given firms' and offerings' characteristics and firms' registration choices. Note that the second stage estimation includes only equity issuances off shelves. In the OLS estimations in Table VII, all common equity offerings (whether they are registered using the traditional or shelf registration procedures) are included.

The results indicate that Gross Spread is negatively related to Proceeds Raised and Overnight. The market's reaction is also negatively and significantly related to Lambda, where Lambda is the inverse Mills Ratio calculated from the first stage probit model. This finding indicates that Gross Spread is related

to firms' choice of registration strategy. Shelf filers pay significantly lower gross spreads than traditional SEO issuers.

In Columns 3, 4, and 5 of Table VII, we examine whether shelf filers pay lower price discounts, spend less time in registration, and are able to exploit short-term pricing opportunities better then traditional equity issuers. The results in Column 3 show no differences in SEO discount between shelf and traditional equity issuers. In contrast, Column 4 indicates that shelf registrants spend less time registering offerings than firms that use the traditional registration procedure. This result is not surprising, given that the traditional registration procedure does not allow firms to issue overnight or quick-fuse offerings. Finally, the results in Column 5 of Table VII show that shelf registrants do not exploit pricing opportunities in the market any better than traditional equity issuers. Taken together, these results suggest the benefits that accrue to firms that issue common equity off shelves, which include lower gross spreads and faster access to market, are in fact the benefits that the SEC sought to create.

V. Conclusion

Overall, our evidence shows that unallocated shelf registration is valuable for some, but not all firms. We find that shelf registrants pay lower gross spreads and access the market faster than similar firms that register common equity using the traditional registration procedure. Firms with low information asymmetry do not appear to experience significant costs when registering common equity on shelves and the market response when common equity is taken off shelves is minimal. In contrast, firms that have high information asymmetry but choose to register and issue common equity off shelves incur high market overhang and significantly negative abnormal returns when issuing common equity off shelves. It appears that shelf is not cost effective for these firms.

Fama and French (2004) document firms with high information asymmetry issue low information-specific common equity, such as employee stock options and mergers via exchanges of stock, rather than public equity. They conclude firms can issue common equity with little adverse market impact, but high information-asymmetry firms must choose issuance venues where inside information

cannot be exploited. Here we document firms may also mitigate the impact of high information asymmetry on share price through registration strategies. High information asymmetry firms will preferentially choose the traditional registration procedure to issue common equity, whereas low information-asymmetry firms will select unallocated shelf registration.

The SEC took nearly 25 years to deregulate the equity registration system in a way that issuers were willing to use. The Commission's hesitation to deregulate more quickly harkens back to its mandate to protect investors through issuers' provision of timely, accurate, and easily accessible information. Thus, the SEC continually wrestles with a trade-off between the benefits of deregulation and its congressionally legislated mandate to protect investors. Both the proposing and adopting releases for the allocated and unallocated shelf rules query whether investors can get timely and accurate information about issuers and their offerings under deregulated registration systems. After much deliberation and several iterations, the SEC specified the current eligibility requirements. In hindsight, the SEC need not have been so concerned. The results of our study suggest the market is a harsher judge and jury than the SEC: Firms with high information asymmetry, even if they are eligible for shelf, experience large stock price declines if they register common equity on unallocated shelves. The result is that few firms with high information asymmetry choose to use unallocated shelves to issue common equity. The market demands that high information asymmetry firms choose a registration strategy that compels them to access the market more slowly and with more disclosure.

Our results also indicate that information asymmetry is important in capital raising, and that it has a direct impact on the cost of raising capital. We demonstrate that the market responds strongly to firms' information characteristics when firms raise common equity. In turn, firms' choice of registration strategy is determined by the market's expected reaction. Only those firms with low information asymmetry can afford to register common equity on shelves, thus taking advantage of the benefits of unallocated shelf.

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Traditional Registration Procedure

File Preliminary Prospectus/Red Herring — Offer — File Pricing Information

Unallocated Shelf Registration Procedure

< ----------*Market Overhang Period*---------->

File Core Prospectus — File Preliminary Prospectus/Red Herring — Offer — File Pricing Information

Figure I: The figure shows the sequence of events for filing registration statements and issuing securities using traditional and unallocated shelf registration procedures.

Table I: Unallocated Shelf Registration

The table shows the characteristics by year of 722 unallocated shelf registrations that occurred between 1992 and 2001. "# Shelves Filed" is the total number of unallocated shelves filed that included equity, "Shelf Amount" is the median amount of capital registered on unallocated shelves, "Debt" is the percentage of unallocated shelves that included debt as well as common equity, "Preferred Equity" is the is the percentage of unallocated shelves that included preferred equity as well as common equity, "Convertible Debt" is the percentage of unallocated shelves that included convertible debt as well as common equity, "Convertible Equity" is the percentage of unallocated shelves that included convertible equity as well as common equity, and "Other Debt" is the percentage of unallocated shelves that included other types of debt (not including straight and convertible), as well as common equity.

				Other Securities Included on Shelf				
Year	# Shelves Filed	Median Shelf Amount ($MM)	Total Shelf Amount ($MM)	Debt	Preferred Equity	Convertible Debt	Convertible Equity	Other Debt
1992	4	$225.0	$950	100.0%	100.0%	0.0%	50.0%	25.0%
1993	45	$500.0	$24,673	95.6%	75.6%	6.7%	24.4%	26.7%
1994	68	$312.5	$36,359	100.0%	86.8%	1.5%	27.9%	22.1%
1995	54	$300.0	$26,447	100.0%	87.0%	1.9%	24.1%	25.9%
1996	59	$400.0	$29,782	98.3%	69.5%	8.5%	33.9%	27.1%
1997	79	$600.0	$67,183	94.9%	78.5%	3.8%	69.6%	48.1%
1998	105	$500.0	$94,292	97.1%	81.9%	1.9%	69.5%	44.8%
1999	105	$800.0	$108,964	96.2%	78.1%	1.0%	72.4%	42.8%
2000	86	$1,000.0	$127,489	96.5%	86.0%	1.2%	80.2%	48.8%
2001	117	$999.0	$164,254	96.6%	83.8%	4.3%	76.9%	48.7%
Full Sample	722	$542.8	$680,393	97.1%	81.3%	3.0%	59.3%	39.8%

Table II: Unallocated Shelf Takedowns and Traditional SEO Filings

The table shows the characteristics by year of 2,847 unallocated shelf takedowns and 2,608 non-shelf SEOs that occurred between 1992 and 2003. "# Common Equity TDs" is the number of common equity issuances from unallocated shelves. "$ Common Equity TD" is the mean amount of common equity taken off unallocated shelves. "# Debt TDs" is the number of debt issuances from unallocated shelves. "$ Debt TD" is the mean amount of debt taken off unallocated shelves. "# Preferred Equity TDs" is the number of preferred equity issuances from unallocated shelves. "$ Preferred Equity TD" is the mean amount of preferred equity taken off unallocated shelves. "# Other TDs" is the number of issuances of convertible debt, convertible equity, other debt, and other equity from unallocated shelves. "$ Other TD" is the mean amount of other securities taken off unallocated shelves. "# SEOs Filed" is the number of SEOs using traditional registration procedures. "$ SEO" is the mean amount of equity issued using traditional registration procedures.

	Securities Taken Off Unallocated Shelf								Traditional SEO Registration	
Year*	# Common Equity TDs	$ Common Equity TD ($MM)	# Debt TDs	$ Debt TD ($MM)	# Preferred Equity TDs	$ Preferred Equity TD ($MM)	# Other TDs	$ Other TD ($MM)	# SEOs Filed	$ SEO ($MM)
1993	12	$130.0	27	$311.0	12	$107.9	73	$221.9	273	$77.4
1994	15	$134.3	37	$278.9	11	$129.6	80	$217.4	177	$73.3
1995	29	$48.7	57	$256.5	4	$99.5	105	$182.2	300	$101.6
1996	14	$184.9	61	$322.6	6	$219.9	87	$283.4	355	$100.9
1997	26	$184.1	99	$780.0	3	$178.3	142	$615.5	347	$94.7
1998	39	$233.4	162	$509.9	11	$180.5	235	$434.5	227	$126.9
1999	59	$219.4	108	$489.2	12	$287.5	196	$393.2	261	$195.7
2000	58	$358.3	78	$587.8	4	$437.5	159	$505.6	269	$221.5
2001	77	$280.3	179	$908.3	3	$600.0	291	$703.7	171	$158.2
2002	39	$147.9	86	$850.0	2	$300.0	135	$658.8	208	$189.3
2003	5	$264.3	5	$429.2	0	$0.0	4	$437.5	20	$94.2
Full Sample	373	$224.8	899	$611.1	68	$214.1	1,507	$477.7	2,608	$130.8

Table III: Firm Characteristics and Registration Strategies

The table shows the mean and median characteristics of our sample of shelf and traditional SEO issuers between 1992 and 2003. "Market Capitalization" is the market value of common equity and "Total Assets" is the book value of total assets. "Long-Term Debt-to-Assets" is the book value of long-term debt divided by total assets and "Stock Return Volatility" is the standard deviation of daily stock returns over the prior calendar year. "Market-to-Book Ratio" is the [market value of common equity + total assets – book value of common equity] divided by total assets. "Free Cash Flow to-Assets" is measured as [operating income after tax + non-operating income after tax – change in net working capital – net capx – interest expense – common stock dividends – preferred stock dividends] divided by total assets; and "Return on Equity" is net income divided by shareholders' equity. "Mean Percentage Bid-Ask Spread" is the percentage bid-ask spread scaled by the midpoint of the two quotes that define the spread, using the average of the percentage bid-ask spreads across all quotes from day -30 to the shelf registration filing day. "Turnover" is defined as trading volume as a percent of shares outstanding measured over the 60 trading days preceding the filing of a registration statement. p-values are shown in parentheses.

	Shelf Registration		Traditional SEO		Test of Differences	
	Mean	Median	Mean	Median	t-test p-value	Kruskal-Wallis p-value
Market Capitalization ($MM)	14,511.0	3,038.0	2,289.8	592.1	(.0001)	(.0001)
Total Assets ($MM)	7,149.3	2,853.3	1,173.2	148.0	(.0001)	(.0001)
Long-Term Debt-to-Assets	30.8%	28.3%	19.9%	12.3%	(.0001)	(.0001)
Stock Return Volatility	2.6%	2.2%	3.5%	3.4%	(.0001)	(.0001)
Market-to-Book Ratio	3.48	1.69	12.28	3.93	(.0001)	(.0001)
Free Cash Flow-to-Assets	-17.7%	-11.1%	-39.1%	-29.3%	(.0001)	(.0001)
Return on Equity	4.65%	10.81%	3.03%	9.36%	(.9285)	(.0015)
Mean Percentage Bid-Ask Spread	0.75%	0.55%	1.92%	1.50%	(.0001)	(.0001)
% NYSE Listed	79.97%		31.36%		(.0001)	(.0001)
Turnover	6.29%	4.18%	10.16%	6.11%	(.0001)	(.0001)

Table IV: Information Asymmety and the Market's Reaction to Shelf Registrations and Common Equity Issuances

The table shows the mean and median four-day (day -1 to day 2) cumulative abnormal returns for firms filing common equity on unallocated shelves ("Shelf Registration CAR"), for firms issuing common equity off unallocated shelf registration statements ("Equity TD CAR) and firms using traditional registration procedures to register SEOs ("Traditional SEO CAR"). "Combined Shelf Registration & Equity TD" is defined as the sum of the 4-day CAR at the filing of unallocated shelves and first indications of common equity takedowns off shelves. Firms are divided into top quartile, interquartile, and bottom quartile based on information asymmetries as measured by percentage bid-ask spreads. p-values are shown in parentheses.

	Shelf Registration CAR			Equity TD CAR			Combined Shelf Registration & Equity TD CAR			Traditional SEO CAR			*Combined versus SEO*
	N	CAR	p-value	N	CAR	p-value	N	CAR	p-value	N	CAR	p-value	p-value
Panel A													
Full Sample													
Mean	718	-0.236%	(.1770)	366	-1.354%	(.0001)	366	-1.721%	(.0001)	2472	-2.049%	(.0001)	(.1605)
Median		-0.160%	(.1637)		-1.423%	(.0001)		-1.638%	(.0001)		-2.493%	(.0001)	(.0034)
Panel B													
Top Quartile (Wide Spreads)													
Mean	41	-2.096%	(.0776)	31	-1.255%	(.4334)	31	-3.760%	(.0716)	646	-1.250%	(.0001)	(.0361)
Median		-1.856%	(.1165)		-1.557%	(.0294)		-4.338%	(.0482)		-2.495%	(.0001)	(.0738)
Quartiles 2 and 3													
Mean	242	0.084%	(.8202)	121	-1.881%	(.0023)	121	-2.351%	(.0017)	1,108	-2.432%	(.0001)	(.8203)
Median		0.000%	(.9481)		-1.884%	(.0003)		-2.000%	(.0006)		-2.823%	(.0001)	(.2111)
Bottom Quartile (Narrow Spreads)													
Mean	435	-0.239%	(.1593)	214	-1.074%	(.0037)	214	-1.069%	(.0159)	718	-2.144%	(.0001)	(.0137)
Median		-0.217%	(.1474)		-1.066%	(.0069)		-1.070%	(.0007)		-2.091%	(.0001)	(.0010)
Test of Differences Across Quartiles													
Kruskal-Wallis p-value		(.0536)			(.2696)			(.0279)			(.5484)		

Table V: Benefits of Unallocated Shelf and Traditional Registration Procedures

In this table, we compare the benefits of issuing common equity using unallocated-shelf and traditional-registration procedures. We compare the gross spreads paid by issuers, the SEO discount, the number of days between the initial filing of preliminary prospectuses with the SEC and issuing common equity, and the price percentile received from issuing equity. "SEO Discount" is measured relative to the closing price the day before the offering. For firms that issued common equity using unallocated shelf registration, "Price Percentile" is measured as the price percentile at which equity was issued using daily closing prices beginning with the date that the firm filed the core prospectus through the succeeding two years. For firms that issued common equity using traditional registration procedures, "Price Percentile" is measured by subtracting 267 days from the date that firms filed their first preliminary prospectus, and then calculating the price percentile at which common equity was issued over the succeeding two years. p-values are shown in parentheses.

	Equity Takedown from Shelf		Traditional SEO		Test of Differences	
	Mean	Median	Mean	Median	t-test p-value	Kruskal-Wallis p-value
Gross Spread	3.77%	3.89%	4.93%	5.00%	(.0001)	(.0001)
SEO Discount	2.10%	1.06%	2.61%	1.69%	(.0089)	(.0009)
Days in Registration	9.0	3.0	44.8	29.0	(.0001)	(.0001)
Price Percentile	69.0	88.0	76.3	92.0	(.0003)	(.0086)

Table VI: Market's Reaction to Shelf Registrations and Common Equity Issuances

In this table, we estimate three Heckman models. The first stage is the probit model in Column 1. It is designed to explain which firms choose unallocated shelf registration. The dependent variable equals one if a firm registers a shelf that includes common equity, and zero otherwise. Independent variables include: "Information Asymmetry (Shelf)", measured as the percentage bid-ask spread in the month prior to the filing of the core shelf prospectus; "Exchange Listing" is an indicator variable equal to one if the firm is NYSE listed, and zero otherwise; "Turnover" is defined as trading volume as a percent of shares outstanding; "Investment Opportunities", defined as market-to-book; "Free Cash Flow", defined as free cash flow divided by total assets; "Log(Assets)", measured as the log of total assets; "Leverage", measured as total debt divided by total assets; and "Volatility", measured as the standard deviation of daily stock return for the previous year. We also control for industry effects and calendar years. The second stage estimations (Columns 2-4) examine the market's reaction to the registration of common equity on shelf prospectuses and to taking common equity off a shelf. "CAR" is the four-day (day -1 to day 2) cumulative abnormal return around the event date. "Shelf Amount" is the dollar amount of securities registered on core prospectuses and "Equityness" is the percentage of securities registered on shelves that can dilute common equity. "Information Asymmetry (Takedown)" is measured as the percentage bid-ask spread in the month prior to issuing equity off the shelf; "Proceeds Raised" is the dollar amount of common equity raised. "Gross Spread" is the percentage fee paid to underwriters. "Days in Registration" is number of days between the filing of preliminary prospectuses with the SEC and issuing common equity. "Overnight" is equal to one if offerings take less than one day, and zero otherwise. "Price Percentile" is measured as the price percentile at which equity was issued using daily closing prices over a two year period, and "Lambda" is the inverse Mills Ratio calculated from the first stage probit model. Coefficient p-values are shown in parentheses.

	Shelf Registration (1)		Shelf Registration CAR (2)		Equity TD CAR (3)		Combined Shelf Registration & Equity TD CAR (4)	
Intercept	0.250	(.2948)	0.371	(.8214)	-0.021	(.4278)	-3.905	(.3827)
Information Asymmetry (Shelf)	-16.357	(.0025)	-112.177	(.0024)			-15.998	(.8847)
Exchange Listing	0.247	(.0229)	0.181	(.7818)	0.033	(.0045)	4.466	(.0030)
Turnover	-0.028	(.9355)	-5.765	(.0798)	-0.083	(.1657)	-15.000	(.0483)
Investment Opportunities	-0.075	(.7621)	0.403	(.6917)	0.002	(.0208)	0.284	(.0004)
Free Cash Flow	-0.302	(.0413)	-0.004	(.9921)	-0.050	(.0033)	-5.248	(.0150)
Log(Assets)	0.502	(.0001)						
Leverage	0.512	(.0497)						
Volatility	8.113	(.0129)	23.247	(.2330)			-22.575	(.6401)
Shelf Amount			0.000	(.2238)			-0.001	(.3137)
Equityness			-2.597	(.2178)			5.376	(.2347)
Information Asymmetry (Takedown)					0.009	(.3484)	0.699	(.6231)
Proceeds Raised					4.05E-05	(.0147)	3.06E-03	(.1947)
Gross Spread					-0.009	(.0403)	-1.701	(.0023)
Days in Registration					1.72E-04	(.4061)	0.062	(.0118)
Overnight					-0.014	(.1520)	-1.817	(.1448)
Price Percentile					-2.68E-04	(.0409)	-0.020	(.1998)
Lambda			1.245	(.0150)	0.020	(.0330)	2.870	(.0202)
Adjusted R-Squared	55.7%		1.1%		13.57%		19.09%	

Table VII: Benefits of Unallocated Shelf and Traditional Registration Procedures - Multivariate Analyses

In Columns 1, 3, 4, and 5 of Table VII, we use OLS estimations to examine whether issuers receive benefits from issuing equity off shelves relative to using the traditional equity registration procedure. "Gross Spread" is the percentage fee paid to underwriters. "SEO Discount" is measured relative to the closing price the day before the offering. "Days in Registration" is the number of days between the initial filing of preliminary prospectuses with the SEC and issuing common equity. "Price Percentile" is measured as the price percentile at which equity was issued using daily closing prices over a two year period. In Column 2, we estimate a Heckman model of gross spreads. The first stage is the probit model in Column 1 of Table V. It examines which firms choose unallocated shelf registration. The second stage, shown in Column 2 of this table, examines gross spreads, controlling for firm and offering characteristics. "Information Asymmetry" is measured as the percentage bid-ask spread in the month prior to the filing of the core shelf prospectus; "Exchange Listing" is an indicator variable equal to one if the firm is NYSE listed, and zero otherwise; "Turnover" is defined as trading volume as a percent of shares outstanding; "Volatility", measured as the standard deviation of daily stock return for the previous year; "S&P 500 Price Percentile" is the percentile at which the S&P 500 traded over the same period as the offering's Price Percentile; "Proceeds Raised" is the dollar amount of common equity raised; "Dilution" is the number of shares issued as a percent of shares outstanding; "Overnight" is equal to one if offerings take less than one day, and zero otherwise; "Choice" equals one if a firm issues common equity from an unallocated shelf, and zero if it uses the traditional registration procedure; and "Lambda" is the inverse Mills Ratio calculated from the first stage probit model. Coefficient p-values are shown in parentheses.

	Gross Spread OLS Model		Gross Spread Heckman Model		SEO Discount OLS Model		Days in Registration OLS Model		Price Percentile OLS Model	
	(1)		(2)		(3)		(4)		(5)	
Intercept	6.909	(.0001)	3.824	(.0001)	0.039	(.0001)	33.589	(.0075)	81.783	(.0001)
Information Asymmetry	8.817	(.0001)	-11.839	(.3564)	0.274	(.0001)	82.522	(.5248)	-226.122	(.0001)
Exchange Listing	-0.426	(.0001)	-0.072	(.7115)	0.001	(.6671)	17.610	(.0001)	-5.305	(.0063)
Turnover	-0.079	(.5183)	0.254	(.7799)	0.019	(.0040)	-8.110	(.4942)	17.465	(.0016)
Volatility	6.657	(.0001)	4.574	(.4507)	0.214	(.0019)	192.824	(.1635)	-50.556	(.3917)
S&P 500 Price Percentile	0.222	(.0398)	0.275	(.5109)					14.293	(.0032)
Log(Proceeds Raised)	-0.501	(.0001)	-0.261	(.0025)	-0.006	(.0001)	-1.676	(.3751)		
Dilution	0.000	(.0044)	0.000	(.8115)	0.000	(.0345)			0.000	(.0006)
Overnight	-0.830	(.0010)	-0.751	(.0001)	0.007	(.0715)			-1.581	(.6330)
Choice	-0.185	(.0013)			-0.002	(.5787)	-49.822	(.0001)	-2.381	(.3540)
Lambda			-1.159	(.0001)						
Adjusted R-Squared	59.9%		44.9%		9.2%		4.7%		8.0%	